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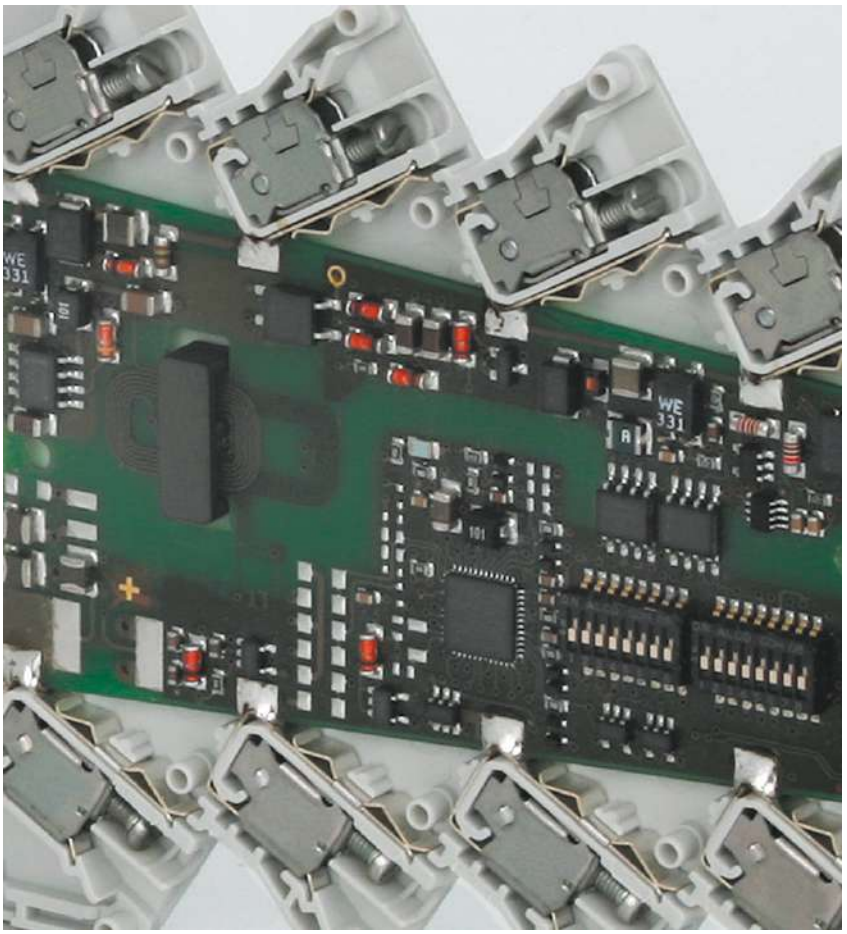
Signal converter and temperature converter

LÜTZE converters are used in many industrial applications to reliably perform a variety of tasks, such as converting signals, recording temperatures or other critical measurements, and boost or separating signals.

The LÜTZE LCIS relays have an extremely low heat dissipation and power loss. These innovative and functional electronics are also suited for hard to reach and remote locations, such as wind turbines. LÜTZE signal converters have a wide temperature range of -40°C to +75 °C.

It is possible to use the LCIS converter in a distribution box as well, because of its compactness of only 71mm. The corresponding marking tabs make individual labeling easy. This simplifies installation and minimizes wiring errors.



Technical data sheet

Interface Technology · Microcompact analog/analog converter

Input: ±30 V, ±50 mA, ±DC 5 A adjustable
Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCON AA DFDT 806210
Part No.	750320

Product version

Datasheet version	02

Input

Input variable	Analogue signals
Measurement input	+30/-30 V, +50/-50 mA, DC +5 A/-5 A adjustable via switch and software FDT/DTM, connection via micro USB
Galvanic isolation I/O	3-way isolation
Step response (10–90%)	1 ms–500 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Parameterisation	DIP switch Software FDT/DTM
Zero /Span	freely adjustable
Input resistance	>800 kΩ @ +30/-30 V, <30 Ω @ +50/-50 mA, 10 mΩ @ DC +5 A/-5 A

Output

Output signal	0–10 V, -10–10 V, 0–20 mA, 4–20 mA adjustable via switch and software FDT/DTM, connection via USB service cable
Max. load impedance at I-output	700 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V, -10–+10 V
Limitation for exceeding measurement range	10.25 V @ 0–10 V, -10–10 V 20.5 mA @ 0–20 mA, 4–20 mA

Max. modulation range/output signal/ output current	10.5 V @ 0–10 V, -10–10 V 21 mA @ 0–20 mA, 4–20 mA
Parameterisation	DIP switch Software FDT/DTM

Operating data

Accuracy	0.1 % FSR @ +30/-30 V, +50/-50 mA 0.5 % FSR @ +5 A/-5 A
Linearity error	±0.05 % FSR @ +30/-30 V, +50/-50 mA ±0,1 % FSR @ +5 A/-5 A

General

Rated voltage U_N	DC 24 V
Rated current	approx. 18 mA
Status indication	LED green, red (error)
Input/output protection	Overvoltage DC 30 V, short circuit-proof output
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Switch and software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screw terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm
Weight/unit	0.05 kg
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

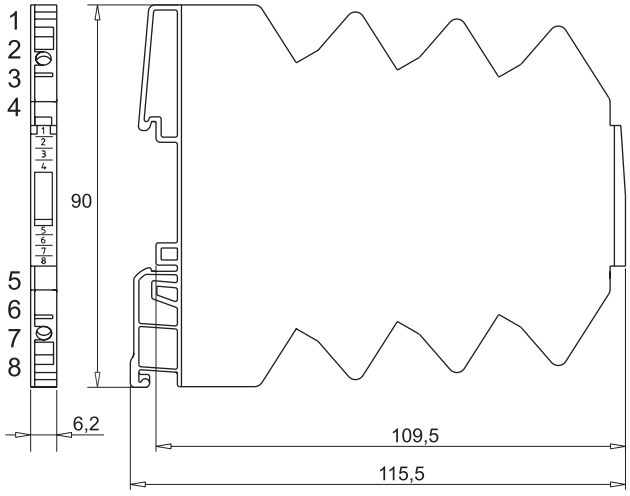
Equipment/Spare parts

Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: 1 unit

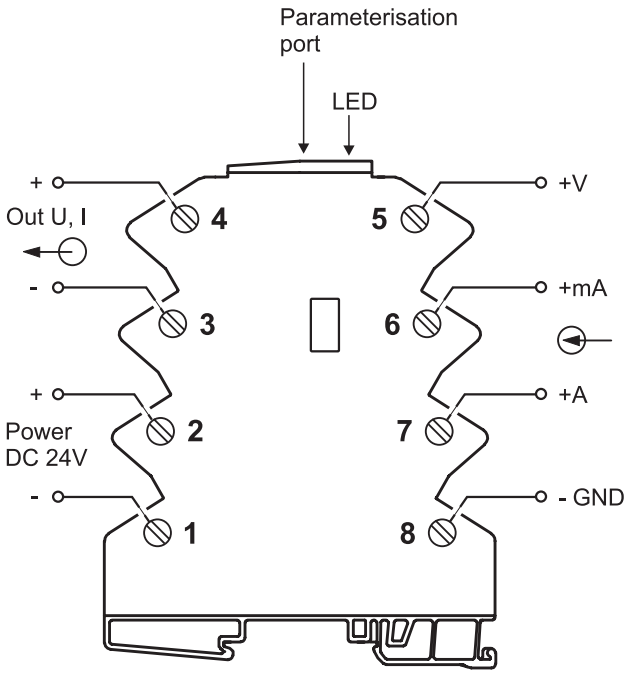
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

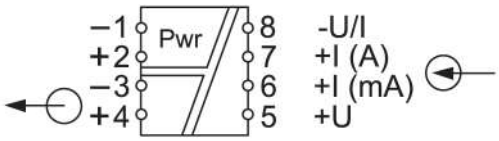
Dimensions



PIN assignment



PIN assignment



Range adjustment

S1 ● → Switch On

Range*	1	2	3	4	5	Range*	1	2	3	4	5
0 – 50mV	●					0 – 10mA					●
0 – 100mV		●				0 – 20mA	●				●
0 – 200mV	●	●				0 – 50mA		●			●
0 – 500mV			●			4 – 20mA	●	●			●
0 – 1V	●		●			0 – 0.5A			●		●
0 – 2V		●	●			0 – 1A	●		●		●
0 – 5V	●	●	●			0 – 2A		●	●		●
0 – 10V				●		0 – 5A	●	●	●		●
0 – 20V	●			●		±1V				●	●
0 – 30V		●		●		±5V	●			●	●
1 – 5V	●	●		●		±10V		●		●	●
2 – 10V			●	●		±5mA	●	●		●	●
0 – 1mA	●		●	●		±20mA			●	●	●
0 – 2mA		●	●	●		±2A	●		●	●	●
0 – 5mA	●	●	●	●		±5A		●	●	●	●

S1 1-8 off: FDT/DTM

*See instruction leaflet

Output	6	7	8
0 – 20mA	●		
4 – 20mA		●	
0 – 10V	●	●	
±10V			●
2 – 10V	●		●
0 – 5V		●	●
1 – 5V	●	●	●

Technical data sheet

Interface Technology · Microcompact analog/analog splitter

Input: 0–10 V, 0–20 mA, 4–20 mA adjustable
Output: 2 × 0–10 V, 0–20 mA, 4–20 mA
Insulation: 2.5 kV, 4-way isolation

Identification

Type	LCON AASP D 806210
Part No.	750321

Product version

Datasheet version	03

Input

Input variable	Analogue signals
Measurement input	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Galvanic isolation I/O	4-way isolation
Step response (10–90%)	4 ms–500 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Parameterisation	DIP switch
Zero /Span	Production comparison
Input resistance	>500 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, <100 Ω @ 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	400 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Limitation for exceeding measurement range	yes, switchable
Max. modulation range/output signal/ output current	10.5 V @ 0–10 V 21 mA @ 0–20 mA, 4–20 mA
Residual ripple	<20 mV_{eff}

Parameterisation	DIP switch

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	±0.1 % FSR
Critical frequency	100 Hz (filter off), 5 Hz (filter on)

General

Rated voltage U_N	DC 24 V
Rated current	13 mA
Status indication	LED green/red
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Temperature error	<150 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Switch
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screw terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm
Weight/unit	0.05 kg
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

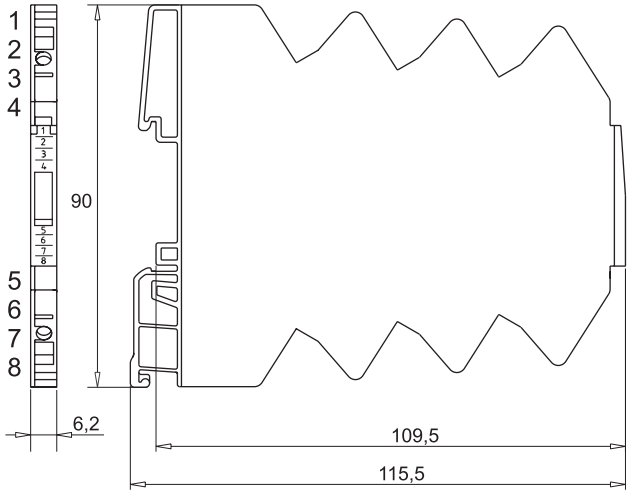
Equipment/Spare parts

Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: 1 unit

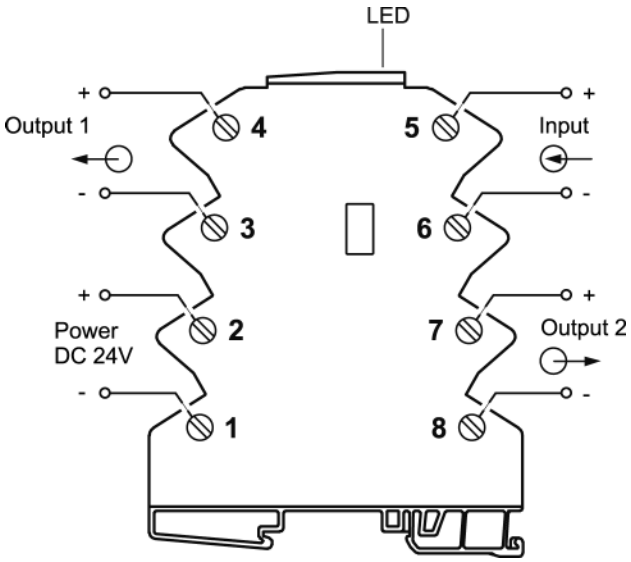
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

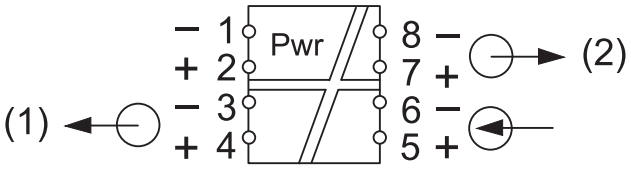
Dimensions



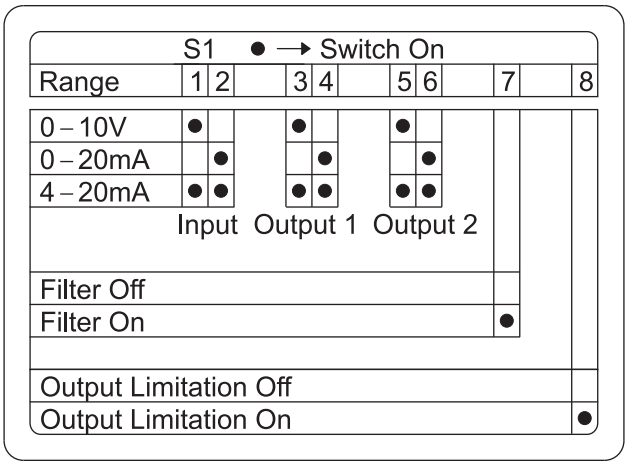
PIN assignment



PIN assignment



Range adjustment



See instruction leaflet for details

Technical data sheet

Interface Technology · Microcompact analog/limit value switch

Input/output: 0–10 V, 0–20 mA, 4–20 mA, 2–10 mA, 0–5 V, 1–5 V, 2–10 V adjustable
Output: switching transistor DC 30 V/100 mA adjustable (LiveZero)
Insulation: 2.5 kV, 4-way isolation

Identification

Type	LCON AALS DFDT 806210
Part No.	750322

Product version

Datasheet version	03

Input

Input variable	Analogue signals
Measurement input	0–10 V, 0–5 V, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA adjustable via software FDT/DTM, connection via micro USB
Galvanic isolation I/O	4-way isolation
Delay ON/OFF	2 ms–350 ms (adjustable by means of filter stage 1-5, default: filter stage 4 = 80 ms)
Step response (10–90%)	4 ms–500 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Parameterisation	Software FDT/DTM DIP switch
Zero /Span	freely adjustable
Input resistance	>500 kΩ @ 0–10 V, 0–5 V, 1–5 V, 2–10 V, <100 Ω @ 0–20 mA, 4–20 mA, 2–10 mA

Output

Output signal	0–10 V, 0–5 V, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA, adjustable via software FDT/DTM, connection via micro USB
Contact type	Switching transistor not short-circuit proof

Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA
Max. load impedance at I-output	400 Ω @ 0–20 mA, 4–20 mA, 2–10 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V, 0–5 V, 1–5 V, 2–10 V
Limitation for exceeding measurement range	yes, switchable
Max. modulation range/output signal/ output current	10.5 V @ 0–10 V, 0–5 V, 1–5 V, 2–10 V 21 mA @ 0–20 mA, 4–20 mA, 2–10 mA
Status display output	LED yellow
Operating mode	Limit value, timeframe, tendency+, tendency-, tendency+/-, inversion, error memory
LiveZero	can be activated via switch and FDT/DTM
Residual ripple	<20 mV_{eff}
Parameterisation	Software FDT/DTM DIP switch

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	±0.1 % FSR
Critical frequency	100 Hz (filter off), 5 Hz (filter on)

General

Rated voltage U_N	DC 24 V
Rated current	13 mA
Status indication	LED green/red
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screw terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.0 mm
Weight/unit	0.05 kg

Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	598 fit
Failure rate at +45 °C	1671386 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

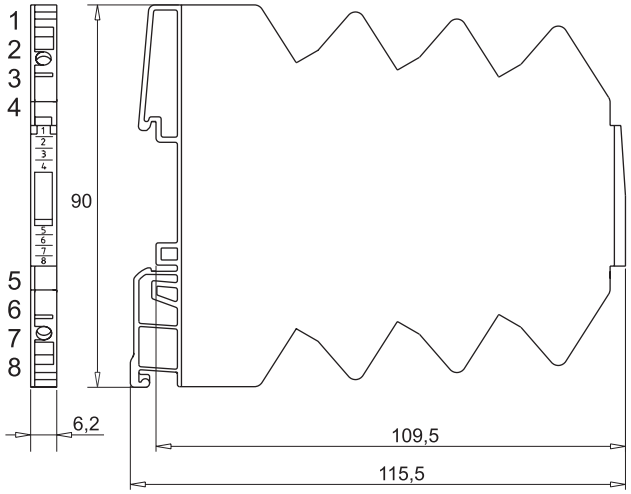
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

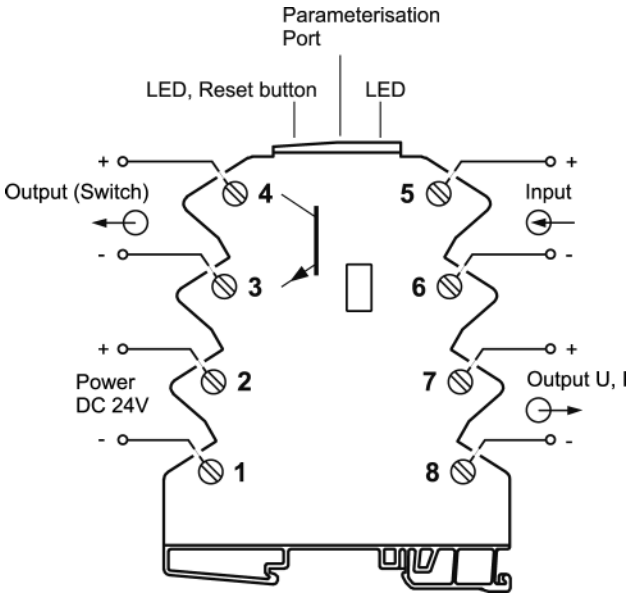
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

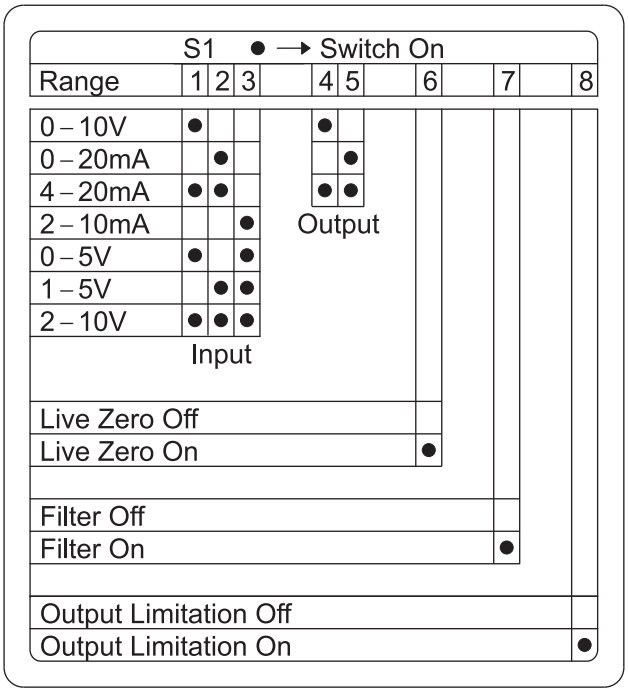
Dimensions



PIN assignment

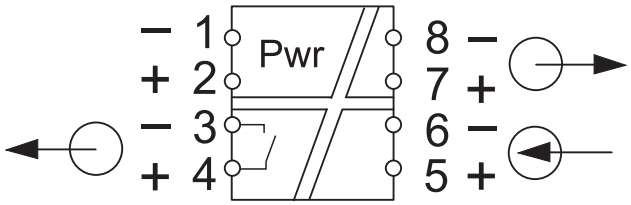


Range adjustment



S1 1-8 off: FDT/DTM
See instruction leaflet
for details

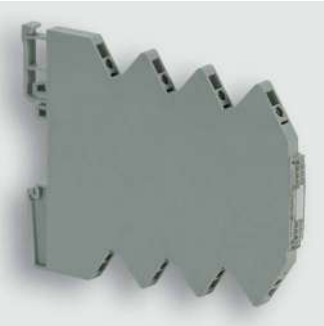
Circuit diagram



Technical data sheet

Interface Technology · Microcompact temp./analog converter

Input: PT, thermocouple, potentiometer – adjustable temperature converter
Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V
Insulation: 2.5 kV, 3-way isolation



Identification

Type	LCON TA DFDT 806210
Part No.	750340

Product version

Datasheet version	02

Input

Input variable	PT100 2/3/4 conductor PT1000 Resistor Type B Type C Type E Type J Type K Type N Type R Type S Type T
Measurement input	PT100, PT1000, resistencia, potenciómetro Thermal elements: Type B, C, E, J, K, N, R, S, T Customer-specific via support points, polynomial
Galvanic isolation I/O	3-way isolation
Step response (10–90%)	TE: 10 ms–550 ms, PT: 5–550 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 100 ms)
Temperature range	PT: -220 … 850 °C depending on type Thermal elements: -210 … 2310 °C depending on type

Parameterisation	Software FDT/DTM DIP switch
Input resistance	Thermocouples: 1 MΩ
Sensor current	PT, potentiometer, resistance: 0.002–0.6 mA depending on type
Circuit	PT - 2, 3, 4-wire, for 2-wire with offset correction, no external bridges necessary, autom. detection

Output

Output signal	0–10 V, -10–10 V, 0–20 mA, 4–20 mA adjustable via switch and software FDT/DTM, connection via USB service cable
Max. load impedance at I-output	700 Ω @ 0–20 mA, 4–20 mA
Max. load impedance at U-output	>2 kΩ @ 0–10 V, -10–10 V
Limitation for exceeding measurement range	10.25 V @ 0–10 V, -10–10 V 20.5 mA @ 0–20 mA, 4–20 mA
Max. modulation range/output signal/ output current	10.5 V @ 0–10 V, -10–10 V 21 mA @ 0–20 mA, 4–20 mA
Parameterisation	Software FDT/DTM DIP switch

Operating data

Accuracy	PT: 10 K, divided by the set measurement range (K) + 0.2 % FSR Thermocouples: 10 K, divided by the set measurement range (K) + 0.4 % FSR
Linearity error	±0.1 % FSR

General

Rated voltage U_N	DC 24 V
Rated current	approx. 18 mA
Status indication	LED green, red (error)
Input/output protection	Overvoltage DC 30 V, short circuit-proof output
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Temperature compensation internally	Thermal elements: type ±1 K , max. ±2 K
Configuration	Switch and software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20

15.5 mm

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	678 fit
Failure rate at +45 °C	1474689 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

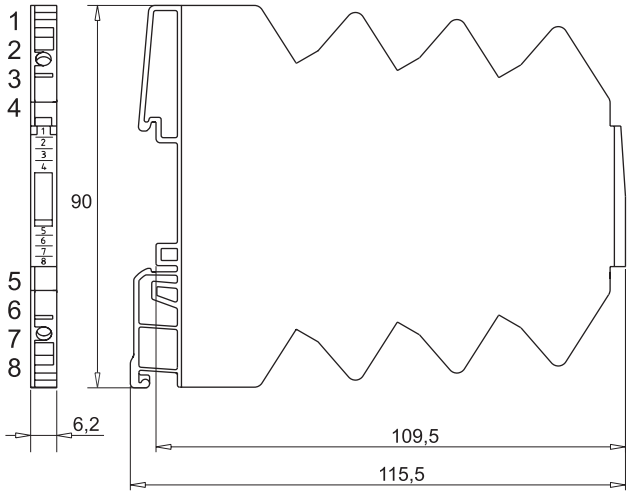
Equipment/Spare parts

Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units (sheet with 1056 labels), Part-No. 681034, PU:

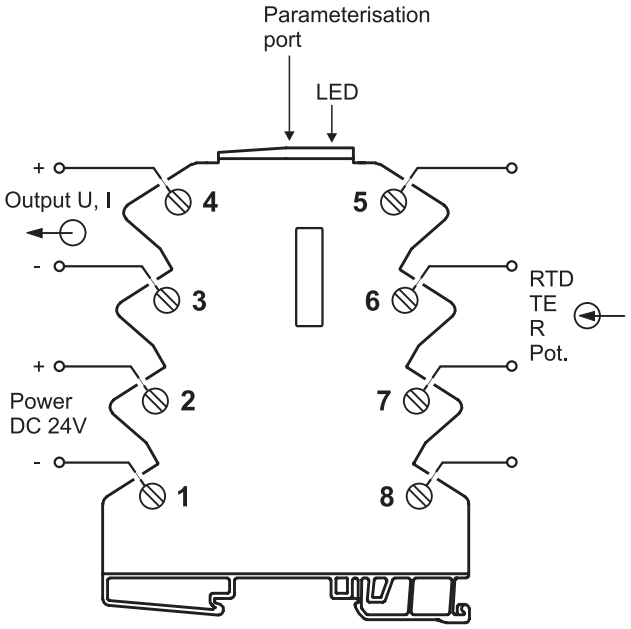
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

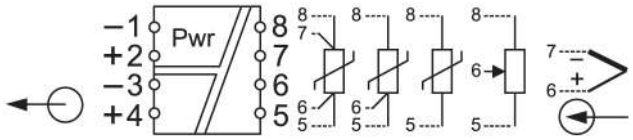
Dimensions



PIN assignment



PIN assignment



Range adjustment

Range*	S1				S2						
Start	7	8	1	2	End	3	4	5	6	7	8
-200°C	●				0°C	●					
-150°C	●	●			50°C		●	●			
-100°C	●		●		100°C	●	●		●		
-50°C		●		●	150°C	●		●	●		
0°C	●	●	●	●	200°C	●	●	●	●		
					250°C	●				●	
Sensor*	S1	1	2	3	300°C	●	●			●	
Pt100		●			350°C	●		●		●	
Pt1000			●		400°C	●	●	●		●	
TE J		●	●		450°C	●			●	●	
TE K				●	500°C	●	●		●	●	
Pot. %		●	●	●	550°C	●		●	●	●	
					600°C	●	●	●	●	●	
Output*	S1	4	5	6	650°C	●					●
0 – 20mA		●			700°C	●	●				●
4 – 20mA			●		750°C	●		●			●
0 – 10V		●	●		800°C	●	●	●			●
±10V				●	850°C	●			●		●
					900°C	●	●		●		●
					950°C	●		●	●		●
					1000°C	●	●	●	●		●
					1050°C	●				●	●
					1100°C	●	●			●	●
					1150°C	●		●		●	●
					1200°C	●	●	●		●	●
					1250°C	●			●	●	●
					1300°C	●	●		●	●	●
					1350°C	●		●	●	●	●
					1400°C	●	●	●	●	●	●
					● → Switch On						

S1-S2 1-8 off:
FDT/DTM

*See instruction leaflet

Technical data sheet

Interface Technology · Microcompact analog/limit value switch

Input: ±30 V, ±50 mA, ±5 A adjustable – adjustable limit value switch
Output: Semiconductor NO contact
Insulation: 2.5 kV, 2-way isolation

Identification

Type	LCON ALS FDT 806210
Part No.	750360

Product version

Datasheet version	02

Input

Input variable	Analogue signals
Measurement input	+30/-30 V, +50/-50 mA, DC +5 A/-5 A adjustable via software FDT/DTM, connection via micro USB
Galvanic isolation I/O	2-way isolation
Delay ON/OFF	2 ms–350 ms (adjustable by means of filter stage 1-5, default: filter stage 4 = 80 ms)
Parameterisation	Software FDT/DTM
Zero /Span	freely adjustable
Input resistance	>800 kΩ @ +30/-30 V, <30 Ω @ +50/-50 mA, 10 mΩ @ DC +5 A/-5 A

Output

Output signal	adjustable via DIP switch and software: FDT / DTM, connection via USB service cable
Contact type	K1,K2: Semi-conductor, N/O contact
Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA, not short circuit protected
Status display output	LED yellow K1 and LED yellow K2

Operating mode	Limit value, window, alarm output / additionally adjustable: Hysteresis, input / output delay
Parameterisation	Software FDT/DTM

Operating data

Accuracy	0.1 % FSR @ +30/-30 V, +50/-50 mA 0.5 % FSR @ +5 A/-5 A
Linearity error	±0.05 % FSR @ +30/-30 V, +50/-50 mA ±0,1 % FSR @ +5 A/-5 A

General

Rated voltage U_N	DC 24 V
Rated current	approx. 12 mA
Status indication	LED green, yellow (K1, K2), red (error)
Input/output protection	Overvoltage DC 30 V
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screw terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm
Weight/unit	0.05 kg
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

per 10^9 component hours

	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

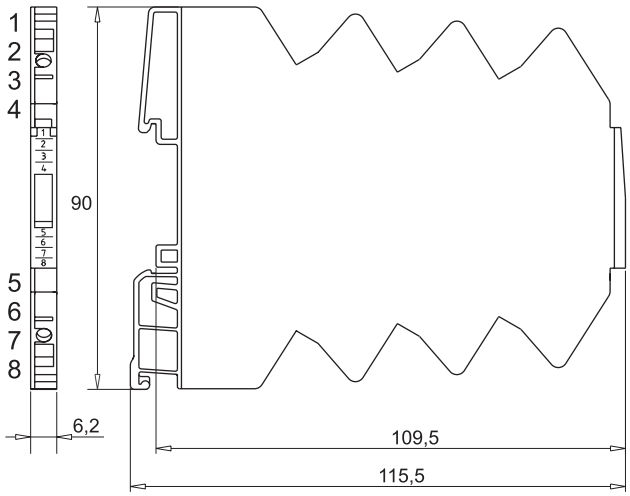
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

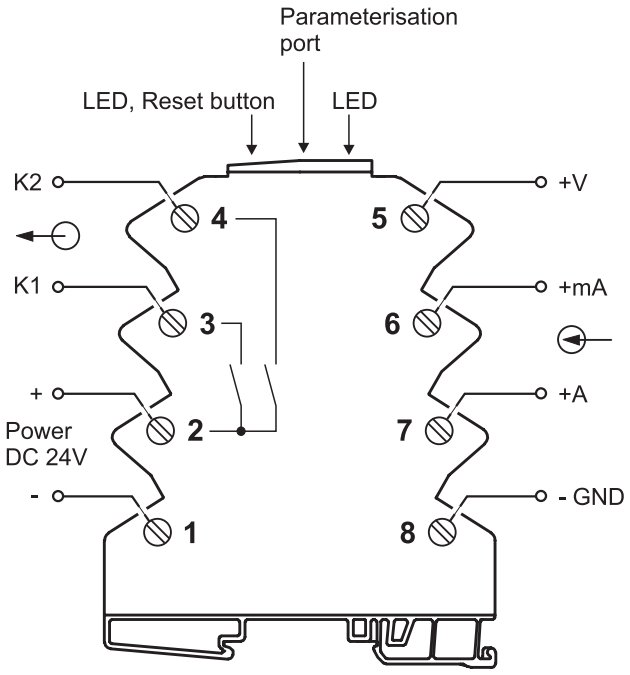
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

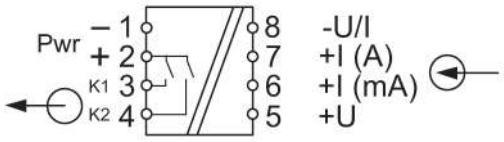
Dimensions



PIN assignment



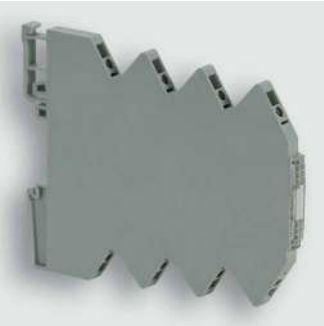
PIN assignment



Technical data sheet

Interface Technology · Microcompact temp./limit value switch

Input: PT, thermocouple, potentiometer – adjustable temperature converter
Output: Semiconductor NO contact
Insulation: 2.5 kV, 2-way isolation



Identification

Type	LCON TLS FDT 806210
Part No.	750370

Product version

Datasheet version	03

Input

Input variable	PT100 PT1000 Potentiometer Type B Type C Type E Type J Type K Type N Type R Type S Type T
Measurement input	PT100, PT1000, resistencia, potenciómetro Thermal elements: Type B, C, E, J, K, N, R, S, T Customer-specific via support points, polynomial
Galvanic isolation I/O	2-way isolation
Delay ON/OFF	TE: 6 ms–350 ms, PT: 5–350 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Temperature range	PT: -220 … 850 °C depending on type Thermal elements: -210 … 2310 °C depending on type
Parameterisation	Software FDT/DTM

Input resistance	Thermocouples: 1 MΩ
Sensor current	PT, potentiometer, resistance: 0.002–0.6 mA depending on type
Circuit	PT - 2, 3, 4-wire, for 2-wire with offset correction, no external bridges necessary, autom. detection

Output

Output signal	adjustable via software FDT / DTM, connection via USB service cable
Contact type	K1,K2: Semi-conductor, N/O contact
Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA, not short circuit protected
Status display output	LED yellow K1 and LED yellow K2
Operating mode	Limit value, window, alarm output / additionally adjustable: Hysteresis, input / output delay
Parameterisation	Software FDT/DTM

Operating data

Accuracy	PT: 10 K, divided by the set measurement range (K) + 0.2 % FSR Thermocouples: 10 K, divided by the set measurement range (K) + 0.4 % FSR
Linearity error	±0.1 % FSR

General

Rated voltage U_N	DC 24 V
Rated current	approx. 12 mA
Status indication	LED green, yellow (K1, K2), red (error)
Input/output protection	Overvoltage DC 30 V
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	AC 2.5 kV_{eff}
Resolution	16-bit
Temperature compensation internally	Thermal elements: type ±1 K , max. ±2 K
Configuration	Software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screw terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm

Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	480 fit
Failure rate at +45 °C	2081733 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

Certifications/Standards

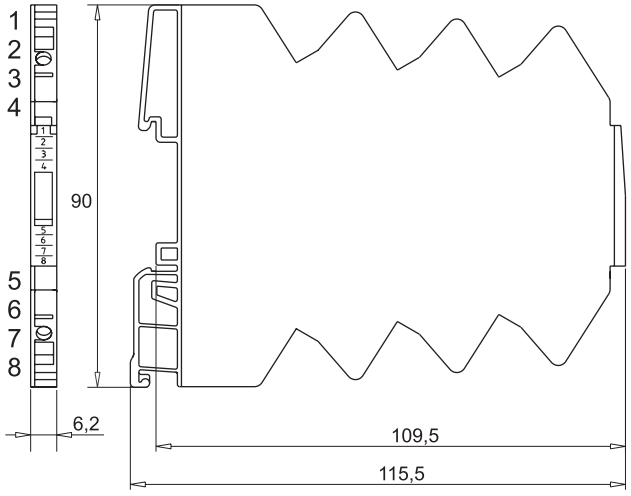
Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

Equipment/Spare parts

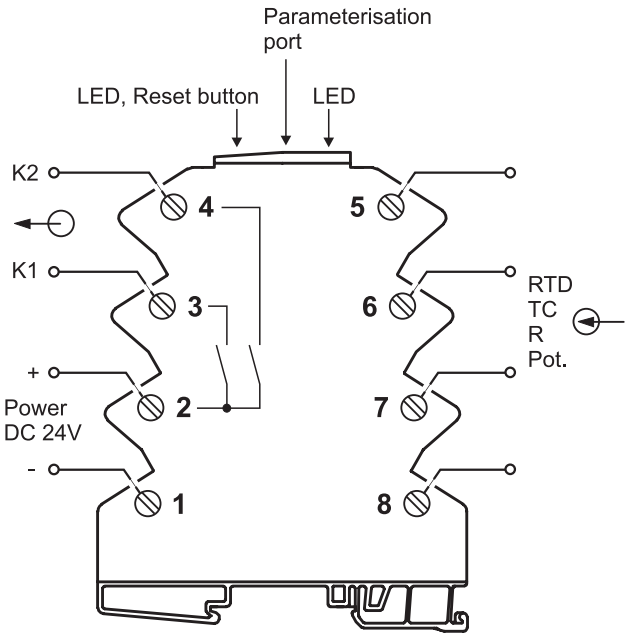
Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: 1 unit

you need the USB service cable, LCON ZB USB,
the software Lütze HART-DTM and PACTware.
be found in the download area of the respective
website.

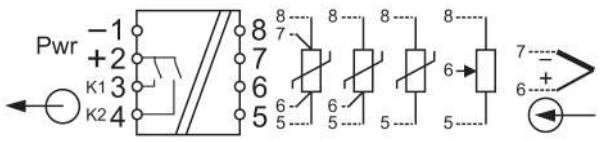
Dimensions



PIN assignment



PIN assignment



Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4 kV, 3-way isolation, wide range input

Identification

Type	LCIS-WP-WAA-0510-175-S
Part No.	750510.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

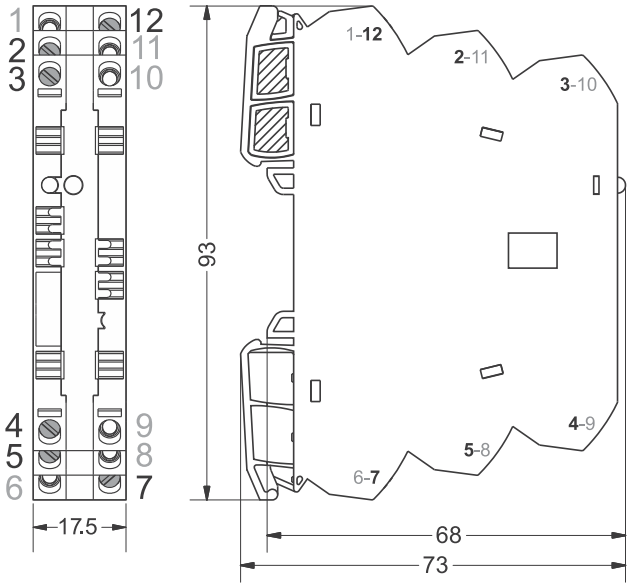
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

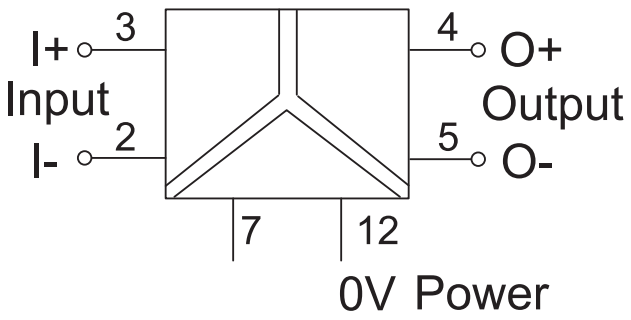
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

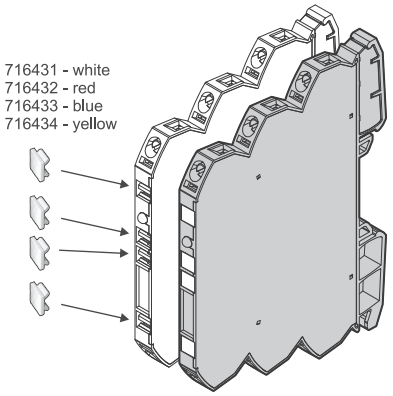
Dimensions

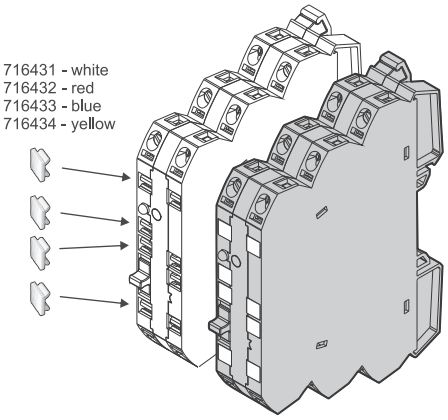


PIN assignment



Use

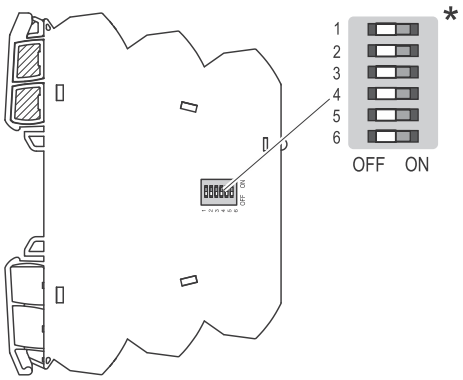




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

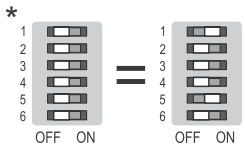
* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

750510.0000
751510.0000
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

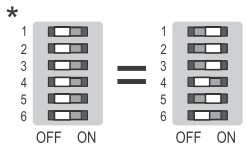
S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

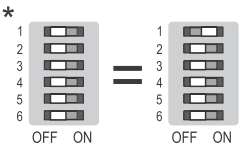
S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●



750512.0000
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

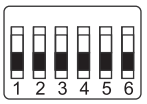


Range adjustment

S1	Input			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

S1	Output	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 kHz
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAF-0511-62-S
Part No.	750511.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Input variable	Analogue signals
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–50 Hz, 0–100 Hz, 0–1 kHz, 0–10 kHz adjustable via DIP switch S1
Signal level	DC 24 V (DIN EN 61131-2) Type 1: ≥ 15 V (@ 2 mA) Type 2: ≥ 11 V (@ 6 mA)

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR

Rise time (10-90%)	frequency-dependent
Build-up time (Accuracy 1%)	frequency-dependent
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	26 mA
Current consumption at 24 V	at AC 24V: 26 mA (station supply)
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	667 fit
Failure rate at +45 °C	1498305 h

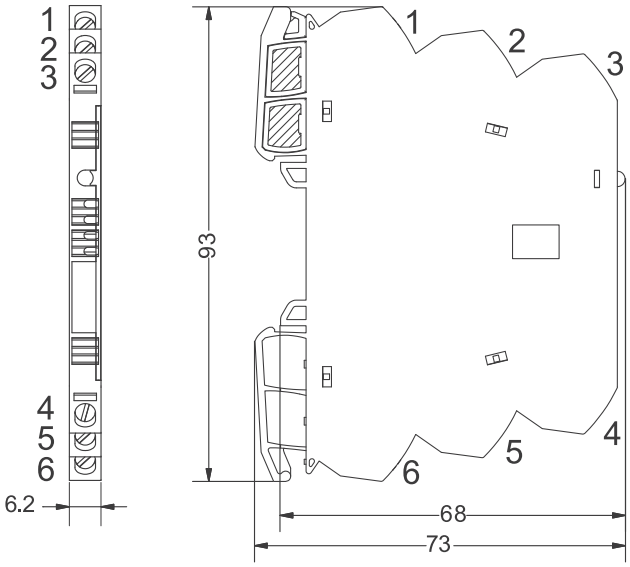
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

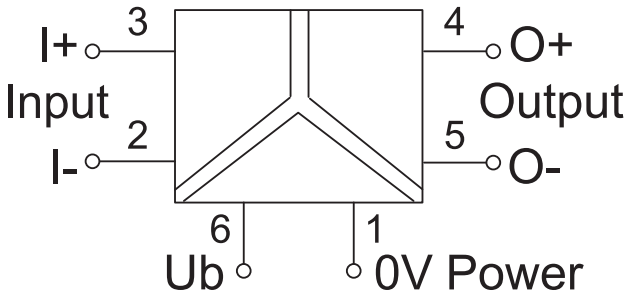
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

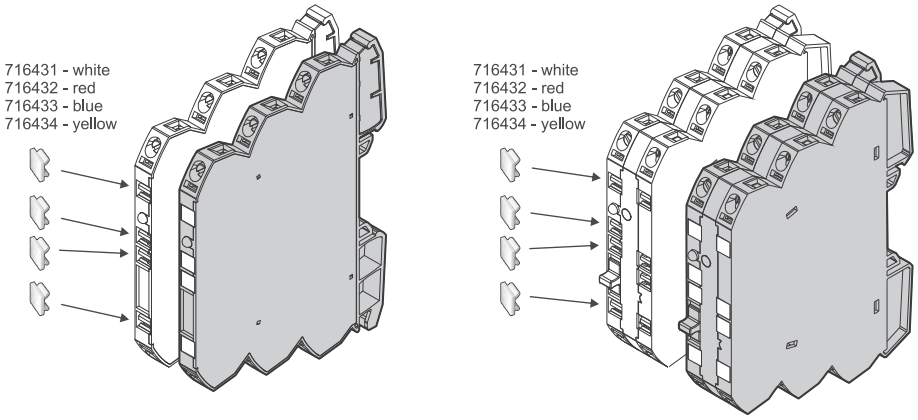
Dimensions



PIN assignment

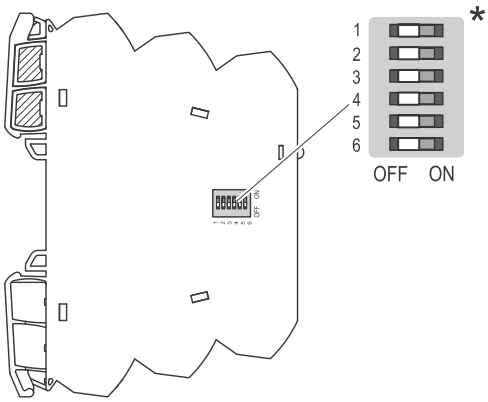


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

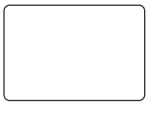
* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 ●→Switch On	Input 1	2	3	4
0–10 V*	●			
0–20 mA		●		
4–20 mA	●	●		

S1 ●→Switch On	Output 5	6
0–50 Hz*		
0–100 Hz	●	
0–1000 Hz		●
0–10000 Hz	●	●



ON
OFF

= OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 kHz
Insulation: 4 kV, 3-way isolation, wide range input

Identification

Type	LCIS-WP-WAF-0512-175-S
Part No.	750512.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Input variable	Analogue signals
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–50 Hz, 0–100 Hz, 0–1 kHz, 0–10 kHz adjustable via DIP switch S1
Signal level	DC 24 V (DIN EN 61131-2) Type 1: ≥ 15 V (@ 2 mA) Type 2: ≥ 11 V (@ 6 mA)

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR

Rise time (10-90%)	frequency-dependent
Build-up time (Accuracy 1%)	frequency-dependent
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB
Transmission frequency	frequency-dependent

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.058 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	724 fit
Failure rate at +45 °C	1381278 h

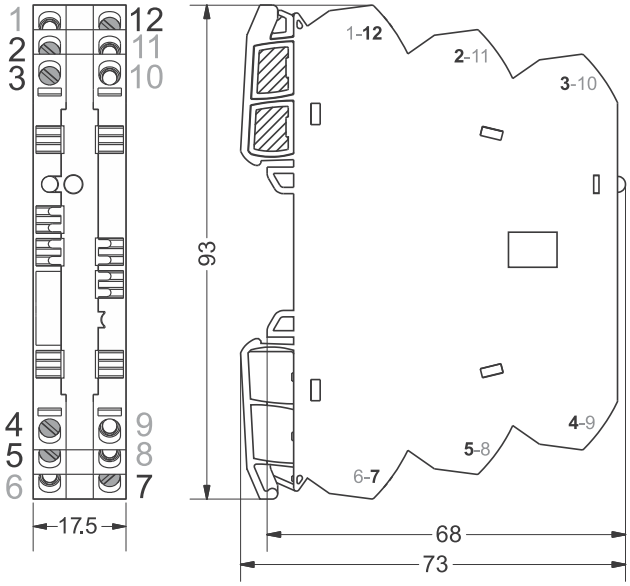
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

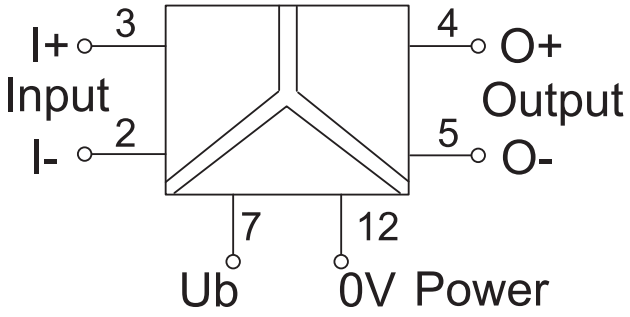
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

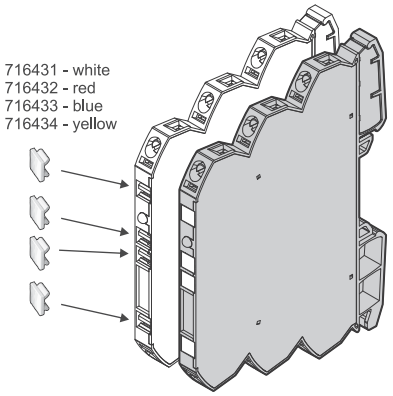
Dimensions

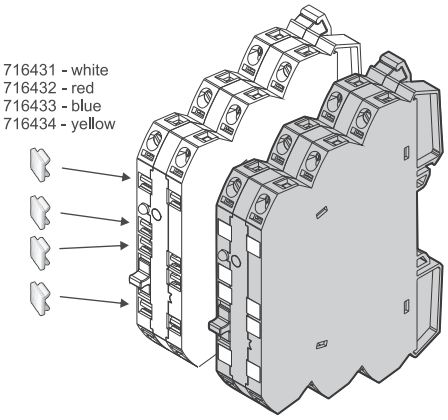


PIN assignment



Use

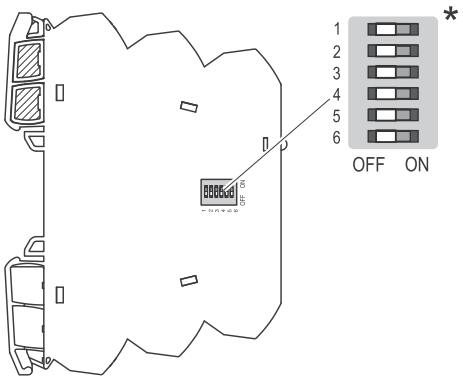




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

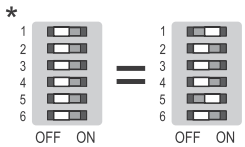
* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

750510.0000
751510.0000
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

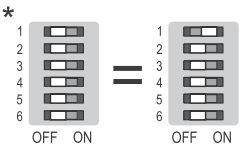
S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●

750512.0000
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

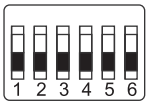


Range adjustment

S1 ●→Switch On	Input 1	2	3	4
0–10 V*	●			
0–20 mA		●		
4–20 mA	●	●		

S1 ●→Switch On	Output 5	6
0–50 Hz*		
0–100 Hz	●	
0–1000 Hz		●
0–10000 Hz	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 16 selectable ranges
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation 2,5 kV, 3-way isolation

Identification

Type	LCIS-WUAA-0516-175-S
Part No.	750516.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–60, 0–100, 0–300, 0–500 mV adjustable via DIP switch S1 0–1, 0–2, 0–5, 0–10, 0–20, 2–10 V adjustable via DIP switch S1 0–5, 0–10, 0–20, 4–20, ±5, ±20 mA adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ mV, V, <100 Ω @ mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V

Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

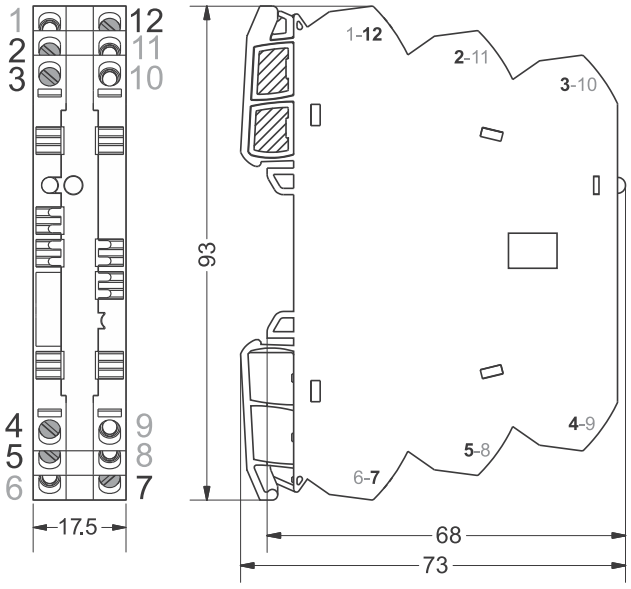
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	681 fit
Failure rate at +45 °C	1468511 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

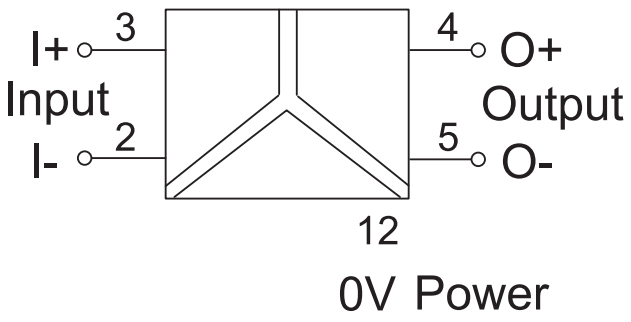
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

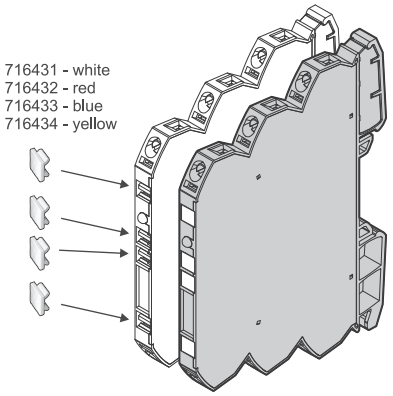
Dimensions

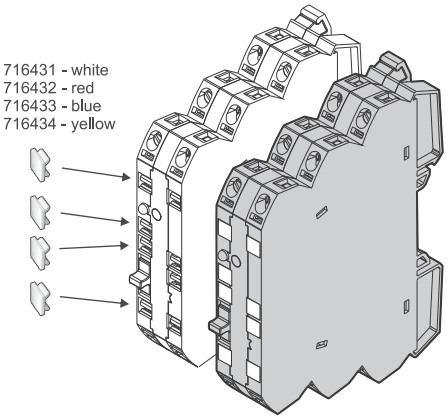


PIN assignment



Use

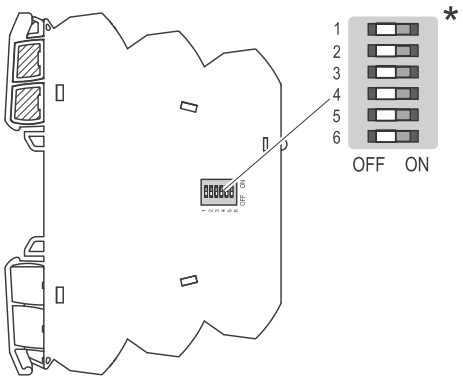




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

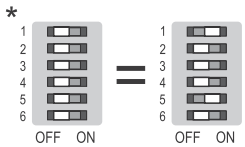
* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

750510.0000
751510.0000
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

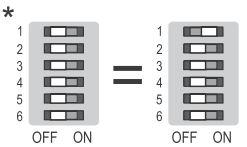
S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●

750512.0000
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

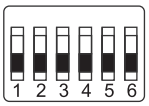


Range adjustment

S1	Input			
●→Switch On	1	2	3	4
0–60 mV				
0–100 mV	●			
0–300 mV		●		
0–500 mV	●	●		
0–1 V			●	
0–2 V	●		●	
0–5 V		●	●	
0–10 V*	●	●	●	
2–10 V				●
0–20 V	●			●
0–5 mA		●		●
0–10 mA	●	●		●
±5 mA			●	●
±20 mA	●		●	●
0–20 mA		●	●	●
4–20 mA	●	●	●	●

S1	Output	
●→Switch On	5	6
0–10 V*	●	
0–20 mA		●
4–20 mA	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 16 selectable ranges
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4 kV, 3-way isolation, wide range input

Identification

Type	LCIS-WP-WUAA-0517-175-S
Part No.	750517.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–60, 0–100, 0–300, 0–500 mV adjustable via DIP switch S1 0–1, 0–2, 0–5, 0–10, 0–20, 2–10 V adjustable via DIP switch S1 0–5, 0–10, 0–20, 4–20, ±5, ±20 mA adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ mV, V, <100 Ω @ mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V

Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

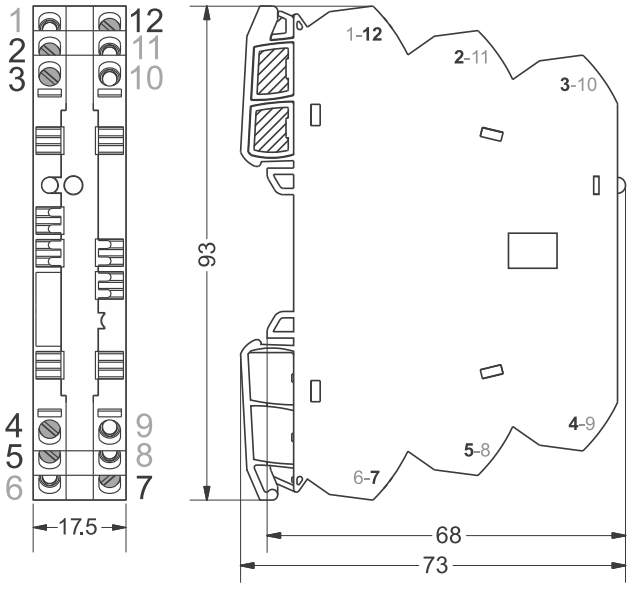
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	681 fit
Failure rate at +45 °C	1468511 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

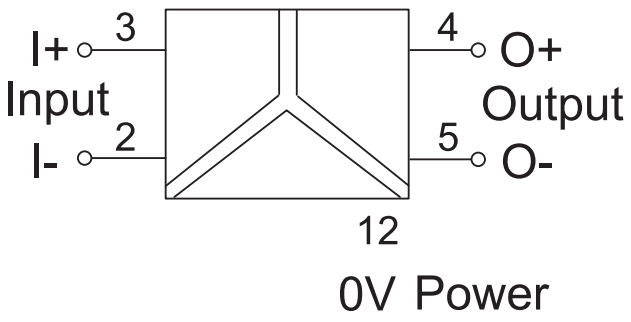
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

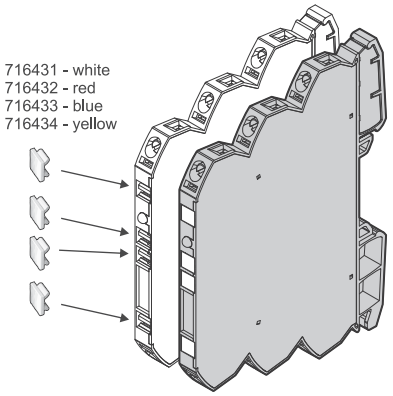
Dimensions

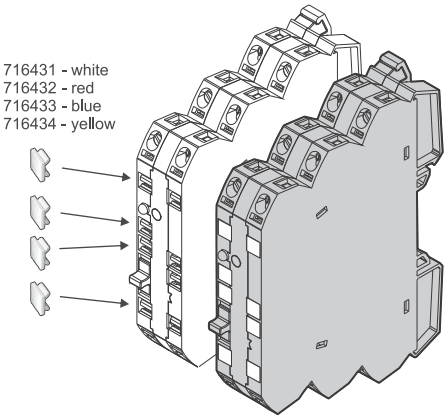


PIN assignment



Use

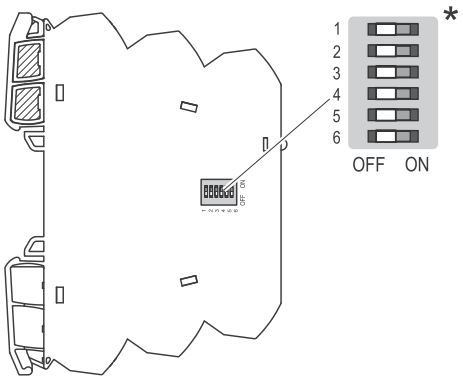




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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751519.0000
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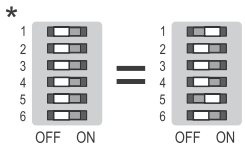
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

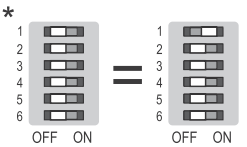
S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●

750512.0000
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

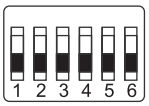


Range adjustment

S1	Input			
●→Switch On	1	2	3	4
0–60 mV				
0–100 mV	●			
0–300 mV		●		
0–500 mV	●	●		
0–1 V			●	
0–2 V	●		●	
0–5 V		●	●	
0–10 V*	●	●	●	
2–10 V				●
0–20 V	●			●
0–5 mA		●		●
0–10 mA	●	●		●
±5 mA			●	●
±20 mA	●		●	●
0–20 mA		●	●	●
4–20 mA	●	●	●	●

S1	Output	
●→Switch On	5	6
0–10 V*	●	
0–20 mA		●
4–20 mA	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA, manual off automatic
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation 2,5 kV, 3-way isolation

Identification

Type	LCIS-WAA-MA-0518-175-S
Part No.	750518.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 75.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

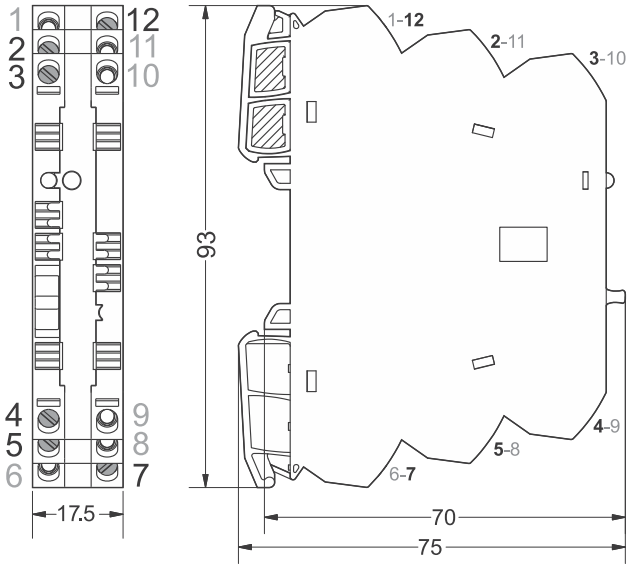
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

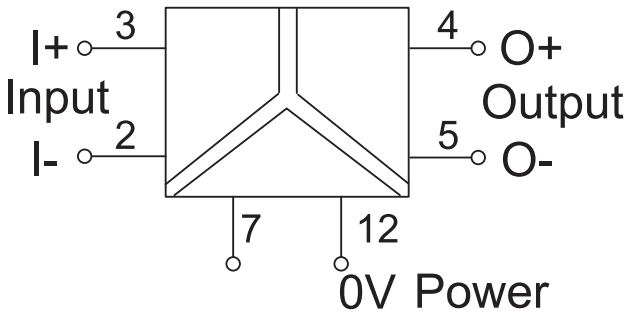
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

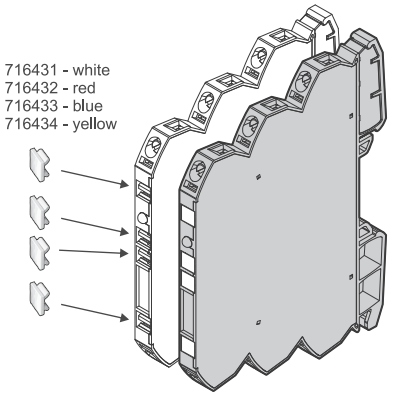
Dimensions

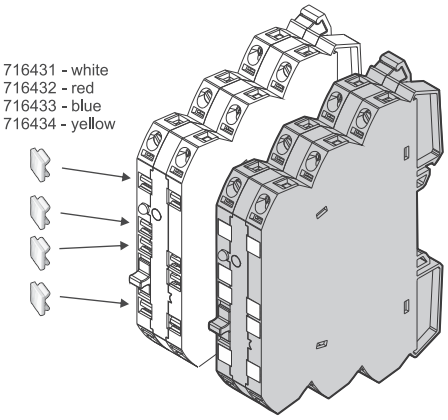


PIN assignment



Use

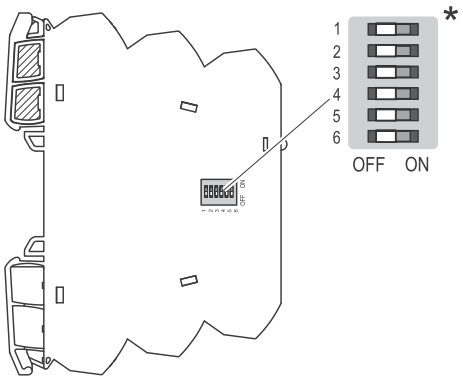




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

750510.0000
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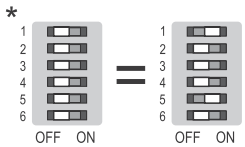
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

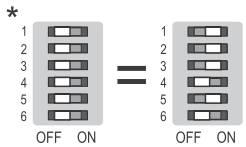
S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●



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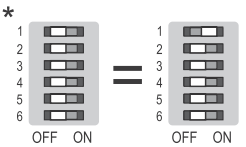
751512.0000

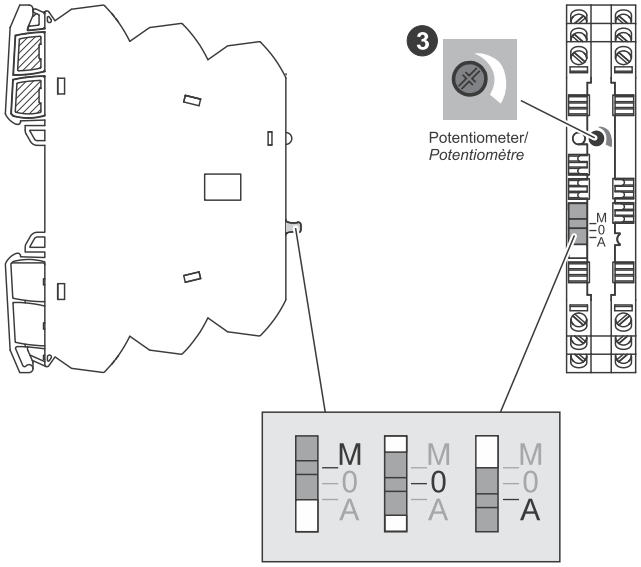
S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●



Use

DE Schalterstellungen M-0-A EN *Switch Positions M-0-A* FR *Positions des interrupteurs M-0-A*



M - manuell/ *manually/ manuellement:*

DE Mit dem Potentiometer **(3)** kann der Ausgangswert eingestellt werden: *(0-10V oder 0-20mA oder 4-20mA)*

EN *With the potentiometer **(3)** the output value can be set: (0-10V or 0-20mA or 4-20mA)*

FR *Le potentiomètre **(3)** permet de régler la valeur de sortie: (0-10V ou 0-20mA ou 4-20mA)*

0 - ausgeschaltet/ *switched off/ désactivé:*

DE Der Wandler ist am Ausgang ausgeschaltet, dass heißt: 0V oder 0mA oder 4mA**.**

EN *The converter is switched off at the output, that means: 0V or 0mA or 4mA.*

FR *Le convertisseur est désactivé à la sortie, c'est-à-dire: 0V ou 0mA ou 4mA.*

A - Automatik/ *Automatic/ Automatique:*

DE Hier wird der Eingangswert automatisch in den Ausgangswert umgewandelt**.**

EN *Here the input value is automatically converted to the output value.*

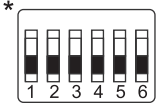
FR *Ici, la valeur d'entrée est automatiquement convertie en valeur de sortie.*

Range adjustment

S1	**Input**			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

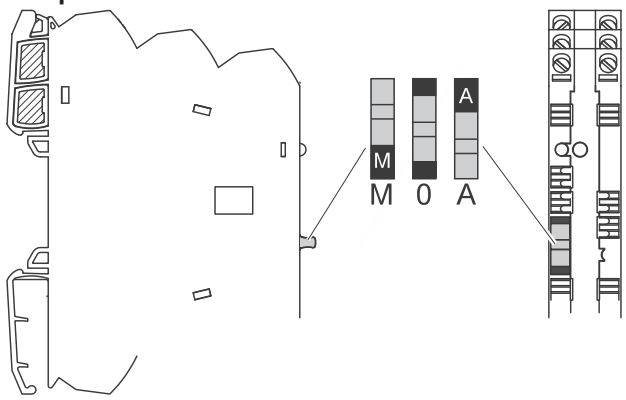
S1	**Output**	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

*



Default (1-6 = OFF)

Switch position



M: DE Ausgangssignal wird durch Potentiometer bestimmt
EN *Output signal determined by potentiometer*
FR *Signal de sortie déterminé par potentiomètre*

0: DE Ausgangssignal auf Minimum
EN *Output signal at low level*
FR *Signal de sortie à bas niveau*

A: DE Ausgangssignal wird durch Eingangssignal bestimmt
EN *Output signal is determined by the input signal*
FR *Le signal de sortie est déterminé par le signal d'entrée*

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA, manual off automatic
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4 kV, 3-way isolation, wide range input

Identification

Type	LCIS-WP-WAA-MA-0519-S
Part No.	750519.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 75.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

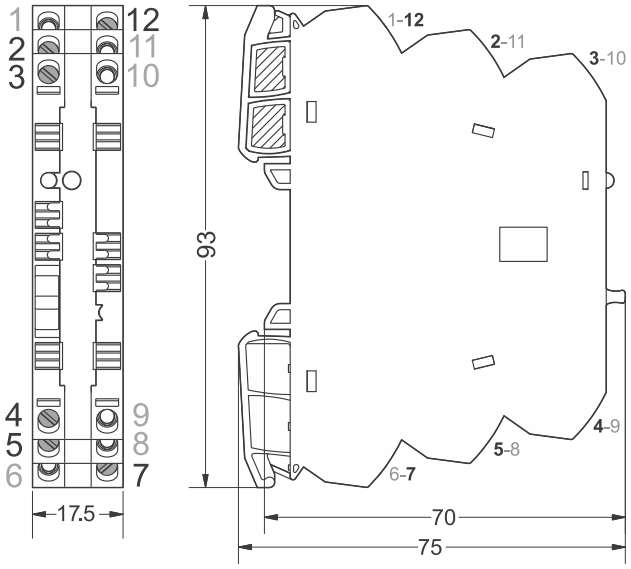
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

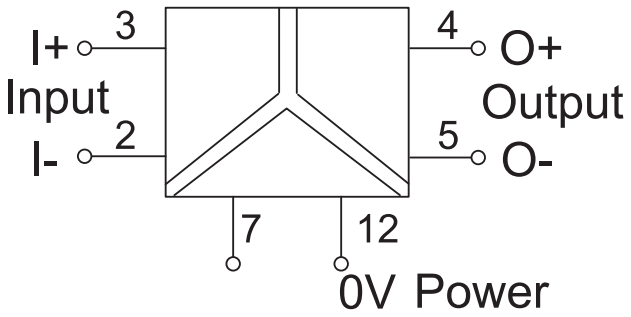
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

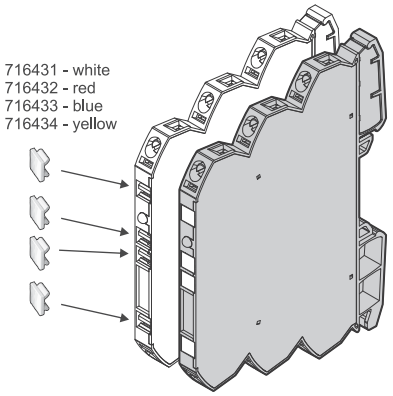
Dimensions

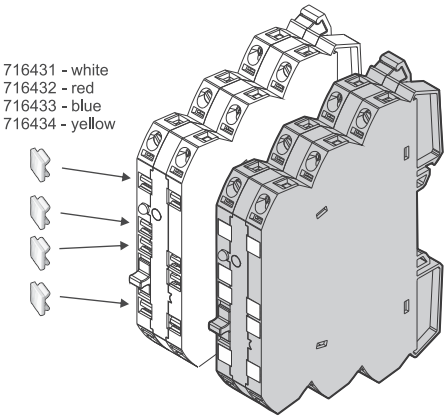


PIN assignment



Use

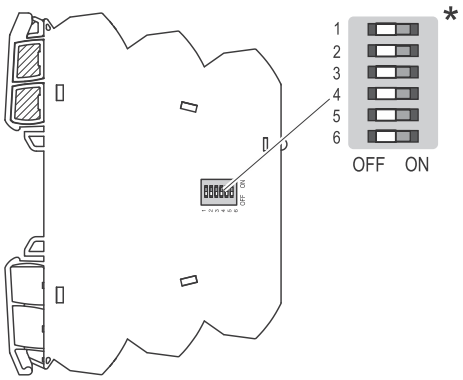




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

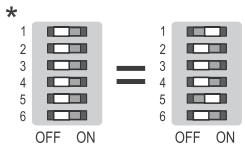
* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

750510.0000
751510.0000
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

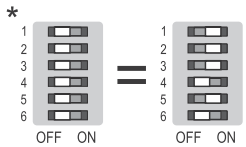
S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

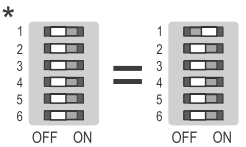
S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●



750512.0000
751512.0000

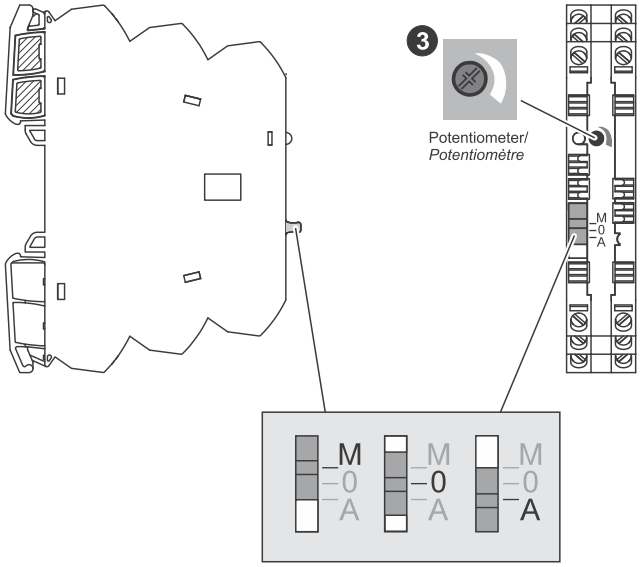
S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●



Use

DE Schalterstellungen M-0-A EN *Switch Positions M-0-A* FR *Positions des interrupteurs M-0-A*



M - manuell/ *manually/ manuellement:*

DE Mit dem Potentiometer **(3)** kann der Ausgangswert eingestellt werden: *(0-10V oder 0-20mA oder 4-20mA)*

EN *With the potentiometer **(3)** the output value can be set: (0-10V or 0-20mA or 4-20mA)*

FR *Le potentiomètre **(3)** permet de régler la valeur de sortie: (0-10V ou 0-20mA ou 4-20mA)*

0 - ausgeschaltet/ *switched off/ désactivé:*

DE Der Wandler ist am Ausgang ausgeschaltet, dass heißt: 0V oder 0mA oder 4mA**.**

EN *The converter is switched off at the output, that means: 0V or 0mA or 4mA.*

FR *Le convertisseur est désactivé à la sortie, c'est-à-dire: 0V ou 0mA ou 4mA.*

A - Automatik/ *Automatic/ Automatique:*

DE Hier wird der Eingangswert automatisch in den Ausgangswert umgewandelt**.**

EN *Here the input value is automatically converted to the output value.*

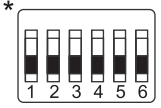
FR *Ici, la valeur d'entrée est automatiquement convertie en valeur de sortie.*

Range adjustment

S1	**Input**			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

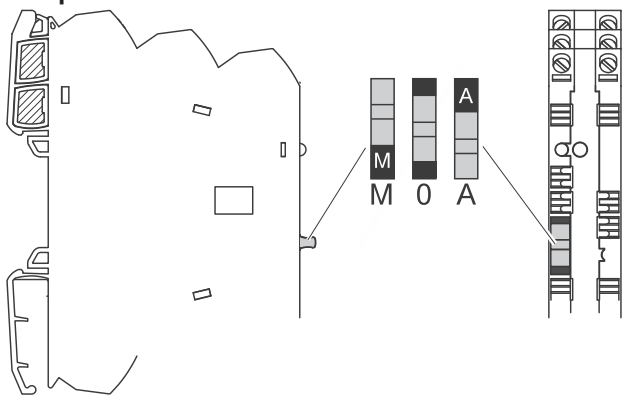
S1	**Output**	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

*



Default (1-6 = OFF)

Switch position



M: DE Ausgangssignal wird durch Potentiometer bestimmt
EN *Output signal determined by potentiometer*
FR *Signal de sortie déterminé par potentiomètre*

0: DE Ausgangssignal auf Minimum
EN *Output signal at low level*
FR *Signal de sortie à bas niveau*

A: DE Ausgangssignal wird durch Eingangssignal bestimmt
EN *Output signal is determined by the input signal*
FR *Le signal de sortie est déterminé par le signal d'entrée*

Technical data sheet

Interface Technology · LCIS analogue/analogue converter, passive

Input: 4–20 mA
Output: 4–20 mA
Insulation: 1.5 kV, 2-way isolation, passive converter

Identification

Type	LCIS-P1K-0528-62-S
Part No.	750528.0000

Product version

Hardware revision	1.0
Datasheet version	03

Input

Input signal	4–20 mA
Input variable	Single analog signal
Galvanic isolation I/O	2-way isolation
Input overload capability	max. 35 mA

Output

Output signal	4–20 mA
Max. load impedance at I-output	1000 Ω (R_B)
Residual ripple	<5 mV_{eff} (load impedance 100 Ω)

Operating data

Accuracy	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	6 ms (for working resistance 500 Ω and 20 mA)

Technical data sheet

Interface Technology · LCIS analogue/analogue converter, passive

General

Rated voltage U_N	passive
Input/output protection	Suppressor diode (33 V)
Burden error	<0.06 % from measured value / 100 Ω working resistance
Temperature drift /K	<150 ppm / K FSR
Temperature drift (working resistance <600R)	<100 ppm / K FSR
Temperature drift (working resistance ≥600R)	<150 ppm / K FSR
Insulation voltage input / output	1.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 71.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	127 fit
Failure rate at +45 °C	7892161 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
	following conditions:
	or industrial areas without extreme dust levels and
	h per year

Technical data sheet

Interface Technology · LCIS analogue/analogue converter, passive

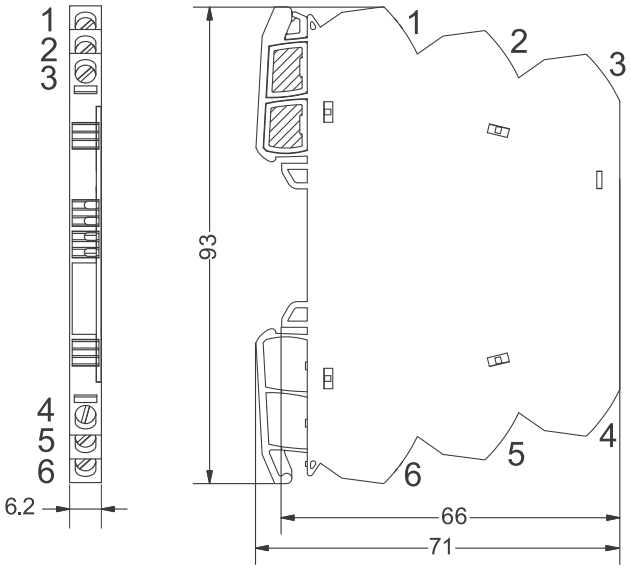
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

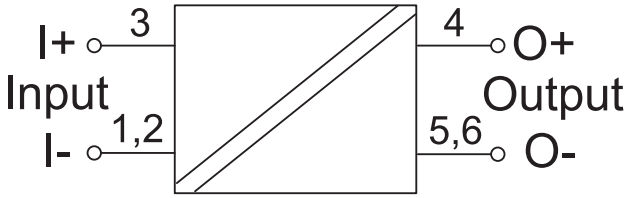
Notes and Comments

Comments	When connected this passive isolator has a non-reactive transmission, so that the current in the input circuit is not interrupted for an output interruption.

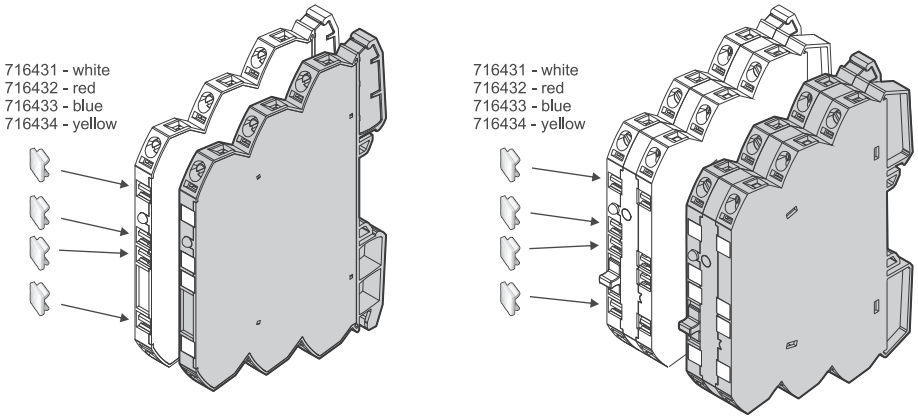
Dimensions



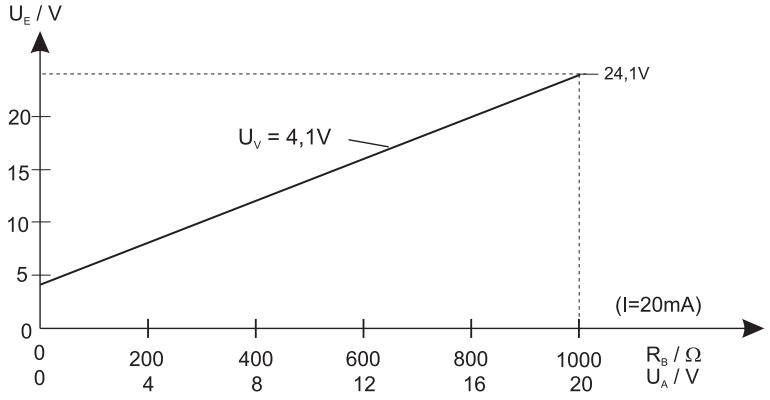
PIN assignment



Use



Action chart



Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V
Output: 0–10 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0530-62-S
Part No.	750530.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–10 V
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ

Output

Output signal	0 – 10 V
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

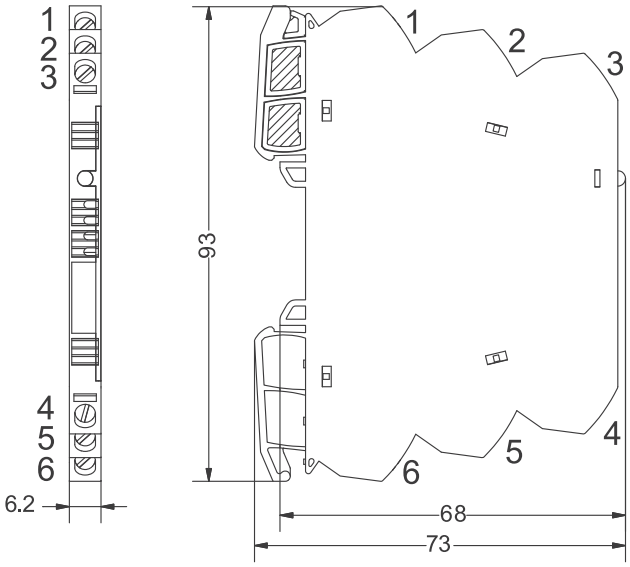
per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

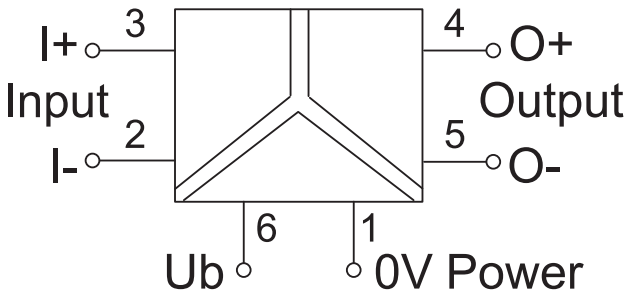
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

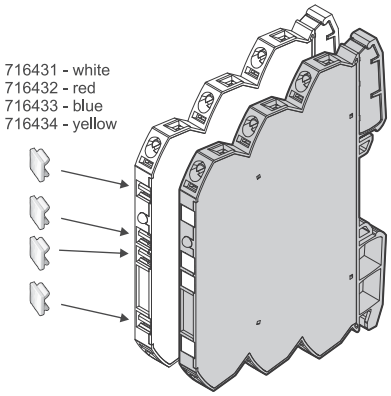
Dimensions

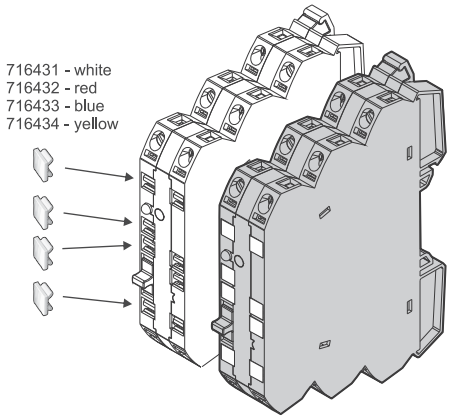


PIN assignment



Use


716431 - white
716432 - red
716433 - blue
716434 - yellow


716431 - white
716432 - red
716433 - blue
716434 - yellow

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V
Output: 0–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0531-62-S
Part No.	750531.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–10 V
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ

Output

Output signal	0–20 mA
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

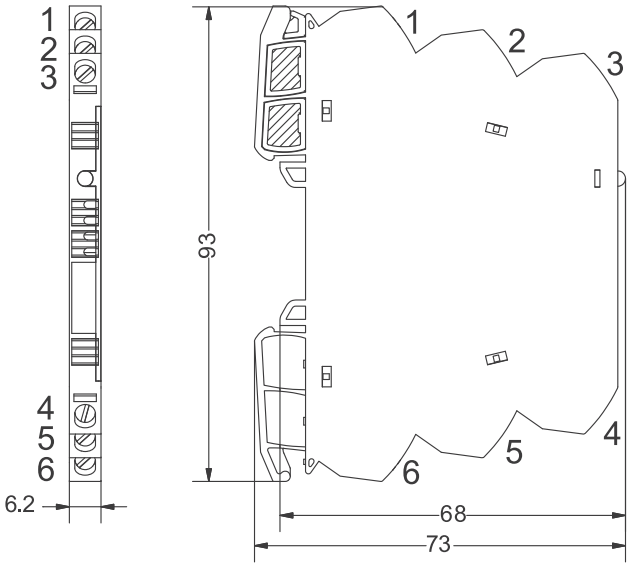
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

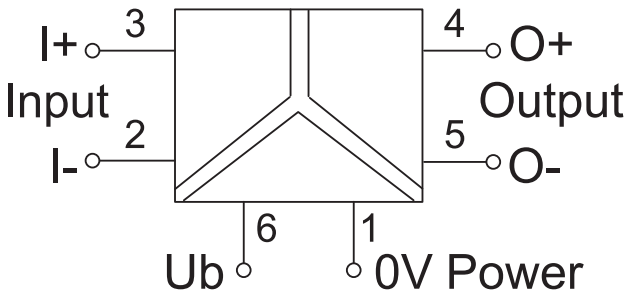
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

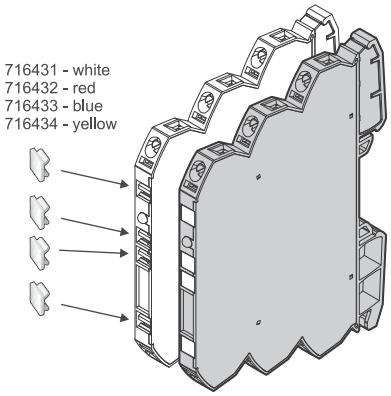
Dimensions



PIN assignment



Use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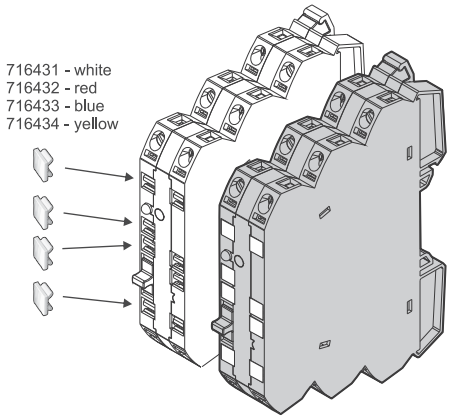
716432 - red
716433 - blue
716434 - yellow


716431 - white
716432 - red
716433 - blue
716434 - yellow

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V
Output: 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0532-62-S
Part No.	750532.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–10 V
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ

Output

Output signal	4–20 mA
Output current limit	Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

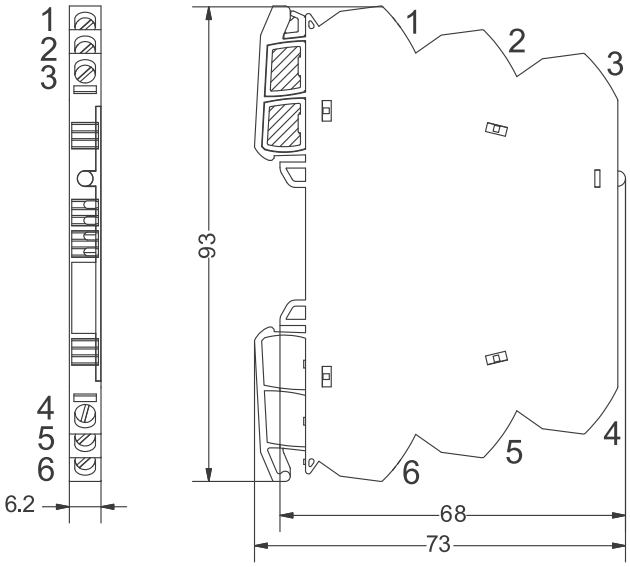
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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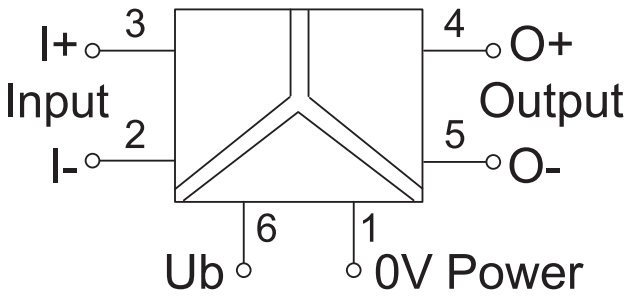

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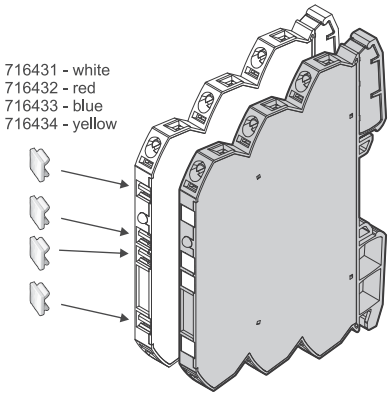
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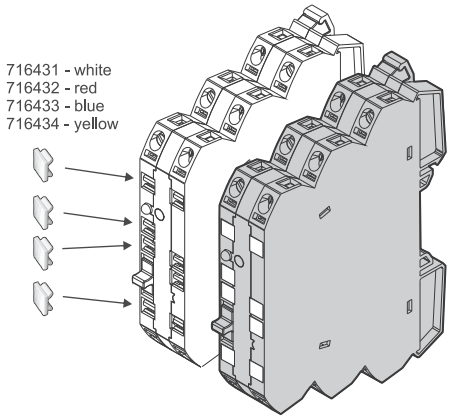
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–20 mA
Output: 0–10 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0533-62-S
Part No.	750533.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0 – 10 V
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

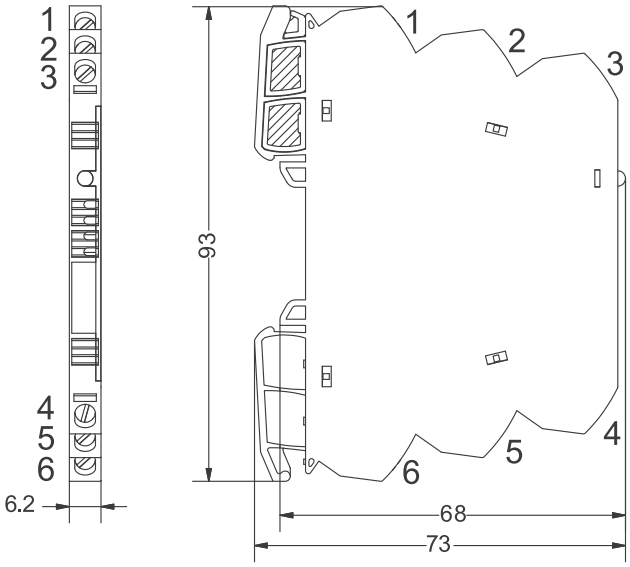
per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-3 UL 508 DNV-CG-0339

Dimensions



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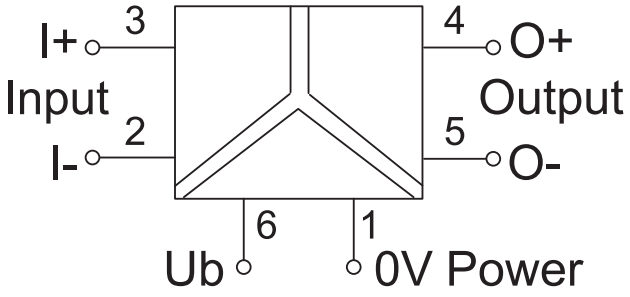

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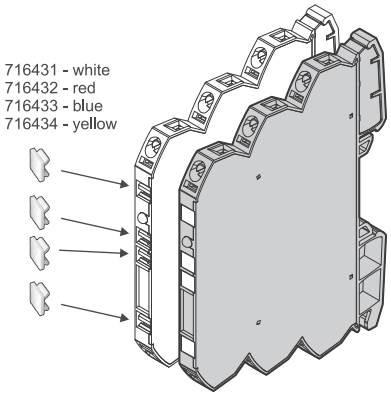
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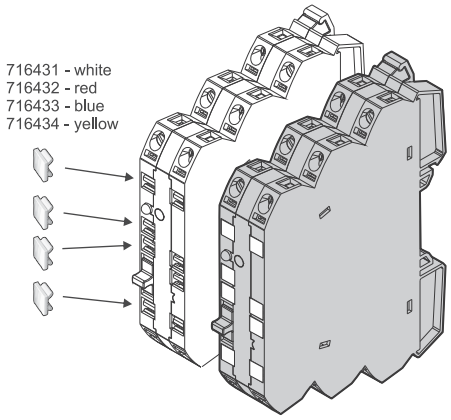
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–20 mA
Output: 0–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0534-62-S
Part No.	750534.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0–20 mA
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

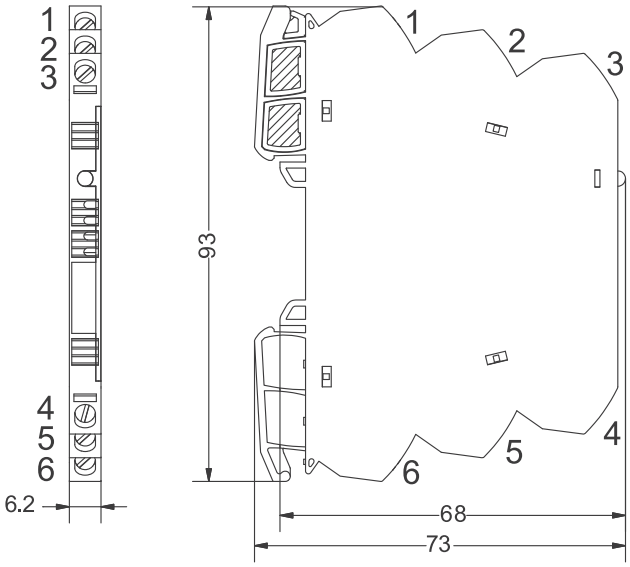
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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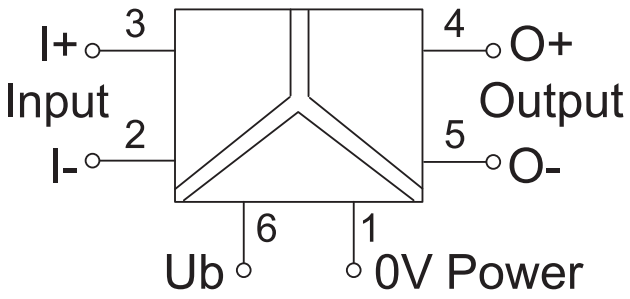

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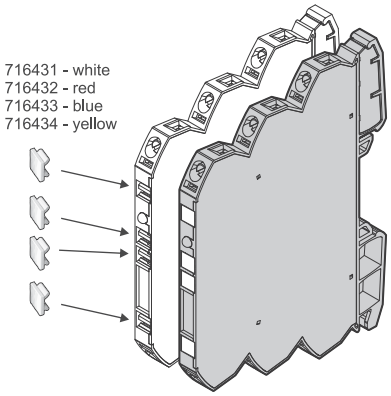
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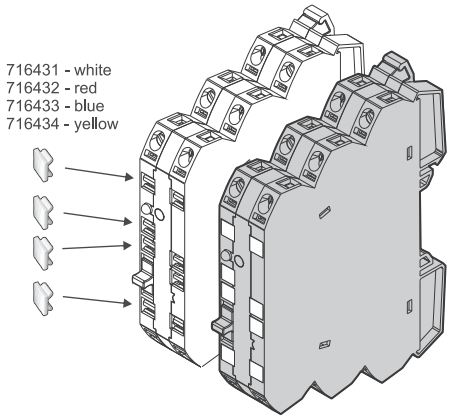
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–20 mA
Output: 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0535-62-S
Part No.	750535.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	4–20 mA
Output current limit	Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

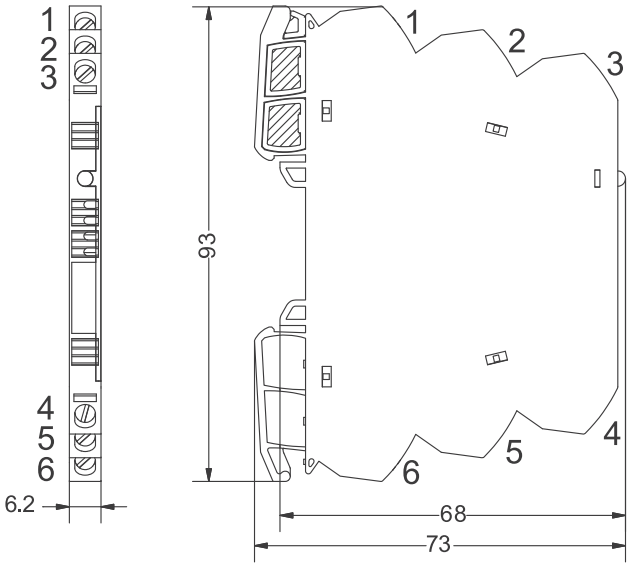
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

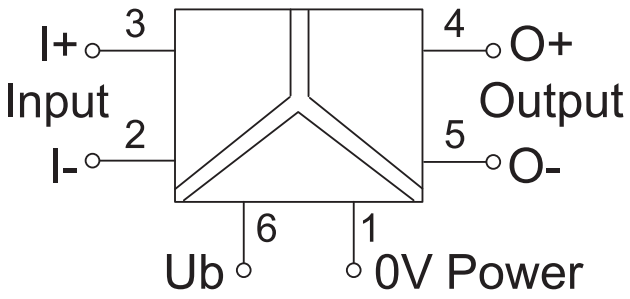
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



PIN assignment



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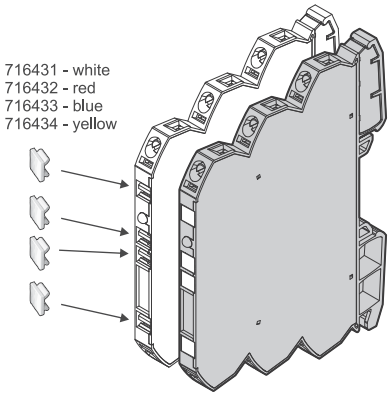
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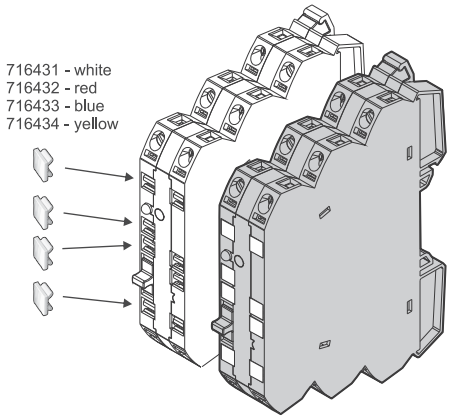
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 4–20 mA
Output: 0–10 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0536-62-S
Part No.	750536.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	4–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0 – 10 V
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

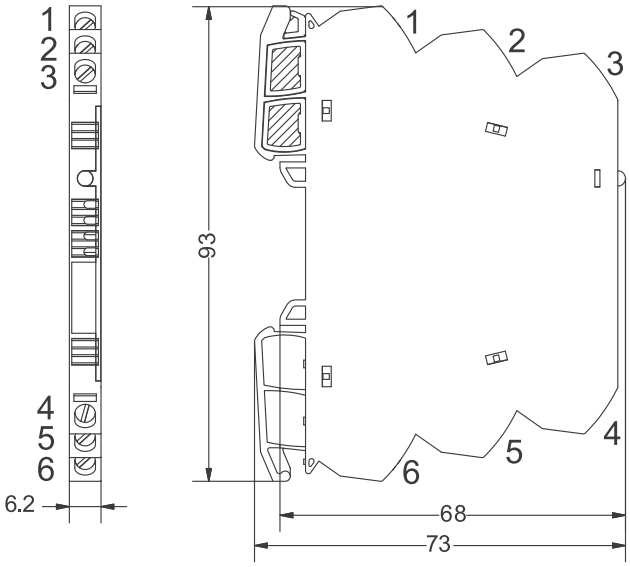
per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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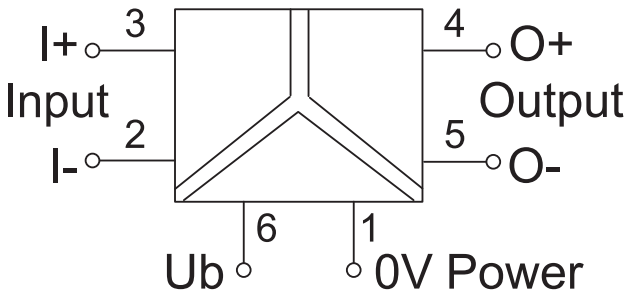

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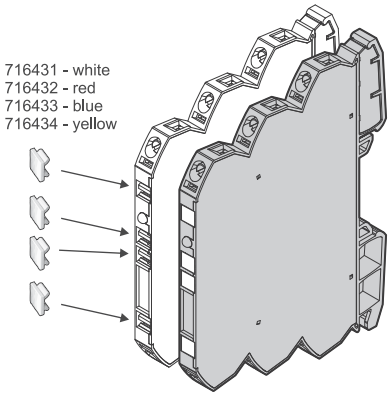
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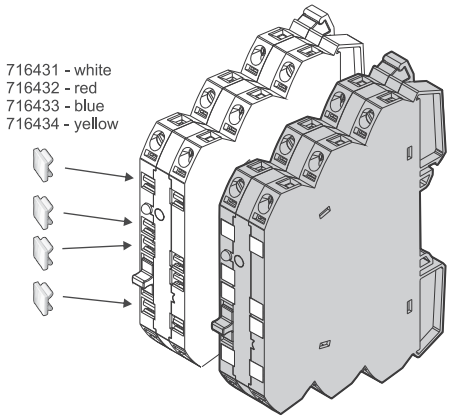
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 4–20 mA
Output: 0–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0537-62-S
Part No.	750537.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	4–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0–20 mA
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

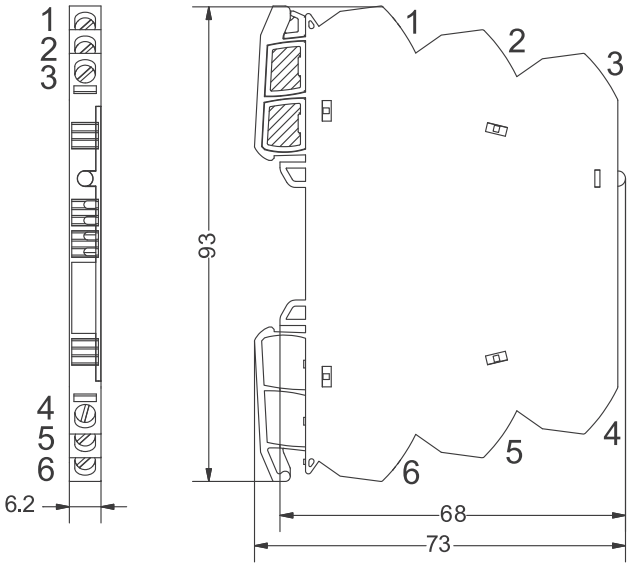
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

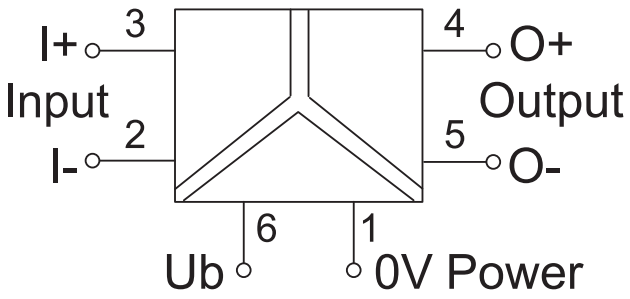
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



PIN assignment



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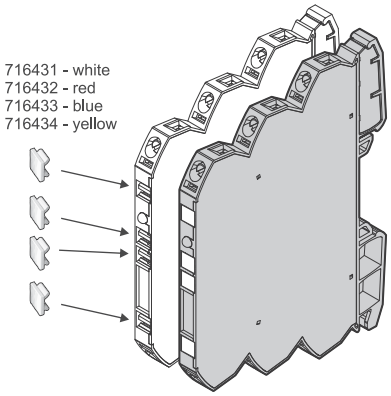
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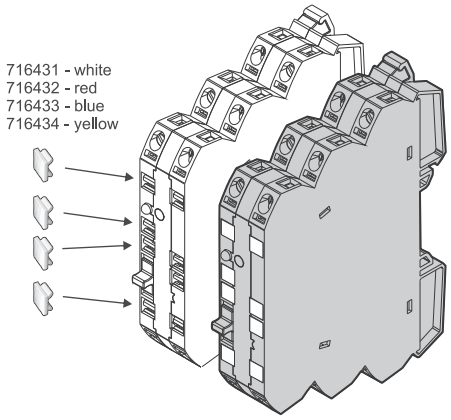
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 4–20 mA
Output: 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0538-62-S
Part No.	750538.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	4–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	4–20 mA
Output current limit	Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

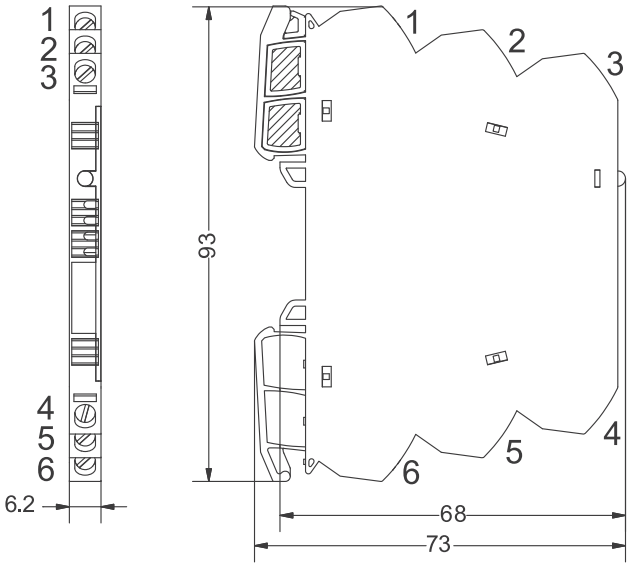
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

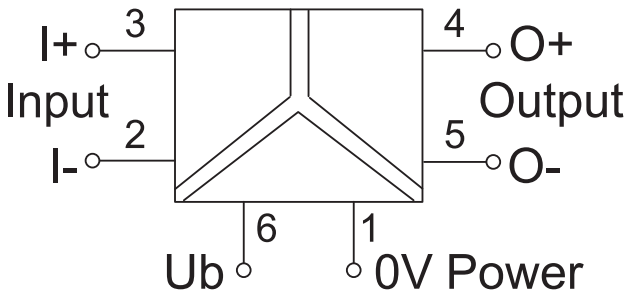
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

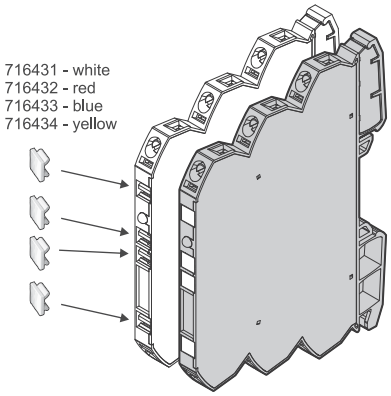
Dimensions

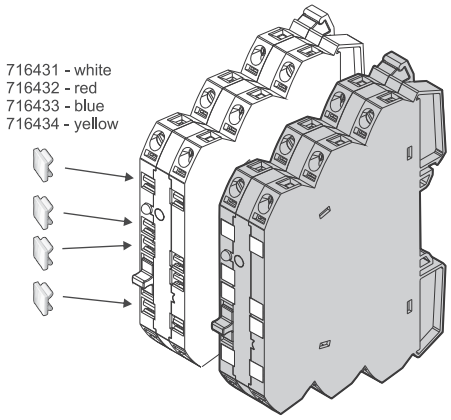


PIN assignment



Use


716431 - white
716432 - red
716433 - blue
716434 - yellow


716431 - white
716432 - red
716433 - blue
716434 - yellow

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0539-62-S
Part No.	750539.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<16 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	24 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	6 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

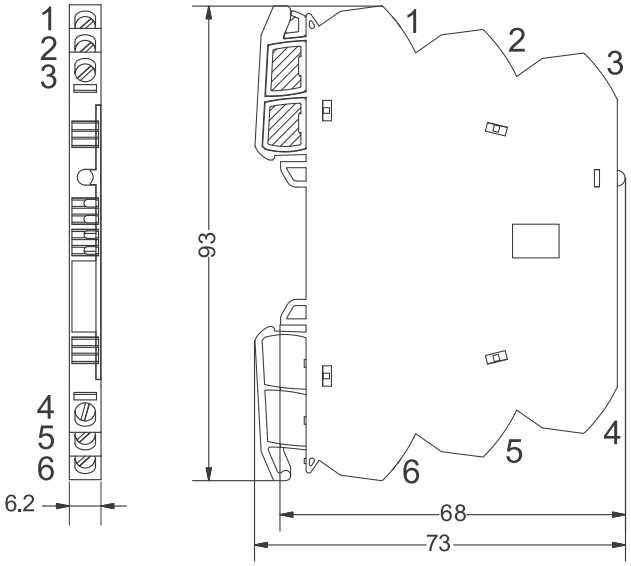
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

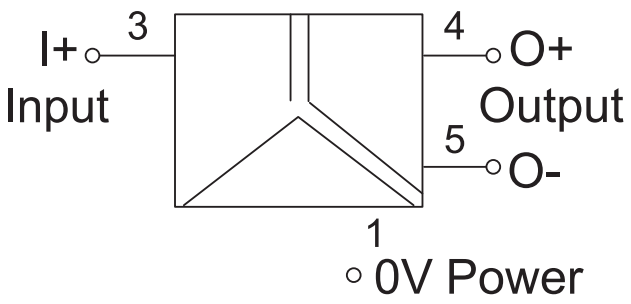
Explanation

Switch position	Delivery status: 0 (OFF)
Range adjustment	*Range is set if all switches are OFF.

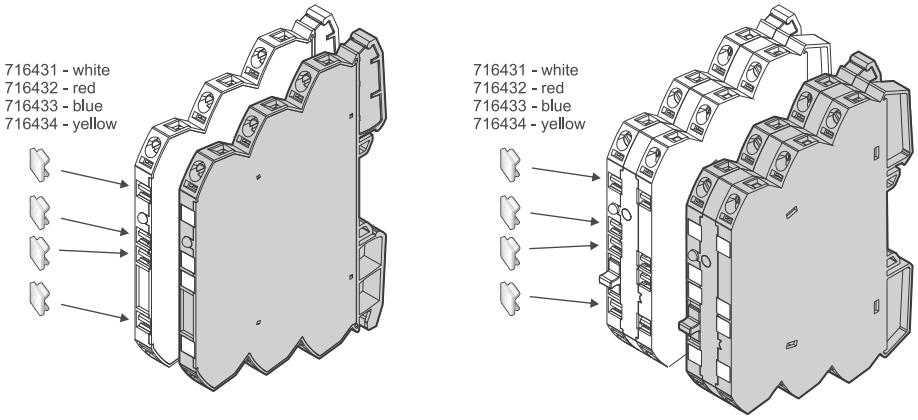
Dimensions



PIN assignment

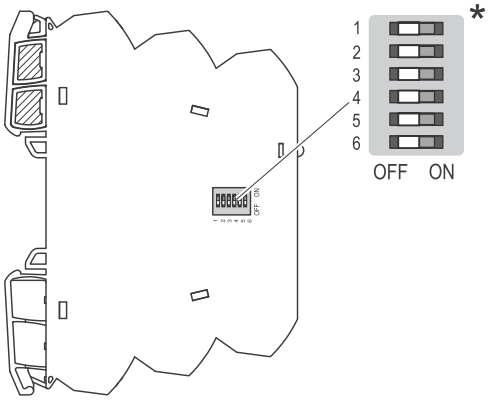


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1	**Input**			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

S1	**Output**	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

ON

OFF

= OFF)

Technical data sheet · Interface Technology

Microcompact current/analog converter

Identification	Type	WAA 7-0540
	Part-No.	750540

Description	
	Input: AC/DC 0 – 1 A
	Output: 0 – 10 V / 0 – 20 mA / 4 – 20 mA - adjustable
	Insulation: 2.5 kV, 3-way isolation

Input	
Input signal	AC/DC 0–1 A, ± 1 A
Input variable	Single analog signal
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Line frequency	15 – 400 Hz
Input resistance	typ. 0.06 Ω

Output	
Output signal	adjustable via DIP switch S1
Max. load impedance at I-output	400 Ω
Output current	max. 21 mA
Residual ripple	<5 mVeff_{eff}

Operating data

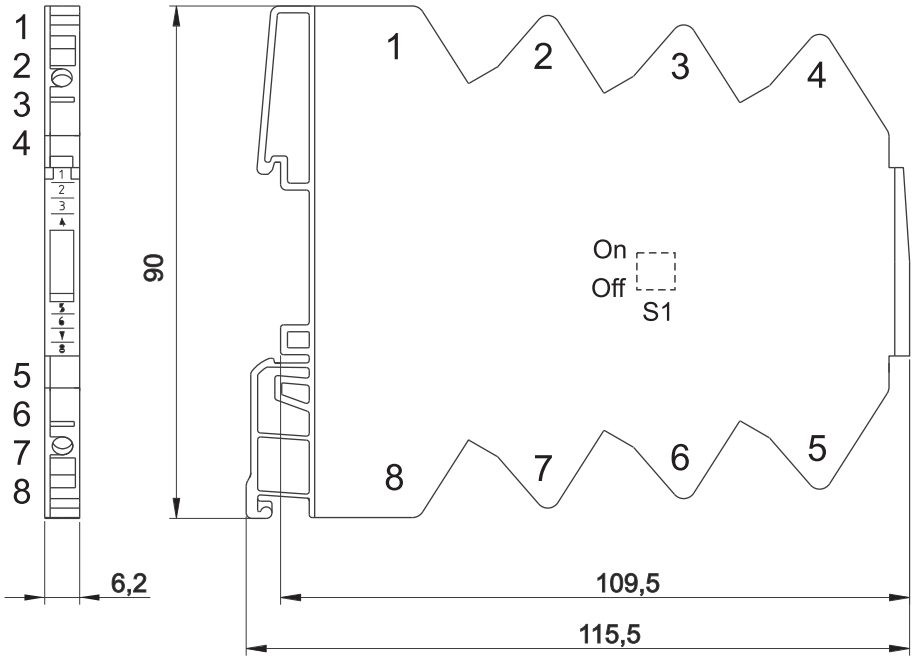
Accuracy	0.5 % FSR @ 23 °C
Linearity error	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	150 ms
Temperature coefficient	<150 ppm / K FSR

General	
Rated voltage U_N	DC 24 V
Operation voltage range	DC 16.8–30 V
Status indication	LED yellow
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP20
Installation position	any
Connection type	Screw terminal
Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Dimensions (w × h × d)	6.2 × 90.0 × 115.5 mm
Weight	0.055 kg/piece
PU	1 piece
Approvals	cULus Cl.1 Div2, Gr. A, B, C, D, T4A

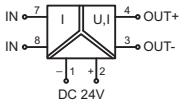
Failure Rate Prediction (MTBF)	
Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	639 fit
Failure rate at +45 °C	1564896 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Technical data sheet · Interface Technology

Dimensions



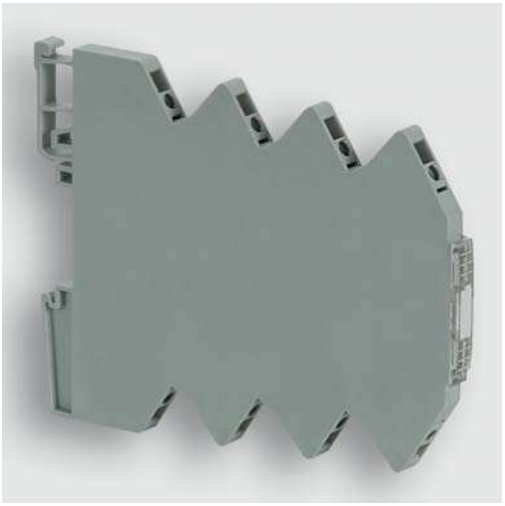
PIN assignment



Range adjustment

● → Switch On		S1			
Input	Output	1	2	3	4
0-1A	0-10V				
0-1A	0-20mA	●			
0-1A	4-20mA		●		

Technical data sheet · Interface Technology



Microcompact current/analogue converter

Identification	Type	WAA 7-0541
	Part-No.	750541

Description	
	Input: AC/DC 0 – 5 A
	Output: 0 – 10 V / 0 – 20 mA / 4 – 20 mA - adjustable
	Insulation: 2.5 kV, 3-way isolation

Input	
Input signal	AC/DC 0–5 A, ± 5 A
Input variable	Single analogue signal
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Line frequency	15 – 400 Hz
Input resistance	typ. 0.02 Ω

Output	
Output signal	adjustable via DIP switch S1
Max. load impedance at I-output	400 Ω
Output current	max. 21 mA
Residual ripple	<5 $mVeff_{eff}$

Operating data

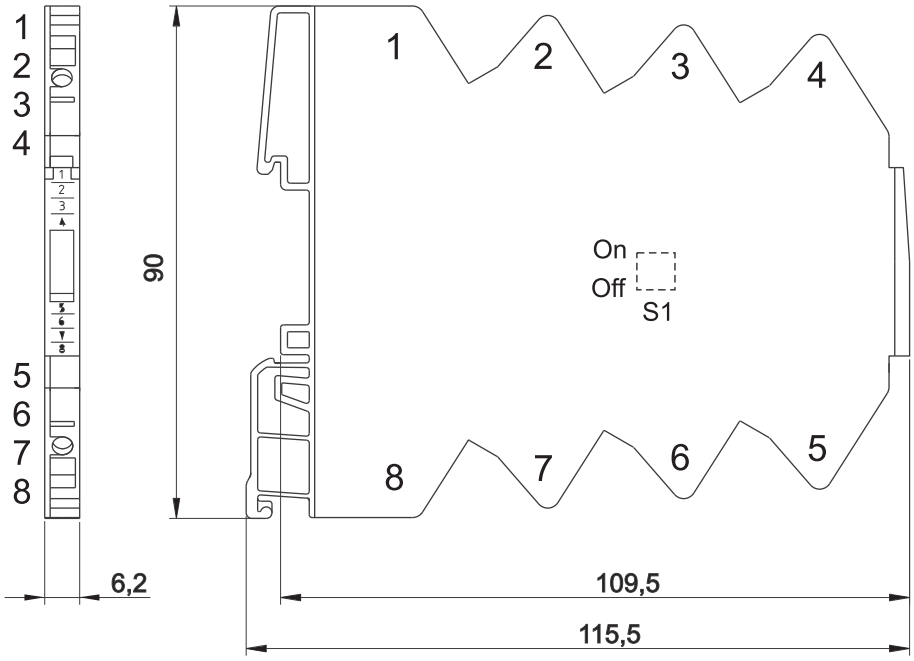
Accuracy	0.5 % FSR @ 23 °C
Linearity error	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	150 ms
Temperature coefficient	<150 ppm / K FSR

General	
Rated voltage U_N	DC 24 V
Operation voltage range	DC 16.8–30 V
Status indication	LED yellow
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP20
Installation position	any
Connection type	Screw terminal
Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Dimensions (w × h × d)	6.2 × 90.0 × 115.5 mm
Weight	0.055 kg/piece
PU	1 piece
Approvals	cULus Cl.1 Div2, Gr. A, B, C, D, T4A

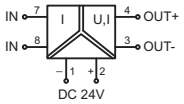
Failure Rate Prediction (MTBF)	
Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	639 fit
Failure rate at +45 °C	1564896 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Technical data sheet · Interface Technology

Dimensions



PIN assignment

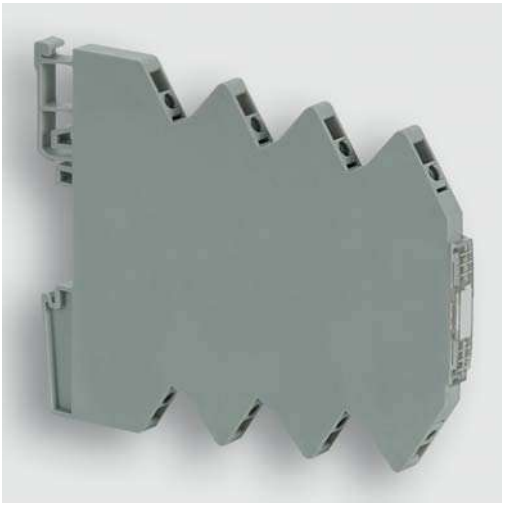


Range adjustment

● → Switch On		S1			
Input	Output	1	2	3	4
0-5A	0-10V				
0-5A	0-20mA	●			
0-5A	4-20mA		●		

Technical data sheet · Interface Technology

Microcompact current/analogue converter



Identification	Type	WAA 7-0542
	Part-No.	750542

Description	
	Input: AC/DC 0 – 10 A
	Output: 0 – 10 V / 0 – 20 mA / 4 – 20 mA - adjustable
	Insulation: 2.5 kV, 3-way isolation

Input	
Input signal	AC/DC 0–10 A, + 10 A
Input variable	Single analogue signal
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	typ. 0.02 Ω

Output	
Output signal	adjustable via DIP switch S1
Max. load impedance at I-output	400 Ω
Output current	max. 21 mA
Residual ripple	<5 $mVeff_{eff}$

Operating data	
Accuracy	0.5 % FSR @ 23 °C

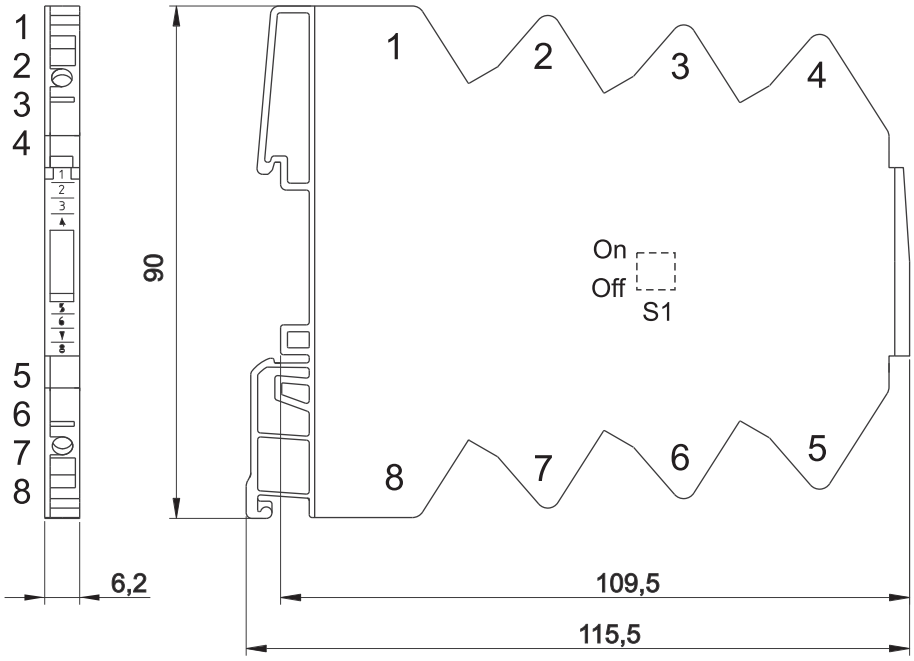
Linearity error	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	150 ms
Temperature coefficient	<150 ppm / K FSR

General	
Rated voltage U_N	DC 24 V
Operation voltage range	DC 16.8–30 V
Status indication	LED yellow
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP20
Installation position	any
Connection type	Screw terminal
Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Dimensions (w × h × d)	6.2 × 90.0 × 115.5 mm
Weight	0.055 kg/piece
PU	1 piece
Approvals	cULus Cl.1 Div2, Gr. A, B, C, D, T4A

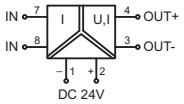
Failure Rate Prediction (MTBF)	
Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	643 fit
Failure rate at +45 °C	1555162 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Technical data sheet · Interface Technology

Dimensions



PIN assignment



Range adjustment

● → Switch On		S1			
Input	Output	1	2	3	4
0-10A	0-10V				
0-10A	0-20mA	●			
0-10A	4-20mA		●		

Technical data sheet

Interface Technology · LCIS potentiometer/analog converter

Input: 0–1 kΩ / 0–6 kΩ
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WRA-0557-62-S
Part No.	750557.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Poti 0–1 kΩ, Poti 0–6 kΩ
Galvanic isolation I/O	3-way isolation
Measuring procedure	2-wire, constant current
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Sensor current	0.45 mA @ 0–1 kΩ / 0.15 mA @ 0– 6 kΩ
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V

Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Current Consumption	19 mA
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

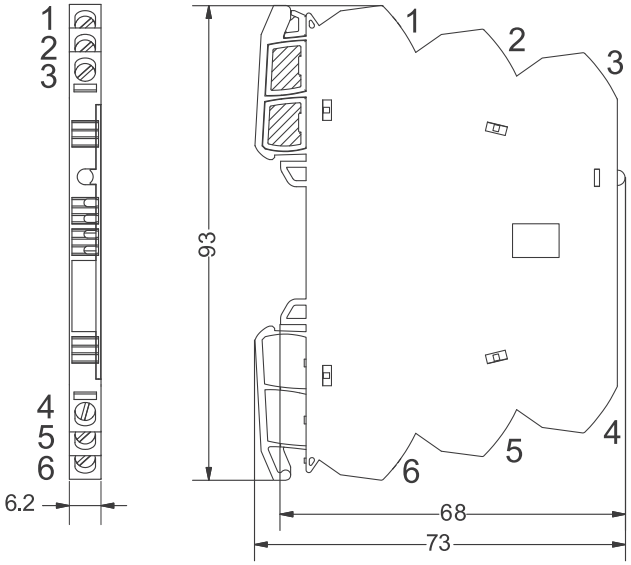
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

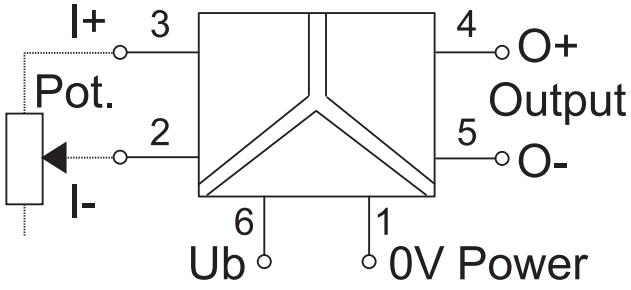
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

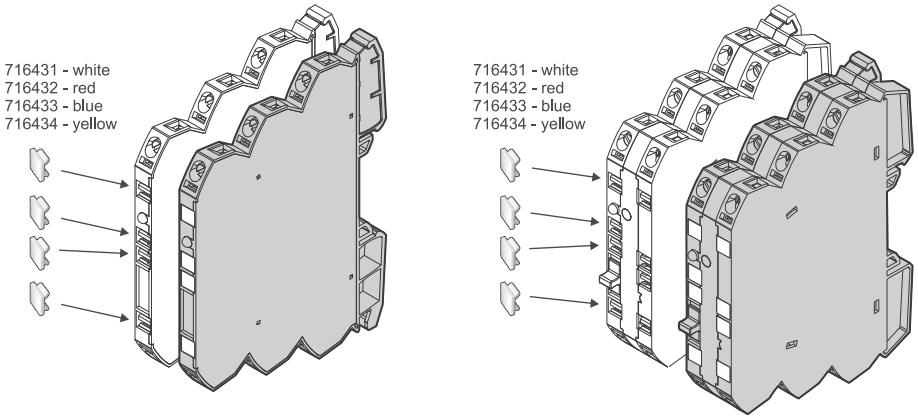
Dimensions



PIN assignment

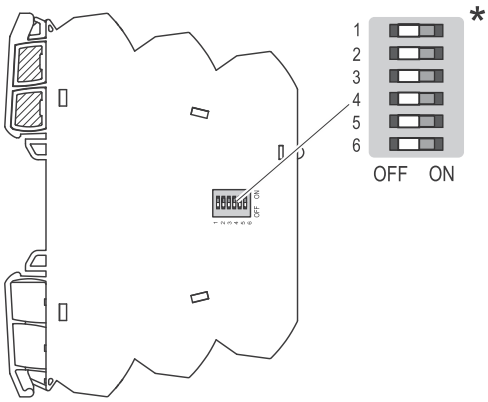


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 → Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 → Switch On	Input 1	2	3	4
0 6 kΩ				
	●			

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: PT100, 2-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WPT2LA-0809-62-S
Part No.	750809.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Temperature sensor PT100
Galvanic isolation I/O	3-way isolation
Measuring procedure	2-wire, constant current
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Sensor current	0.5 mA
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C
Error coefficient of measuring line	2.7 K/Ω

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

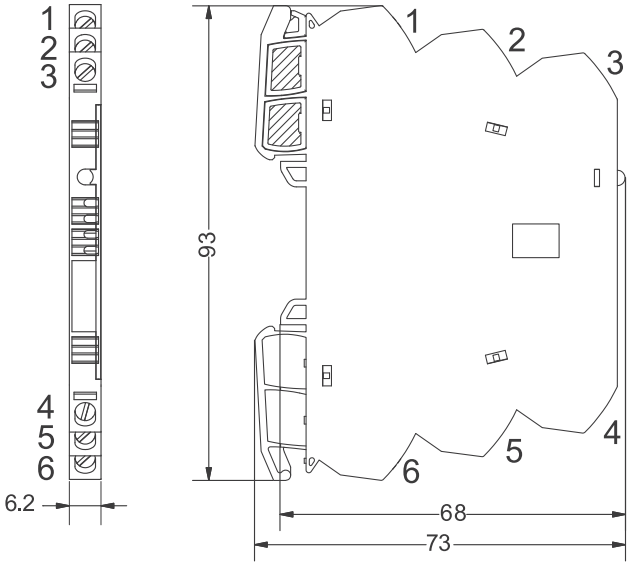
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	566 fit
Failure rate at +45 °C	1765795 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

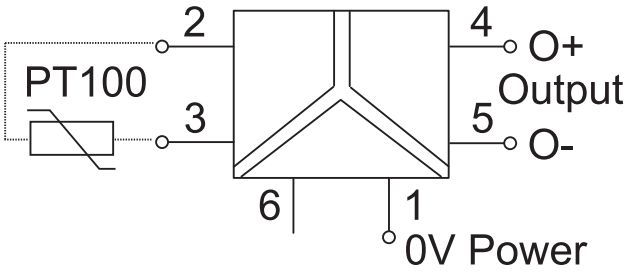
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

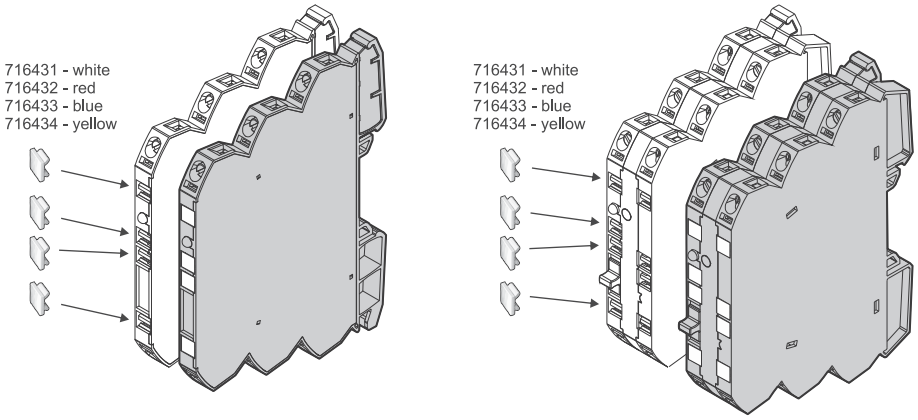
Dimensions



PIN assignment

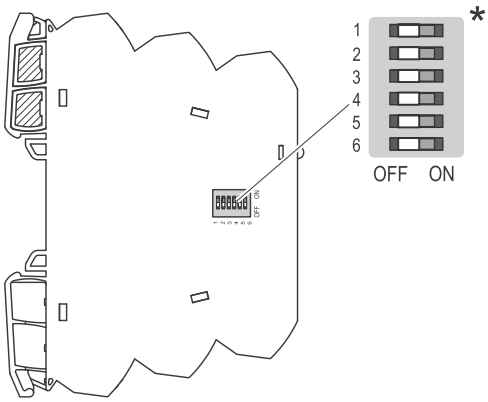


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 → Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 → Switch On	Input 1	2	3	4
50 50°C				
		●		
			●	
		●	●	
				●
		●		●
			●	●
		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: PT100, 2-wire/3-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 2-way isolation

Identification

Type	LCIS-WPT3LA-0819-62-S
Part No.	750819.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Temperature sensor PT100
Galvanic isolation I/O	2-way isolation
Measuring procedure	2-wire of 3-wire, constant current
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ @ 2-wire, >500 kΩ @ 3-wire
Sensor current	0.5 mA
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C
Error coefficient of measuring line	2-conductor: 2.7 K/Ω, 3-conductor: 0.1 K + 0.1 %/Ω

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

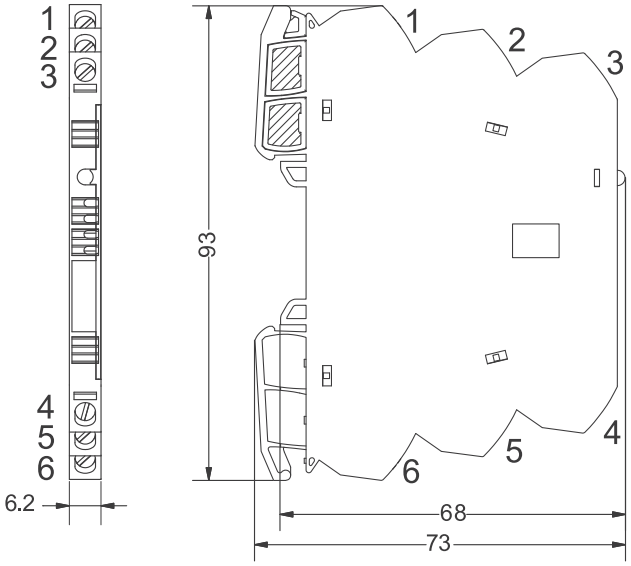
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	578 fit
Failure rate at +45 °C	1729323 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

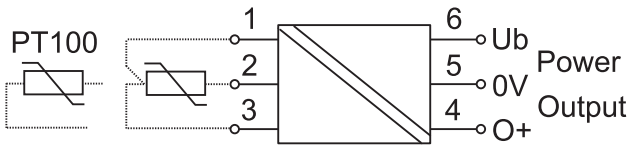
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

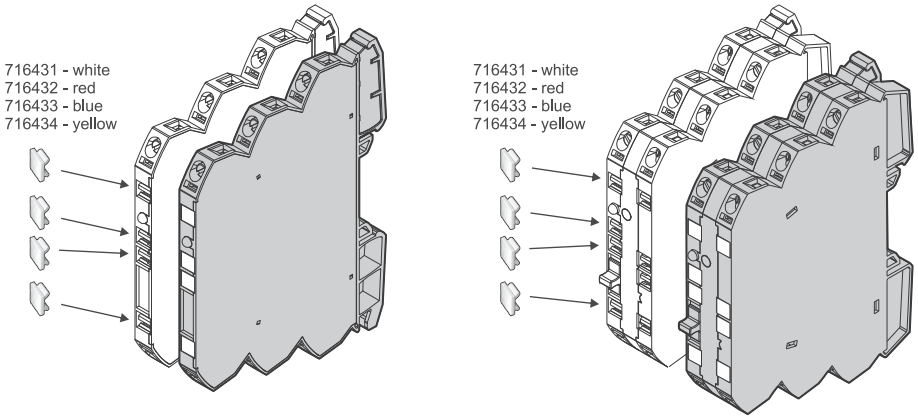
Dimensions



PIN assignment

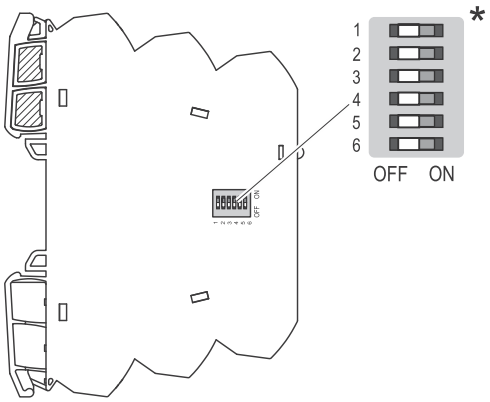


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
PT100, 3-wire				
PT100, 2-wire	●			
-50 – 50°C				
-50 – 100°C		●		
-50 – 150°C			●	
0 – 100°C		●	●	
0 – 150°C				●
0 – 200°C		●		●
0 – 300°C			●	●
0 – 400°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WTCA-0839-62-S
Part No.	750839.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Temperature range	-50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Cold junction compensation	throughout the entire temperature range
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.5 % + 2K FSR @ 23 °C
Linearity error	0.1 % FSR, temperature linear
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

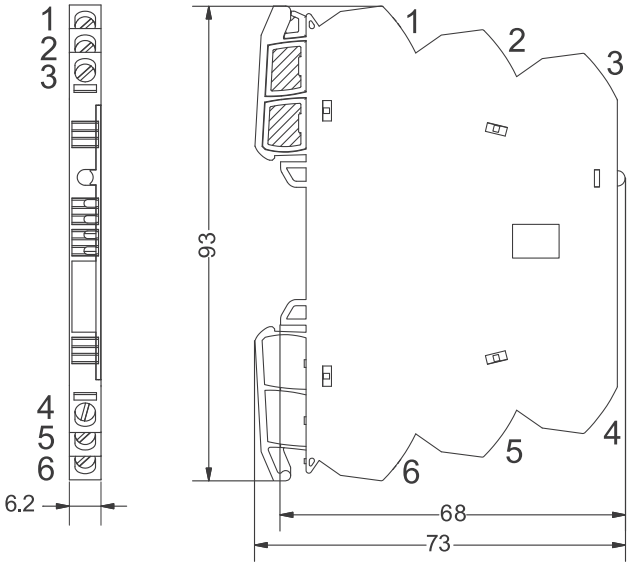
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	1765795 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

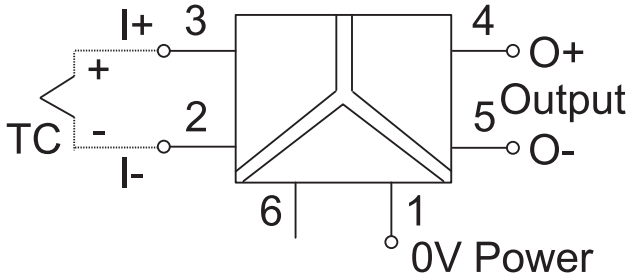
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

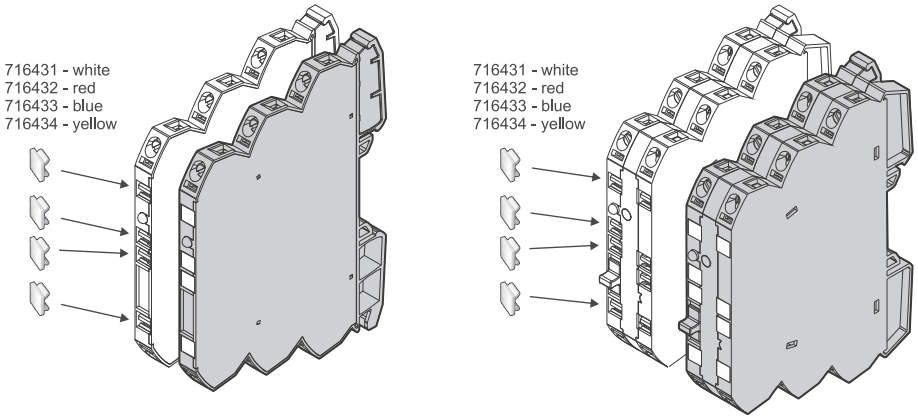
Dimensions



PIN assignment

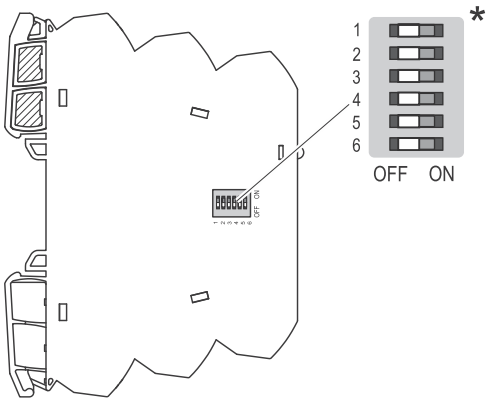


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
-50 – 200°C				
-50 – 350°C		●		
0 – 200°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation

Identification

Type	LCIS-WP-WTCA-0847-175-S
Part No.	750847.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Temperature range	-50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Cold junction compensation	throughout the entire temperature range
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.5 % + 2K FSR @ 23 °C
Linearity error	0.1 % FSR, temperature linear
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24–240 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 19 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6
EMC tests	Class A

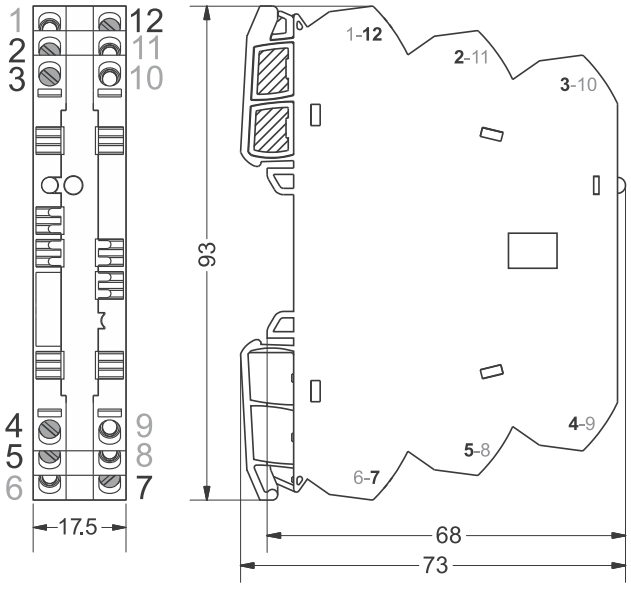
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	700 fit
Failure rate at +45 °C	1428555 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

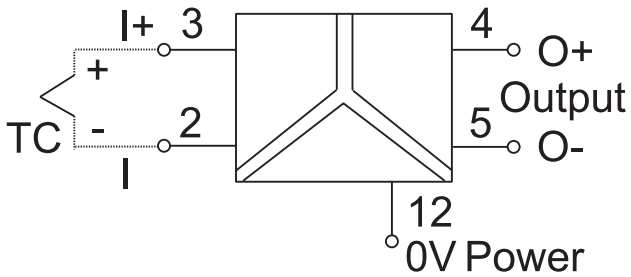
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

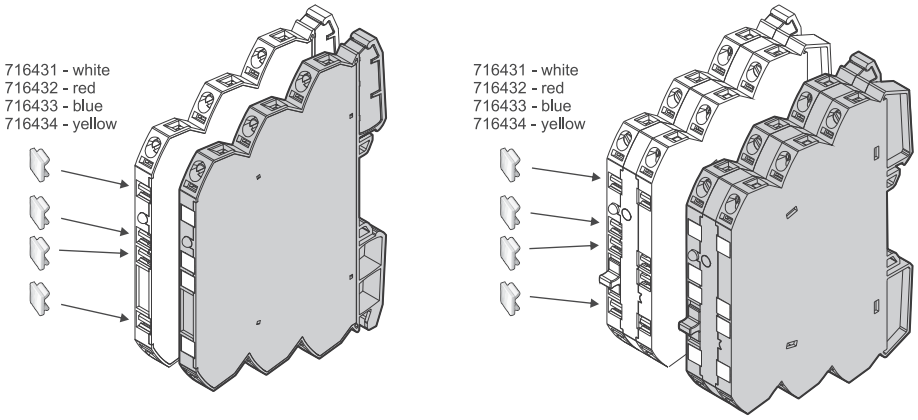
Dimensions



PIN assignment

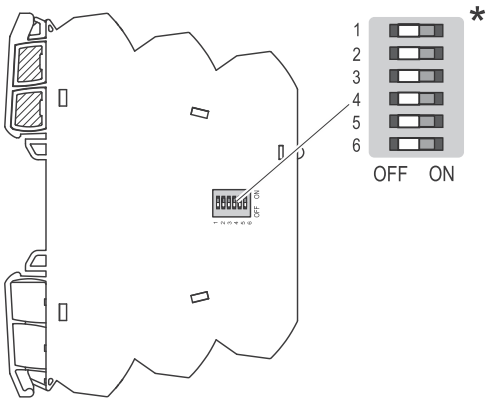


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
-50 – 200°C				
-50 – 350°C		●		
0 – 200°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation

Identification

Type	LCIS-WP-WTCA-0848-175-S
Part No.	750848.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Temperature range	J: -50 °C–150 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C K: -210 °C–105 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Cold junction compensation	throughout the entire temperature range
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω

Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.5 % + 2K FSR @ 23 °C
Linearity error	0.1 % FSR, temperature linear
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24–240 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 19 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing

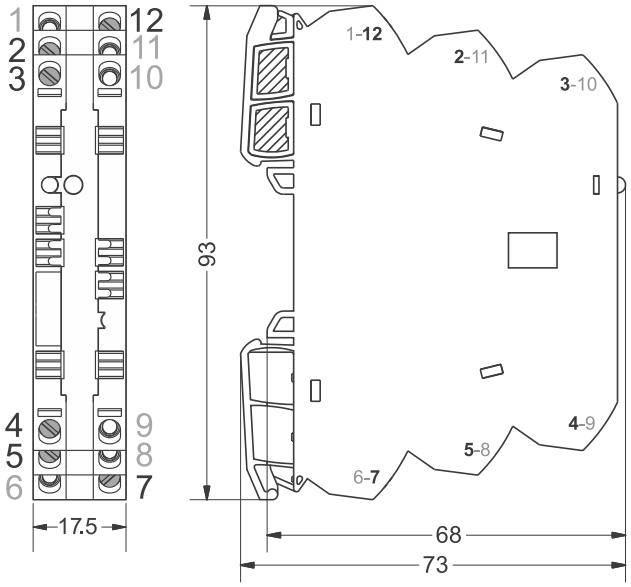
Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	700 fit
Failure rate at +45 °C	1428555 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

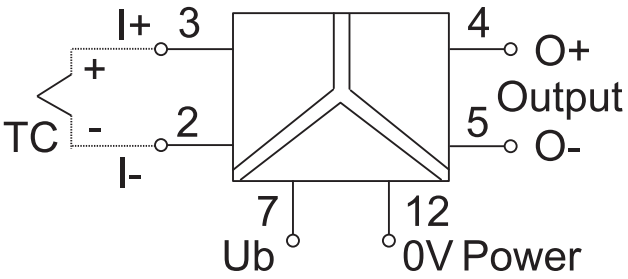
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

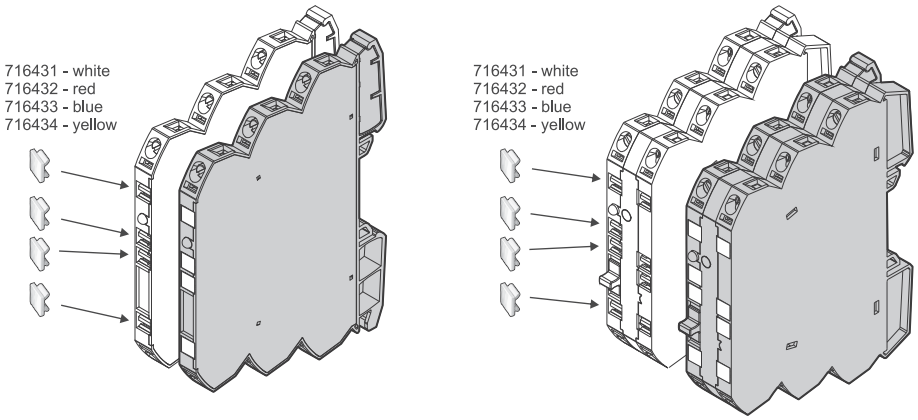
Dimensions



PIN assignment

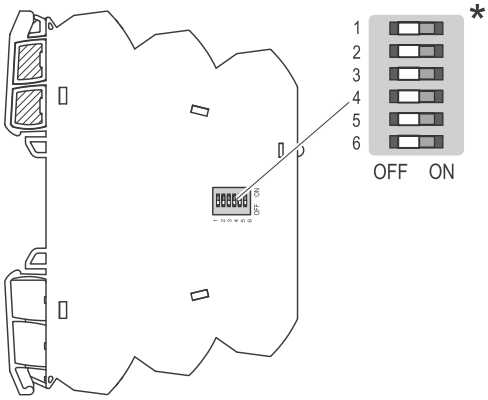


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 ●⟶ Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 ●⟶ Switch On	Input 1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
J: -50 – 150°C K: -210 – 105°C				
-50 – 250°C		●		
-50 – 350°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Technical data sheet
Mounting Accessories

USB Service cable

Identification

Type	LCON ZB USB
Part No.	750894

Product version

Datasheet version	02

Description

Description	USB interface cable for parameterization of FDT/DTM capable LCON converters, time relays, etc.

General

Status indication	LED green - status operation
Housing material	ABS
Color of the housing	transparent
Cable length	1.7 m
Connection type	USB A – Micro USB
Dimensions (w × h × d)	82.0 mm × 12.5 mm × 21.0 mm
Weight/unit	0.047 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	0.7 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Technical data sheet
Mounting Accessories

Certifications/Standards

Conformity	CE UKCA
Standards	EN 60947-1 EN 60947-5-1

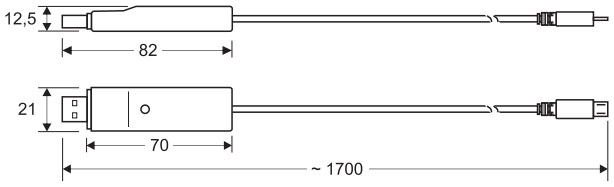
Equipment/Spare parts

Accessories	Driver software "LCON ZB USB Driver"

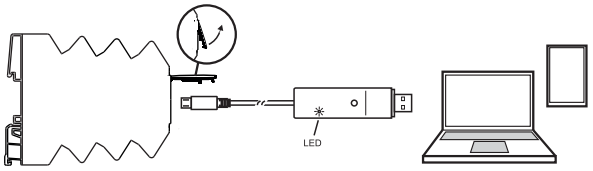
Notes and Comments

Note	The LCON USB service cable contains a galvanically isolated USB interface. To program parameterizable devices, you need the software "LCON ZB USB Driver", which is available free of charge in the download area. The software consists of the frame application Pactware, the DTM drivers, the driver for the service cable and a manual. Please also observe the operating instructions enclosed with the product.

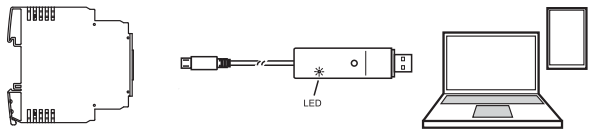
Dimensions



Use



LCON ZB USB



LCON ZB USB

Technical data sheet

Interface Technology · LCIS analog/analog converter

Output: 0–60 mV
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-0901-62-S
Part No.	750901.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	03

Input

Input variable	Voltage 0-60 mV
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}

Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Current Consumption	22 mA
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Screwed terminal Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

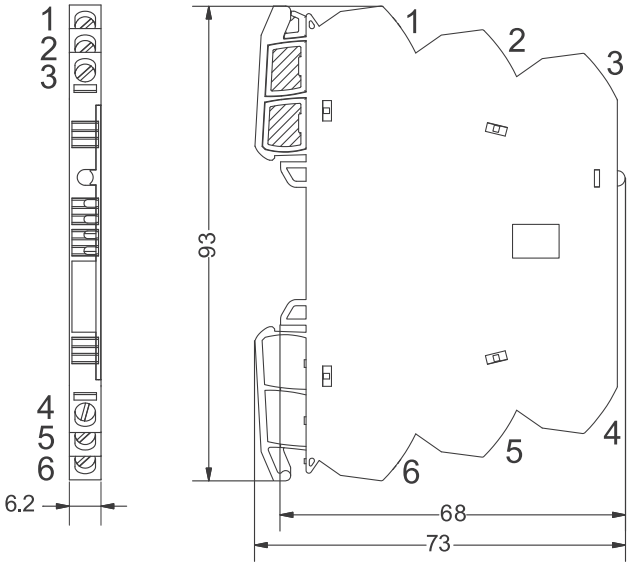
per 10^9 component hours

	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

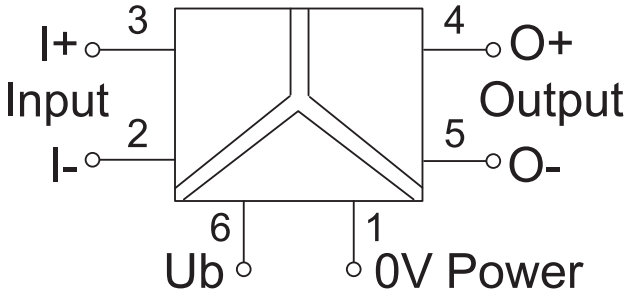
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

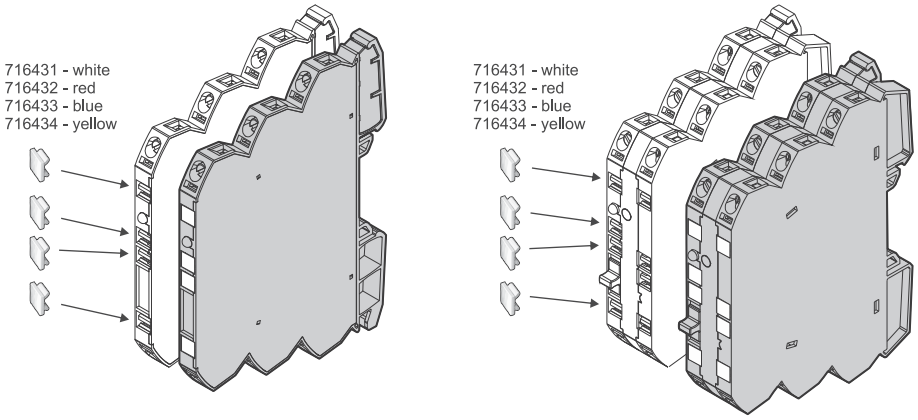
Dimensions



PIN assignment

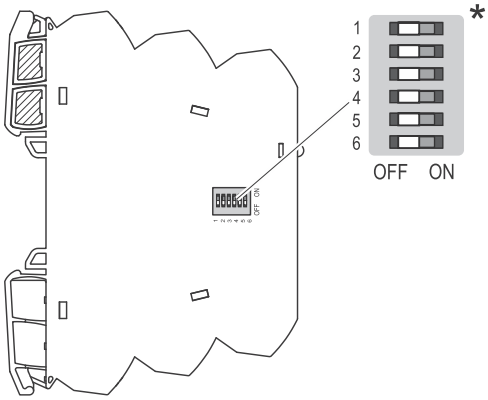


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 → Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 → Switch On	Input 1	2	3	4
0 60 V				

Technical data sheet

Interface Technology · Microcompact analog/analog converter

Input: ±30 V, ±50 mA, ±DC 5 A adjustable
Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCON AA DFDT 806211
Part No.	751320

Product version

Datasheet version	02

Input

Input variable	Analogue signals
Measurement input	+30/-30 V, +50/-50 mA, DC +5 A/-5 A adjustable via switch and software FDT/DTM, connection via micro USB
Galvanic isolation I/O	3-way isolation
Step response (10–90%)	1 ms–500 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Parameterisation	Software FDT/DTM DIP switch
Zero /Span	freely adjustable
Input resistance	>800 kΩ @ +30/-30 V, <30 Ω @ +50/-50 mA, 10 mΩ @ DC +5 A/-5 A

Output

Output signal	0–10 V, -10–10 V, 0–20 mA, 4–20 mA adjustable via switch and software FDT/DTM, connection via USB service cable
Max. load impedance at I-output	700 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V, -10–+10 V
Limitation for exceeding measurement range	10.25 V @ 0–10 V, -10–10 V 20.5 mA @ 0–20 mA, 4–20 mA

Max. modulation range/output signal/ output current	10.5 V @ 0–10 V, -10–10 V 21 mA @ 0–20 mA, 4–20 mA
Parameterisation	Software FDT/DTM DIP switch

Operating data

Accuracy	0.1 % FSR @ +30/-30 V, +50/-50 mA 0.5 % FSR @ +5 A/-5 A
Linearity error	±0.05 % FSR @ +30/-30 V, +50/-50 mA ±0,1 % FSR @ +5 A/-5 A

General

Rated voltage U_N	DC 24 V
Rated current	approx. 18 mA
Status indication	LED green, red (error)
Input/output protection	Overvoltage DC 30 V, short circuit-proof output
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Switch and software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Spring terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm
Weight/unit	0.05 kg
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

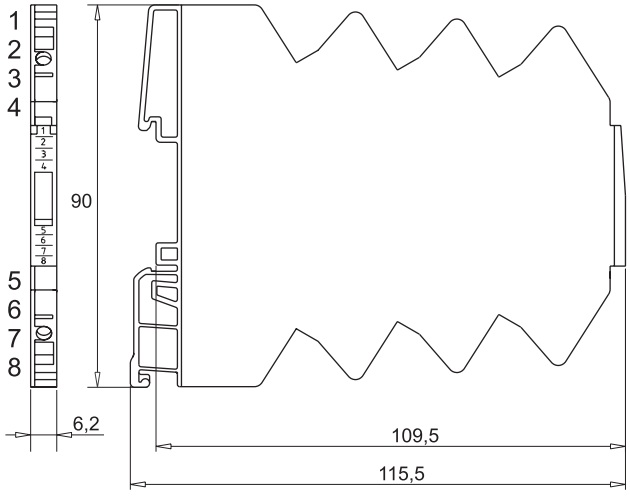
Equipment/Spare parts

Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: 1 unit

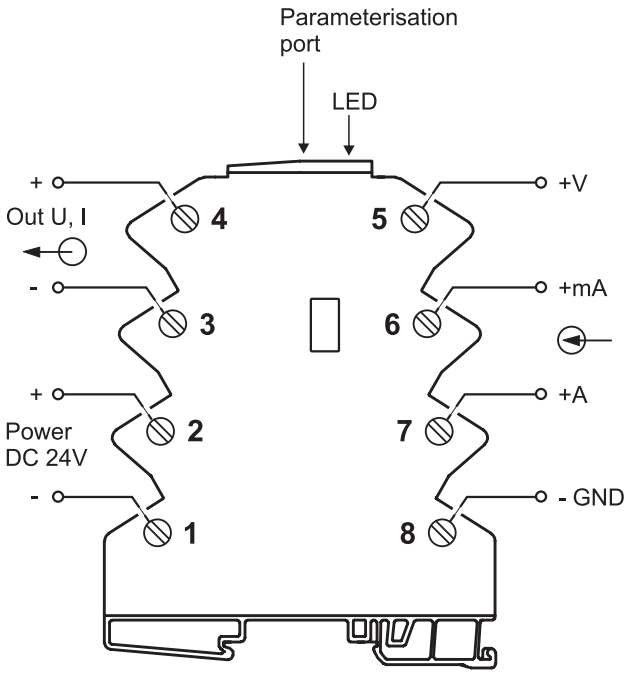
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

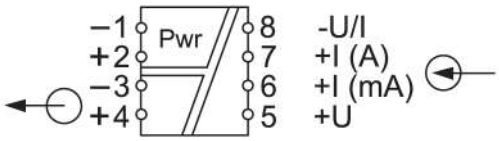
Dimensions



PIN assignment



PIN assignment



Range adjustment

S1 ● → Switch On

Range*	1	2	3	4	5	Range*	1	2	3	4	5
0 – 50mV	●					0 – 10mA					●
0 – 100mV		●				0 – 20mA	●				●
0 – 200mV	●	●				0 – 50mA		●			●
0 – 500mV			●			4 – 20mA	●	●			●
0 – 1V	●		●			0 – 0.5A			●		●
0 – 2V		●	●			0 – 1A	●		●		●
0 – 5V	●	●	●			0 – 2A		●	●		●
0 – 10V				●		0 – 5A	●	●	●		●
0 – 20V	●			●		±1V				●	●
0 – 30V		●		●		±5V	●			●	●
1 – 5V	●	●		●		±10V		●		●	●
2 – 10V			●	●		±5mA	●	●		●	●
0 – 1mA	●		●	●		±20mA			●	●	●
0 – 2mA		●	●	●		±2A	●		●	●	●
0 – 5mA	●	●	●	●		±5A		●	●	●	●

S1 1-8 off: FDT/DTM

*See instruction leaflet

Output	6	7	8
0 – 20mA	●		
4 – 20mA		●	
0 – 10V	●	●	
±10V			●
2 – 10V	●		●
0 – 5V		●	●
1 – 5V	●	●	●

Technical data sheet

Interface Technology · Microcompact analog/analog splitter

Input: 0–10 V, 0–20 mA, 4–20 mA adjustable
Output: 2 × 0–10 V, 0–20 mA, 4–20 mA
Insulation: 2.5 kV, 4-way isolation

Identification

Type	LCON AASP D 806211
Part No.	751321

Product version

Datasheet version	02

Input

Input variable	Analogue signals
Measurement input	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Galvanic isolation I/O	4-way isolation
Step response (10–90%)	4 ms–500 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Parameterisation	DIP switch
Zero /Span	Production comparison
Input resistance	>500 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, <100 Ω @ 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	400 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Limitation for exceeding measurement range	yes, switchable
Max. modulation range/output signal/ output current	10.5 V @ 0–10 V 21 mA @ 0–20 mA, 4–20 mA
Residual ripple	<20 mV_{eff}

Parameterisation	DIP switch

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	±0.1 % FSR
Critical frequency	100 Hz (filter off), 5 Hz (filter on)

General

Rated voltage U_N	DC 24 V
Rated current	13 mA
Status indication	LED green/red
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Temperature error	<150 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Switch
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Spring terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm
Weight/unit	0.05 kg
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

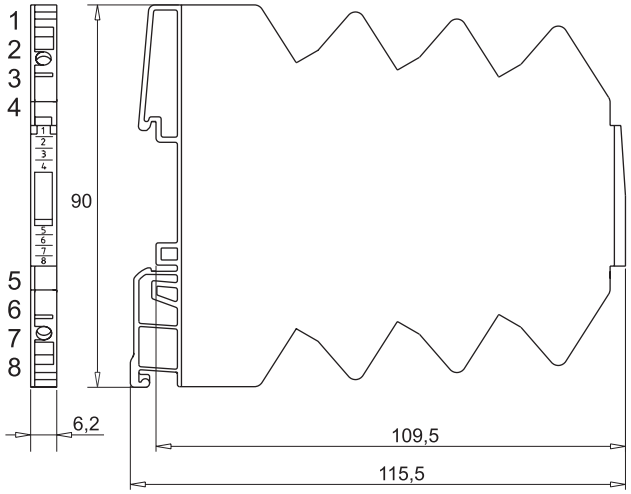
Equipment/Spare parts

Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: 1 unit

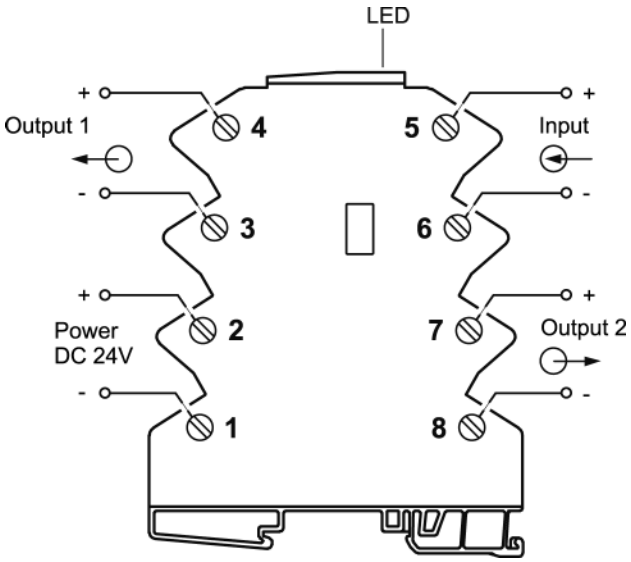
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

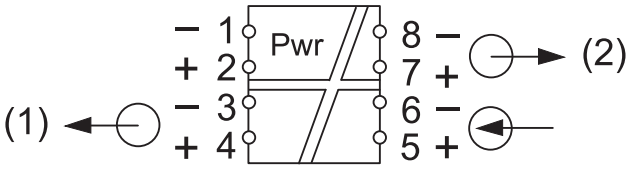
Dimensions



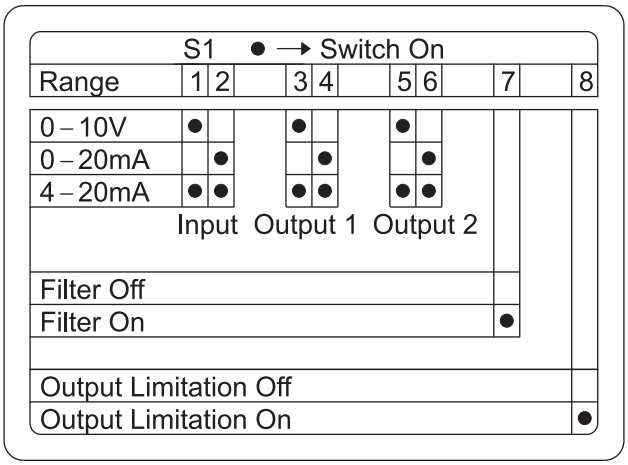
PIN assignment



PIN assignment



Range adjustment



See instruction leaflet for details

Technical data sheet

Interface Technology · Microcompact analog/limit value switch

Input/output: 0–10 V, 0–20 mA, 4–20 mA, 2–10 mA, 0–5 V, 1–5 V, 2–10 V adjustable
Output: switching transistor DC 30 V/100 mA adjustable (LiveZero)
Insulation: 2.5 kV, 4-way isolation

Identification

Type	LCON AALS DFDT 806211
Part No.	751322

Product version

Datasheet version	02

Input

Input variable	Analogue signals
Measurement input	0–10 V, 0–5 V, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA adjustable via software FDT/DTM, connection via micro USB
Galvanic isolation I/O	4-way isolation
Delay ON/OFF	2 ms–350 ms (adjustable by means of filter stage 1-5, default: filter stage 4 = 80 ms)
Step response (10–90%)	4 ms–500 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Parameterisation	Software FDT/DTM DIP switch
Zero /Span	freely adjustable
Input resistance	>500 kΩ @ 0–10 V, 0–5 V, 1–5 V, 2–10 V, <100 Ω @ 0–20 mA, 4–20 mA, 2–10 mA

Output

Output signal	0–10 V, 0–5 V, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA, adjustable via software FDT/DTM, connection via micro USB
Contact type	Switching transistor not short-circuit proof

Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA
Max. load impedance at I-output	400 Ω @ 0–20 mA, 4–20 mA, 2–10 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V, 0–5 V, 1–5 V, 2–10 V
Limitation for exceeding measurement range	yes, switchable
Max. modulation range/output signal/ output current	10.5 V @ 0–10 V, 0–5 V, 1–5 V, 2–10 V 21 mA @ 0–20 mA, 4–20 mA, 2–10 mA
Status display output	LED yellow
Operating mode	Limit value, timeframe, tendency+, tendency-, tendency+/-, inversion, error memory
LiveZero	can be activated via switch and FDT/DTM
Residual ripple	<20 mV_{eff}
Parameterisation	Software FDT/DTM DIP switch

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	±0.1 % FSR
Critical frequency	100 Hz (filter off), 5 Hz (filter on)

General

Rated voltage U_N	DC 24 V
Rated current	13 mA
Status indication	LED green/red
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Spring terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.0 mm
Weight/unit	0.05 kg

Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	598 fit
Failure rate at +45 °C	1671386 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

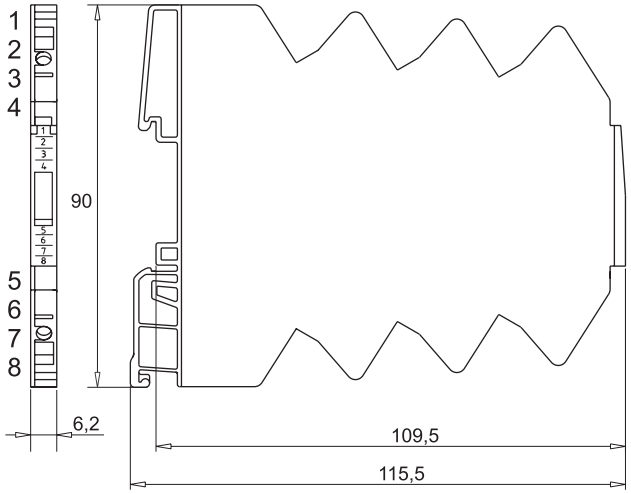
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

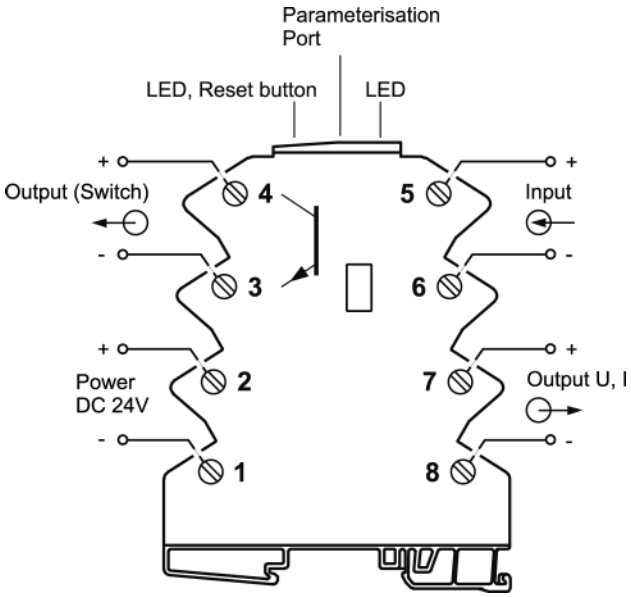
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

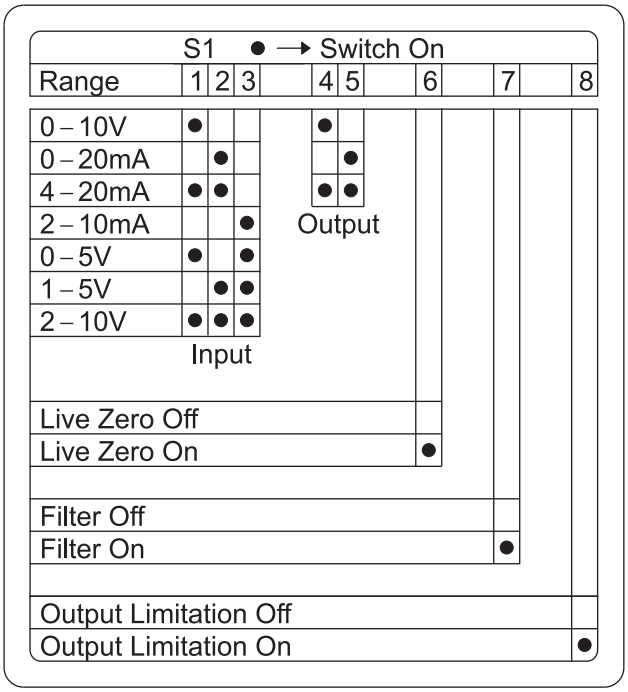
Dimensions



PIN assignment

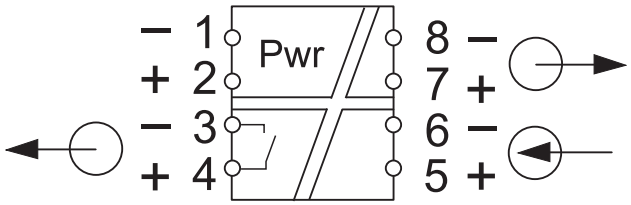


Range adjustment



S1 1-8 off: FDT/DTM
See instruction leaflet
for details

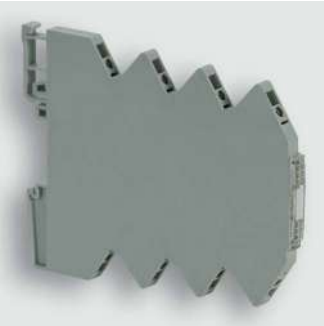
Circuit diagram



Technical data sheet

Interface Technology · Microcompact temp./analog converter

Input: PT, thermocouple, potentiometer – adjustable temperature converter
Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V
Insulation: 2.5 kV, 3-way isolation



Identification

Type	LCON TA DFDT 806211
Part No.	751340

Product version

Datasheet version	02

Input

Input variable	PT100 2/3/4 conductor PT1000 Resistor Type B Type C Type E Type J Type K Type N Type R Type S Type T
Measurement input	PT100, PT1000, resistencia, potenciómetro Thermal elements: Type B, C, E, J, K, N, R, S, T Customer-specific via support points, polynomial
Galvanic isolation I/O	3-way isolation
Step response (10–90%)	TE: 10 ms–550 ms, PT: 5–550 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 100 ms)
Temperature range	PT: -220 … 850 °C depending on type Thermal elements: -210 … 2310 °C depending on type

Parameterisation	Software FDT/DTM DIP switch
Input resistance	Thermocouples: 1 MΩ
Sensor current	PT, potentiometer, resistance: 0.002–0.6 mA depending on type
Circuit	PT - 2, 3, 4-wire, for 2-wire with offset correction, no external bridges necessary, autom. detection

Output

Output signal	0–10 V, -10–10 V, 0–20 mA, 4–20 mA adjustable via switch and software FDT/DTM, connection via USB service cable
Max. load impedance at I-output	700 Ω @ 0–20 mA, 4–20 mA
Max. load impedance at U-output	>2 kΩ @ 0–10 V, -10–10 V
Limitation for exceeding measurement range	10.25 V @ 0–10 V, -10–10 V 20.5 mA @ 0–20 mA, 4–20 mA
Max. modulation range/output signal/ output current	10.5 V @ 0–10 V, -10–10 V 21 mA @ 0–20 mA, 4–20 mA
Parameterisation	Software FDT/DTM DIP switch

Operating data

Accuracy	PT: 10 K, divided by the set measurement range (K) + 0.2 % FSR Thermocouples: 10 K, divided by the set measurement range (K) + 0.4 % FSR
Linearity error	±0.1 % FSR

General

Rated voltage U_N	DC 24 V
Rated current	approx. 18 mA
Status indication	LED green, red (error)
Input/output protection	Overvoltage DC 30 V, short circuit-proof output
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Temperature compensation internally	Thermal elements: type ±1 K , max. ±2 K
Configuration	Switch and software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20

15.5 mm

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	678 fit
Failure rate at +45 °C	1474689 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

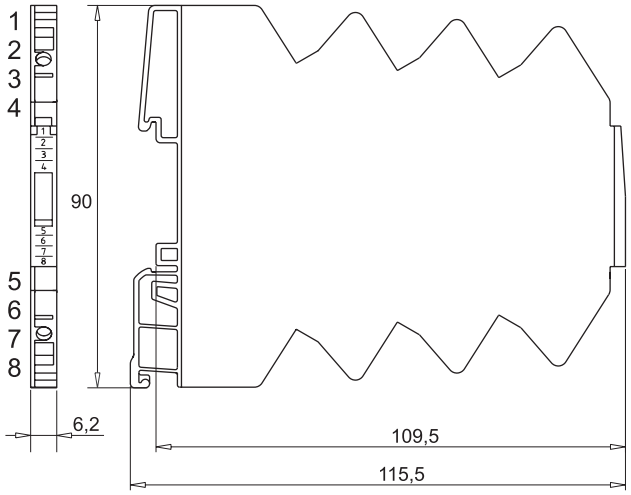
Equipment/Spare parts

Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: white, Part-No. 681313, PU: 100 units

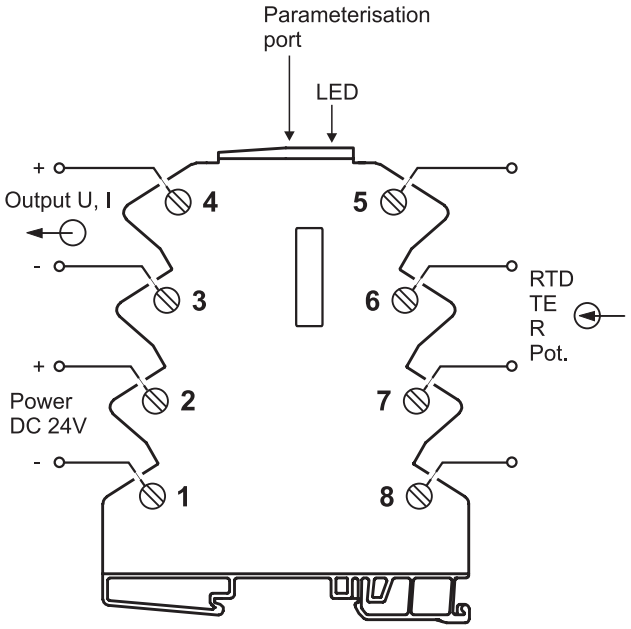
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

Dimensions



PIN assignment



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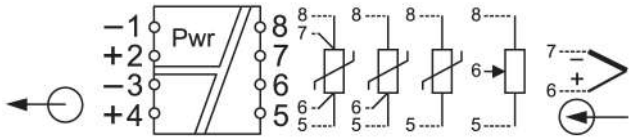


Range adjustment

Range*	S1				S2						
Start	7	8	1	2	End	3	4	5	6	7	8
-200°C	●				0°C	●					
-150°C	●	●			50°C		●	●			
-100°C	●		●		100°C	●	●		●		
-50°C		●		●	150°C	●		●	●		
0°C	●	●	●	●	200°C	●	●	●	●		
					250°C	●				●	
Sensor*	S1	1	2	3	300°C	●	●			●	
Pt100		●			350°C	●		●		●	
Pt1000			●		400°C	●	●	●		●	
TE J		●	●		450°C	●			●	●	
TE K				●	500°C	●	●		●	●	
Pot. %		●	●	●	550°C	●		●	●	●	
					600°C	●	●	●	●	●	
Output*	S1	4	5	6	650°C	●					●
0 – 20mA		●			700°C	●	●				●
4 – 20mA			●		750°C	●		●			●
0 – 10V		●	●		800°C	●	●	●			●
±10V				●	850°C	●			●		●
					900°C	●	●		●		●
					950°C	●		●	●		●
					1000°C	●	●	●	●		●
					1050°C	●				●	●
					1100°C	●	●			●	●
					1150°C	●		●		●	●
					1200°C	●	●	●		●	●
					1250°C	●			●	●	●
					1300°C	●	●		●	●	●
					1350°C	●		●	●	●	●
					1400°C	●	●	●	●	●	●
					● → Switch On						

S1-S2 1-8 off:
FDT/DTM

*See instruction leaflet

Technical data sheet

Interface Technology · Microcompact analog/limit value switch

Input: ±30 V, ±50 mA, ±5 A adjustable – adjustable limit value switch
Output: Semiconductor NO contact
Insulation: 2.5 kV, 2-way isolation

Identification

Type	LCON ALS FDT 806211
Part No.	751360

Product version

Datasheet version	02

Input

Input variable	Analogue signals
Measurement input	+30/-30 V, +50/-50 mA, DC +5 A/-5 A adjustable via software FDT/DTM, connection via micro USB
Galvanic isolation I/O	2-way isolation
Delay ON/OFF	2 ms–350 ms (adjustable by means of filter stage 1-5, default: filter stage 4 = 80 ms)
Parameterisation	Software FDT/DTM
Zero /Span	freely adjustable
Input resistance	>800 kΩ @ +30/-30 V, <30 Ω @ +50/-50 mA, 10 mΩ @ DC +5 A/-5 A

Output

Output signal	+30/-30 V, +50/-50 mA, DC +5 A/-5 A, adjustable via software FDT / DTM, connection via USB service cable
Contact type	K1,K2: Semi-conductor, N/O contact
Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA, not short circuit protected
Status display output	LED yellow K1 and LED yellow K2

Operating mode	Limit value, window, alarm output / additionally adjustable: Hysteresis, input / output delay
Parameterisation	Software FDT/DTM

Operating data

Accuracy	0.1 % FSR @ +30/-30 V, +50/-50 mA 0.5 % FSR @ +5 A/-5 A
Linearity error	±0.05 % FSR @ +30/-30 V, +50/-50 mA ±0,1 % FSR @ +5 A/-5 A

General

Rated voltage U_N	DC 24 V
Rated current	approx. 12 mA
Status indication	LED green, yellow (K1, K2), red (error)
Input/output protection	Overvoltage DC 30 V
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Resolution	16-bit
Configuration	Software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Spring terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm
Weight/unit	0.05 kg
PU (units)	1

General ambient conditions

Operation temperature range	-40 °C … +70 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

per 10^9 component hours

	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

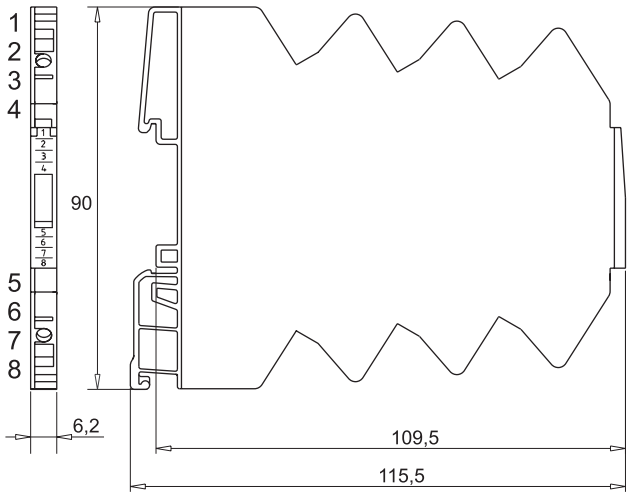
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

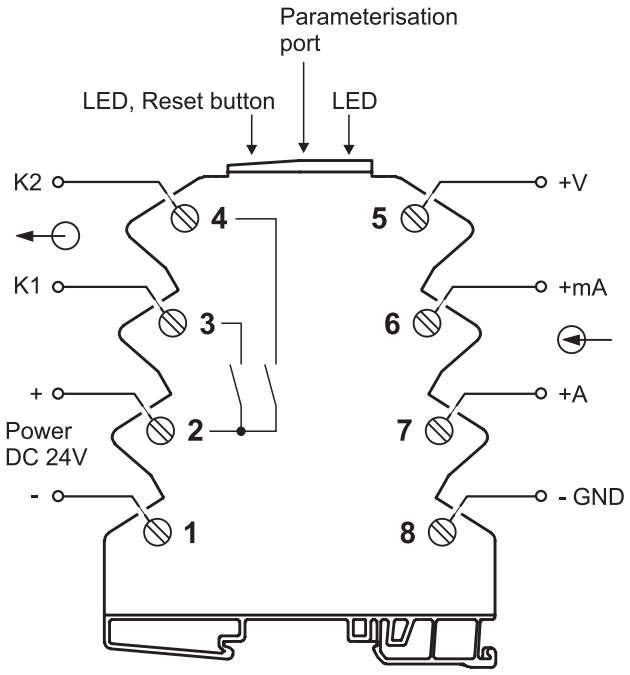
Notes and Comments

Note	For the parameterization you need the USB service cable, LCON ZB USB, part number 750894 and the software Lütze HART-DTM and PACTware. The current versions can be found in the download area of the respective product page on the LÜTZE website.

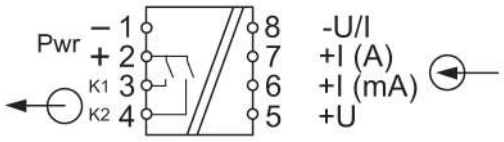
Dimensions



PIN assignment



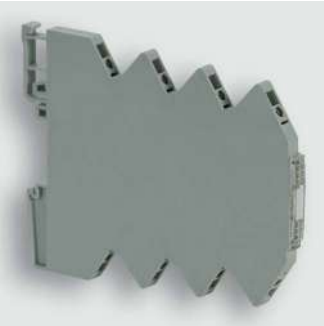
PIN assignment



Technical data sheet

Interface Technology · Microcompact temp./limit value switch

Input: PT, thermocouple, potentiometer – adjustable temperature converter
Output: Semiconductor NO contact
Insulation: 2.5 kV, 2-way isolation



Identification

Type	LCON TLS FDT 806211
Part No.	751370

Product version

Datasheet version	03

Input

Input variable	PT100 PT1000 Potentiometer Type B Type C Type E Type J Type K Type N Type R Type S Type T
Measurement input	PT100, PT1000, resistencia, potenciómetro Thermal elements: Type B, C, E, J, K, N, R, S, T Customer-specific via support points, polynomial
Galvanic isolation I/O	2-way isolation
Delay ON/OFF	TE: 6 ms–350 ms, PT: 5–350 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 80 ms)
Temperature range	PT: -220 … 850 °C depending on type Thermal elements: -210 … 2310 °C depending on type
Parameterisation	Software FDT/DTM

Input resistance	Thermocouples: 1 MΩ
Sensor current	PT, potentiometer, resistance: 0.002–0.6 mA depending on type
Circuit	PT - 2, 3, 4-wire, for 2-wire with offset correction, no external bridges necessary, autom. detection

Output

Output signal	adjustable via software FDT / DTM, connection via USB service cable
Contact type	K1,K2: Semi-conductor, N/O contact
Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA, not short circuit protected
Status display output	LED yellow K1 and LED yellow K2
Operating mode	Limit value, window, alarm output / additionally adjustable: Hysteresis, input / output delay
Parameterisation	Software FDT/DTM

Operating data

Accuracy	PT: 10 K, divided by the set measurement range (K) + 0.2 % FSR Thermocouples: 10 K, divided by the set measurement range (K) + 0.4 % FSR
Linearity error	±0.1 % FSR

General

Rated voltage U_N	DC 24 V
Rated current	approx. 12 mA
Status indication	LED green, yellow (K1, K2), red (error)
Input/output protection	Overvoltage DC 30 V
Temperature error	<100 ppm/K FSR
Data storage	Flash
Insulation voltage input / output	AC 2.5 kV_{eff}
Resolution	16-bit
Temperature compensation internally	Thermal elements: type ±1 K , max. ±2 K
Configuration	Software: FDT / DTM
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Spring terminal 0.14 mm² – 1.5 mm²
Dimensions (w × h × d)	6.2 mm × 90.0 mm × 115.5 mm

Storage temperature range	-40 °C … +85 °C
Relative air humidity	10 % – 95 %, without condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	480 fit
Failure rate at +45 °C	2081733 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

Certifications/Standards

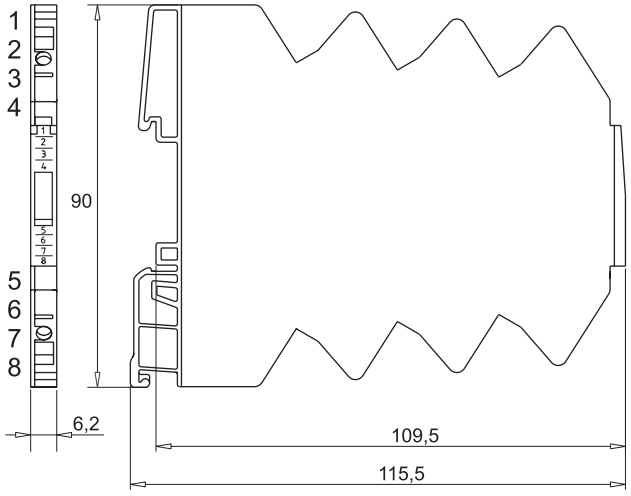
Conformity	CE UKCA
Certifications	cULus (E135145) cULus (E319134) use in Class I, Div. 2, Hazardous Locations
Standards	EN 60947-1 EN 60947-5-1 UL 508 UL 121201 DNVGL-CG-0339 Temperature Class D – not certified Humidity Class B – not certified Vibration Class B – not certified EMC Class A – not certified Enclosure Class A – not certified

Equipment/Spare parts

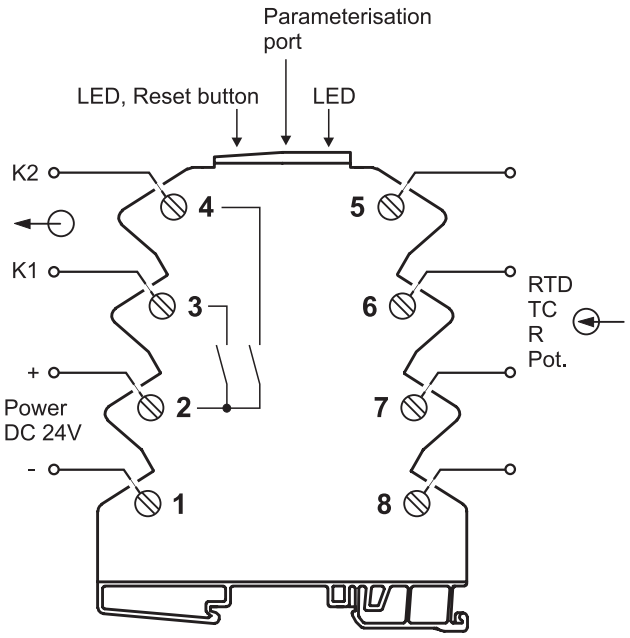
Accessories	Jumper comb 6 A (VE 10) 2-pin: 762802 (red), 762803 (white), 762804 (**blue**) 3-pin: 762805 (red), 762806 (white), 762807 (**blue**) 4-pin: 762812 (red), 762813 (white), 762814 (**blue**) 8-pin: 762822 (red), 762823 (white), 762824 (**blue**) 16-pin: 762832 (red), 762833 (white), 762834 (**blue**) **Marker holder** 4×11 mm white, Part-No. 681313, PU: 100 units **Laser label** 4.23×11 mm (sheet with 1056 labels), Part-No. 681034, PU: 1 unit

you need the USB service cable, LCON ZB USB,
the software Lütze HART-DTM and PACTware.
be found in the download area of the respective
website.

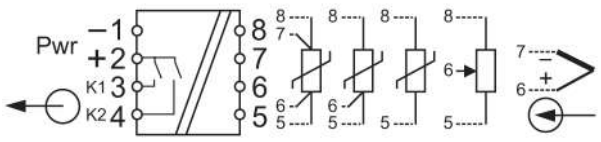
Dimensions



PIN assignment



PIN assignment



Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4 kV, 3-way isolation, Wide range input

Identification

Type	LCIS-WP-WAA-1510-175-PI
Part No.	751510.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

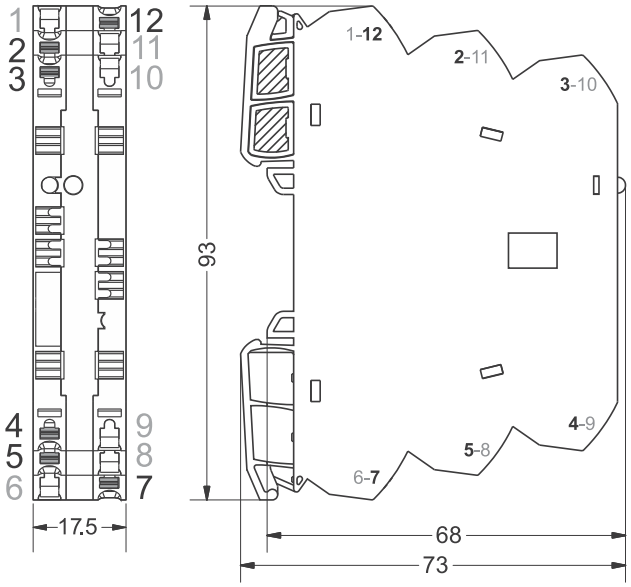
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

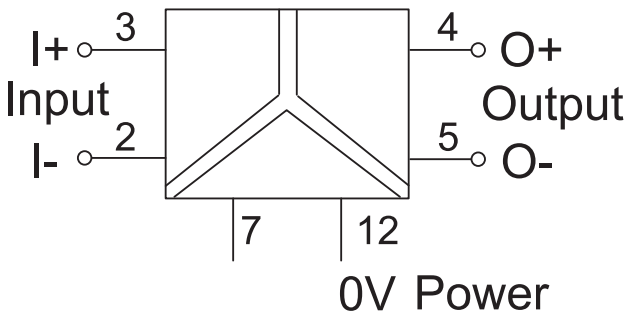
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

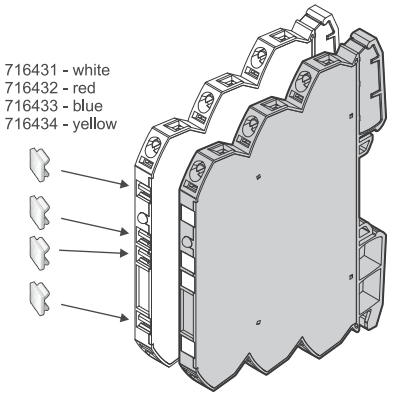
Dimensions

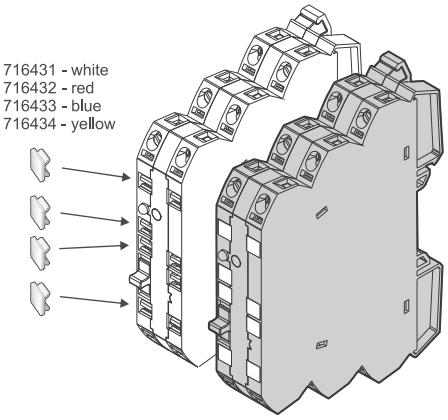


PIN assignment



Use

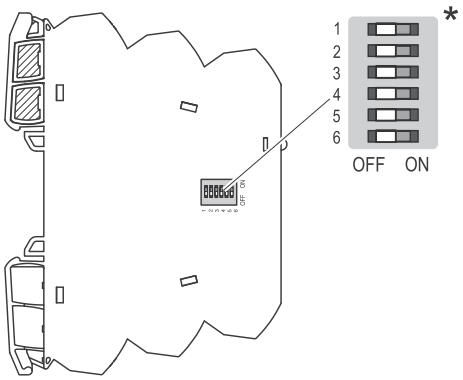




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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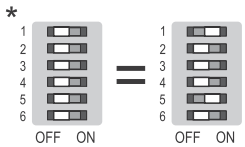
751510.0000
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

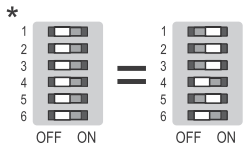
S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



750516.0000
750517.0000
751516.0000
751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●



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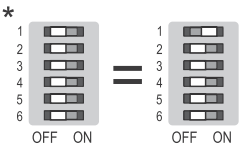
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

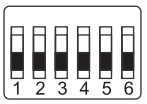


Range adjustment

S1	Input			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

S1	Output	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 kHz
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAF-1511-62-PI
Part No.	751511.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Input variable	Analogue signals
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–50 Hz, 0–100 Hz, 0–1 kHz, 0–10 kHz adjustable via DIP switch S1
Signal level	DC 24 V (DIN EN 61131-2) Type 1: ≥ 15 V (@ 2 mA) Type 2: ≥ 11 V (@ 6 mA)

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR

Rise time (10-90%)	frequency-dependent
Build-up time (Accuracy 1%)	frequency-dependent
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	26 mA
Current consumption at 24 V	at AC 24V: 26 mA (station supply)
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	667 fit
Failure rate at +45 °C	1498305 h

per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

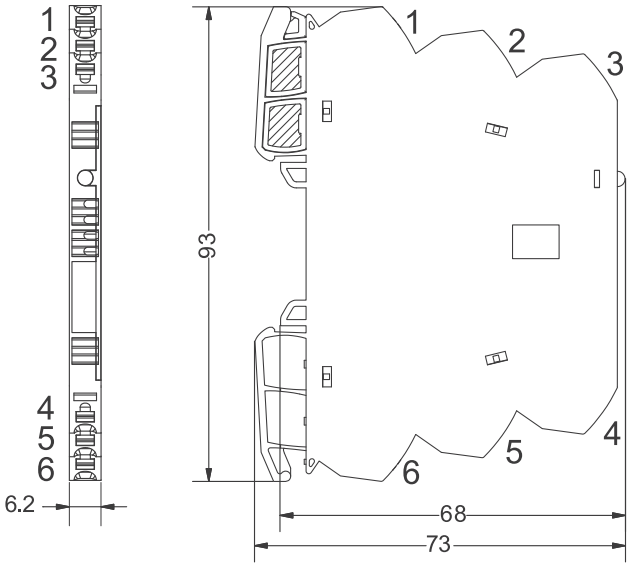
Technical data sheet

Interface Technology · LCIS analog/analog converter

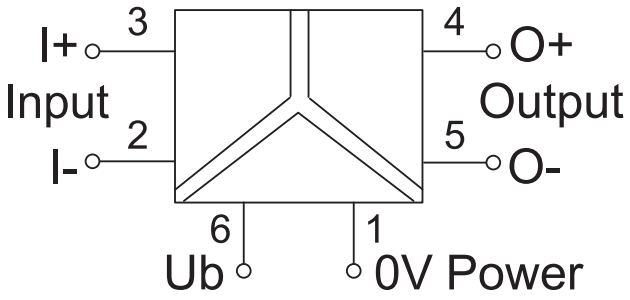
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

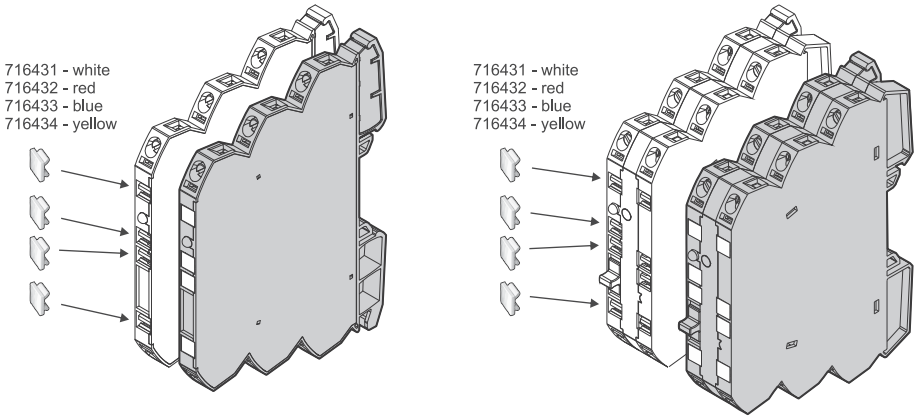
Dimensions



PIN assignment

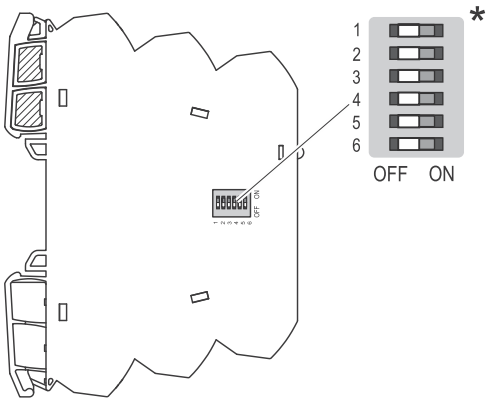


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

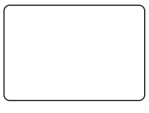
* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 ●→Switch On	Input 1	2	3	4
0–10 V*	●			
0–20 mA		●		
4–20 mA	●	●		

S1 ●→Switch On	Output 5	6
0–50 Hz*		
0–100 Hz	●	
0–1000 Hz		●
0–10000 Hz	●	●



ON
OFF

= OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 kHz
Insulation: 4 kV, 3-way isolation, Wide range input

Identification

Type	LCIS-WP-WAF-1512-175-PI
Part No.	751512.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Input variable	Analogue signals
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–50 Hz, 0–100 Hz, 0–1 kHz, 0–10 kHz adjustable via DIP switch S1
Signal level	DC 24 V (DIN EN 61131-2) Type 1: ≥ 15 V (@ 2 mA) Type 2: ≥ 11 V (@ 6 mA)

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR

Rise time (10-90%)	frequency-dependent
Build-up time (Accuracy 1%)	frequency-dependent
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB
Transmission frequency	frequency-dependent

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	17 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.058 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	724 fit
Failure rate at +45 °C	1381278 h

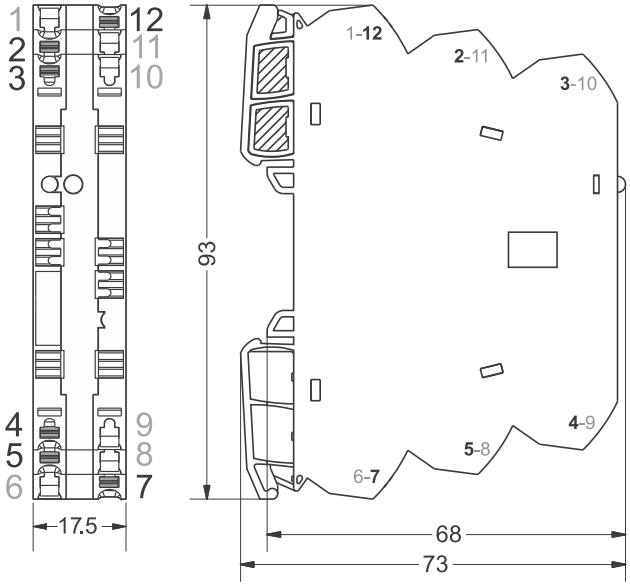
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

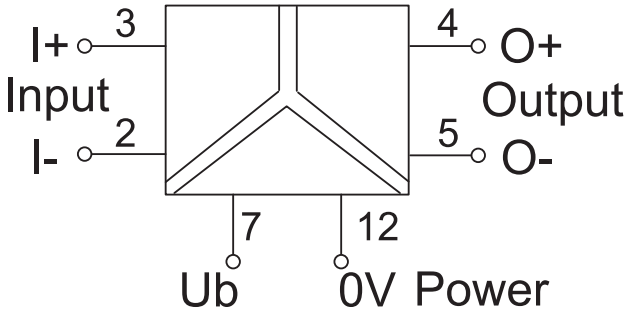
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

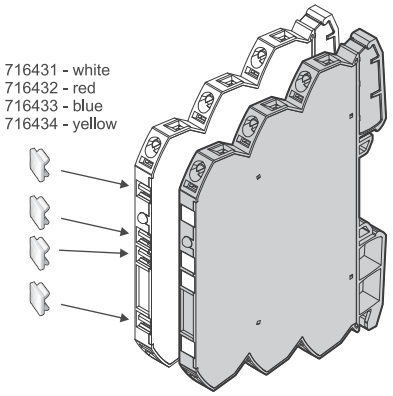
Dimensions

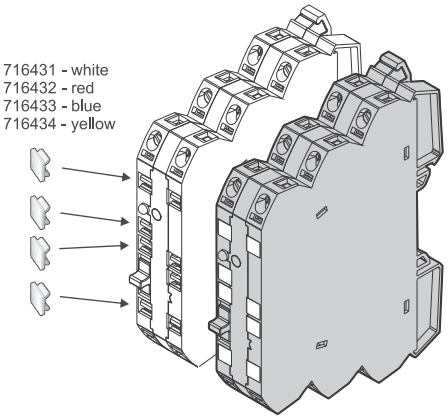


PIN assignment



Use

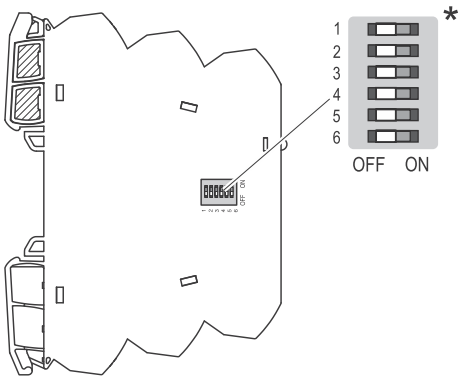




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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751510.0000
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751519.0000
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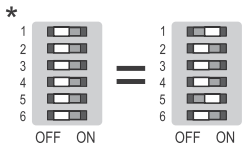
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



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750517.0000
751516.0000
751517.0000

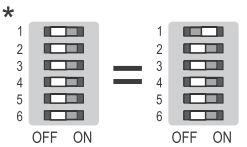
S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●

750512.0000
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

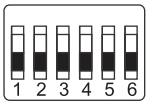


Range adjustment

S1 ●→Switch On	Input 1	2	3	4
0–10 V*	●			
0–20 mA		●		
4–20 mA	●	●		

S1 ●→Switch On	Output 5	6
0–50 Hz*		
0–100 Hz	●	
0–1000 Hz		●
0–10000 Hz	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 16 selectable ranges
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WUAA-1516-175-PI
Part No.	751516.0000

Product version

Hardware revision	1.0
Software version	1.2
Datasheet version	02

Input

Input signal	0–60, 0–100, 0–300, 0–500 mV adjustable via DIP switch S1 0–1, 0–2, 0–5, 0–10, 0–20, 2–10 V adjustable via DIP switch S1 0–5, 0–10, 0–20, 4–20, ±5, ±20 mA adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ mV, V, <100 Ω @ mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V

Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

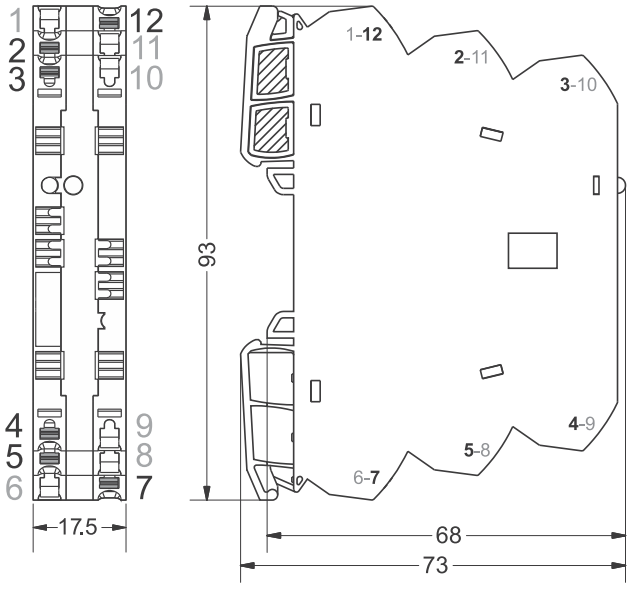
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	681 fit
Failure rate at +45 °C	1468511 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

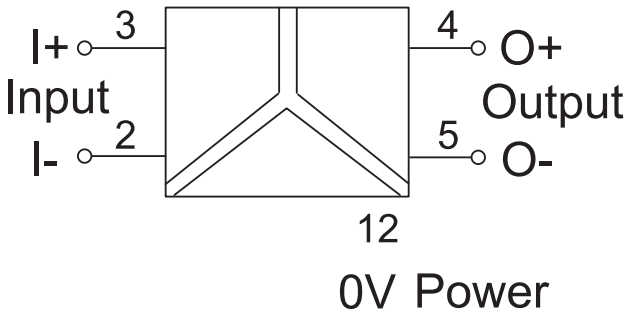
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

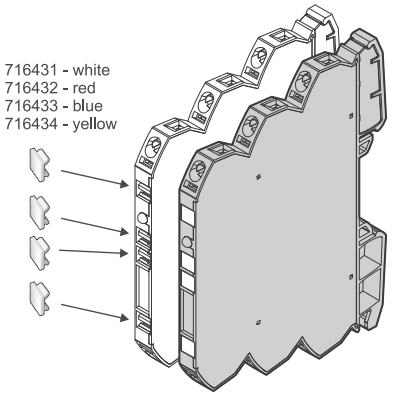
Dimensions

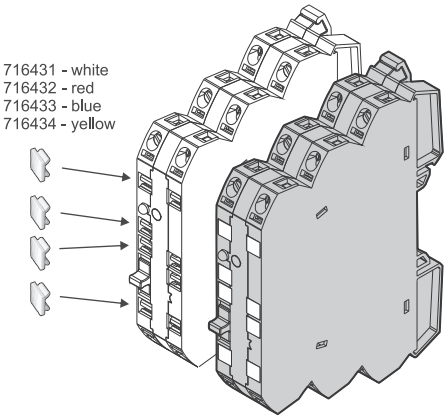


PIN assignment



Use

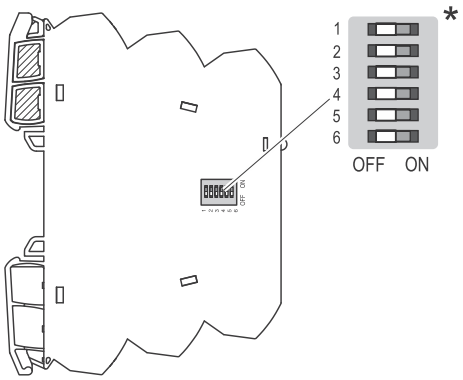




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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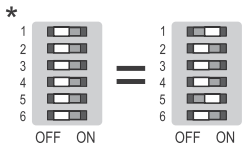
S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



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751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●

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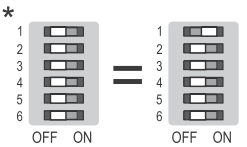
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

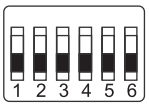


Range adjustment

S1	Input			
●→Switch On	1	2	3	4
0–60 mV				
0–100 mV	●			
0–300 mV		●		
0–500 mV	●	●		
0–1 V			●	
0–2 V	●		●	
0–5 V		●	●	
0–10 V*	●	●	●	
2–10 V				●
0–20 V	●			●
0–5 mA		●		●
0–10 mA	●	●		●
±5 mA			●	●
±20 mA	●		●	●
0–20 mA		●	●	●
4–20 mA	●	●	●	●

S1	Output	
●→Switch On	5	6
0–10 V*	●	
0–20 mA		●
4–20 mA	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analog/analog converter

Input: 16 selectable ranges
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4 kV, 3-way isolation, Wide range input

Identification

Type	LCIS-WP-WUAA-1517-175-PI
Part No.	751517.0000

Product version

Hardware revision	1.0
Software version	1.2
Datasheet version	02

Input

Input signal	0–60, 0–100, 0–300, 0–500 mV adjustable via DIP switch S1 0–1, 0–2, 0–5, 0–10, 0–20, 2–10 V adjustable via DIP switch S1 0–5, 0–10, 0–20, 4–20, ±5, ±20 mA adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ mV, V, <100 Ω @ mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V

Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

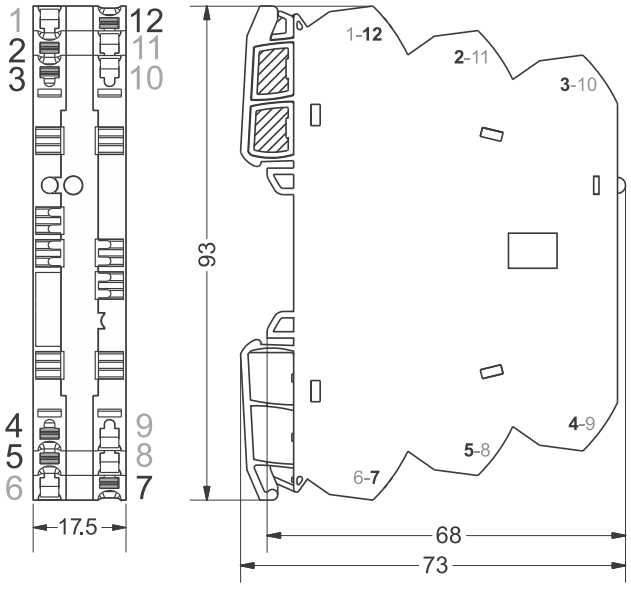
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	681 fit
Failure rate at +45 °C	1468511 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

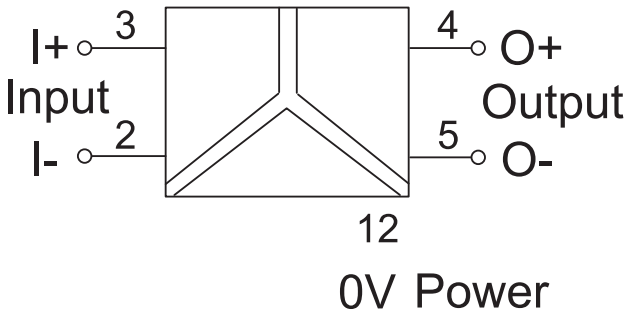
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

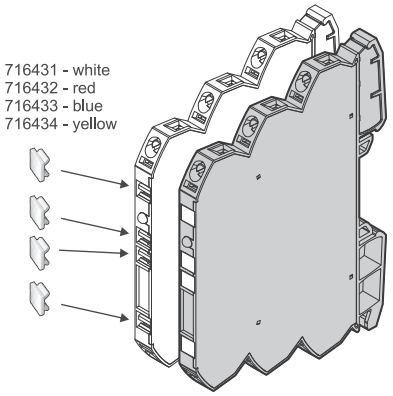
Dimensions

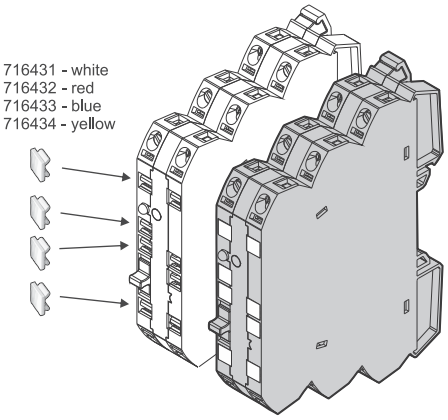


PIN assignment



Use

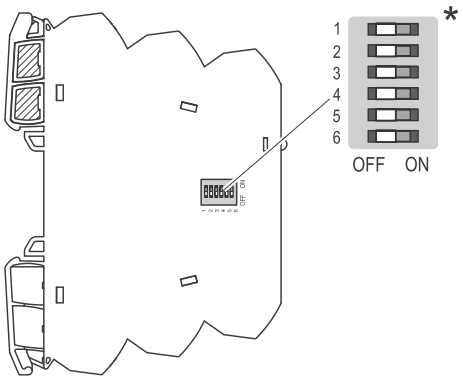




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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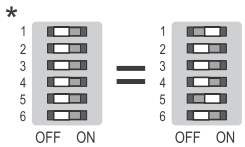
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



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751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●

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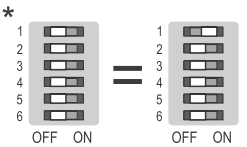
751512.0000

S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●

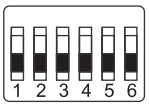


Range adjustment

S1	Input			
●→Switch On	1	2	3	4
0–60 mV				
0–100 mV	●			
0–300 mV		●		
0–500 mV	●	●		
0–1 V			●	
0–2 V	●		●	
0–5 V		●	●	
0–10 V*	●	●	●	
2–10 V				●
0–20 V	●			●
0–5 mA		●		●
0–10 mA	●	●		●
±5 mA			●	●
±20 mA	●		●	●
0–20 mA		●	●	●
4–20 mA	●	●	●	●

S1	Output	
●→Switch On	5	6
0–10 V*	●	
0–20 mA		●
4–20 mA	●	●

*



Default (1-6 = OFF)

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA, manual off automatic
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-MA-1518-175-PI
Part No.	751518.0000

Product version

Hardware revision	1.0
Software version	1.2
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 75.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

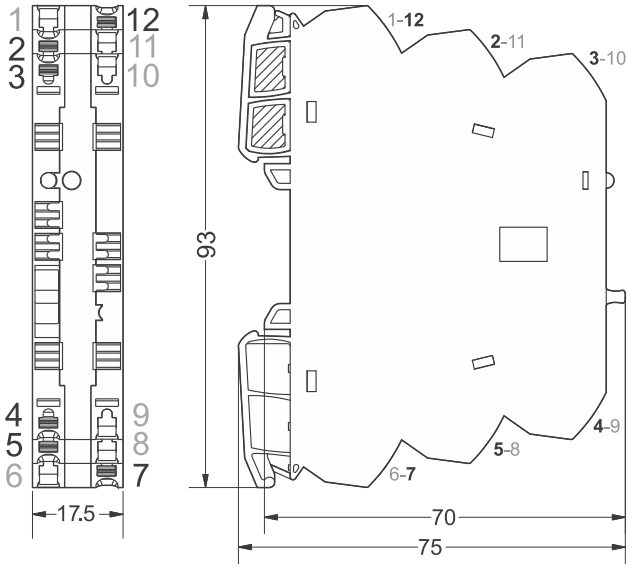
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

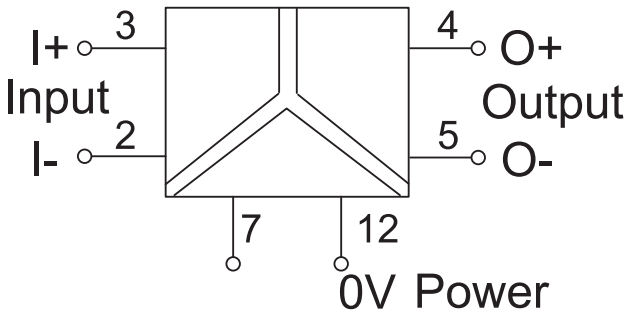
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

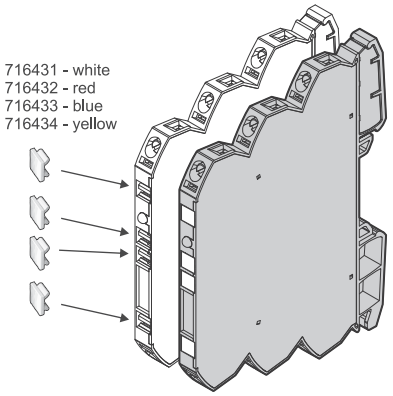
Dimensions

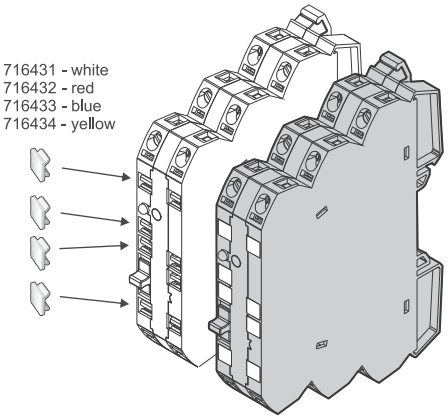


PIN assignment



Use





Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

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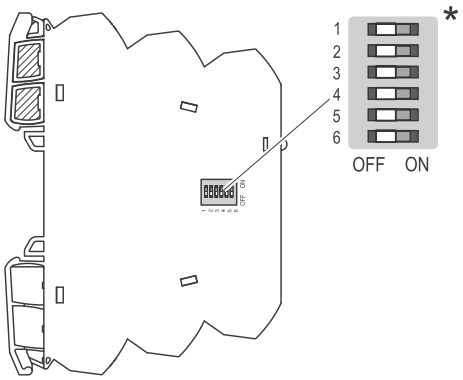

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Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

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Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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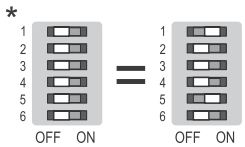
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



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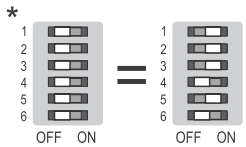
750517.0000
751516.0000
751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●



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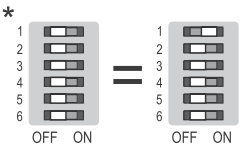
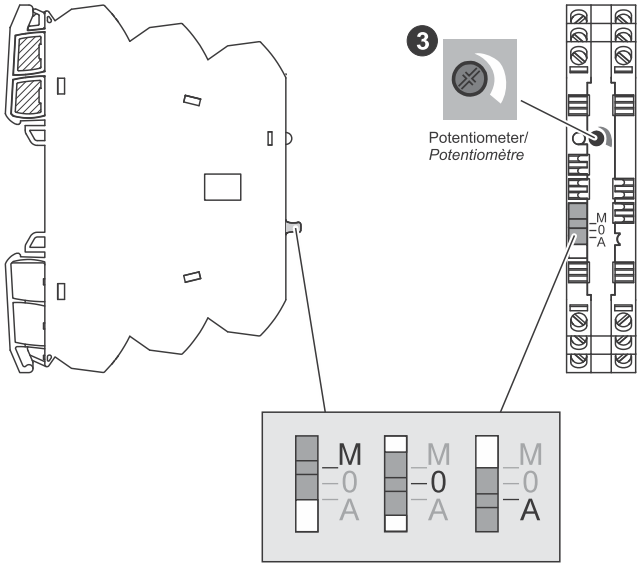
S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●



Use

DE Schalterstellungen M-0-A EN *Switch Positions M-0-A* FR *Positions des interrupteurs M-0-A*



M - manuell/ *manually/ manuellement:*

DE Mit dem Potentiometer **(3)** kann der Ausgangswert eingestellt werden: *(0-10V oder 0-20mA oder 4-20mA)*

EN *With the potentiometer **(3)** the output value can be set: (0-10V or 0-20mA or 4-20mA)*

FR *Le potentiomètre **(3)** permet de régler la valeur de sortie: (0-10V ou 0-20mA ou 4-20mA)*

0 - ausgeschaltet/ *switched off/ désactivé:*

DE Der Wandler ist am Ausgang ausgeschaltet, dass heißt: 0V oder 0mA oder 4mA**.**

EN *The converter is switched off at the output, that means: 0V or 0mA or 4mA.*

FR *Le convertisseur est désactivé à la sortie, c'est-à-dire: 0V ou 0mA ou 4mA.*

A - Automatik/ *Automatic/ Automatique:*

DE Hier wird der Eingangswert automatisch in den Ausgangswert umgewandelt**.**

EN *Here the input value is automatically converted to the output value.*

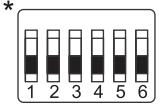
FR *Ici, la valeur d'entrée est automatiquement convertie en valeur de sortie.*

Range adjustment

S1	**Input**			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

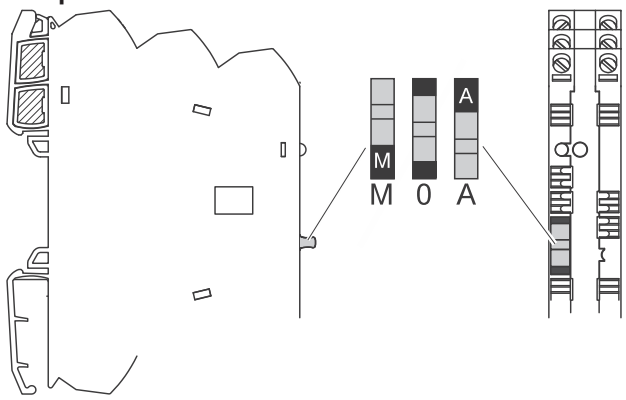
S1	**Output**	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

*



Default (1-6 = OFF)

Switch position



M: DE Ausgangssignal wird durch Potentiometer bestimmt
EN *Output signal determined by potentiometer*
FR *Signal de sortie déterminé par potentiomètre*

0: DE Ausgangssignal auf Minimum
EN *Output signal at low level*
FR *Signal de sortie à bas niveau*

A: DE Ausgangssignal wird durch Eingangssignal bestimmt
EN *Output signal is determined by the input signal*
FR *Le signal de sortie est déterminé par le signal d'entrée*

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA, manual off automatic
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4 kV, 3-way isolation, Wide range input

Identification

Type	LCIS-WP-WAA-MA-1519-PI
Part No.	751519.0000

Product version

Hardware revision	1.0
Software version	1.2
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24–240 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 75.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

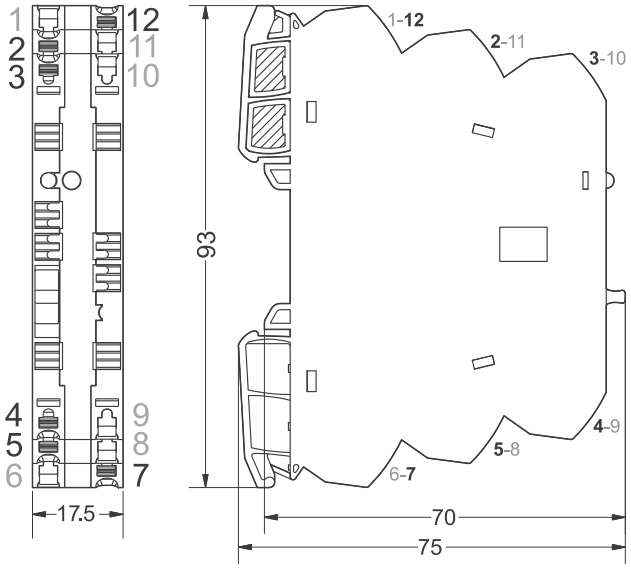
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

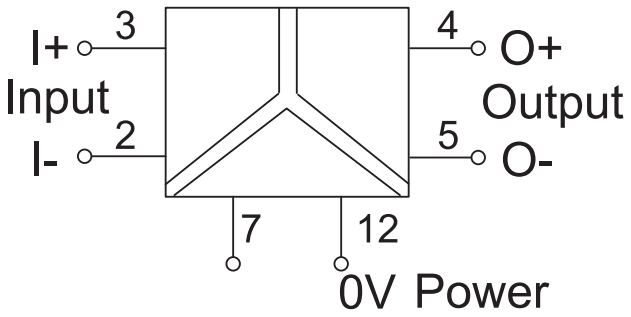
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

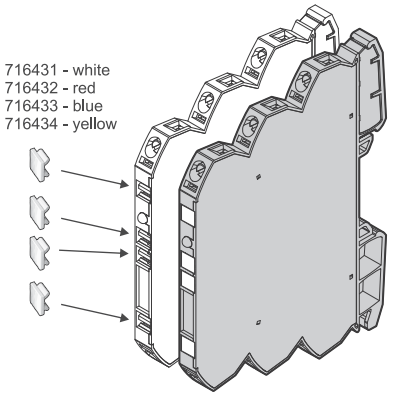
Dimensions

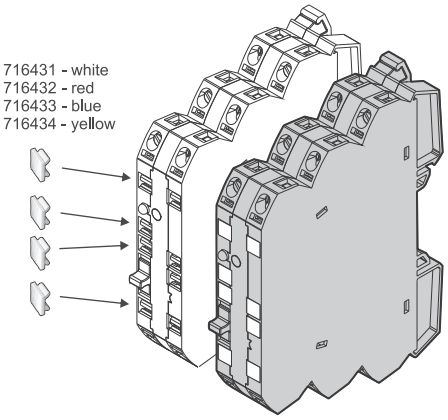


PIN assignment



Use

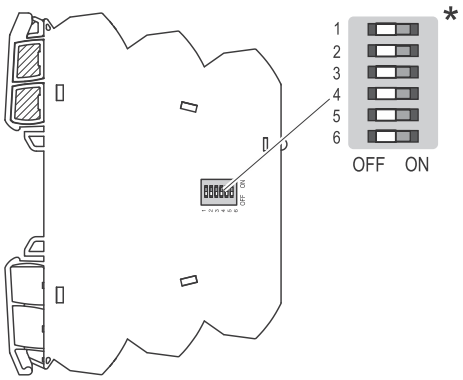




Use

DE DIP-Schalterstellungen EN *DIP switch positions* FR *Positions des interrupteurs DIP*

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*
Depending on the type of transducer, a certain range is then already preset.

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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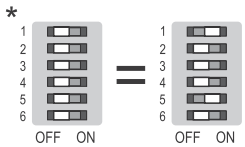
751518.0000
751519.0000
750518.0000
750519.0000

S1 Switch On	Input 1	2	3	4
0– 10V*	●			
0–20mA		●		
4–20mA	●	●		

S1 Switch On	Output 5	6
0– 10V*	●	
0–20mA		●
4–20mA	●	●



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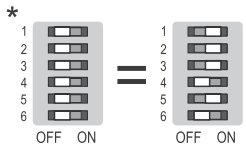
750517.0000
751516.0000
751517.0000

S1 Switch On	Input 1	2	3	4
0– 60 mV				
0– 100 mV	●			
0– 300 mV		●		
0– 500 mV	●	●		
0– 1 V			●	
0– 2 V	●		●	
0– 5 V		●	●	
0– 10 V*	●	●	●	
2– 10 V				●
0– 20 V	●			●
0– 5 mA		●		●
0– 10 mA	●	●		●
± 5 mA			●	●
± 20 mA	●		●	●
0– 20 mA		●	●	●
4– 20 mA	●	●	●	●

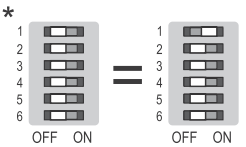
S1 Switch On	Output 5	6
0 – 10 V*	●	
0 – 20 mA		●
4 – 20 mA	●	●



750512.0000
751512.0000

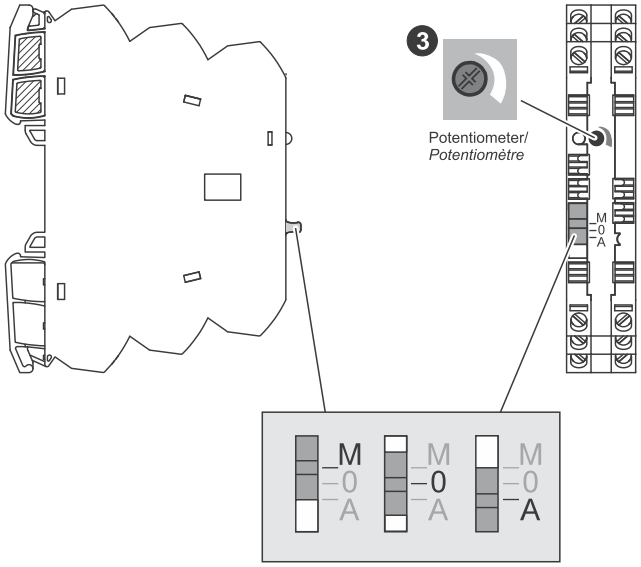
S1 Switch On	Input 1	2	3	4
0 – 10 V*	●			
0 – 20 mA		●		
4 – 20 mA	●	●		

S1 Switch On	Output 5	6
0 – 50 Hz*		
0 – 100 Hz	●	
0 – 1000 Hz		●
0 – 10000 Hz	●	●



Use

DE Schalterstellungen M-0-A EN *Switch Positions M-0-A* FR *Positions des interrupteurs M-0-A*



M - manuell/ *manually/ manuellement:*

DE Mit dem Potentiometer **(3)** kann der Ausgangswert eingestellt werden: *(0-10V oder 0-20mA oder 4-20mA)*

EN *With the potentiometer **(3)** the output value can be set: (0-10V or 0-20mA or 4-20mA)*

FR *Le potentiomètre **(3)** permet de régler la valeur de sortie: (0-10V ou 0-20mA ou 4-20mA)*

0 - ausgeschaltet/ *switched off/ désactivé:*

DE Der Wandler ist am Ausgang ausgeschaltet, dass heißt: 0V oder 0mA oder 4mA**.**

EN *The converter is switched off at the output, that means: 0V or 0mA or 4mA.*

FR *Le convertisseur est désactivé à la sortie, c'est-à-dire: 0V ou 0mA ou 4mA.*

A - Automatik/ *Automatic/ Automatique:*

DE Hier wird der Eingangswert automatisch in den Ausgangswert umgewandelt**.**

EN *Here the input value is automatically converted to the output value.*

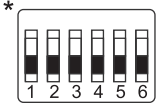
FR *Ici, la valeur d'entrée est automatiquement convertie en valeur de sortie.*

Range adjustment

S1	**Input**			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

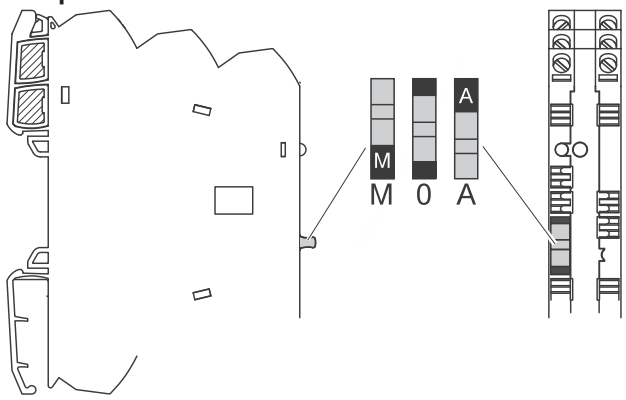
S1	**Output**	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

*



Default (1-6 = OFF)

Switch position



M: DE Ausgangssignal wird durch Potentiometer bestimmt
EN *Output signal determined by potentiometer*
FR *Signal de sortie déterminé par potentiomètre*

0: DE Ausgangssignal auf Minimum
EN *Output signal at low level*
FR *Signal de sortie à bas niveau*

A: DE Ausgangssignal wird durch Eingangssignal bestimmt
EN *Output signal is determined by the input signal*
FR *Le signal de sortie est déterminé par le signal d'entrée*

Technical data sheet

Interface Technology · LCIS analog/analog converter, passive

Input: 4–20 mA
Output: 4–20 mA
Insulation: 1.5 kV, 2-way isolation, passive converter

Identification

Type	LCIS-P1K-1528-62-PI
Part No.	751528.0000

Product version

Hardware revision	1.0
Datasheet version	04

Input

Input signal	4–20 mA
Input variable	Single analog signal
Galvanic isolation I/O	2-way isolation
Input overload capability	max. 35 mA

Output

Output signal	4–20 mA
Max. load impedance at I-output	1000 Ω (R_B)
Residual ripple	<5 mV_{eff} (load impedance 100 Ω)

Operating data

Accuracy	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	6 ms (for working resistance 500 Ω and 20 mA)

Technical data sheet

Interface Technology · LCIS analog/analog converter, passive

General

Rated voltage U_N	passive
Input/output protection	Suppressor diode (33 V)
Burden error	<0.06 % from measured value / 100 Ω working resistance
Temperature drift /K	<150 ppm / K FSR
Temperature drift (working resistance <600R)	<100 ppm / K FSR
Temperature drift (working resistance ≥600R)	<150 ppm / K FSR
Insulation voltage input / output	1.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 71.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	127 fit
Failure rate at +45 °C	7892161 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
	following conditions:
	or industrial areas without extreme dust levels and
	h per year

Technical data sheet

Interface Technology · LCIS analog/analog converter, passive

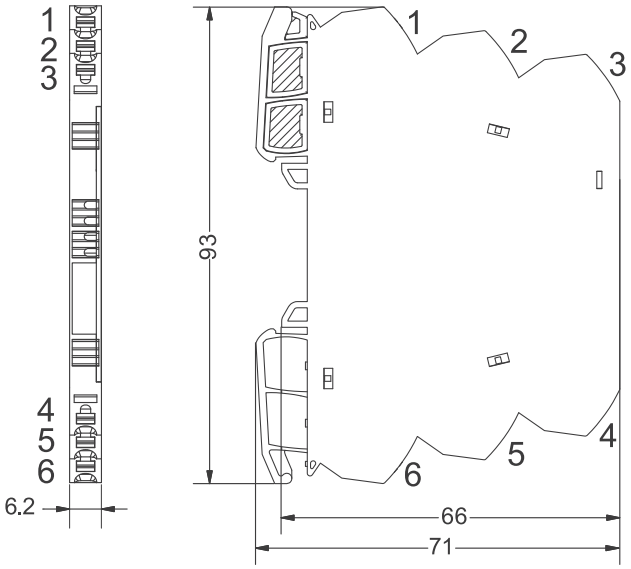
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

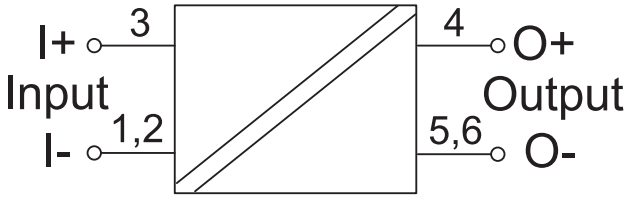
Notes and Comments

Comments	When connected this passive isolator has a non-reactive transmission, so that the current in the input circuit is not interrupted for an output interruption.

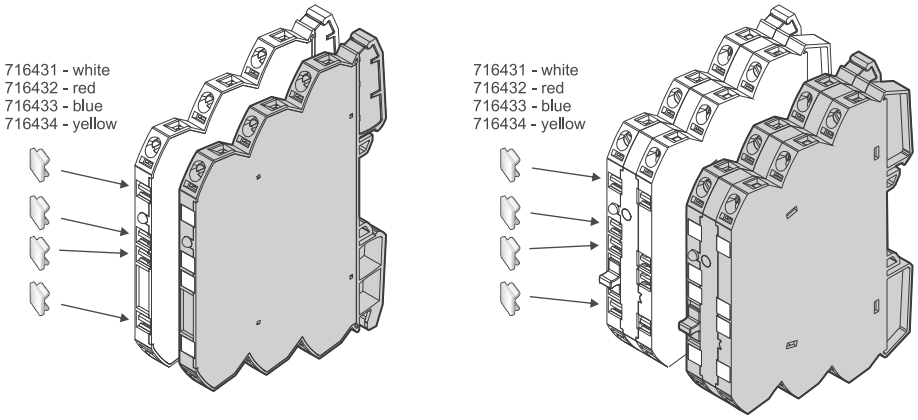
Dimensions



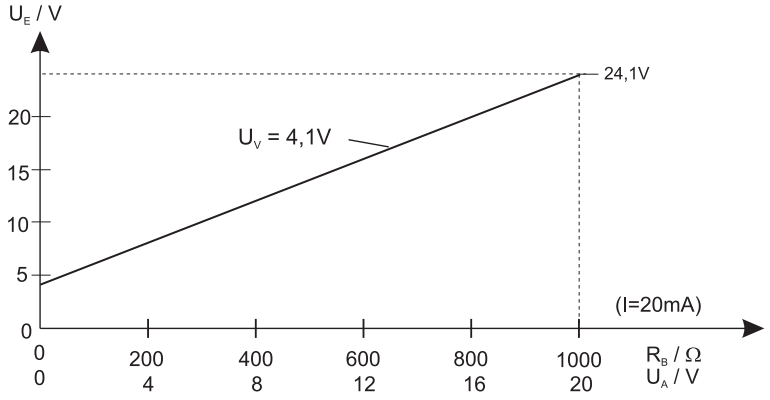
PIN assignment



Use



Action chart



Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V
Output: 0–10 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1530-62-PI
Part No.	751530.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–10 V
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ

Output

Output signal	0 – 10 V
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

per 10^9 component hours

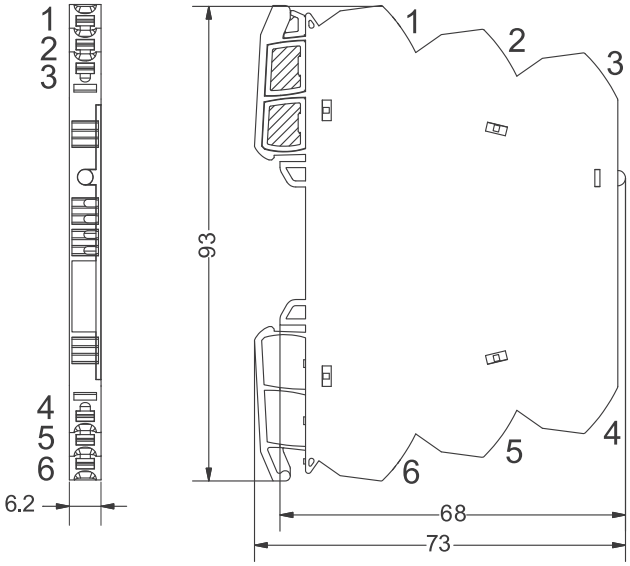
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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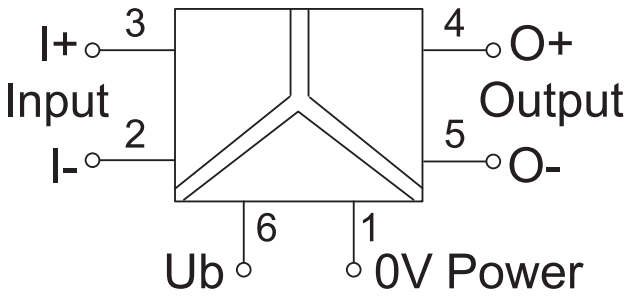

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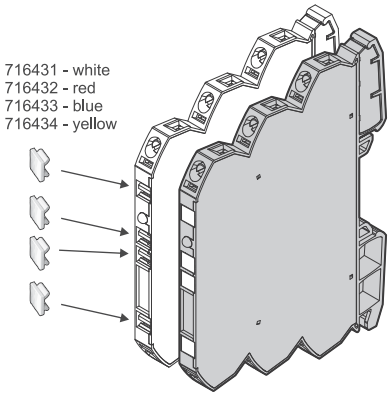
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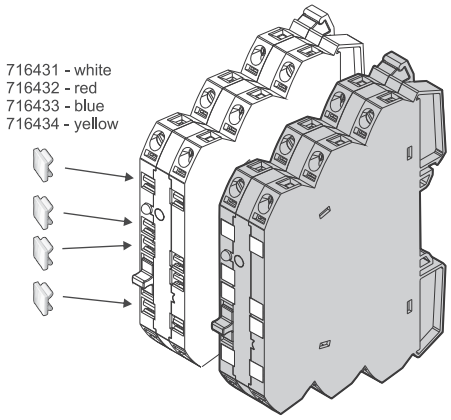
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V
Output: 0–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1531-62-PI
Part No.	751531.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–10 V
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ

Output

Output signal	0–20 mA
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

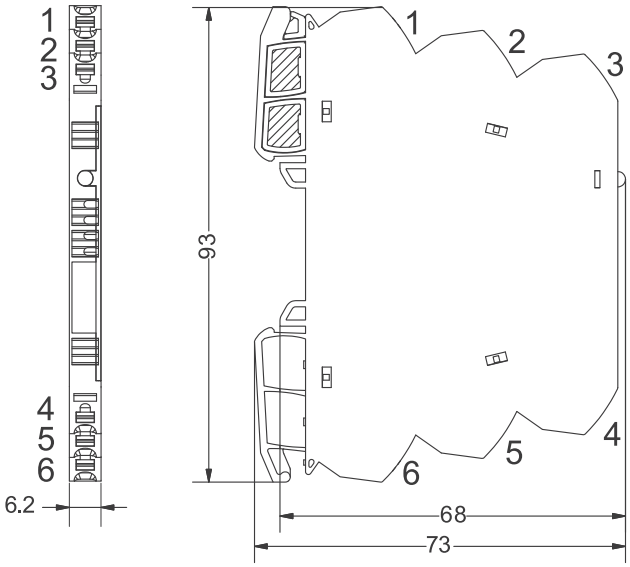
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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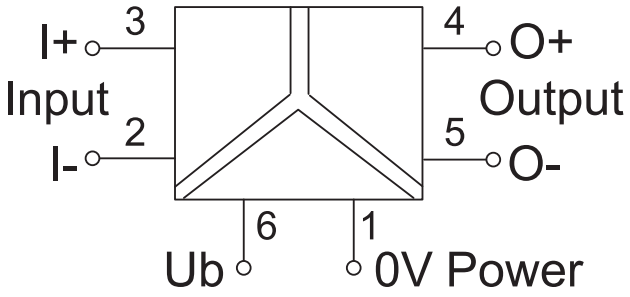

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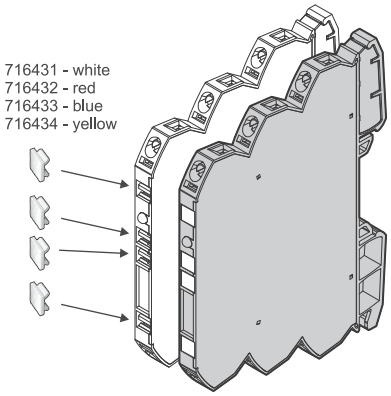
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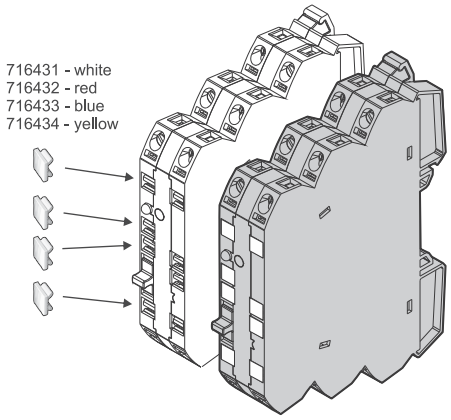
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V
Output: 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1532-62-PI
Part No.	751532.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–10 V
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ

Output

Output signal	4–20 mA
Output current limit	Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

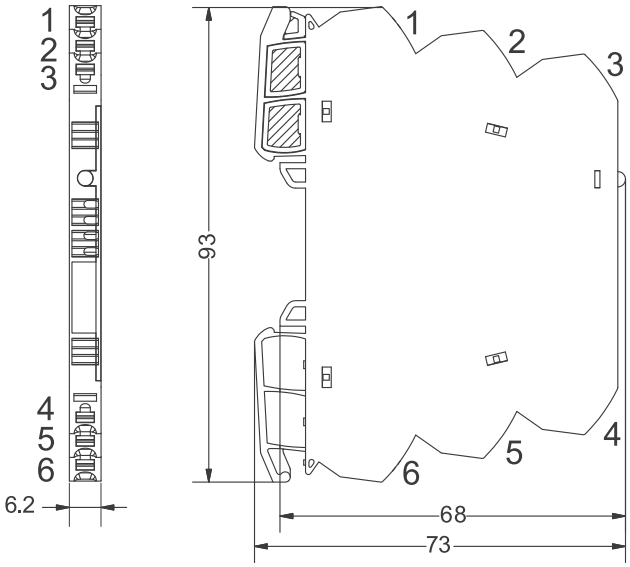
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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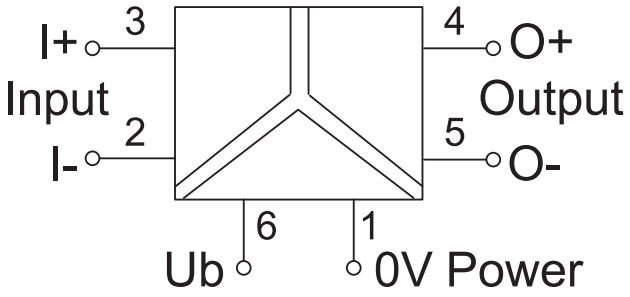

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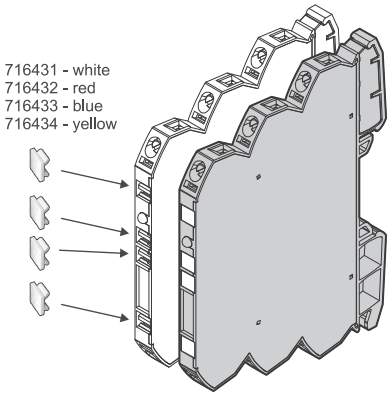
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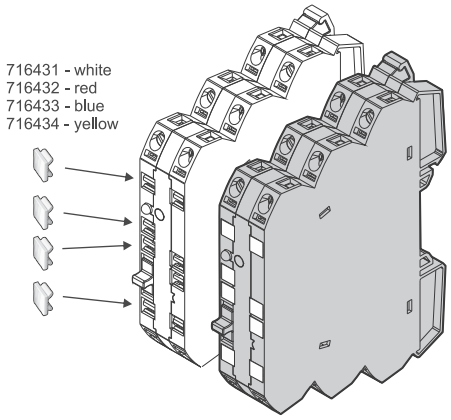
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–20 mA
Output: 0–10 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1533-62-PI
Part No.	751533.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0 – 10 V
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

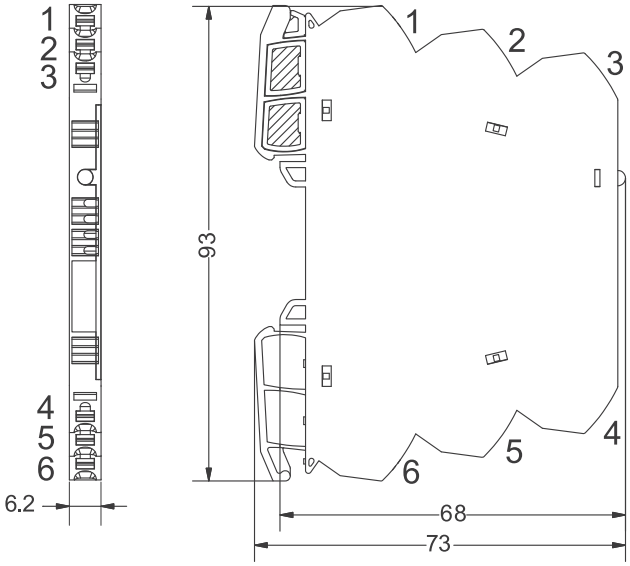
per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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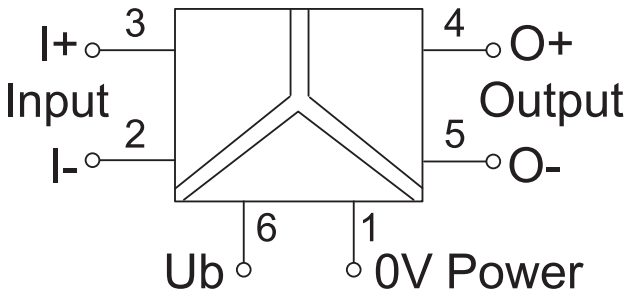

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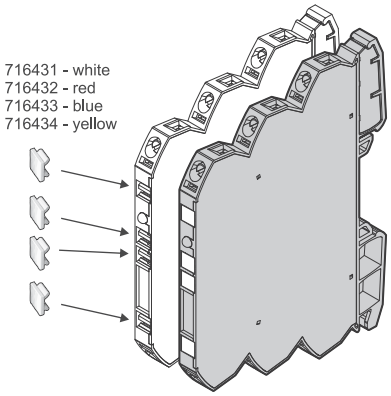
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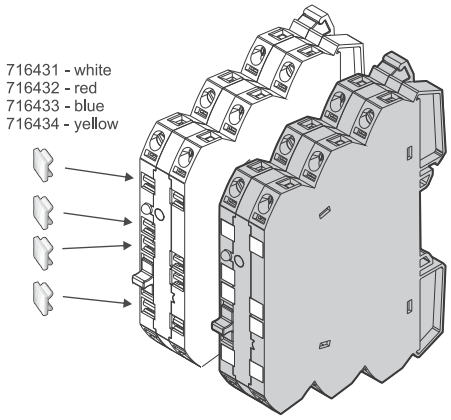
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–20 mA
Output: 0–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1534-62-PI
Part No.	751534.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0–20 mA
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

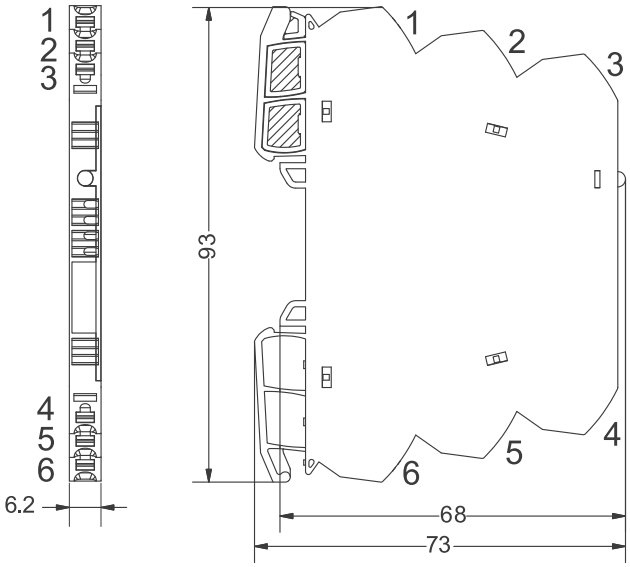
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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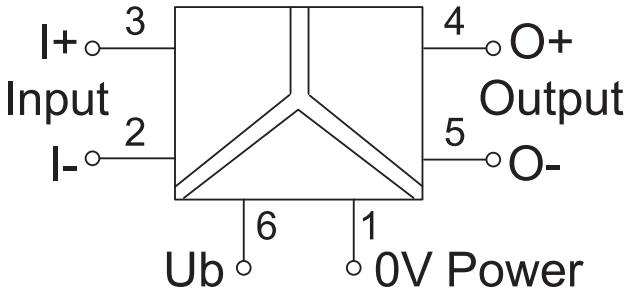

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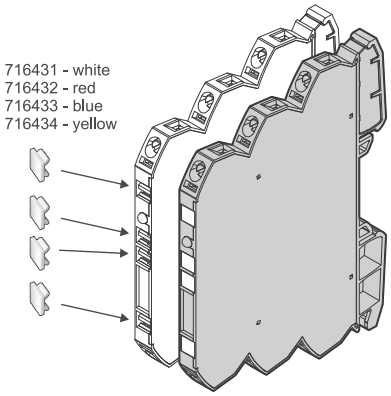
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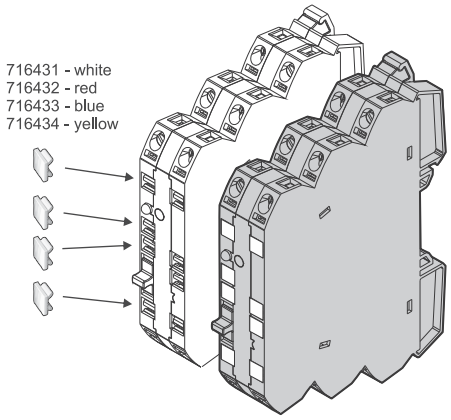
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–20 mA
Output: 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1535-62-PI
Part No.	751535.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	0–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	4–20 mA
Output current limit	Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

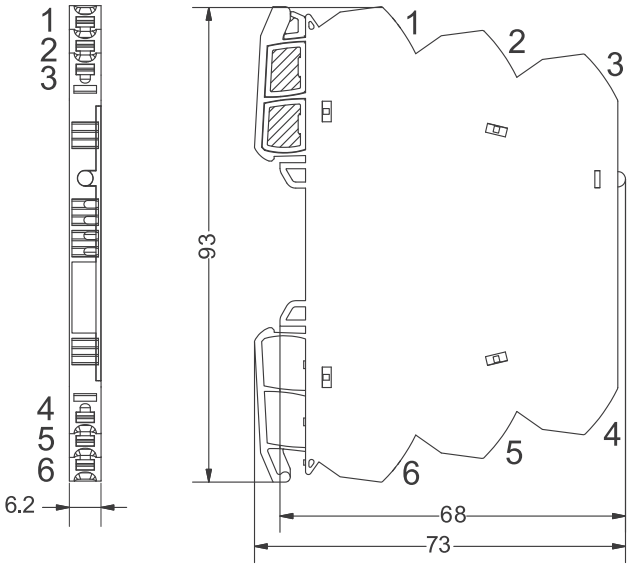
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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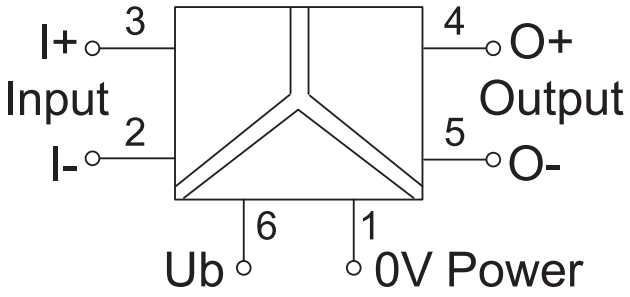

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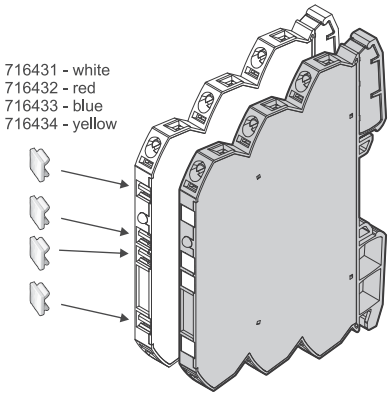
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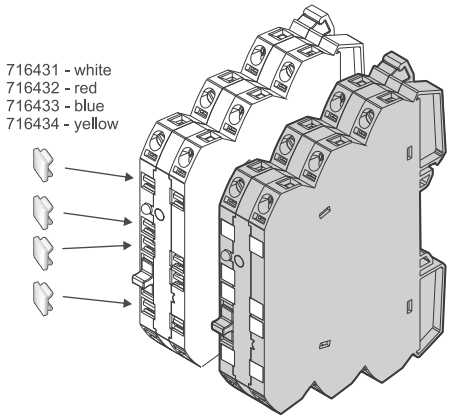
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Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 4–20 mA
Output: 0–10 V
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1536-62-PI
Part No.	751536.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	4–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0 – 10 V
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500

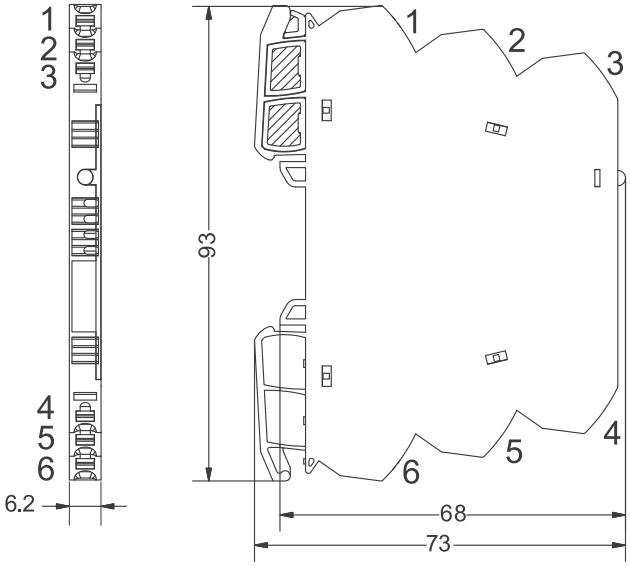
per 10^9 component hours
is the mean component ambient temperature.

Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

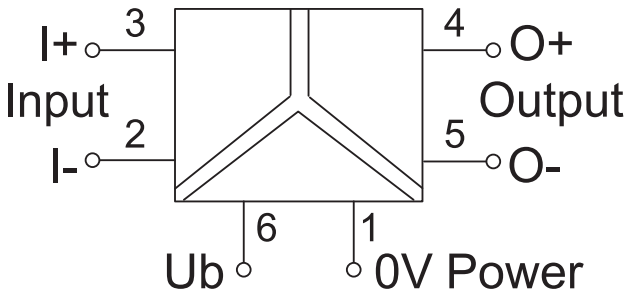
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



PIN assignment



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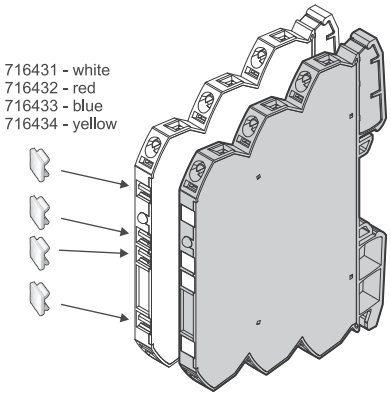
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716432 - red
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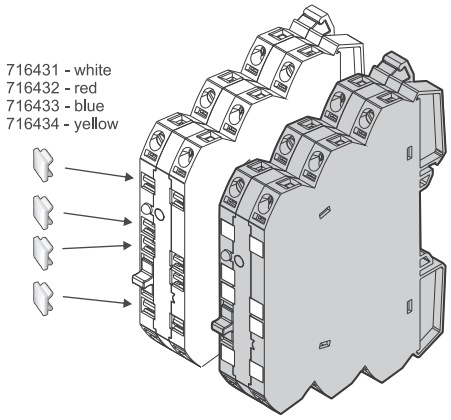
716434 - yellow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716433 - blue
716434 - yellow

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 4–20 mA
Output: 0–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1537-62-PI
Part No.	751537.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	4–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	0–20 mA
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

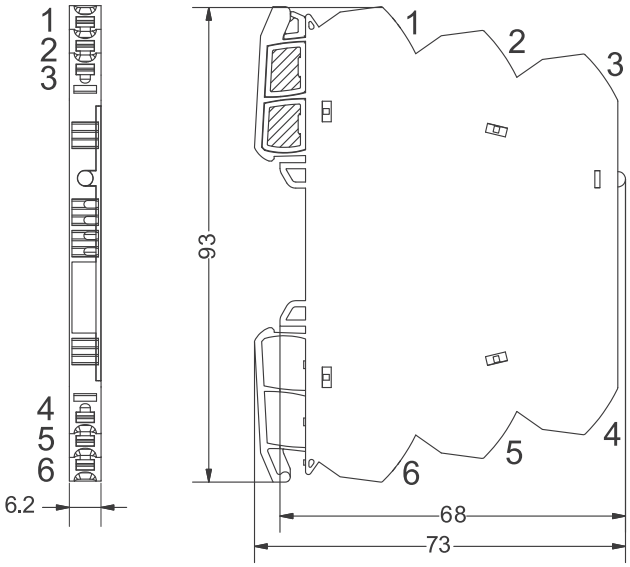
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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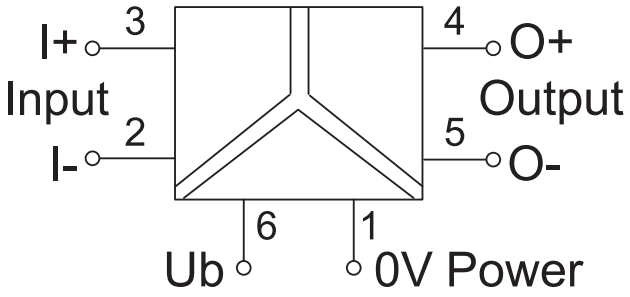

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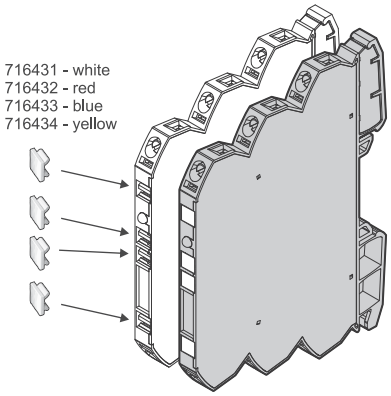
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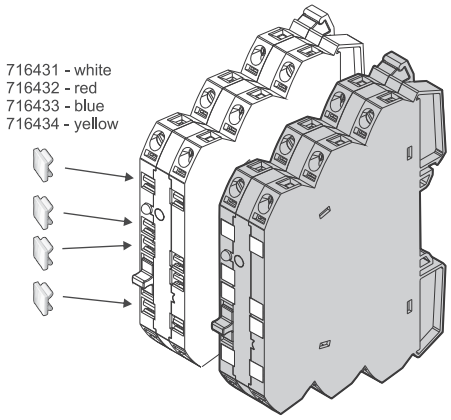
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716432 - red
716433 - blue
716434 - yellow

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 4–20 mA
Output: 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1538-62-PI
Part No.	751538.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	03

Input

Input signal	4–20 mA
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	100 Ω

Output

Output signal	4–20 mA
Output current limit	Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω
Output voltage	<16 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C

Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.029 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	504 fit
Failure rate at +45 °C	1983891 h

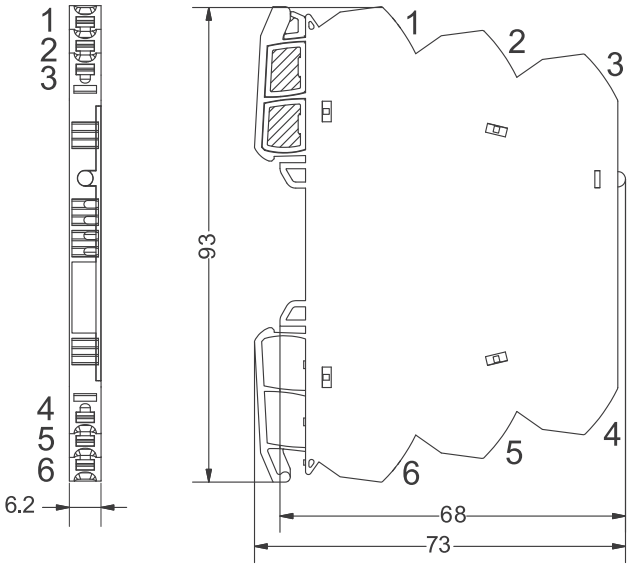
per 10^9 component hours
is the mean component ambient temperature.
following conditions:
or industrial areas without extreme dust levels and

h per year

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

Dimensions



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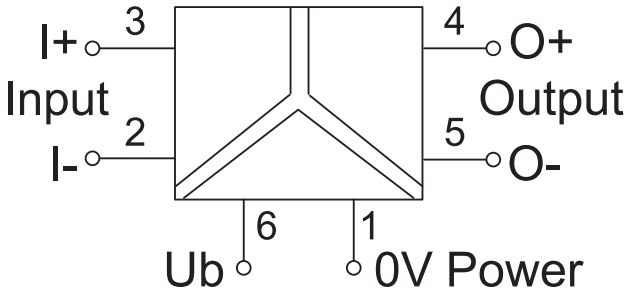

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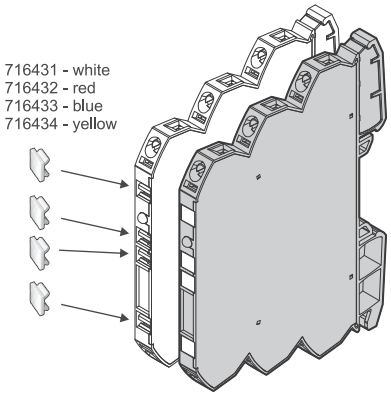
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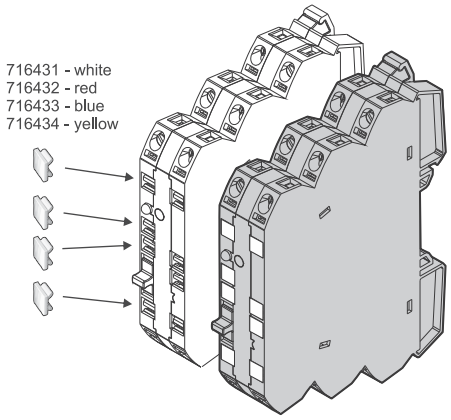
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716434 - yellow

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1539-62-PI
Part No.	751539.0000

Product version

Hardware revision	1.0
Software version	1.1
Datasheet version	02

Input

Input signal	0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	>330 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit	Min 0 V Max. 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit	Min. 0 mA for all output ranges with nominal lower limit 0 mA Min. 3.6 mA or all output ranges 4 – 20 mA Max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output	500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 V
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<16 V @ 0–20 mA, 4–20 mA

Output current	Max. 5 mA @ 0–10 V
Residual ripple	<20 mV_{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U_N	AC/DC 24 V
Current Consumption	22 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Strip length	8 mm
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +80 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

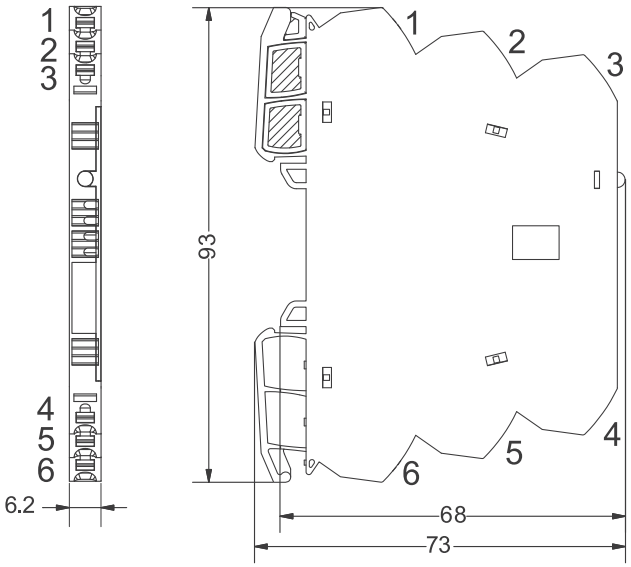
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

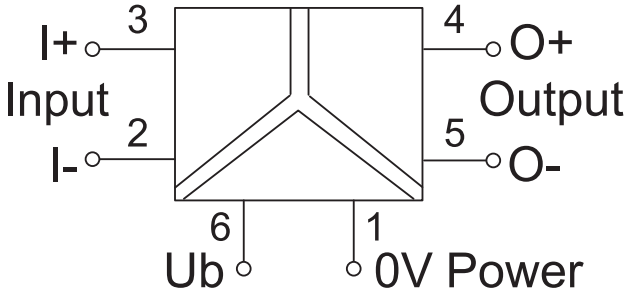
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

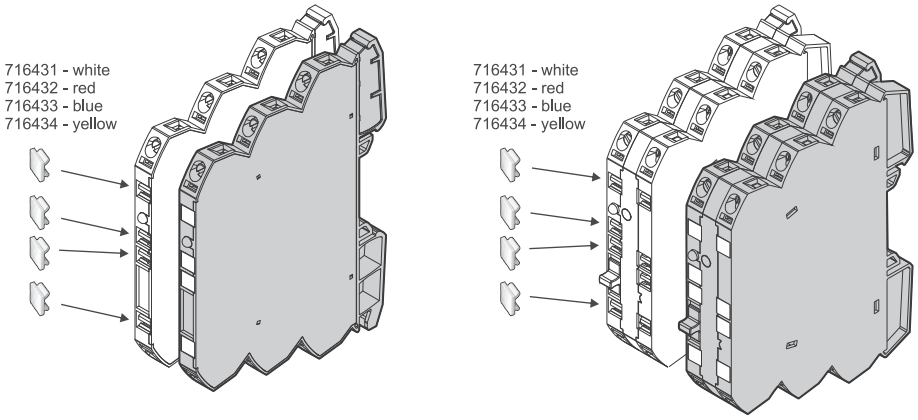
Dimensions



PIN assignment

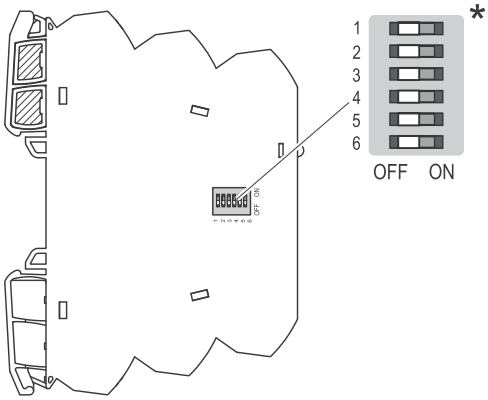


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1	**Input**			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

S1	**Output**	
●→Switch On	5	6
0–10V*	●	
0–20mA		●
4–20mA	●	●

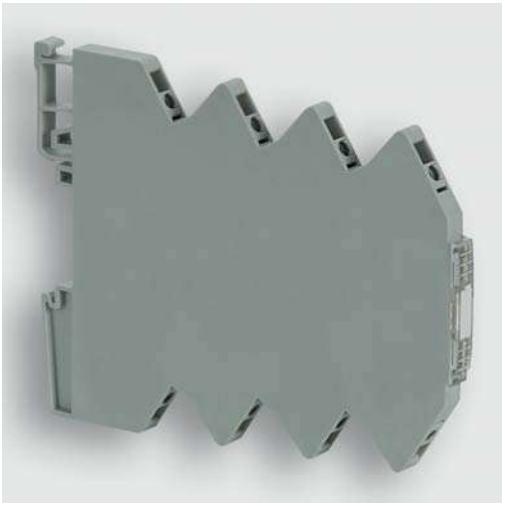
ON

OFF

= OFF)

Technical data sheet · Interface Technology

Microcompact current/analogue converter



Identification	Type	WAA 7-1541
	Part-No.	751541

Description	
	Input: AC/DC 0 – 5 A
	Output: 0 – 10 V / 0 – 20 mA / 4 – 20 mA - adjustable
	Insulation: 2.5 kV, 3-way isolation

Input	
Input signal	AC/DC 0–5 A, ± 5 A
Input variable	Single analogue signal
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Line frequency	15 – 400 Hz
Input resistance	typ. 0.02 Ω

Output	
Output signal	adjustable via DIP switch S1
Max. load impedance at I-output	400 Ω
Output current	max. 21 mA
Residual ripple	<5 $mVeff_{eff}$

Operating data

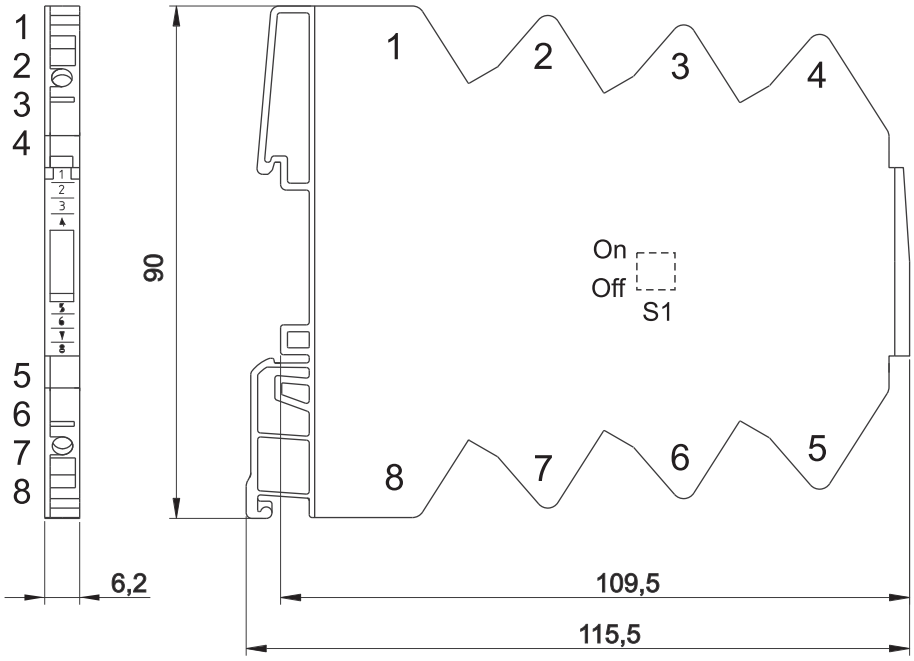
Accuracy	0.5 % FSR @ 23 °C
Linearity error	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	150 ms
Temperature coefficient	<150 ppm / K FSR

General	
Rated voltage U_N	DC 24 V
Operation voltage range	DC 16.8–30 V
Status indication	LED yellow
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP20
Installation position	any
Connection type	Spring terminal
Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Dimensions (w × h × d)	6.2 × 90.0 × 115.5 mm
Weight	0.055 kg/piece
PU	1 piece
Approvals	cULus Cl.1 Div2, Gr. A, B, C, D, T4A

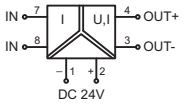
Failure Rate Prediction (MTBF)	
Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	639 fit
Failure rate at +45 °C	1564896 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Technical data sheet · Interface Technology

Dimensions



PIN assignment

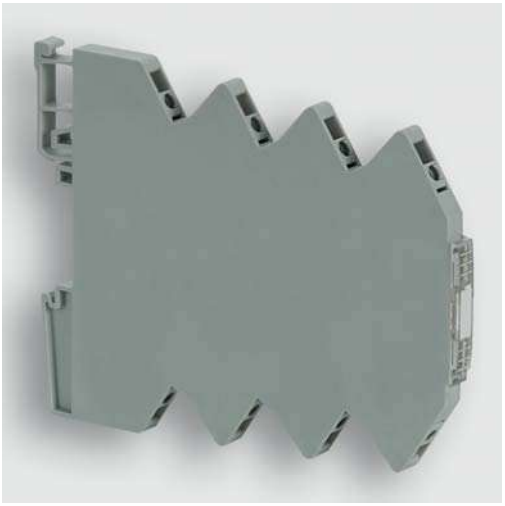


Range adjustment

● → Switch On		S1			
Input	Output	1	2	3	4
0-5A	0-10V				
0-5A	0-20mA	●			
0-5A	4-20mA		●		

Technical data sheet · Interface Technology

Microcompact current/analogue converter



Identification	Type	WAA 7-1542
	Part-No.	751542

Description	
	Input: AC/DC 0 – 10 A
	Output: 0 – 10 V / 0 – 20 mA / 4 – 20 mA - adjustable
	Insulation: 2.5 kV, 3-way isolation

Input	
Input signal	AC/DC 0–10 A, + 10 A
Input variable	Single analogue signal
Galvanic isolation I/O	3-way isolation
Zero /Span	Production comparison
Input resistance	typ. 0.02 Ω

Output	
Output signal	adjustable via DIP switch S1
Max. load impedance at I-output	400 Ω
Output current	max. 21 mA
Residual ripple	<5 $mVeff_{eff}$

Operating data	
Accuracy	0.5 % FSR @ 23 °C

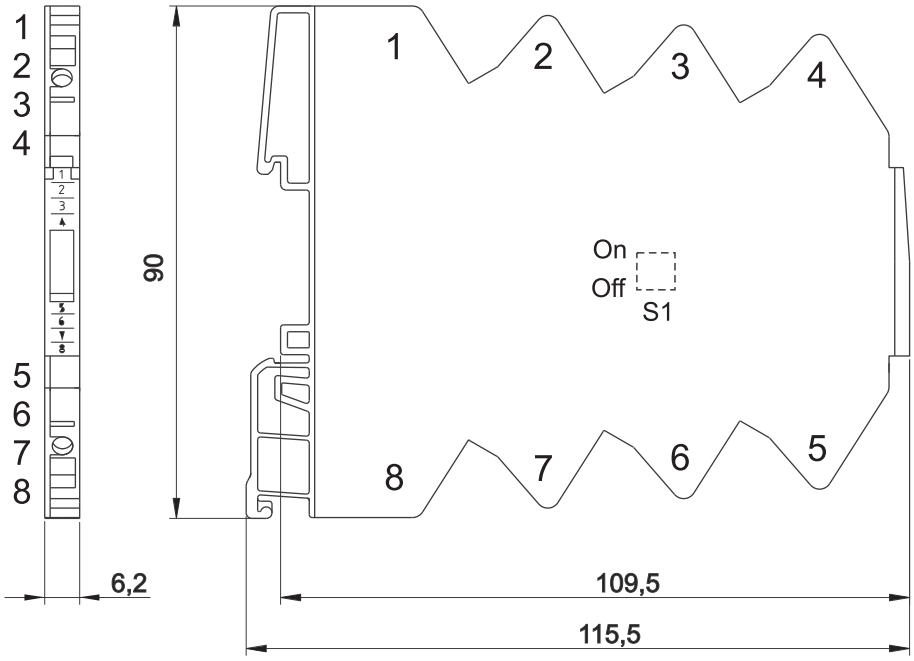
Linearity error	0.1 % FSR @ 23 °C
Build-up time (Accuracy 1%)	150 ms
Temperature coefficient	<150 ppm / K FSR

General	
Rated voltage U_N	DC 24 V
Operation voltage range	DC 16.8–30 V
Status indication	LED yellow
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	light grey
Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP20
Installation position	any
Connection type	Spring terminal
Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Dimensions (w × h × d)	6.2 × 90.0 × 115.5 mm
Weight	0.055 kg/piece
PU	1 piece
Approvals	cULus Cl.1 Div2, Gr. A, B, C, D, T4A

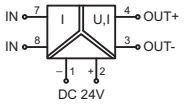
Failure Rate Prediction (MTBF)	
Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	643 fit
Failure rate at +45 °C	1555162 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

Technical data sheet · Interface Technology

Dimensions



PIN assignment



Range adjustment

● → Switch On		S1			
Input	Output	1	2	3	4
0-10A	0-10V				
0-10A	0-20mA	●			
0-10A	4-20mA		●		

Technical data sheet

Interface Technology · LCIS potentiometer/analog converter

Input: 0–1 kΩ / 0–6 kΩ
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WRA-1557-62-PI
Part No.	751557.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Poti 0–1 kΩ, Poti 0–6 kΩ
Galvanic isolation I/O	3-way isolation
Measuring procedure	2-wire, constant current
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Sensor current	0.45 mA @ 0–1 kΩ / 0.15 mA @ 0– 6 kΩ
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V

Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

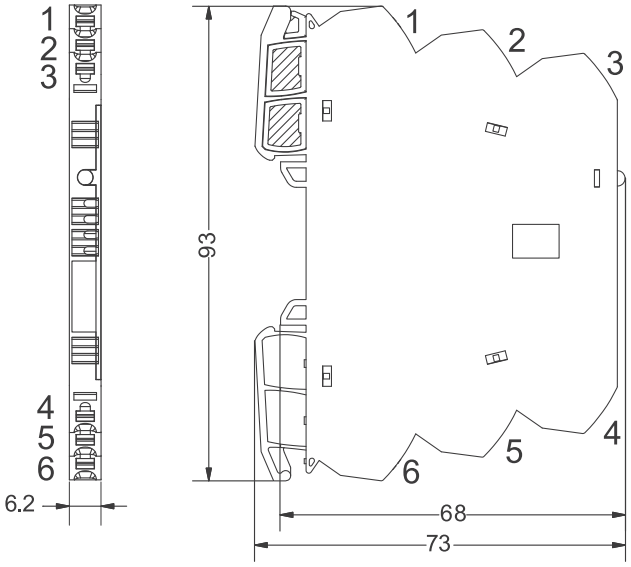
per 10^9 component hours

	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

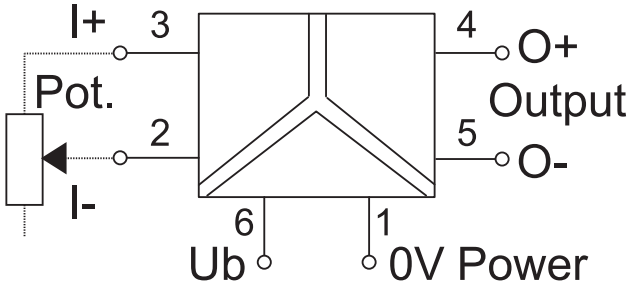
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

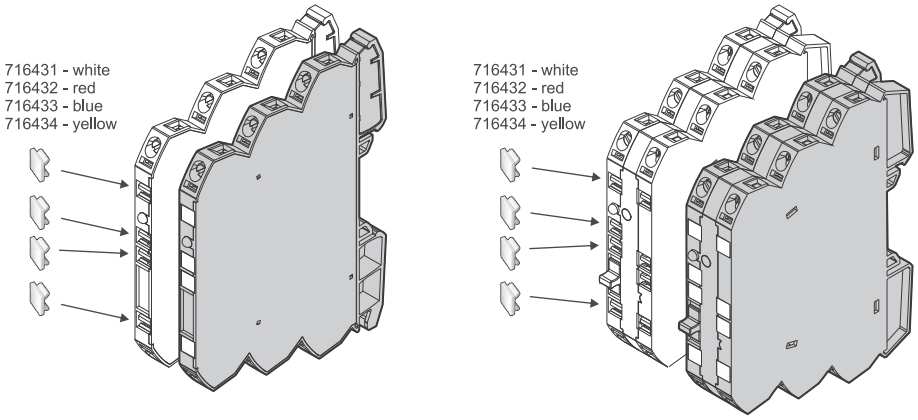
Dimensions



PIN assignment

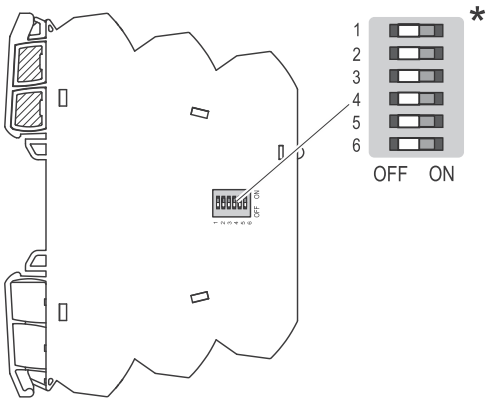


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 → Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 → Switch On	Input 1	2	3	4
0 6 kΩ				
	●			

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: PT100, 2-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WPT2LA-1809-62-PI
Part No.	751809.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Temperature sensor PT100
Galvanic isolation I/O	3-way isolation
Measuring procedure	2-wire, constant current
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Sensor current	0.5 mA
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C
Error coefficient of measuring line	2.7 K/Ω

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

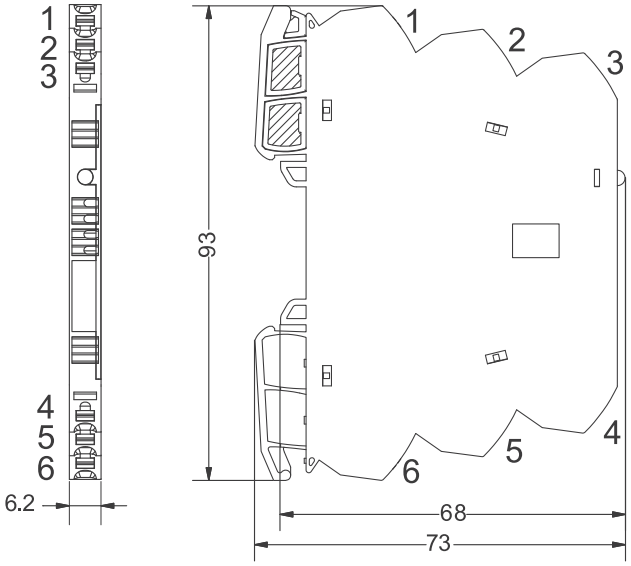
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	566 fit
Failure rate at +45 °C	1765795 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

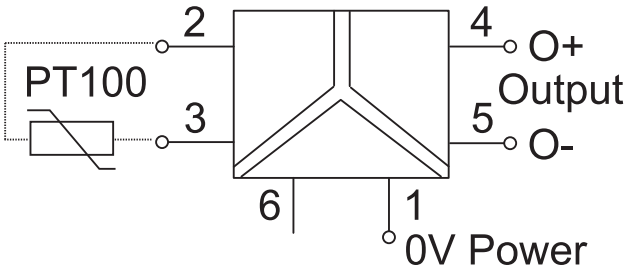
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

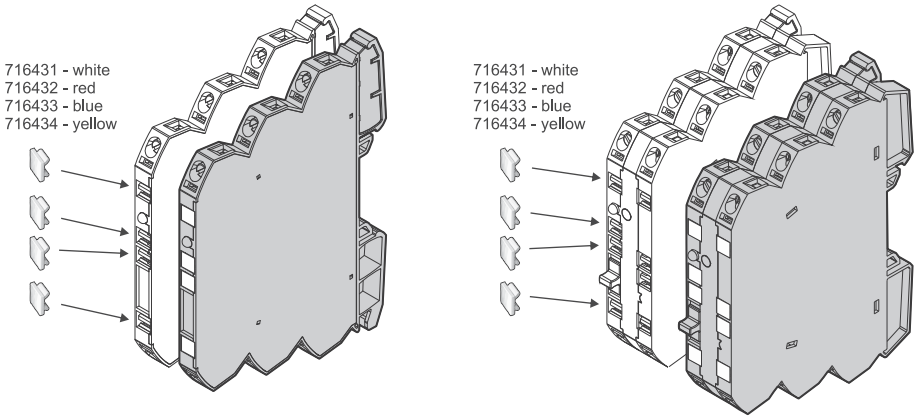
Dimensions



PIN assignment

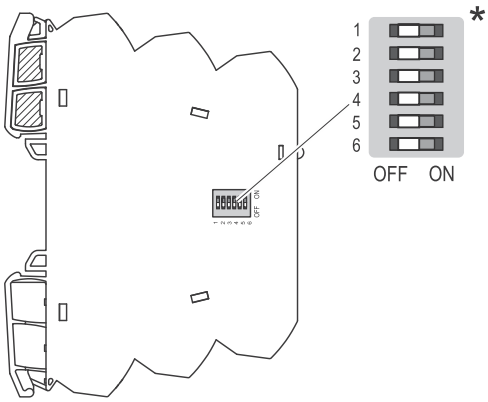


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 → Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 → Switch On	Input 1	2	3	4
50 50°C				
		●		
			●	
		●	●	
				●
		●		●
			●	●
		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: PT100, 2-wire/3-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation

Identification

Type	LCIS-WP-WPT3LA-1817-175-PI
Part No.	751817.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Temperature sensor PT100
Galvanic isolation I/O	3-way isolation
Measuring procedure	2-wire of 3-wire, constant current
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ @ 2-wire, >500 kΩ @ 3-wire
Sensor current	0.5 mA
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C
Error coefficient of measuring line	2-conductor: 2.7 K/Ω, 3-conductor: 0.1 K + 0.1 %/Ω

General

Rated voltage U_N	AC/DC 24–240 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 19 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

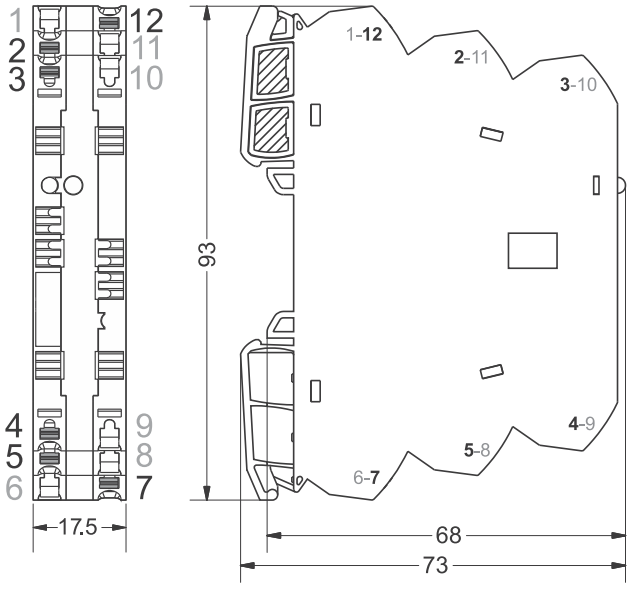
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	713 fit
Failure rate at +45 °C	1402367 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

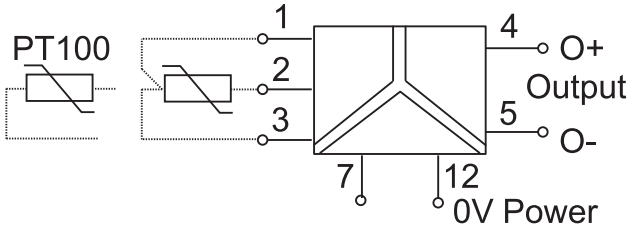
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

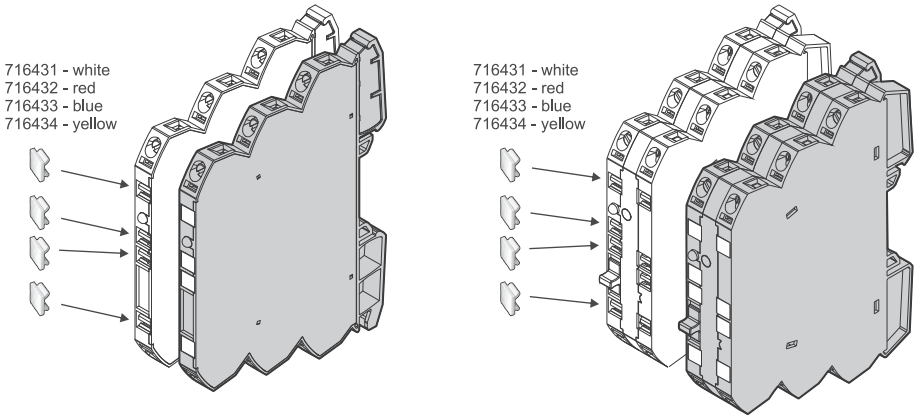
Dimensions



PIN assignment

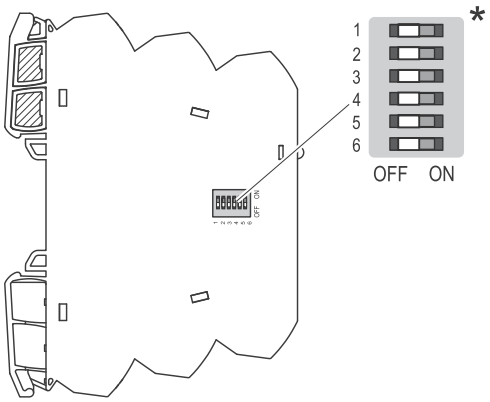


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
PT100, 3-wire				
PT100, 2-wire	●			
-50 – 50°C				
-50 – 100°C		●		
-50 – 150°C			●	
0 – 100°C		●	●	
0 – 150°C				●
0 – 200°C		●		●
0 – 300°C			●	●
0 – 400°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: PT100, 2-wire/3-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 2-way isolation

Identification

Type	LCIS-WPT3LA-1819-62-PI
Part No.	751819.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Temperature sensor PT100
Galvanic isolation I/O	2-way isolation
Measuring procedure	2-wire of 3-wire, constant current
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ @ 2-wire, >500 kΩ @ 3-wire
Sensor current	0.5 mA
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.3 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C
Error coefficient of measuring line	2-conductor: 2.7 K/Ω, 3-conductor: 0.1 K + 0.1 %/Ω

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

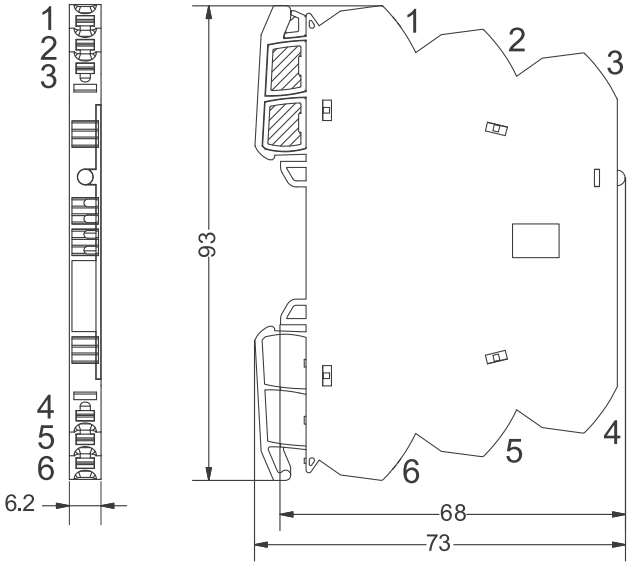
– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	578 fit
Failure rate at +45 °C	1729323 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

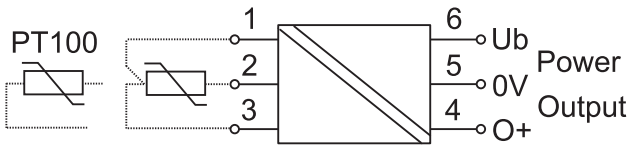
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

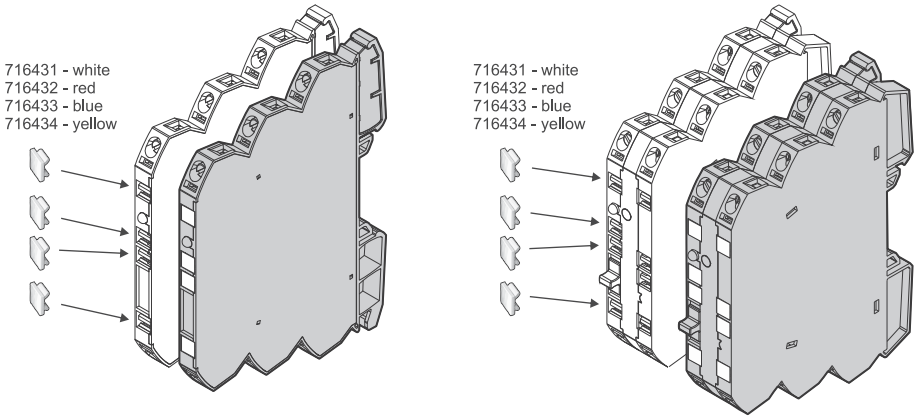
Dimensions



PIN assignment

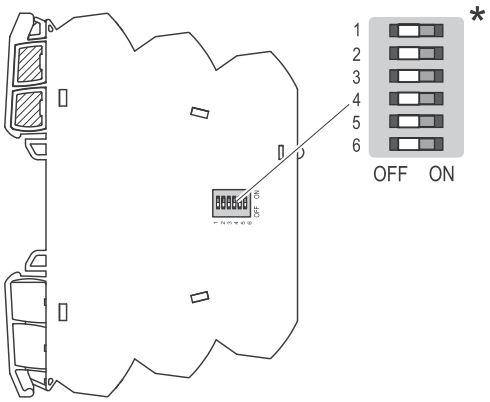


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
PT100, 3-wire				
PT100, 2-wire	●			
-50 – 50°C				
-50 – 100°C		●		
-50 – 150°C			●	
0 – 100°C		●	●	
0 – 150°C				●
0 – 200°C		●		●
0 – 300°C			●	●
0 – 400°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WTCA-1839-62-PI
Part No.	751839.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Temperature range	-50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Cold junction compensation	throughout the entire temperature range
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.5 % + 2K FSR @ 23 °C
Linearity error	0.1 % FSR, temperature linear
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

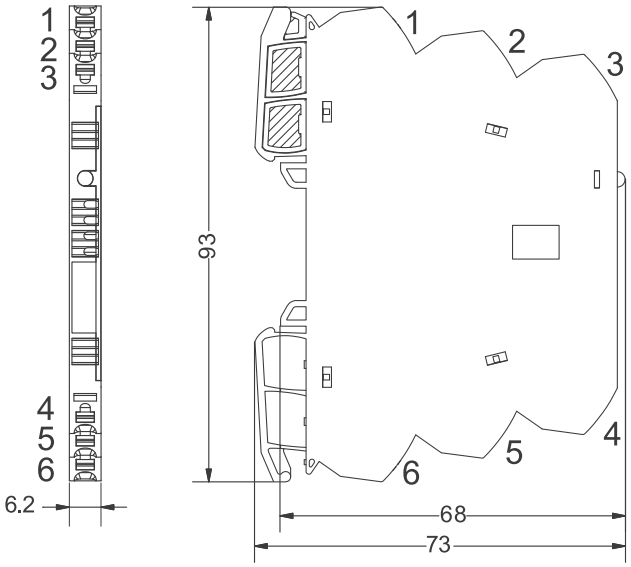
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	1765795 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

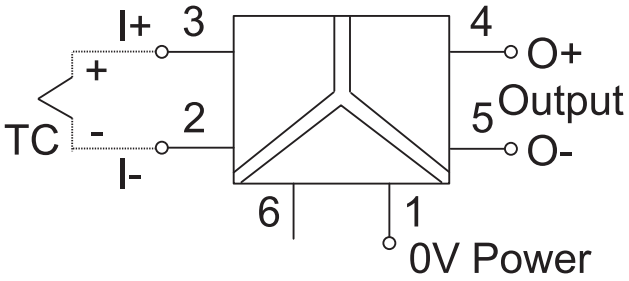
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

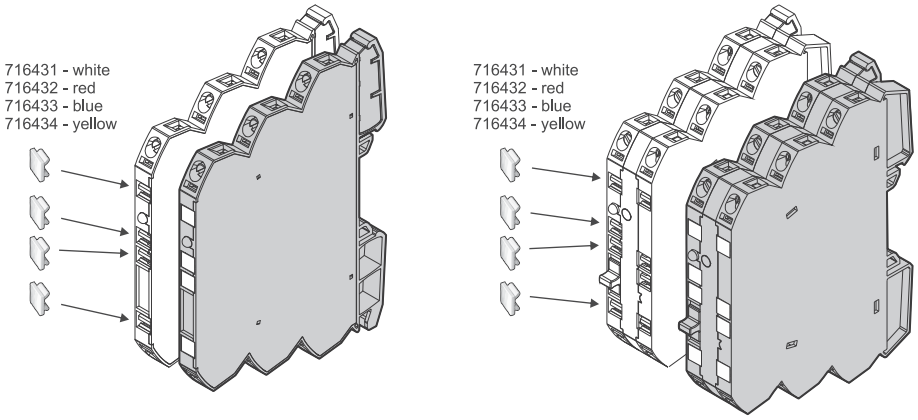
Dimensions



PIN assignment

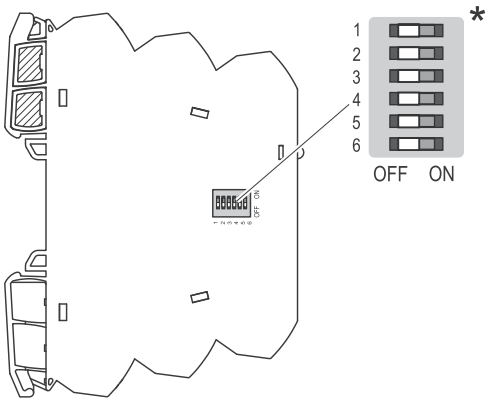


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
-50 – 200°C				
-50 – 350°C		●		
0 – 200°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation

Identification

Type	LCIS-WP-WTCA-1847-175-PI
Part No.	751847.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Temperature range	-50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Cold junction compensation	throughout the entire temperature range
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ

Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.5 % + 2K FSR @ 23 °C
Linearity error	0.1 % FSR, temperature linear
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24–240 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 19 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

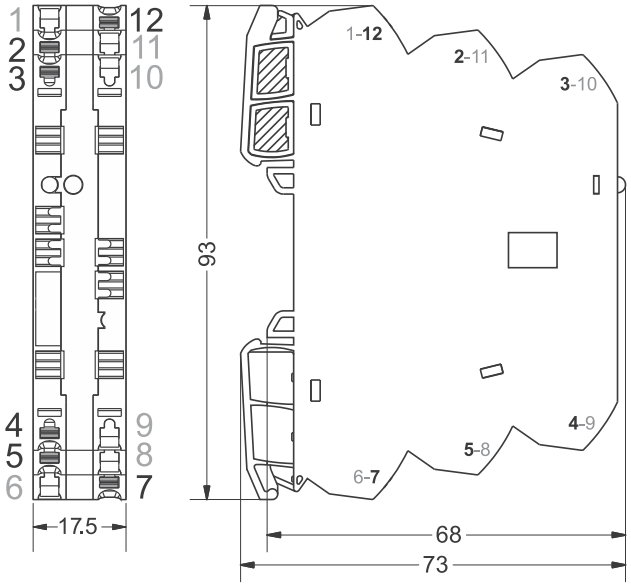
– Reliability – Reference conditions for failure rates
EN/IEC 61709
– Expected values: SN 29500

Failure rate at +45 °C	1428555 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

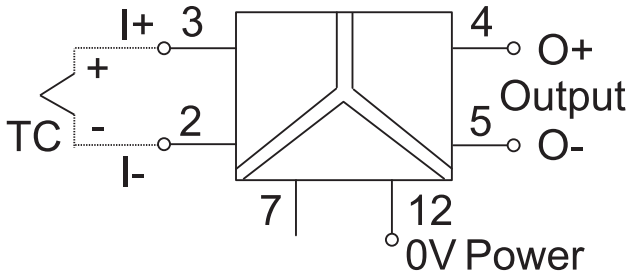
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

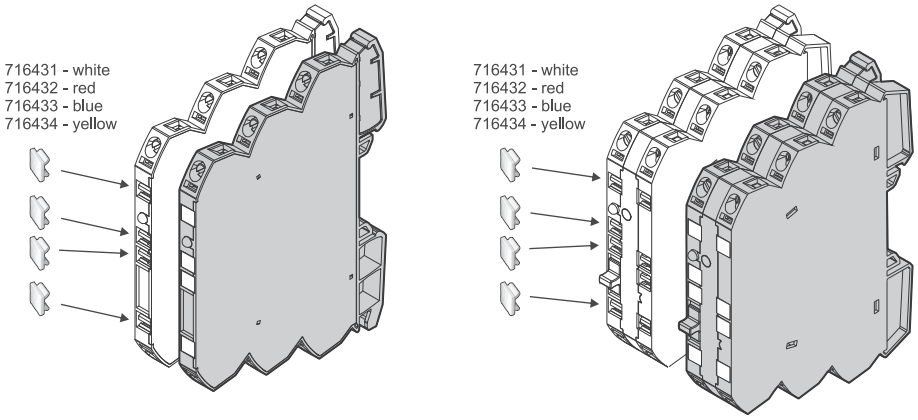
Dimensions



PIN assignment

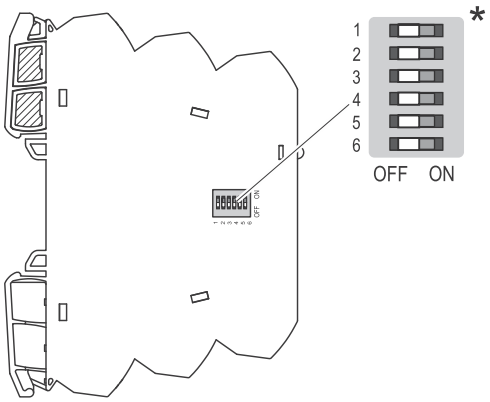


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
-50 – 200°C				
-50 – 350°C		●		
0 – 200°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation

Identification

Type	LCIS-WP-WTCA-1848-175-PI
Part No.	751848.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	02

Input

Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Temperature range	J: -50 °C–150 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C K: -210 °C–105 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Cold junction compensation	throughout the entire temperature range
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω

Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<18 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}
Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.5 % + 2K FSR @ 23 °C
Linearity error	0.1 % FSR, temperature linear
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24–240 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 19 mA @ DC 24 V
Status indication	LED green
Insulation voltage input / output	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 73.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing

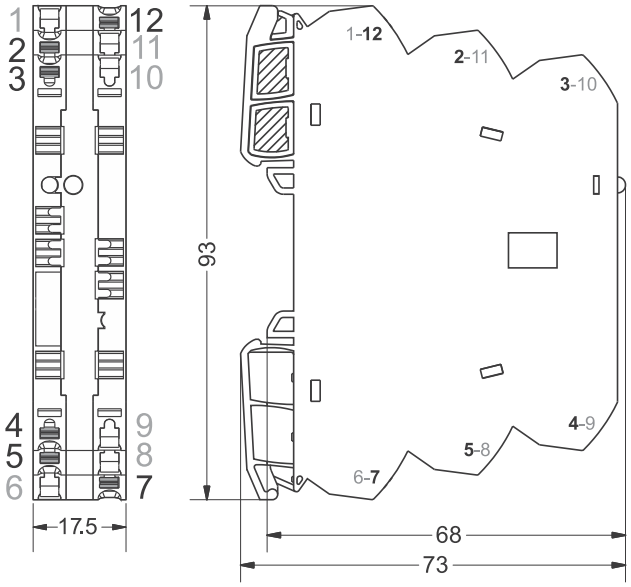
Failure Rate Prediction (MTBF)

Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at +45 °C	700 fit
Failure rate at +45 °C	1428555 h
	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

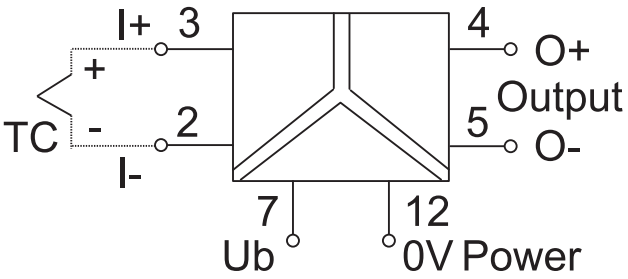
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

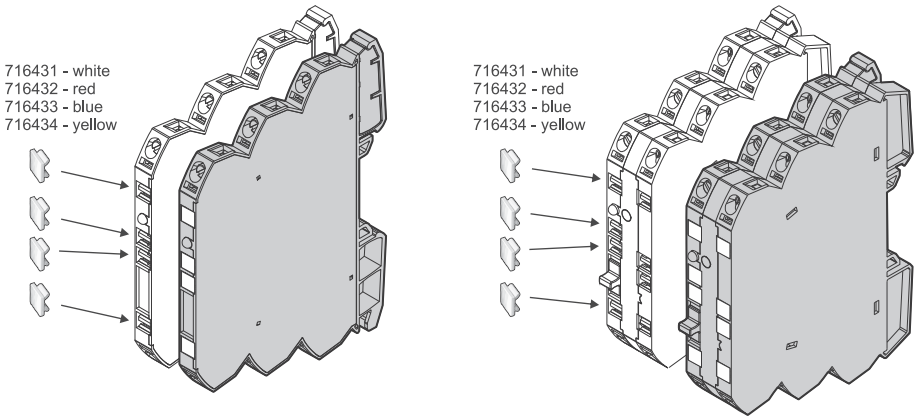
Dimensions



PIN assignment

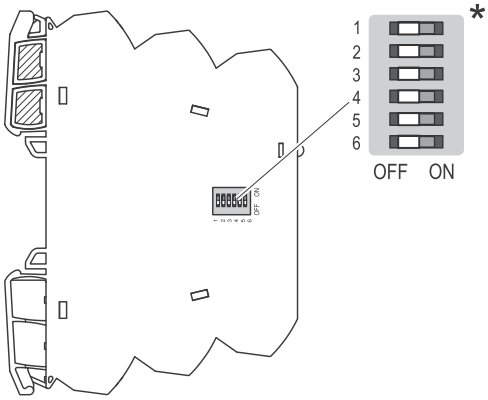


Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
EN ***NOTICE:*** *The switches must not be switched during operation. The converter requires a restart.*
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 ●⟶ Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 ●⟶ Switch On	Input 1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
J: -50 – 150°C K: -210 – 105°C				
-50 – 250°C		●		
-50 – 350°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Technical data sheet

Interface Technology · LCIS analog/analog converter

Output: 0–60 mV
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Identification

Type	LCIS-WAA-1901-62-PI
Part No.	751901.0000

Product version

Hardware revision	1.0
Software version	1.0
Datasheet version	03

Input

Input variable	Voltage 0-60 mV
Galvanic isolation I/O	3-way isolation
Measuring procedure	Voltage measurement
Parameterisation	DIP switch S1
Zero /Span	Production comparison
Input resistance	>1 MΩ
Protection device Input	Overvoltage protection

Output

Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	500 Ω
Min. load impedance at U-output	2 kΩ
Load deviation	at U-output max. 5 mV @ 2 kΩ
Output voltage	<16 V @ 0–20 mA, 4–20 mA
Output current	Max. 5 mA @ 10 V
Residual ripple	<20 mV_{eff}

Parameterisation	DIP switch S1
Protection device	short circuit protection

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.1 % FSR
Rise time (10-90%)	approx. 30 ms @ 23 °C
Build-up time (Accuracy 1%)	approx. 60 ms @ 23 °C
Temperature coefficient	150 ppm / K FSR
Critical frequency	10 Hz @ 3 dB / 23 °C

General

Rated voltage U_N	AC/DC 24 V
Rated current	Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V
Current Consumption	22 mA
Status indication	LED green
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Degree of protection	IP20
Installation position	Any
Connection type	Push-In Single wire 0.25 mm² – 2.5 mm² / AWG 24–14 Fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 24–16
Dimensions (w × h × d)	6.2 mm × 93.0 mm × 73.0 mm
Weight/unit	0.03 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C … +60 °C
Storage temperature range	-40 °C … +85 °C
Relative air humidity	20 – 90 % RH, not condensing
Vibration resistance	0.7 g acc. to EN 60068-2-6

Failure Rate Prediction (MTBF)

– Reliability – Reference conditions for failure rates EN/IEC 61709
– Expected values: SN 29500

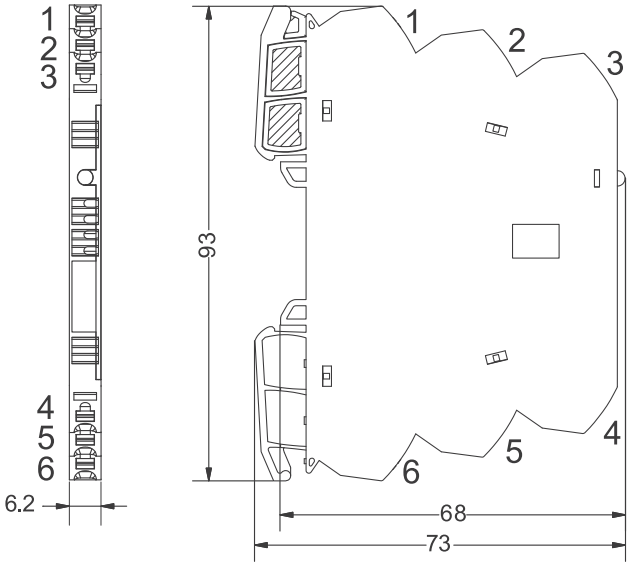
per 10^9 component hours

	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year

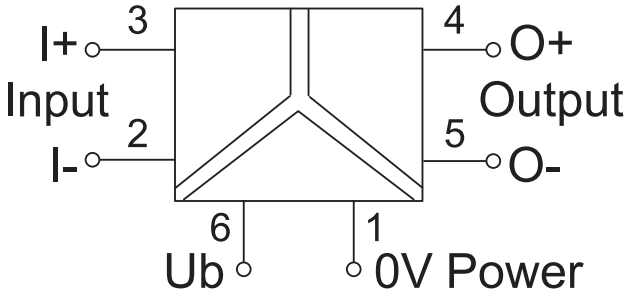
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E135145) DNV (TAA000024Y)
Standards	EN 60947-1 EN 60947-5-1 EN 61000-6-2 EN 61000-6-4 UL 508 DNV-CG-0339

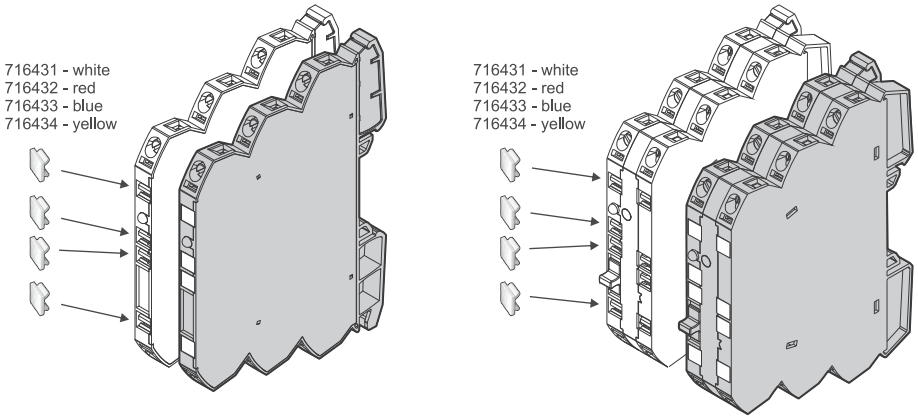
Dimensions



PIN assignment



Use



Use

DE ***HINWEIS:*** Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.
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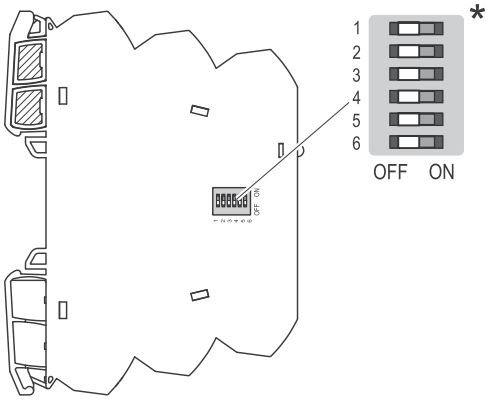
FR ***AVIS:*** *Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.*



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* **EN:** *Delivery state (factory setting): 0 setting/ all switches are set to OFF.*

* **FR:** *État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.*

Range adjustment

S1 → Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 → Switch On	Input 1	2	3	4
0 60 V				

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Курск (4712)77-13-04
Курган (3522)50-90-47
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Смоленск (4812)29-41-54
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Ставрополь (8652)20-65-13
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