

Защита проводки LCOS CC

Технические характеристики

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Улан-Удэ (3012)59-97-51
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Technical data sheet

Load monitoring · LCOS CC

Electronic load monitoring up to DC 16 A

1-channel version, single pole switching, DC 2 A – DC 16 A, adjustable characteristic

Collective fault message: single/90% message, Remote Control input



Identification

Type	LCOS-CC-1K-1P16-DC24V-PB
Part No.	779100.1121

Product version

Hardware revision	1.0
Software version	1.4
Datasheet version	04

Input

Type of function	1-channel 1 pin switching
Technology	Powerbus and terminal strip
Rated voltage U_N	DC 24 V
Operation voltage range	DC 20.4–28.8 V
Supply current	DC 16 A via LCOS Powerbus
Reverse voltage protection	internal electronics

Control input (Set / Reset)

Signal level	DC 24 V acc. to EN 61131
OFF	Pulse with falling edge >100 ms, <800 ms
ON	Pulse with falling edge > 1 s
Isolation voltage	AC 1.5 kV, 1 min.

Output

Switching element	MOSFET
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Technical data sheet

Load monitoring · LCOS CC

Output current	max. DC 16 A
Voltage drop	<275 mV (16A)
Status display output	LED green: no error, LED green flashing: 90 % utilisation LED red flashing: triggered, LED red: unit off
Switch-on capacity	>10000 µF
Current range	2 A – 16 A (can be set via switch in 2 A steps)
Characteristic	fast (1), medium (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch

Signal output

Switching element	Transistor, open collector with pull-up resistor
Single channel message	Acc. to IEC 61131-2: High level: no errors, low level: there are errors
90 % of the rated current I _B	Acc. to IEC 61131-2: High level <90 %, low level >90 %

General

Dimensions (w × h × d)	22.5 mm × 144.0 mm × 102.0 mm (including function carrier, without plug-in terminals on the side)
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 basalt grey
Mounting	plug-in on LCOS function carrier 22.5 mm (Accessories) DIN rail mounting (EN 60715)
Installation position	Vertical
MTBF	690000 h @ 40 °C, 100 operations button, 30 revolutions coding switch
Degree of protection	IP20 (EN 60529)
Connection type load side	X1: 8-pin multi-point plug, RM 5.08
Connection type control side	X2: 12-pin multi-point plug, RM 3.5
Weight/unit	0.2 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C ... +55 °C
Storage temperature range	-40 °C ... +70 °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

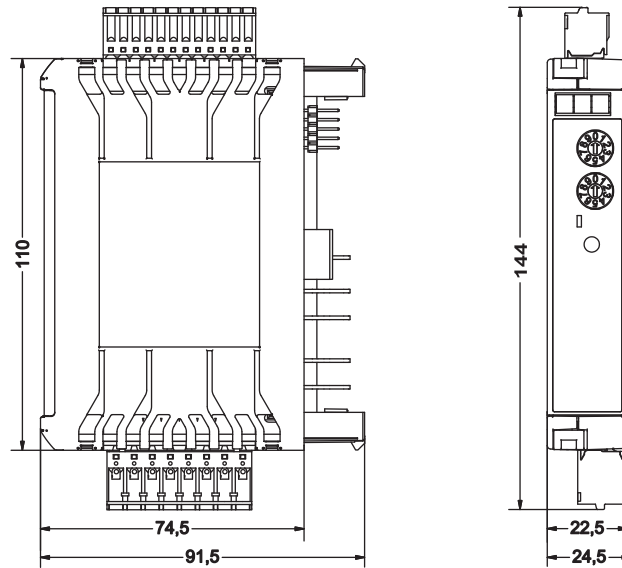
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E170585) DNV (TAA00002SY)

Load monitoring · LCOS CC

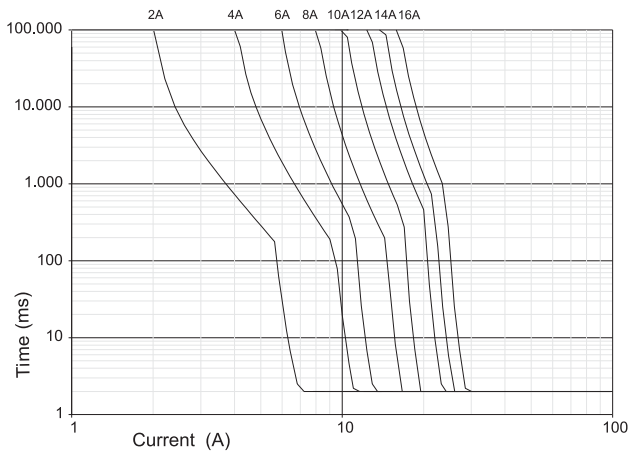
Notes and Comments

Dimensions

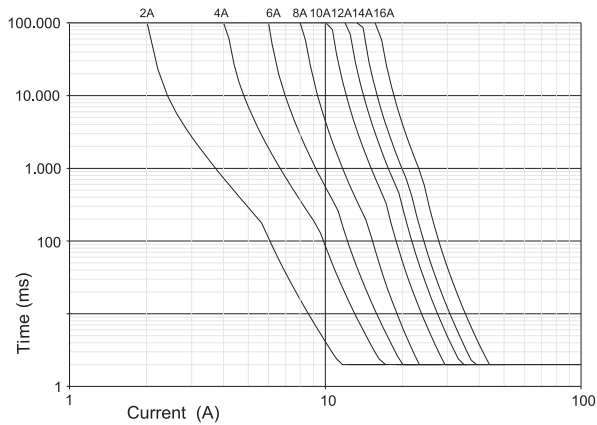


- Input

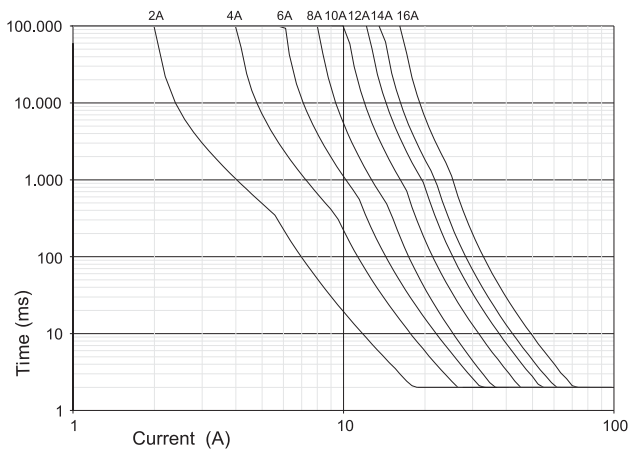
1: Characteristic fast



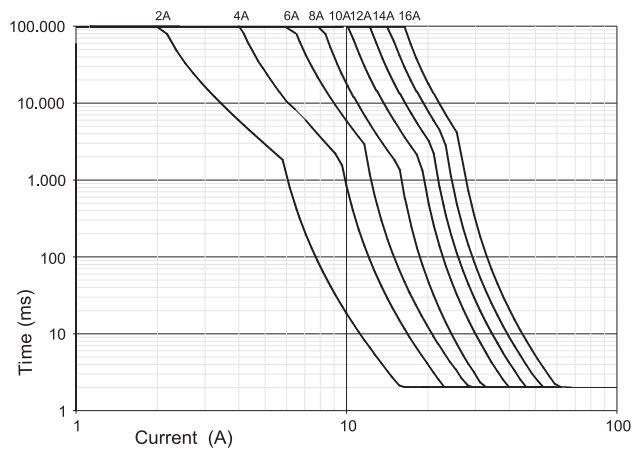
2: Characteristic medium



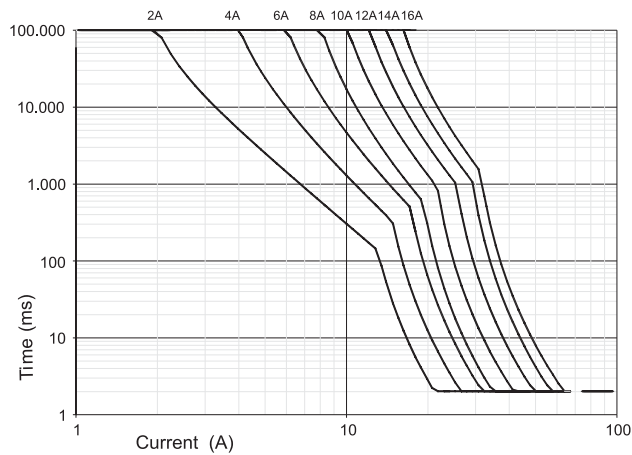
3: Characteristic slow-1



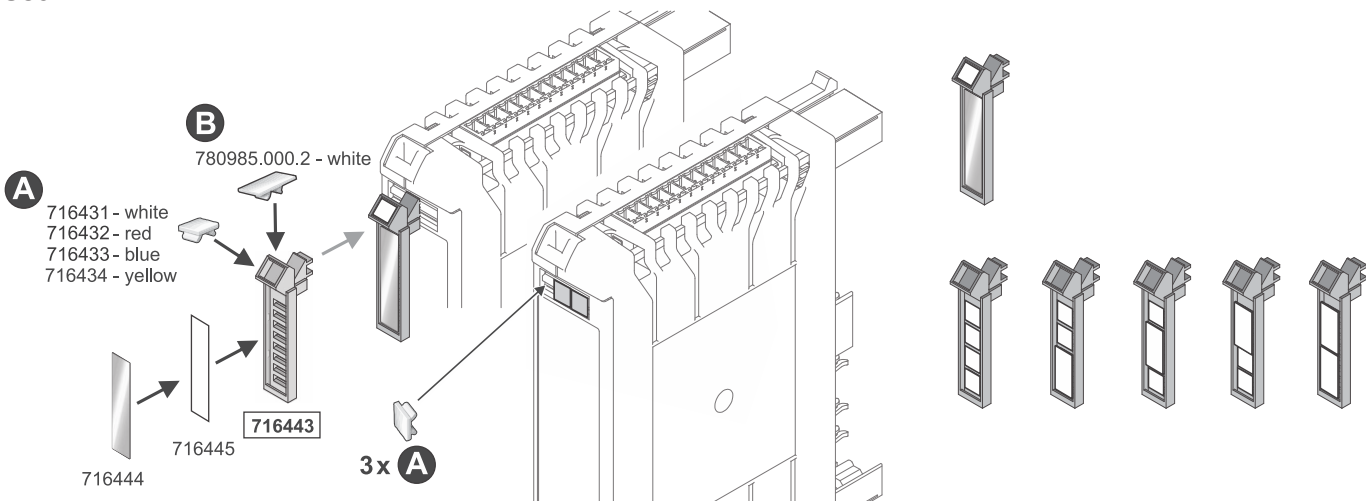
4: Characteristic slow-2



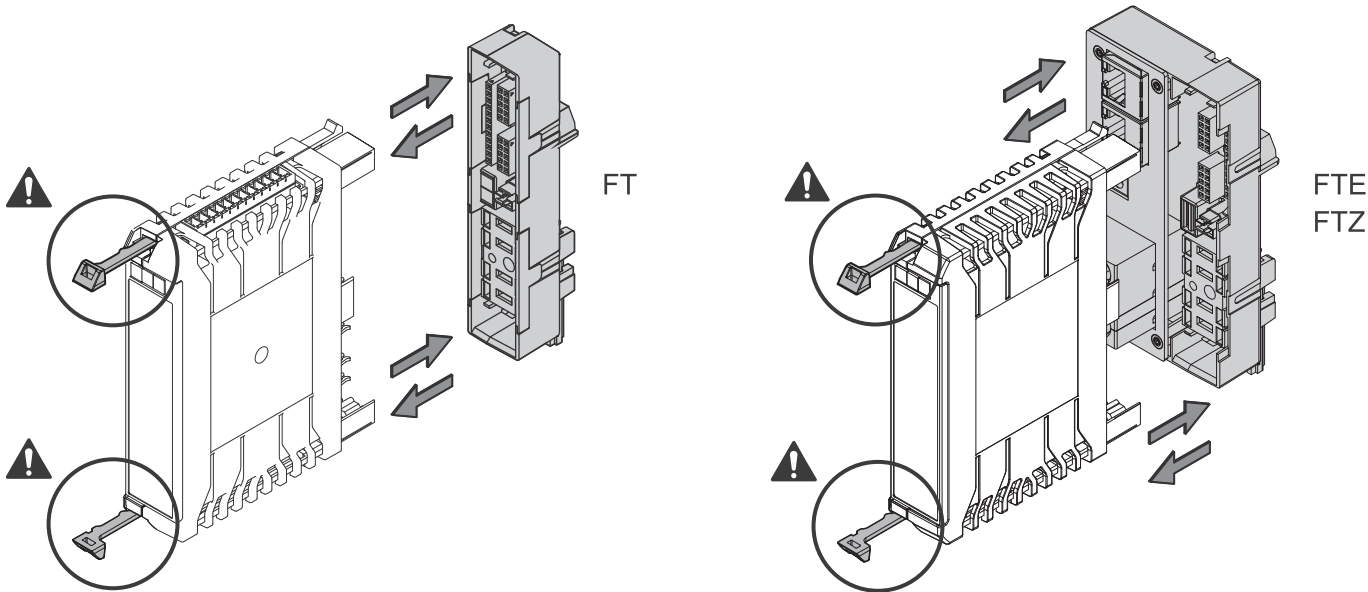
5: Characteristic slow-3



Use

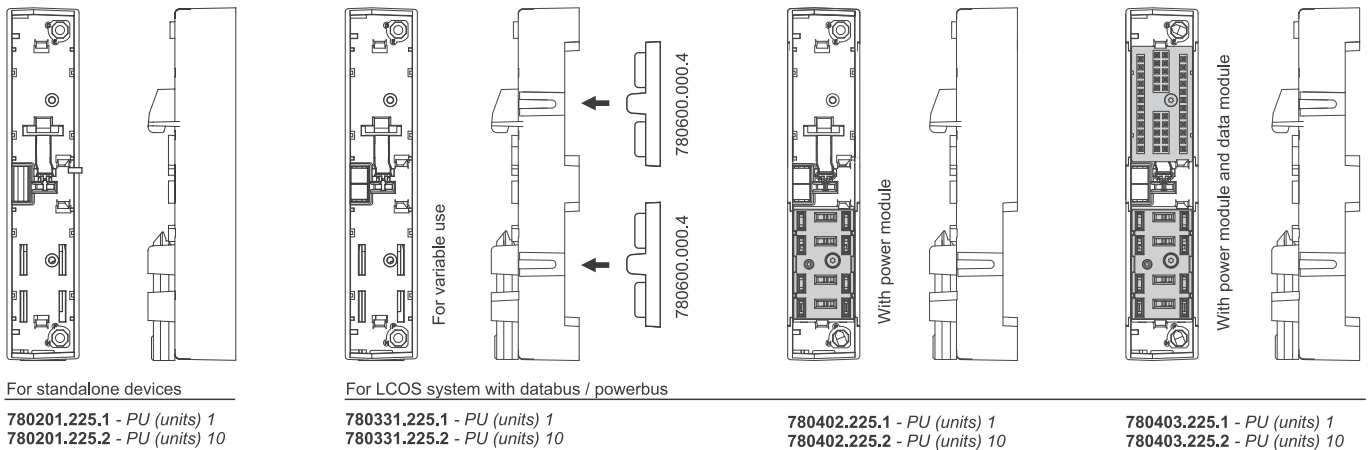


Use



Use

FT, without supply - LCOS function carriers, 22.5 mm - overview



Technical data sheet

Load monitoring · LCOS CC

Electronic load monitoring up to DC 10 A

1-channel version, two-pole switching, DC 1 A – DC 10 A, adjustable characteristic

Fault messages: single/90% message, Remote Control input



Identification

Type	LCOS-CC-1K-2P DC 24V
Part No.	779100.1211

Product version

Hardware revision	1.1
Software version	1.4
Datasheet version	06

Input

Type of function	1-channel 2 pin switching
Rated voltage U_N	DC 24 V
Operation voltage range	DC 20.4–28.8 V
Rated current I_N	DC 10 A
Supply current	DC 16 A via LCOS Powerbus
Reverse voltage protection	internal electronics

Control input (Set / Reset)

Signal level	DC 24 V acc. to EN 61131
OFF	Pulse with falling edge >100 ms, <800 ms
ON	Pulse with falling edge > 1 s
Isolation voltage	1.5 kV

Output

Switching element	MOSFET and relay (galvanic separation: 500 V)
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Technical data sheet

Load monitoring · LCOS CC

Output current	max. DC 10 A
Voltage drop	<170 mV (10 A)
Status display output	LED green: no error, LED green flashing: 90 % utilisation LED red flashing: triggered, LED red: unit off
Switch-on capacity	>10000 µF
Current range	1 A – 10 A (adjustable via switch in 1 A steps)
Characteristic	fast (1), medium (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch, see 'characteristic curves'

Signal output

Switching element	Relay, N/O contact, AC/DC 250 V, 1 A
Single channel message	Contact closed: error, Contact open: no error
90 % of the rated current I _B	Contact closed: >90 %, Contact open: <90 %

General

Dimensions (w × h × d)	22.5 mm × 144.0 mm × 102.0 mm (including function carrier, without plug-in terminals on the side)
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Mounting	plug-in on LCOS function carrier 22.5 mm (Accessories) DIN rail mounting (EN 60715)
Installation position	Any
Degree of protection	IP20 (EN 60529)
Climatic conditions	Acc. to EN 60721 Stationary use at weather protected locations
Connection type load side	X1: 8-pin multi-point plug, RM 5.08, RM 5,08, Push-In
Connection type control side	X2: 12-pin multi-point plug, RM 3.5, Push-In
Connection type	single wire 0.08 mm ² – 1.5 mm ² / AWG 28–16
Strip length	RM 3.5: 9 mm, RM 5.08: 10 mm
Weight/unit	0.2 kg
PU (units)	1

General ambient conditions

Operation temperature range	0 °C ... +55 °C
Storage temperature range	-40 °C ... +70 °C
Over voltage category	II
Degree of pollution	2
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

Certifications/Standards

Conformity	CE UKCA
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Technical data sheet

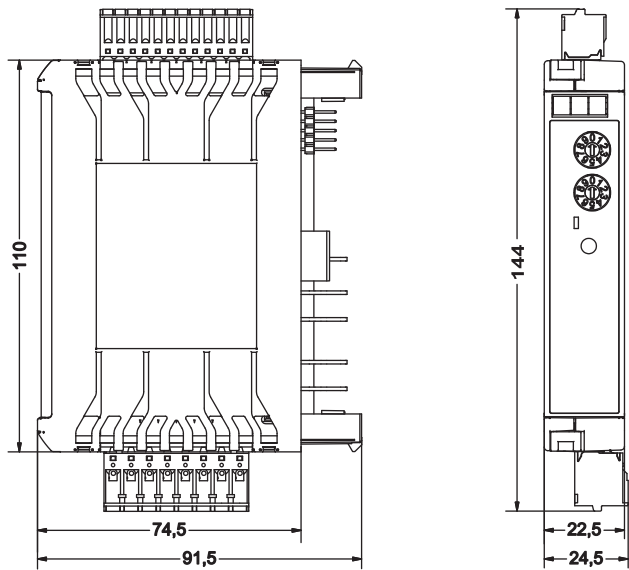
Load monitoring · LCOS CC

Certifications	cULus (E170585) DNV (TAA00002SY)
Standards	EN 61000-6-2 EN 61000-6-4 UL 61010-1 UL 61010-2-201 DNV-CG-0339

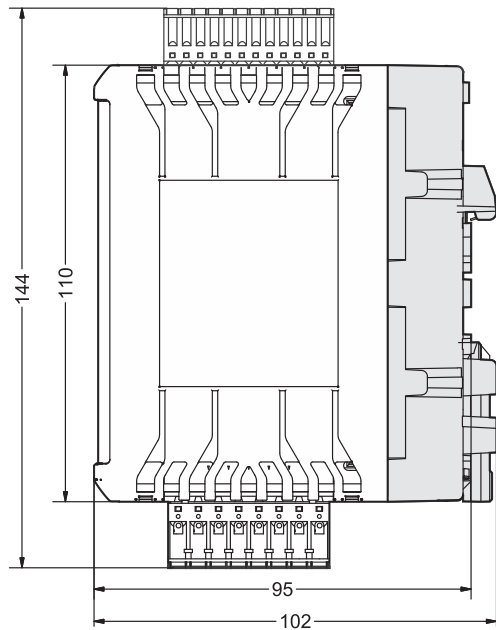
Notes and Comments

Included in the delivery	Plug-in terminals : CS 5.08 and CS 3.50
Not included in the delivery	Function carrier and other accessories

Dimensions



Dimensions



PIN assignment

X3 Powerbus

PIN/ Broches	Signal/ Signal
1	GND
2	GND
3	DC 24V
4	DC 24V

DC24V, 3.4
GND, 1.2

X3

X2

X1

C-Control

Load+, 1.2
Load-, 3.4
Load+, 5.6
Load-, 7.8

12 R/S-
11 NC
10 R/S+
9 GND
8 DC24V
7 NC
6 Status- 90%
4 Status+ 90%
3 Status-
1.2 Status+

X1

PIN/ PIN / Broches	Signal/ Signal
1	Load +
2	Load +
3	Load -
4	Load -
5	Load +
6	Load +
7	Load -
8	Load -

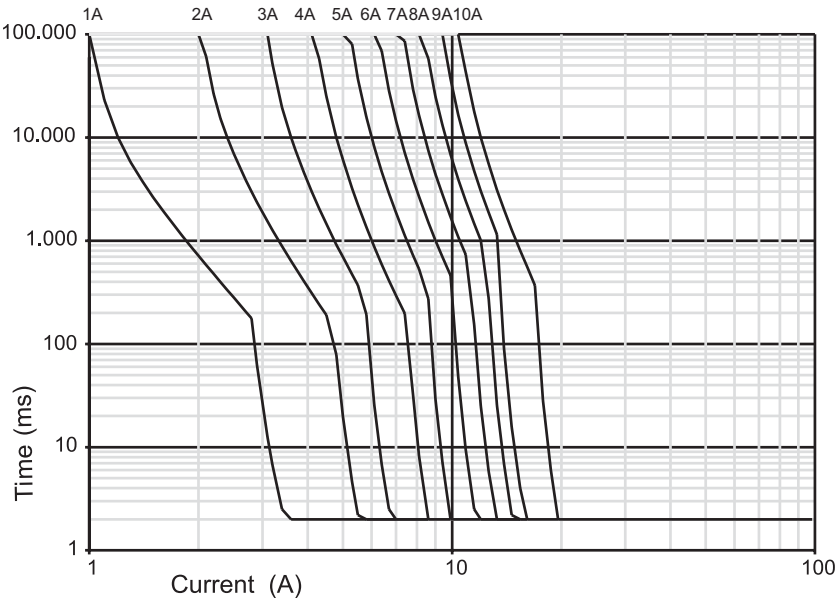
X2

PIN/ Broches	Signal/ Signal
1 & 2	Status + / État +
3	Status - / État -
4 & 5	Status + 90% / État + 90%
6	Status - 90% / État - 90%
7	NC
8	DC 24 V I _{max} = 100 mA
9	GND
10	Remote R/S + / R/S à distance +
11	NC
12	Remote R/S - / R/S à distance -

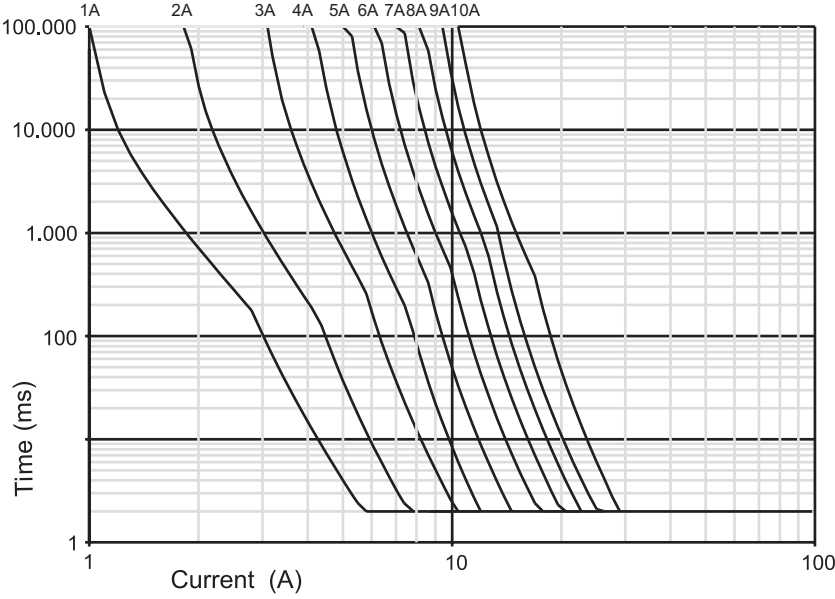
Output

Input

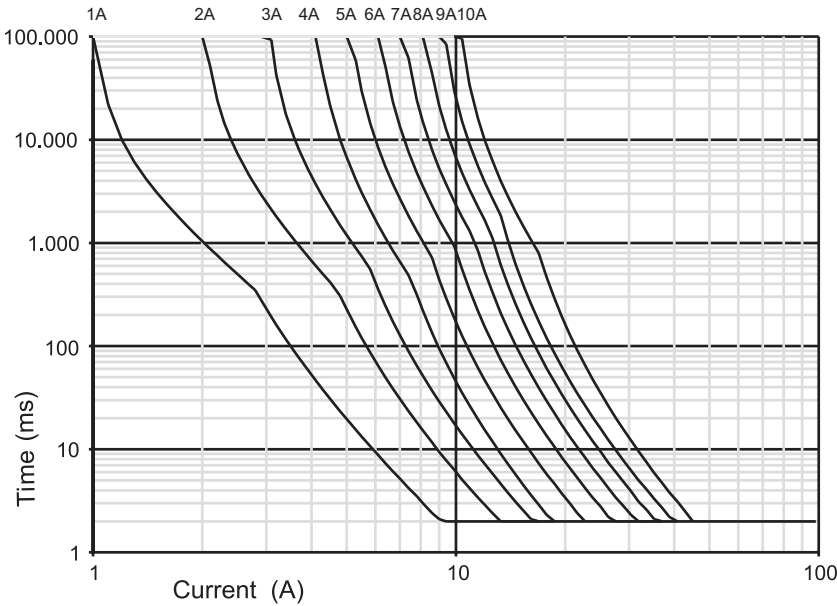
1: Characteristic fast



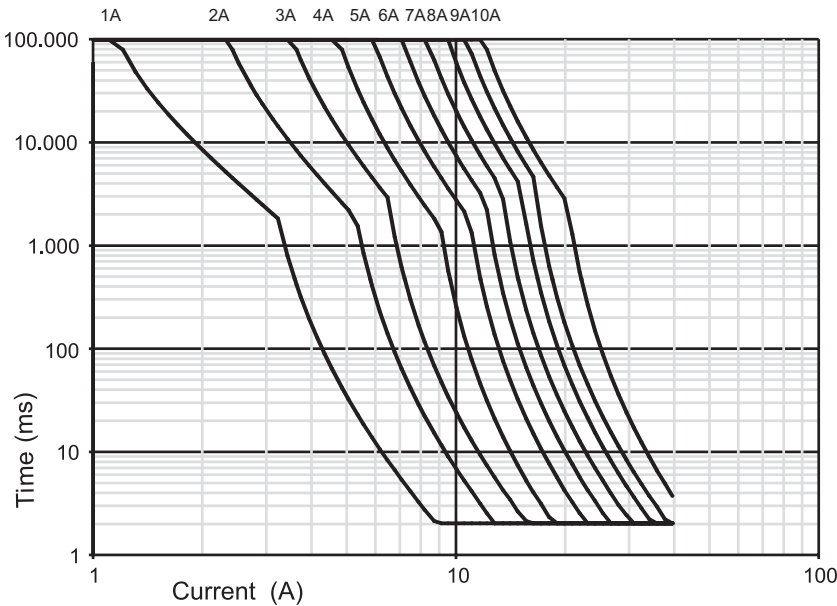
2: Characteristic medium



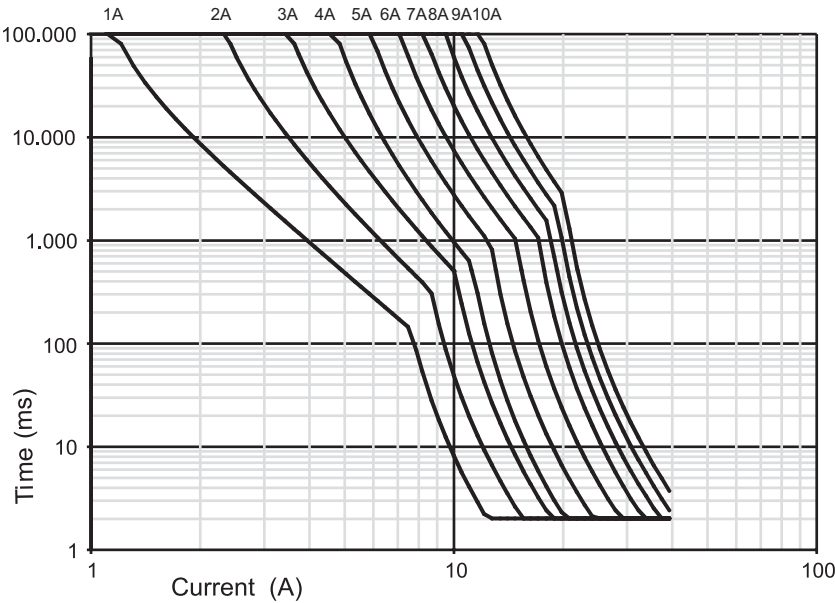
3: Characteristic slow-1



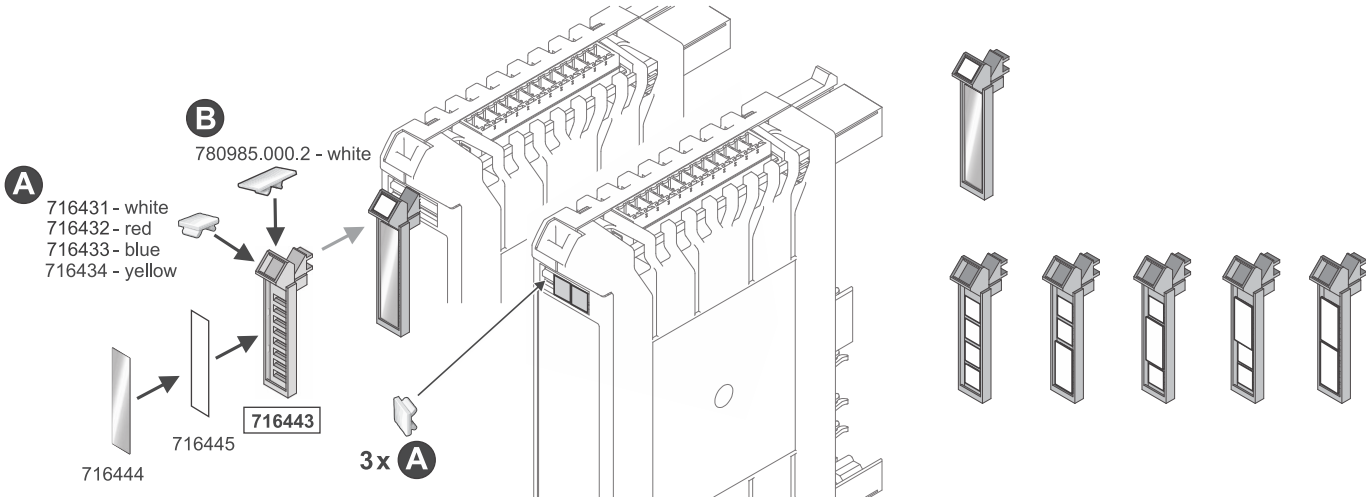
4: Characteristic slow-2



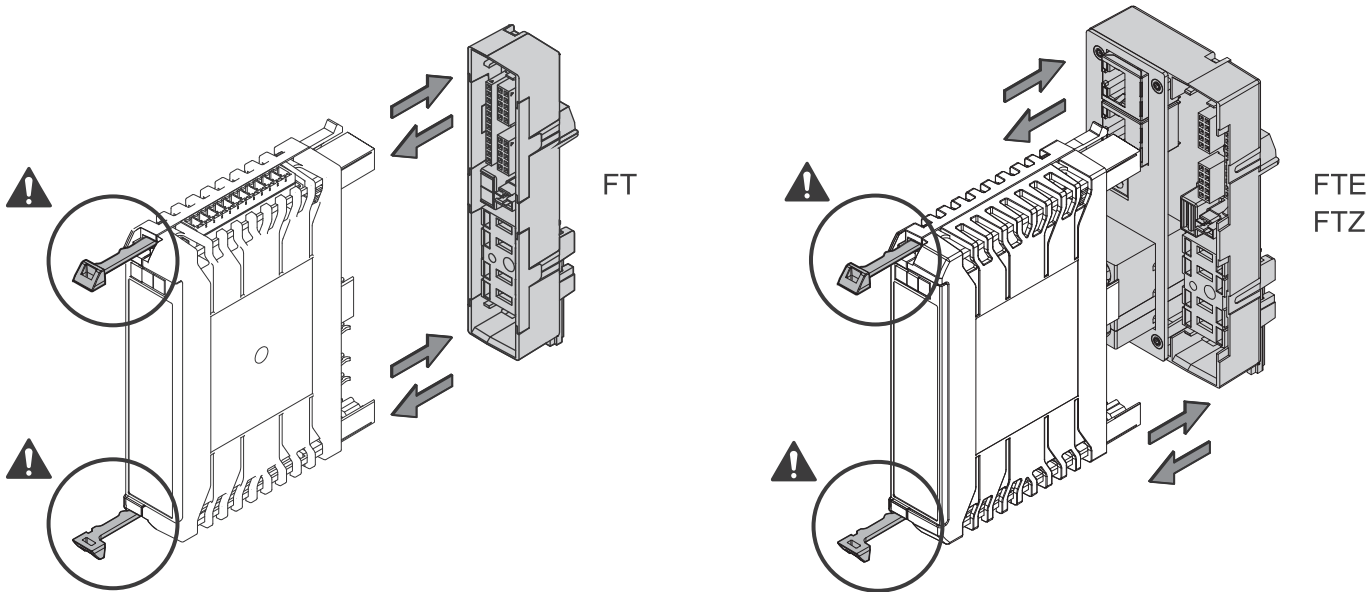
5: Characteristic slow-3



Use



Use



Use

FT, without supply - LCOS function carriers, 22.5 mm - overview

For standalone devices

780201.225.1 - PU (units) 1
780201.225.2 - PU (units) 10

For variable use

780331.225.1 - PU (units) 1
780331.225.2 - PU (units) 10

With power module

780402.225.1 - PU (units) 1
780402.225.2 - PU (units) 10

With power module and data module

780403.225.1 - PU (units) 1
780403.225.2 - PU (units) 10

Technical data sheet

Load monitoring · LCOS CC

Electronic load monitoring up to DC 10 A

2-channel version, single pole switching, DC 1 A – DC 10 A, adjustable characteristic

Fault messages: single/collective/90% message, Remote Control input



Identification

Type	LCOS-CC-2K-1P DC 24V
Part No.	779100.2111

Product version

Hardware revision	1.1
Software version	1.4
Datasheet version	05

Input

Type of function	2-channel 1 pin switching
Rated voltage U_N	DC 24 V
Operation voltage range	DC 20.4–28.8 V
Rated current I_N	DC 10 A
Supply current	DC 16 A via LCOS Powerbus
Reverse voltage protection	internal electronics

Control input (Set / Reset)

Signal level	DC 24 V acc. to EN 61131
OFF	Pulse with falling edge >100 ms, <800 ms
ON	Pulse with falling edge > 1 s
Isolation voltage	1.5 kV

Output

Switching element	MOSFET
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Technical data sheet

Load monitoring · LCOS CC

Output current	max. DC 10 A
Voltage drop	<170 mV (10 A)
Status display output	LED green: no error, LED green flashing: 90 % utilisation LED red flashing: triggered, LED red: unit off
Switch-on capacity	>10000 µF
Current range	1 A – 10 A (adjustable via switch in 1 A steps)
Characteristic	fast (1), medium (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch, see 'characteristic curves'

Signal output

Switching element	Transistor, open collector with pull-up resistor
Single channel message	Acc. to IEC 61131-2: High level: no errors, low level: there are errors
90 % of the rated current I_B	Acc. to IEC 61131-2: High level <90 %, low level >90 %
centralised fault signalling	Acc. to IEC 61131-2: High level: no errors, low level: there are errors

General

Dimensions (w × h × d)	22.5 mm × 144.0 mm × 102.0 mm (including function carrier, without plug-in terminals on the side)
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Mounting	plug-in on LCOS function carrier 22.5 mm (Accessories) DIN rail mounting (EN 60715)
Installation position	Any
Degree of protection	IP20 (EN 60529)
Climatic conditions	Acc. to EN 60721 Stationary use at weather protected locations
Connection type load side	X1: 8-pin multi-point plug, RM 5.08, RM 5,08, Push-In
Connection type control side	X2: 12-pin multi-point plug, RM 3.5, Push-In
Connection type	single wire 0.08 mm ² – 1.5 mm ² / AWG 28–16
Strip length	RM 3.5: 9 mm, RM 5.08: 10 mm
Weight/unit	0.2 kg
PU (units)	1

General ambient conditions

Operation temperature range	0 °C ... +55 °C
Storage temperature range	-40 °C ... +70 °C
Over voltage category	II
Degree of pollution	2
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

Load monitoring · LCOS CC

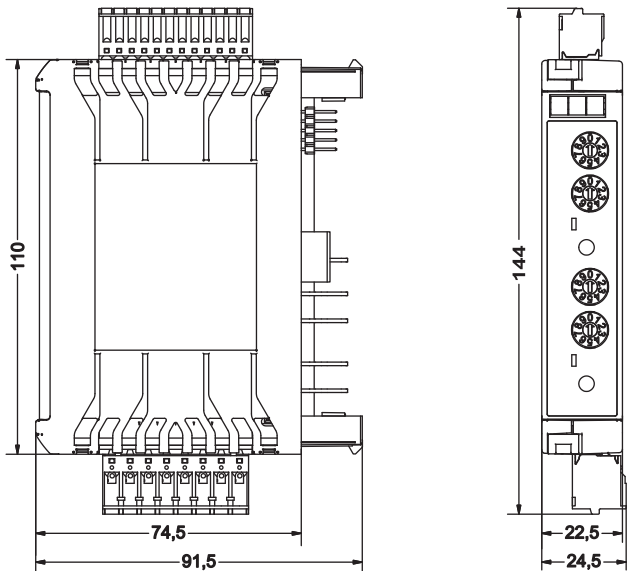
Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E170585) DNV (TAA00002SY)
Standards	EN 61000-6-2 EN 61000-6-4 UL 61010-1 UL 61010-2-201 DNV-CG-0339

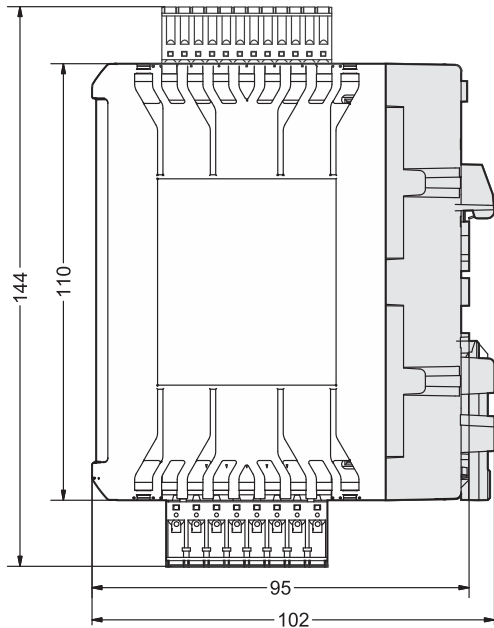
Notes and Comments

Included in the delivery	Plug-in terminals : CS 5.08 and CS 3.50
Not included in the delivery	Function carrier and other accessories

Dimensions



Dimensions



PIN assignment

X3 Powerbus

PIN/	Signal
PIN/ PIN	Signal
1	GND
2	GND
3	DC 24V
4	DC 24V

DC24V 3.4
GND 1.2

Load+ CH2 1.2
Load- CH2 3.4
Load+ CH1 5.6
Load- CH1 7.8

X1 C-Control

X2

PIN/	Signal/
Broches	Signal
1	Status CH1 / État CH1
2	Status CH2 / État CH2
3	GND
4	Status CH1 90% / État CH1 90%
5	Status CH2 90% / État CH2 90%
6	Status Out 1+2 / État Out 1+2
7	Status Out 1+2 / État Out 1+2
8	DC 24 V I _{max} = 100 mA
9	GND
10	Remote R/S+ CH1/ R/S à distance + CH1
11	Remote R/S+ CH2/ R/S à distance + CH2
12	Remote R/S- CH1/CH2 / R/S à distance - CH1/CH2

Output

Input

X1

PIN/	Signal/
Broches	Signal
1	Load + CH2
2	Load + CH2
3	Load - CH2
4	Load - CH2
5	Load + CH1
6	Load + CH1
7	Load - CH1
8	Load - CH1

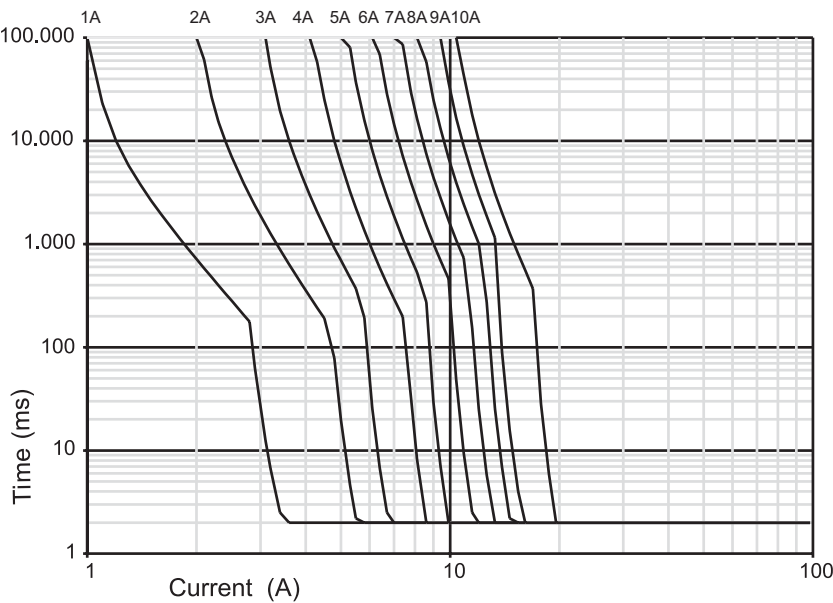
X3

DC24V 3.4
GND 1.2

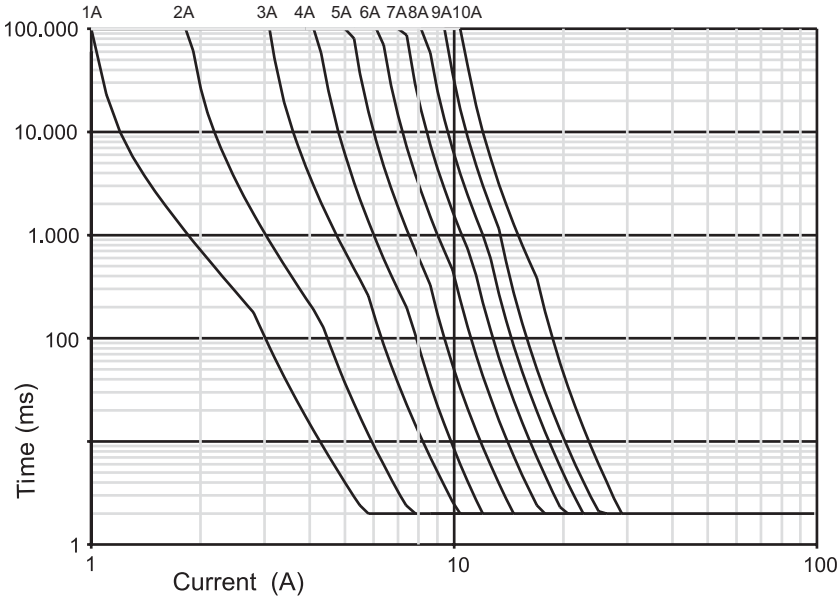
Load+ CH2 1.2
Load- CH2 3.4
Load+ CH1 5.6
Load- CH1 7.8

X1 C-Control

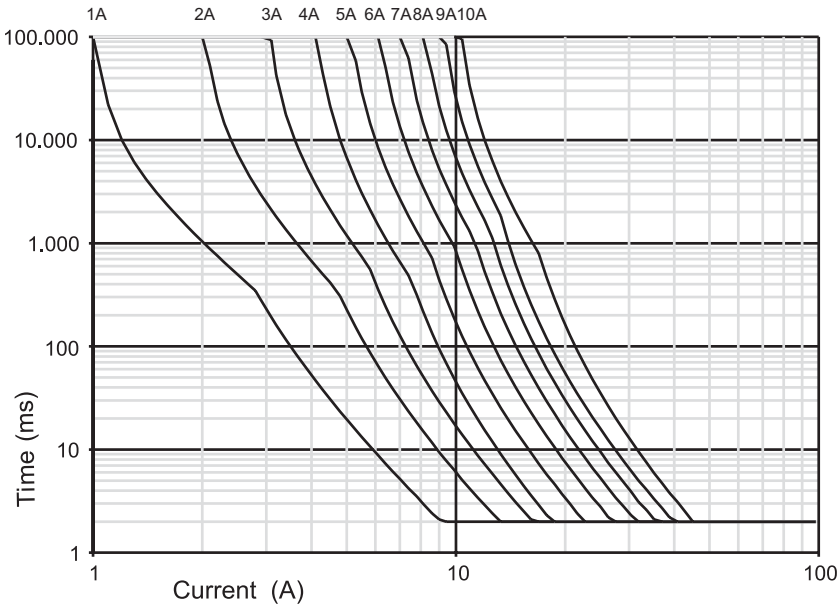
1: Characteristic fast



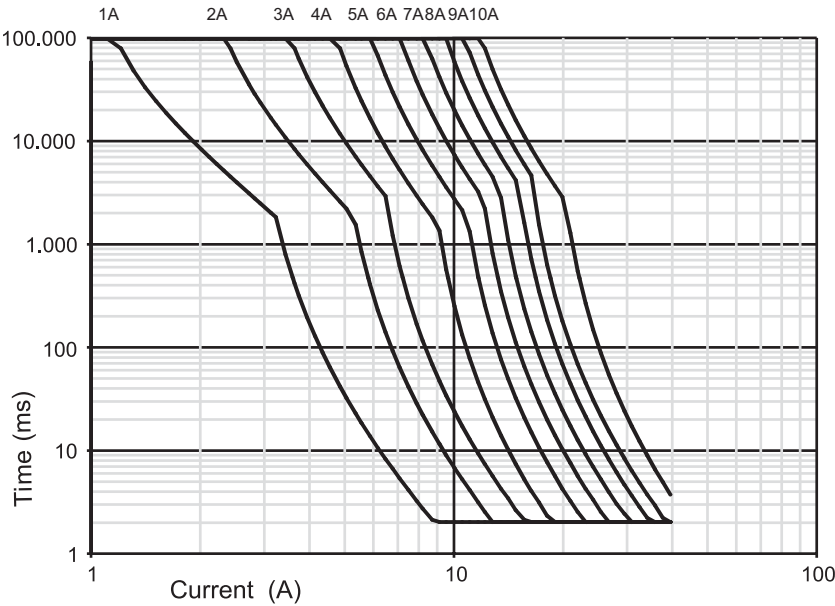
2: Characteristic medium



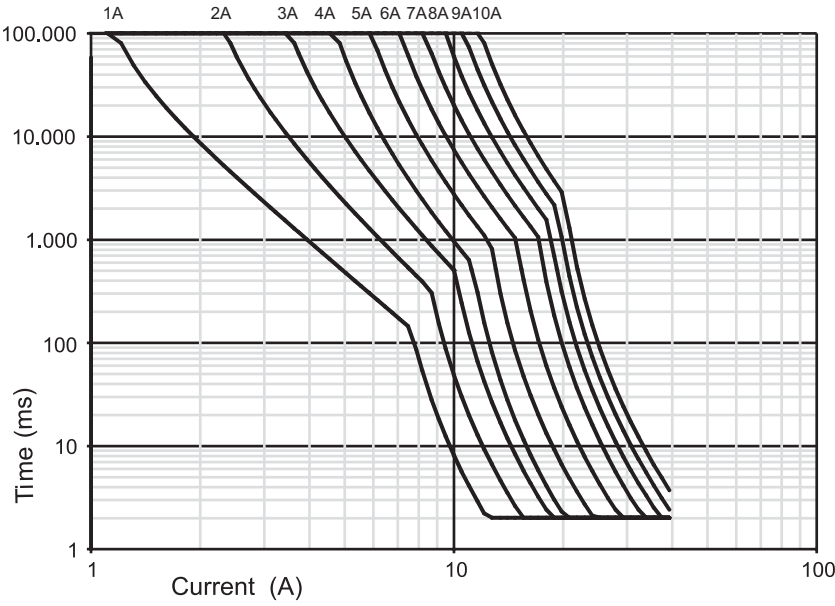
3: Characteristic slow-1



4: Characteristic slow-2



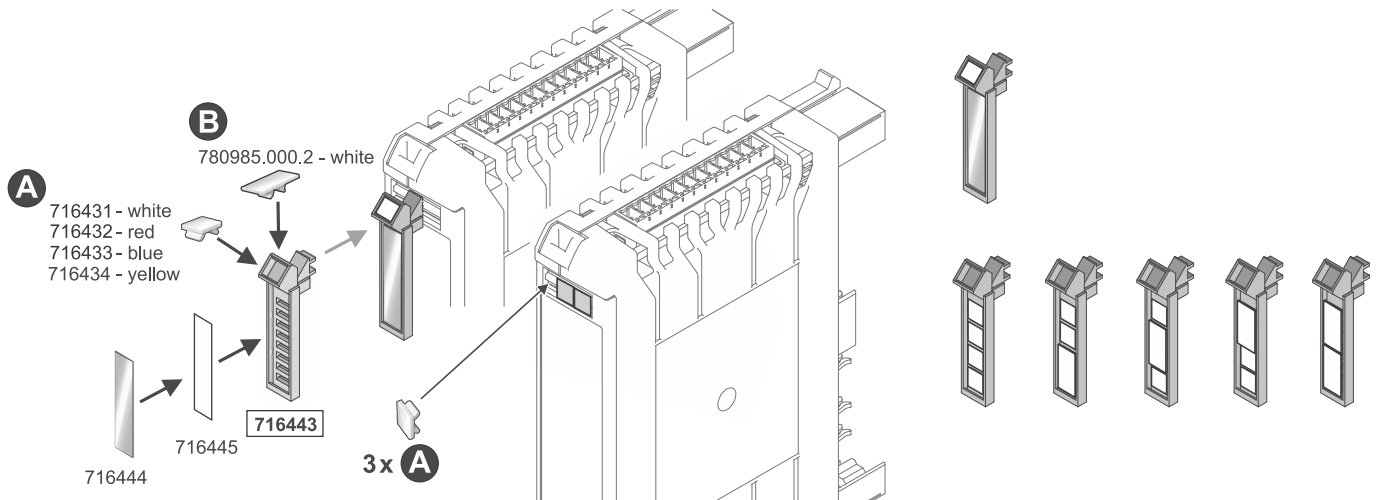
5: Characteristic slow-3



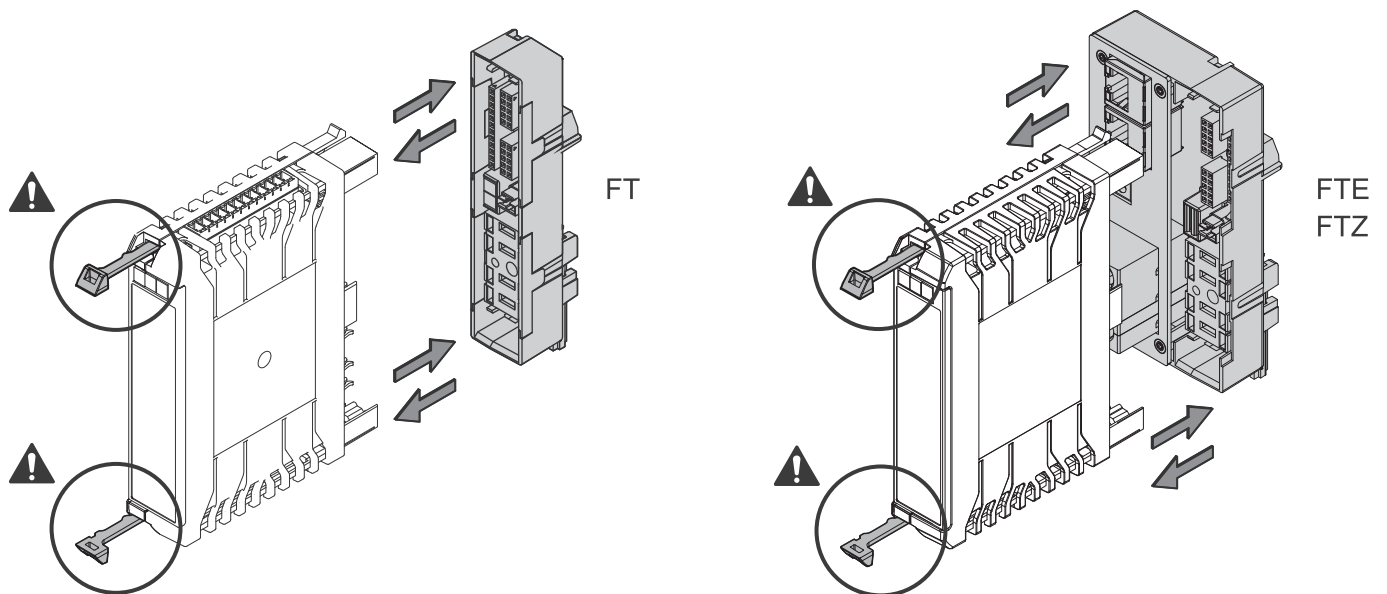
Technical data sheet

Load monitoring · LCOS CC

Use

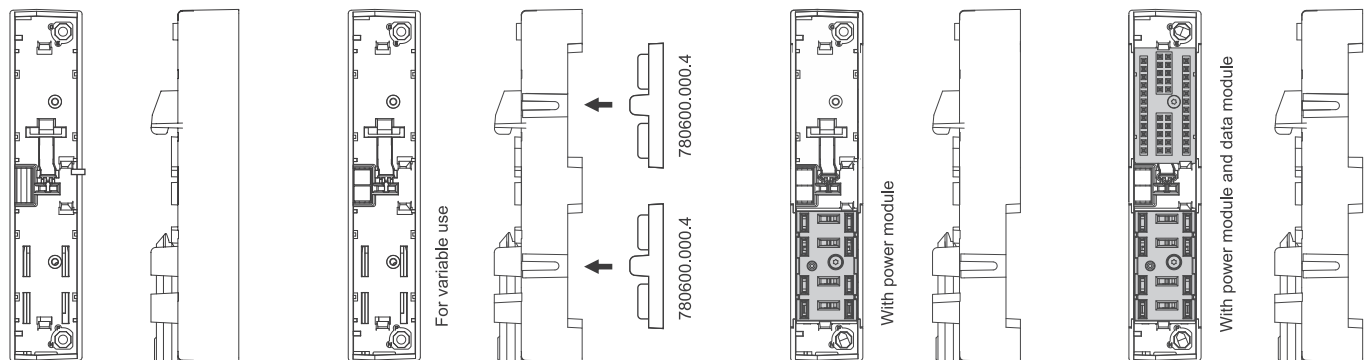


Use



Use

FT, without supply - LCOS function carriers, 22.5 mm - overview



For standalone devices
780201.225.1 - PU (units) 1
780201.225.2 - PU (units) 10

For LCOS system with databus / powerbus
780331.225.1 - PU (units) 1
780331.225.2 - PU (units) 10

780402.225.1 - PU (units) 1
780402.225.2 - PU (units) 10

780403.225.1 - PU (units) 1
780403.225.2 - PU (units) 10

Technical data sheet

Load monitoring · LCOS CC

Electronic load monitoring up to DC 16 A

1-channel version, single pole switching, DC 2 A – DC 16 A, adjustable characteristic

Collective fault message: single/90% message, Remote Control input



Identification

Type	LCOS-CC-1K-1P16-DC24V
Part No.	779101.1121

Product version

Hardware revision	1.0
Software version	1.4
Datasheet version	00

Input

Type of function	1-channel 1 pin switching
Technology	Powerbus and terminal strip
Rated voltage U_N	DC 24 V
Operation voltage range	DC 20.4–28.8 V
Supply current	DC 16 A via LCOS Powerbus
Reverse voltage protection	internal electronics

Control input (Set / Reset)

Signal level	DC 24 V acc. to EN 61131
OFF	Pulse with falling edge >100 ms, <800 ms
ON	Pulse with falling edge > 1 s
Isolation voltage	AC 1.5 kV, 1 min.

Output

Switching element	MOSFET
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Technical data sheet

Load monitoring · LCOS CC

Output current	max. DC 16 A
Voltage drop	<275 mV (16A)
Status display output	LED green: no error, LED green flashing: 90 % utilisation LED red flashing: triggered, LED red: unit off
Switch-on capacity	>10000 µF
Current range	2 A – 16 A (can be set via switch in 2 A steps)
Characteristic	fast (1), medium (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch

General

Dimensions (w × h × d)	22.5 mm × 144.0 mm × 102.0 mm (including function carrier, without plug-in terminals on the side)
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	RAL 7012 basalt grey
Mounting	plug-in on LCOS function carrier 22.5 mm (Accessories) DIN rail mounting (EN 60715)
Installation position	Vertical
MTBF	690000 h @ 40 °C, 100 operations button, 30 revolutions coding switch
Degree of protection	IP20 (EN 60529)
Connection type load side	X1: 8-pin multi-point plug, RM 5.08
Connection type control side	X2: 12-pin multi-point plug, RM 3.5
Weight/unit	0.2 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C ... +55 °C
Storage temperature range	-40 °C ... +70 °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

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E170585) DNV (TAA00002SY)
Standards	EN 61000-6-2 EN 61000-6-4 UL 61010-1 UL 61010-2-201 DNV-CG-0339

Notes and Comments

Included in the delivery	Plug-in terminals : CS 5.08 and CS 3.50
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Load monitoring · LCOS CC

Function carrier and other accessories

Technical drawing of the 1000 Series Power Supply showing front, side, and top views with dimensions.

Front View Dimensions:

- Height: 110
- Width: 74,5
- Base Width: 91,5

Side View Dimensions:

- Height: 144
- Depth: 22,5
- Base Depth: 24,5

Top View Dimensions:

- Width: 74,5
- Depth: 22,5

[illegible]

Diagram of the C-Control module:

The module is a vertical rectangle with pins on both sides. On the left, pins are labeled X1 (Load+, Load-, Load+, Load-) and X3 (DC24V, GND). On the right, pins are labeled X2 (R/S-, R/S+, GND, DC24V, NC, Status+ 90%, GND, NC, Status+, NC, Remote R/S+, Remote R/S-). A central component is labeled 'C-Control' with a transistor symbol.

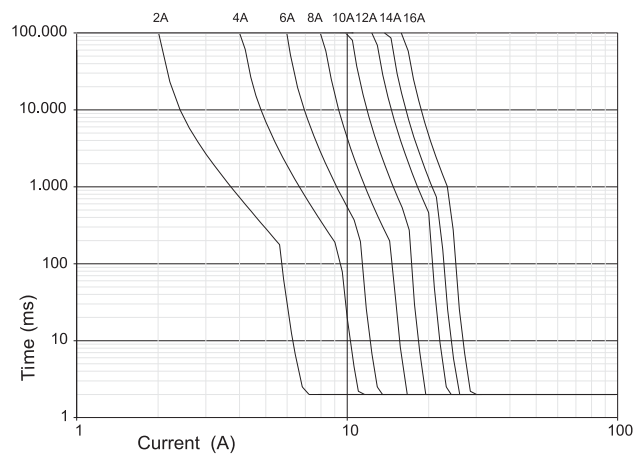
Pin Functions:

PIN/ Broches	Signal
1	Load +
2	Load +
3	Load -
4	Load -
5	Load +
6	Load +
7	Load -
8	Load -

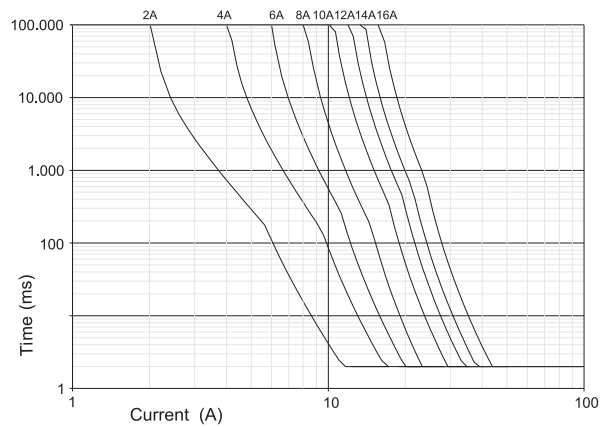
PIN/ Broches	Signal
1	Status + / État +
2	NC
3	GND
4	Status + 90% / État + 90%
5	NC
6	NC
7	NC
8	DC 24 V I _{max} = 100 mA
9	GND
10	Remote R/S+ / R/S à distance +
11	NC
12	Remote R/S- / R/S à distance -

PIN/ Broches	Signal
1	DC24V
2	GND
3	DC24V
4	DC24V

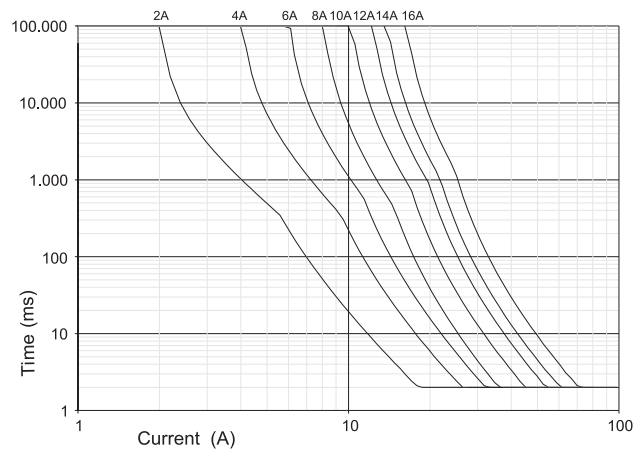
1: Characteristic fast



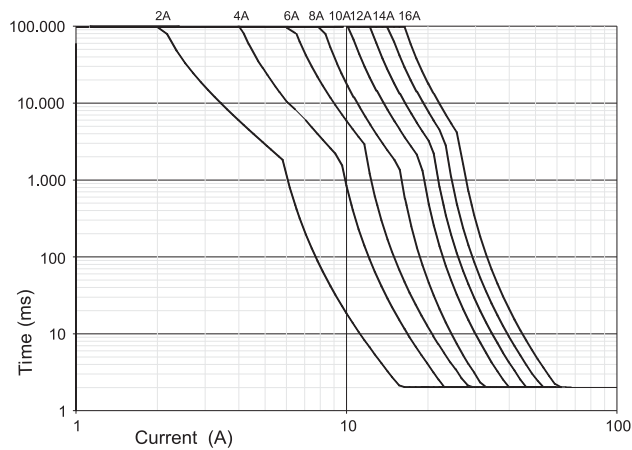
2: Characteristic medium



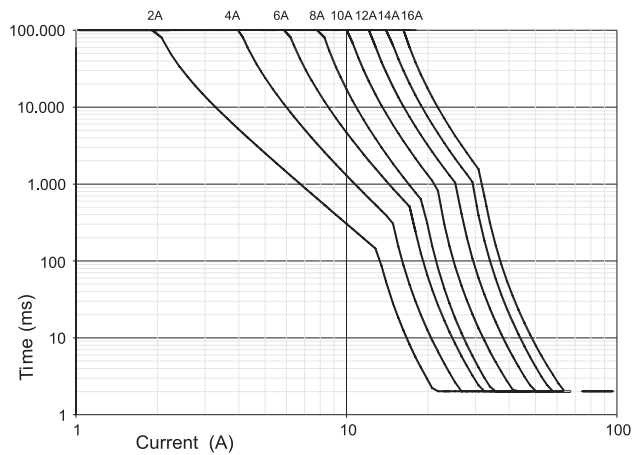
3: Characteristic slow-1



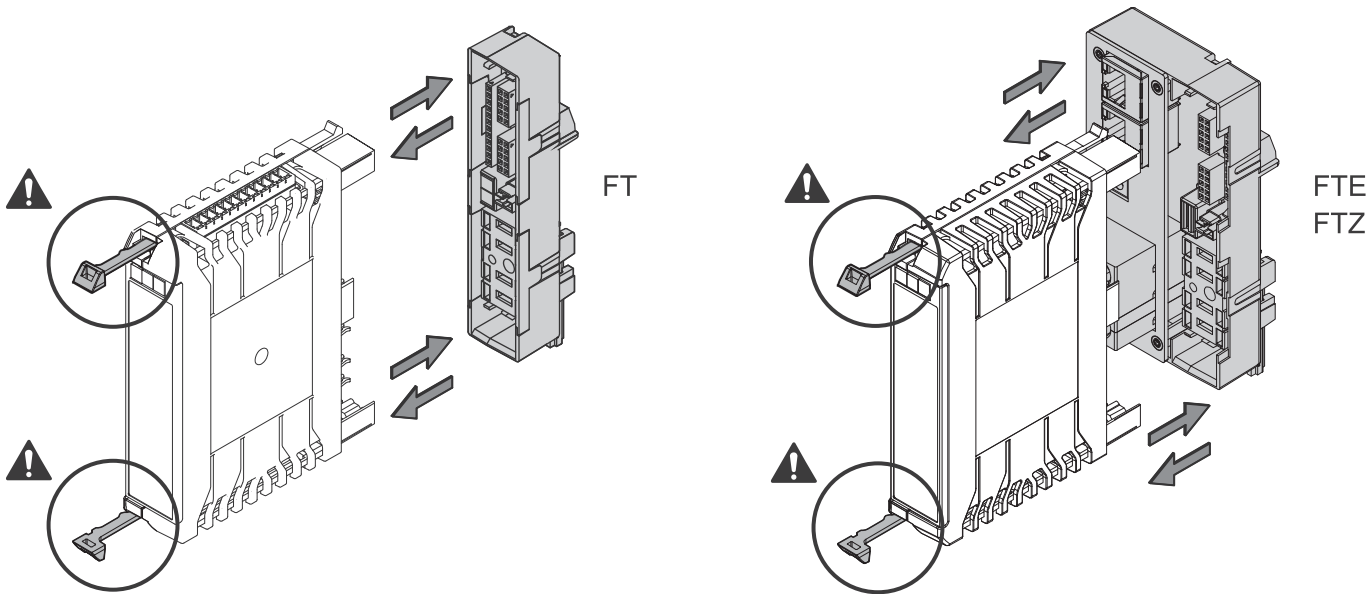
4: Characteristic slow-2



5: Characteristic slow-3



Use

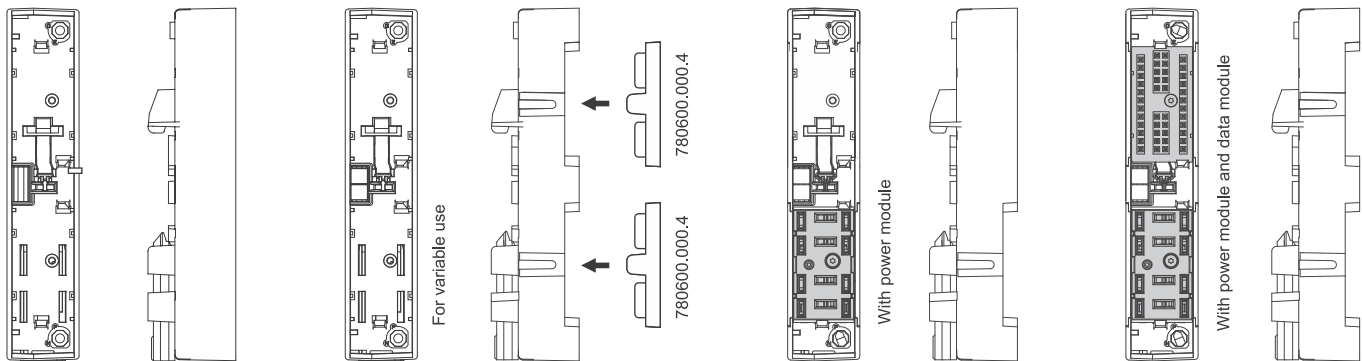


Technical data sheet

Load monitoring · LCOS CC

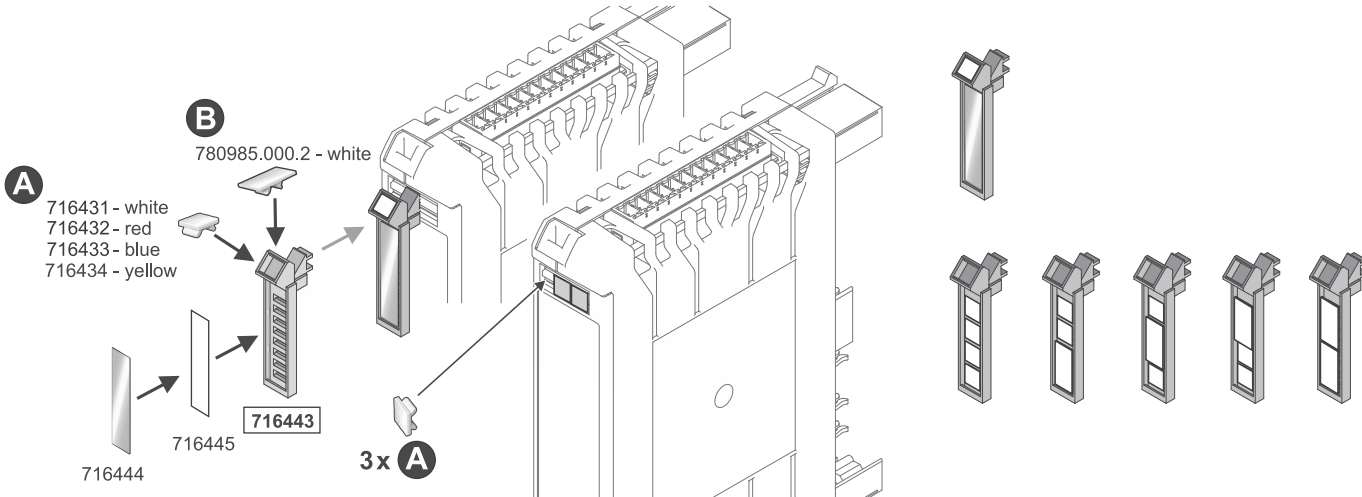
Use

FT, without supply - LCOS function carriers, 22.5 mm - overview



For standalone devices	For LCOS system with databus / powerbus		
780201.225.1 - PU (units) 1	780331.225.1 - PU (units) 1	780402.225.1 - PU (units) 1	780403.225.1 - PU (units) 1
780201.225.2 - PU (units) 10	780331.225.2 - PU (units) 10	780402.225.2 - PU (units) 10	780403.225.2 - PU (units) 10

Use



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