

Technical data sheet

Load monitoring · LOCC-Box-C2 NET

Electronic circuit breaker rated up to DC 4 A, with communication
Single channel version, adjustable current range, adjustable characteristic
with current limitation acc. to NEC class 2



Identification

Type LOCC-Box-C2 NET 7-6414
Part No. [716414](#)

Product version

Hardware revision 2.0
Software version 2.3
Datasheet version 03

Input

Type of function 1-channel 1 pin switching
Rated voltage U_N DC 12/24 V
Operation voltage range DC 11–30 V
Rated current I_N DC 5 A
Supply current DC 40 A over Cu-rails 10 × 3 mm
Reverse voltage protection Internal electronics
Connection type input Screwless contact slide

Control input (Set / Reset)

Signal level DC 12/24 V acc. to IEC 61131-2
OFF Pulse with falling edge >100 ms, <800 ms
ON Pulse with falling edge > 1 s

Output

Switching element MOSFET

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Output current	Max. DC 4 A
Power output	Limited to <100 W
Voltage drop	Max. 275 mV (4 A)
Status display output	LED green: operating voltage present, no error LED red: error in load circuit
Switch-on capacity	4700 µF
Current range	0.5 A – 4 A (can be set via switch in 0.5 A steps)
Characteristic	Fast (1), medium (2), slow 1 (3) see 'characteristic curves'
Current limitation	<5 A
Power Dissipation	1,1 W

Signal output

Signal level	DC 24 V: operating voltage on standby, no error, DC 0 V: error, output switched off and manual "OFF"
Switching element	Transistor, collector with pull-up resistance

General

Dimensions (w × h × d)	8.1 mm × 107.4 mm × 116.0 mm
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)
Color of the housing	Basalt grey
Mounting	DIN rail mountable TS35 (EN 60715)
Installation position	Any
MTBF	690000 h
Degree of protection	IP20 (only as complete system with supply terminal and end block)
Connection type	Push-In 0.25 mm ² – 2.5 mm ² AWG 24 – AWG 14
Weight/unit	0.07 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C ... +50 °C
Storage temperature range	-40 °C ... +85 °C
Relative air humidity	10 – 95 % RH, brief condensation
Vibration resistance	4 g acc. to EN 60068-2-6
Shock resistance	15 g acc. EN 60068-2-27

Certifications/Standards

Conformity	CE UKCA
Certifications	cULus (E170585) URus (E490188)

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Standards	EN 61000-6-2 EN 61000-6-3 EN 61131-2 UL 61010-1 UL 61010-2-201 UL 2367 DNVGL-CG-0339 Humidity Class D – not certified Temperature Class C – not certified Vibration Class B – not certified EMC Class A – not certified
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Equipment/Spare parts

Accessories

0 V collective terminal, white: Part.-No. 716420 | LOCC-Box-SK 7-6420 | PU: 2 units
Intermediate feed-in terminal: Part.-No. 716421 | LOCC-Box-EKL 7-6421 | PU: 2 units
Distance terminal without contact: Part.-No. 716422 | LOCC-Box-DKL 7-6422 | PU: 2 units
Empty housing without terminals: Part.-No. 716424 | LOCC-Box-DY 7-6424 | PU: 2 units
Supply set 10 mm²: Part.-No. 716425 | LOCC-Box-ES 7-6425 | PU: 1 unit
Supply set 16 mm²: Part.-No. 716447 | LOCC-Box-ES16 7-6447 | PU: 1 unit
Jumper comb 8-pin, white: Part.-No. 716428 | LOCC-Box-BKW 7-6428 | PU: 5 units
Jumper comb 8-pin, red: Part.-No. 716429 | LOCC-Box-BKR 7-6429 | PU: 5 units
Jumper comb 8-pin, blue: Part.-No. 716430 | LOCC-Box-BKB 7-6430 | PU: 5 units
Jumper comb 16-pin, white: Part.-No. 716438 | LOCC-Box-BKW 7-6438 | PU: 5 units
Jumper comb 16-pin, red: Part.-No. 716439 | LOCC-Box-BKR 7-6439 | PU: 5 units
Jumper comb 16-pin, blue: Part.-No. 716440 | LOCC-Box-BKB 7-6440 | PU: 5 units
Labelling sign 5×5 mm, white: Part.-No. 716431 | LOCC-Box-BZW 7-6431 | PU: 1 unit (200 tabs)
Labelling sign 5×5 mm, red: Part.-No. 716432 | LOCC-Box-BZR 7-6432 | PU: 1 unit (200 tabs)
Labelling sign 5×5 mm, blue: Part.-No. 716433 | LOCC-Box-BZB 7-6433 | PU: 1 unit (200 tabs)
Labelling sign 5×5 mm, yellow: Part.-No. 716434 | LOCC-Box-BZG 7-6434 | PU: 1 unit (200 tabs)
Tag holder, white: Part.-No. 716443 | LOCC-Box-BZT 7-6443 | PU: 20 units
Cover for tag holder, transparent: Part.-No. 716444 | LOCC-Box-BAD 7-6444 | PU: 20 units
Material name, white: Part.-No. 716445 | LOCC-Box-LEB 7-6445 | PU: 10 units
Material name, white: Part.-No. 716446 | LOCC-Box-BZW 7-6446 | PU: 1 unit
CU rail 10×3 mm: Part.-No. 716426 | LOCC-Box-CU 7-6426 | PU: 1 unit
CU rail cover, grey: Part.-No. 716427 | LOCC-Box-AD 7-6427 | PU: 1 unit

DC 24V 7
DC 24V 6
0V 5

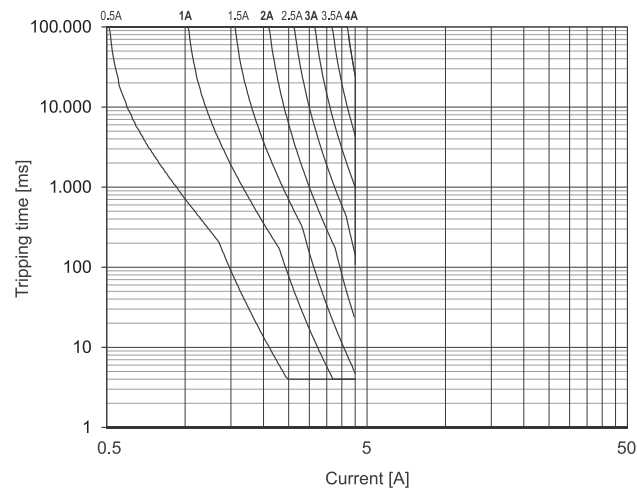
C-Control

1 Load +
2 Set / Reset
3 Status
4 Com

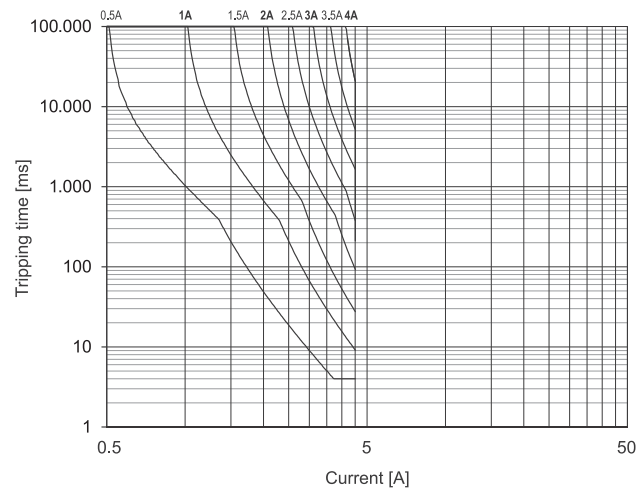
1: + Output
2: Control input (Set/Reset)
3: Status output
4: 1 Wire bus (Communication)
5: 0V
6: + Supply (alternative)
7: + Supply

The graph illustrates the tripping time characteristics for various protection settings. The y-axis represents tripping time in milliseconds, ranging from 1 to 100,000 on a logarithmic scale. The x-axis represents current in amperes, ranging from 0.5 to 50 on a logarithmic scale. The curves show that for a given current, the tripping time decreases as the protection setting increases. For example, at 10A, the tripping time for the 0.5A setting is approximately 10,000 ms, while for the 4A setting, it is approximately 1 ms.

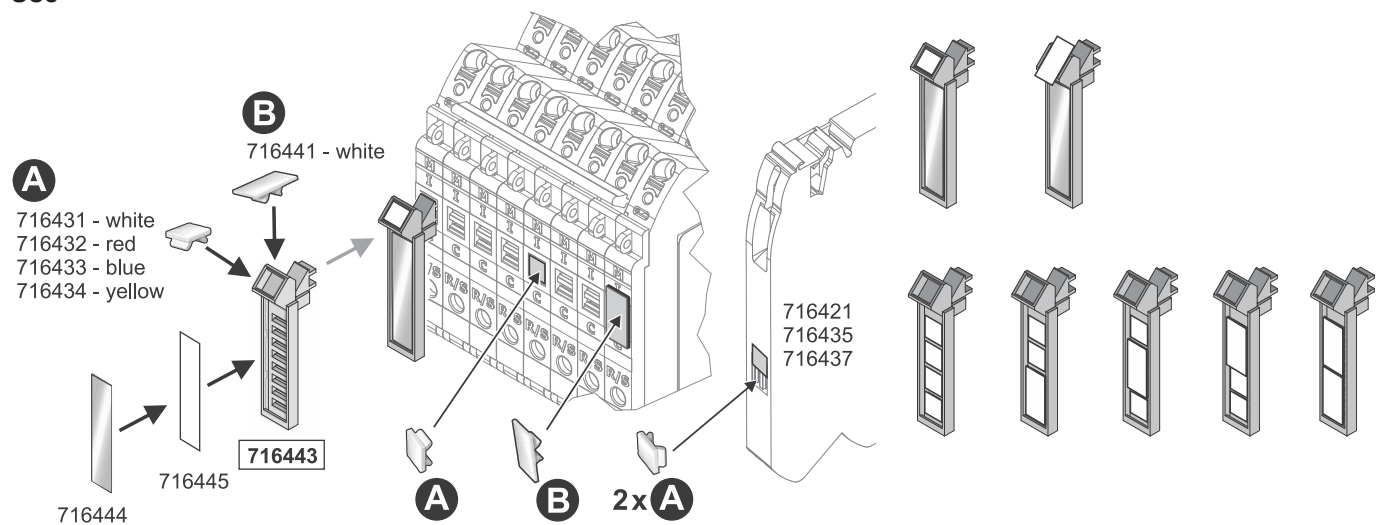
2: Characteristic medium



3: Characteristic slow-1



Use



LED status

LED Status, Button, Rotary Switch

LED green	ON	Function is OK*
LED green, flashing 1 Hz	Overload	Load above 90 % of I nominal
LED green, flashing 5 Hz	Overload	Load above 100 % of I nominal
LED red	OFF	Module switched off or acknowledged*
LED red, flashing 1 Hz	Overload	Output off due to overload/short circuit*
LED red, flashing 5 Hz	Error	Wiring error – feedback (internal error)
LED red, flashing shortly	OFF	Output off via remote set/reset
LED red/green, flashing 1 Hz	ON	Target settings via rotary switch deviate from actual settings. NOTICE: Switching off and on via pushbutton required.
Button ***	ON/OFF	Nominal operation: ON/OFF Load monitoring tripped: 1st push: acknowledge 2nd push: ON
Rotary Switch (I) – Switch Position**	Rated current, see page 4.	
Rotary Switch (C) – Switch Position**	Characteristic: 1: fast 2: middle 3: slow-1 4: slow-2 5: slow-3	

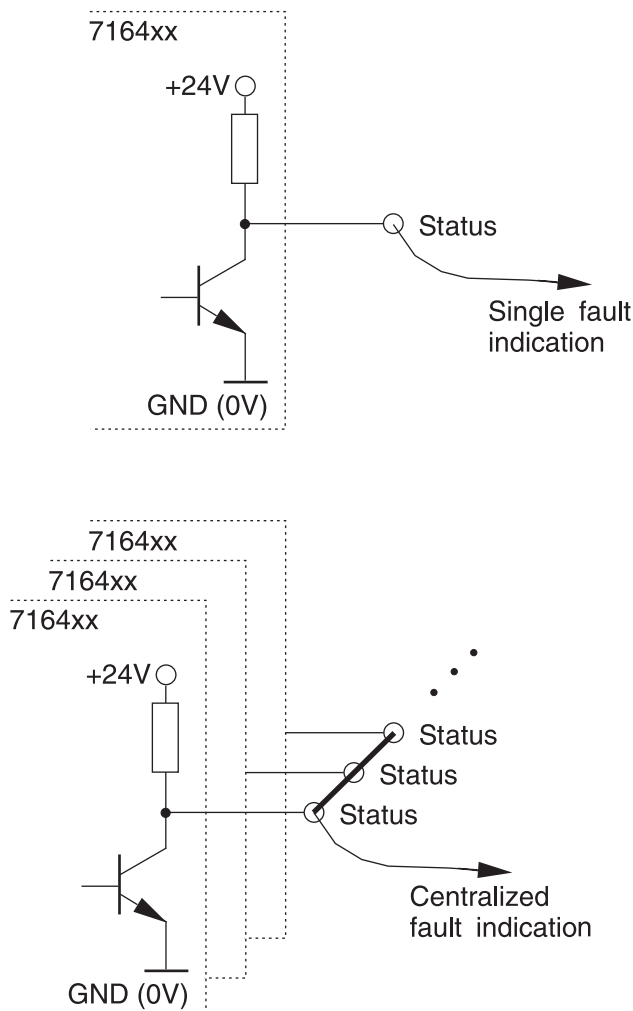
* If the operating voltage is switched off, the last status is saved (Default).

** Accept the setting - after switching on again via the button, not by Remote Set/Reset

*** Master function - switch off via push button, can only be switched on again via push button

For further information see also the operating instructions

Signal output



Mounting diagram

! HINWEIS / NOTICE / AVIS

