Automation Solutions

LÜTZE
DC Current Control
LOCC-Box
LCOS-CC

LÜTZE
SYSTEMATIC TECHNOLOGY

Intelligent current monitoring management system: LCOS-C

Flammability class
UL 94-V0

Bus coupler for all conventional systems

Adjustable characteristics

Adjustable rated current

Manual On /Off

2-channel design

2-pole disconnection

"Power ON" effect

Saving of the last status

Temperature-independent response time

Supply - also with galvanic insulation

Clear labelling

Automation Solutions

and energy
cc

*Sky*BLUE

Intermediate in-feed option

Status output operation
failure, manual switch-off, 90 % capacity

Remote On/Off

Modular expandable data bus

Modular expandable power bus

Integrated protection against alignment

UL508, GL approvals

Plug-in functional assemblies

LUTZE

Modular, flexible and safe: LOC

The intelligent LÜTZE Overload

Adjustable rated current
(1 A...10 A in 1 A Steps)

Adjustable characteristic
(fast- … slow acting)

“Power-ON”-effect
to switch on capacitive loads

Single or centralized fault indication

Non-volatile store of the last status

Spring terminals

Small device – width 8,1mm

Response time independent of temperature

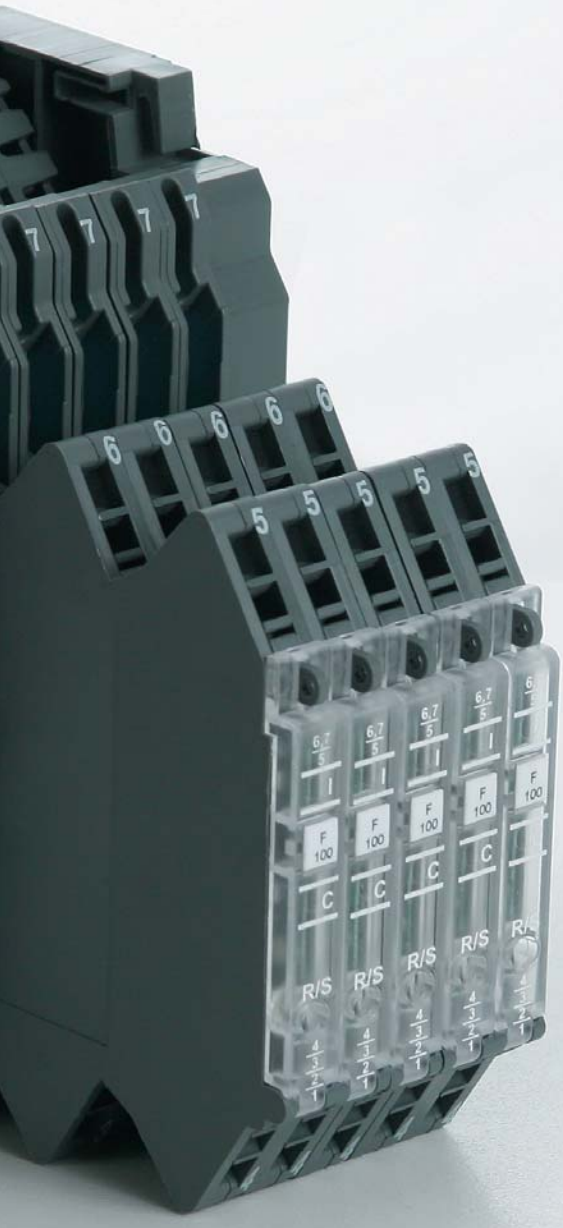
Contact slots for each potential usable for jumper combs

Solid state relay with current control switching frequency up to 1 kHz

Contact slots for each potential usable for jumper combs

Automation Solutions

C-Box / LOCC-Box-Net
Current Control System



*Sky*BLUE

Remote ON / OFF

Manual ON / OFF

Status indication “operation”, “fault”, “90 % load” and “100 % load”

Adjustments can be sealed by standard seal wire

Flammability class
UL-94-V0; NFF I2,F2

Uninterruptible supply
via copper bar and contact slide

Option: One wire bus interface (716410)

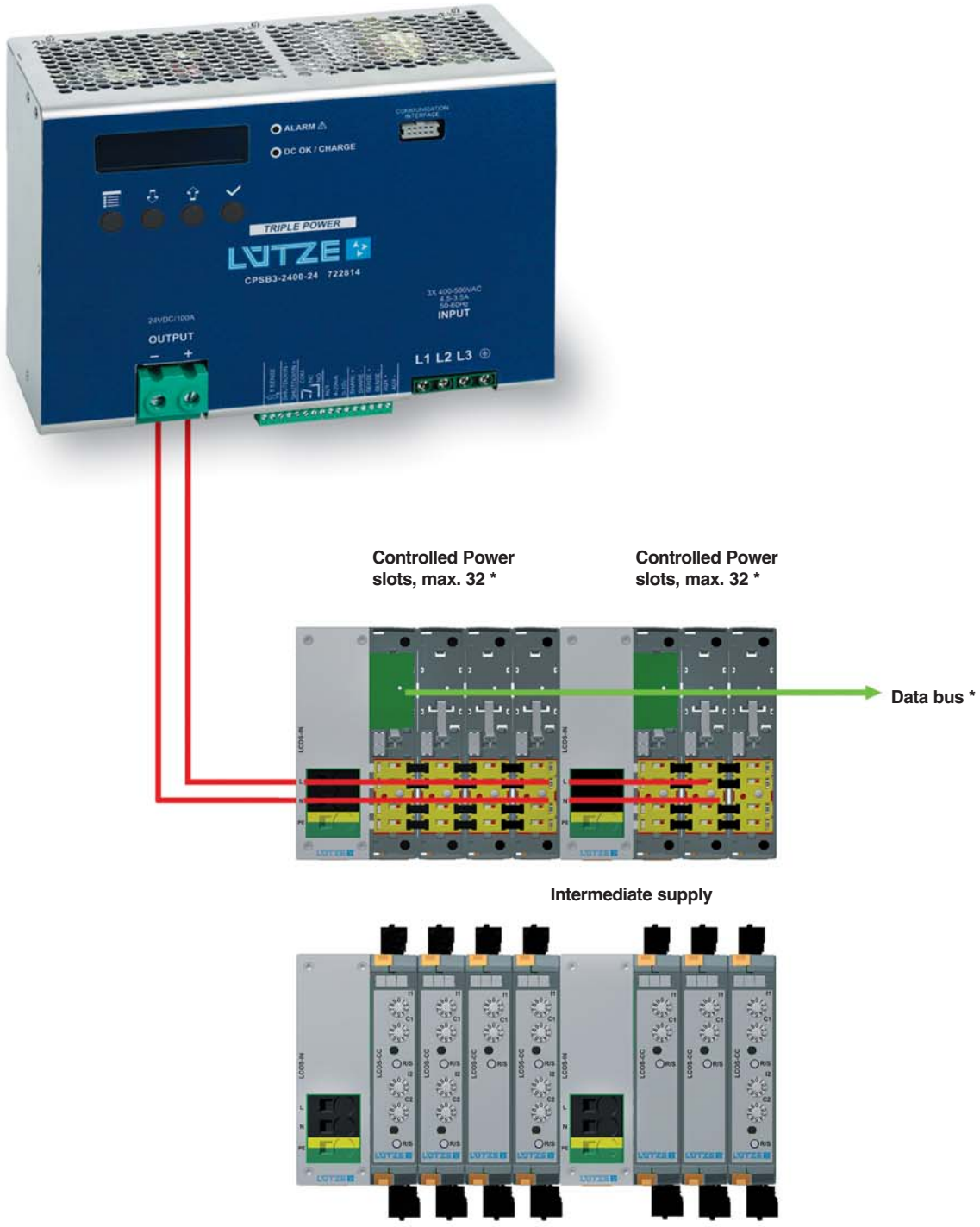
UL listed 508

The picture shows 5 x LOCC-Box incl. supply set

LCOS-CC · Application examples

e.g. Switching power supply 722814

DC 24 V, 100 A.



*Option with fieldbus – Design on request.

LOCC-Box / LOCC-Box-Net · Application examples

e.g. Switching power supply 722814
DC 24 V, 100 A.

Standard Application
with supply set, art. no. 716425

PIN no. 1 1 1 1 1 1 1 1 1 1 1 1

Load
Consumer

PIN-Nr. 5, 6

5, 6

Construction of the 0 V Collective terminal
with supply set
Art. no. 716425

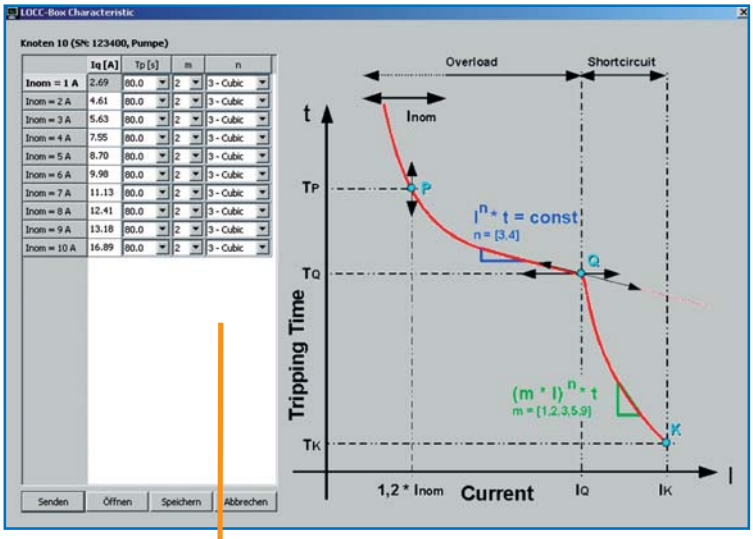
1-4

1-4

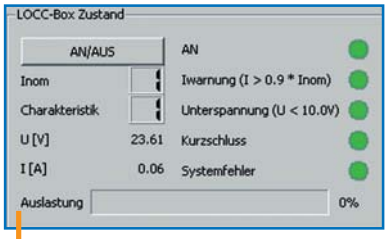
LOCC-Pads · Monitoring software

LOCC-Pads*

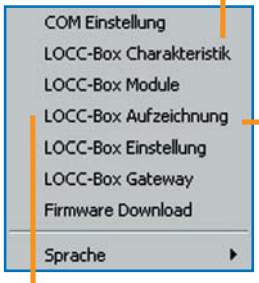
Software for the parameterisation of the LOCC-Box-Net, as well as the analysis and diagnosis of DC 12 / 24 V circuits



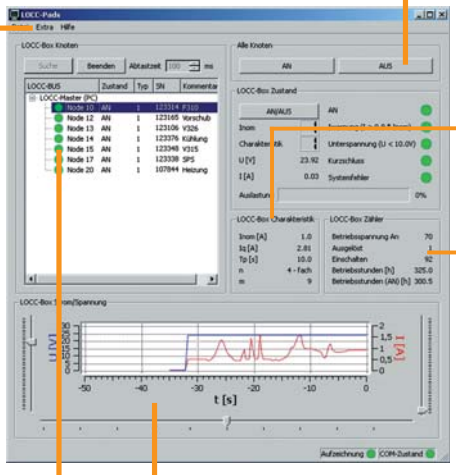
Adjustment parameters for the parameterisable characteristic No. 10



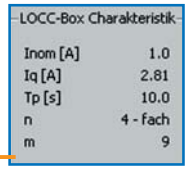
Displays the operating status, current range / characteristic, the load capacity of the characteristic, as well as the updated current and voltage values.



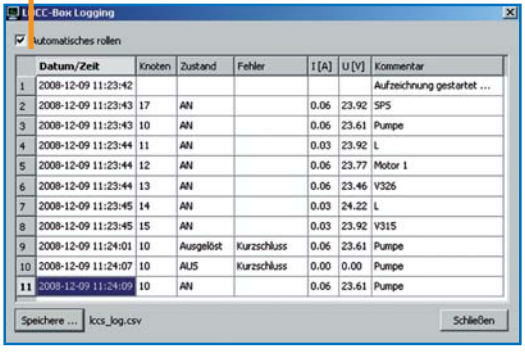
Menu "Extra"



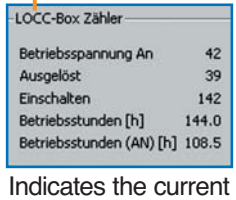
Overall view



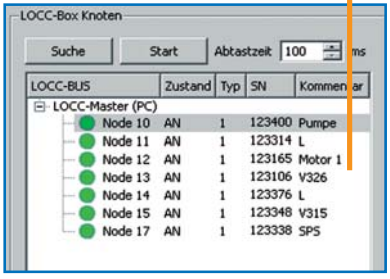
Displays the parameters of the selected characteristic curve.



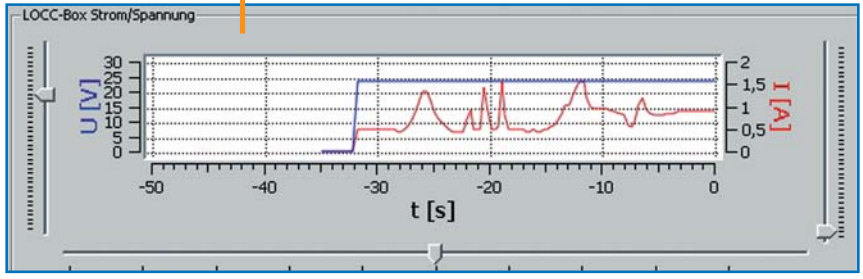
Recording of all results such as "ON", "OFF" or "SHORT CIRCUIT" with date and time



Indicates the current meter readings of the selected module



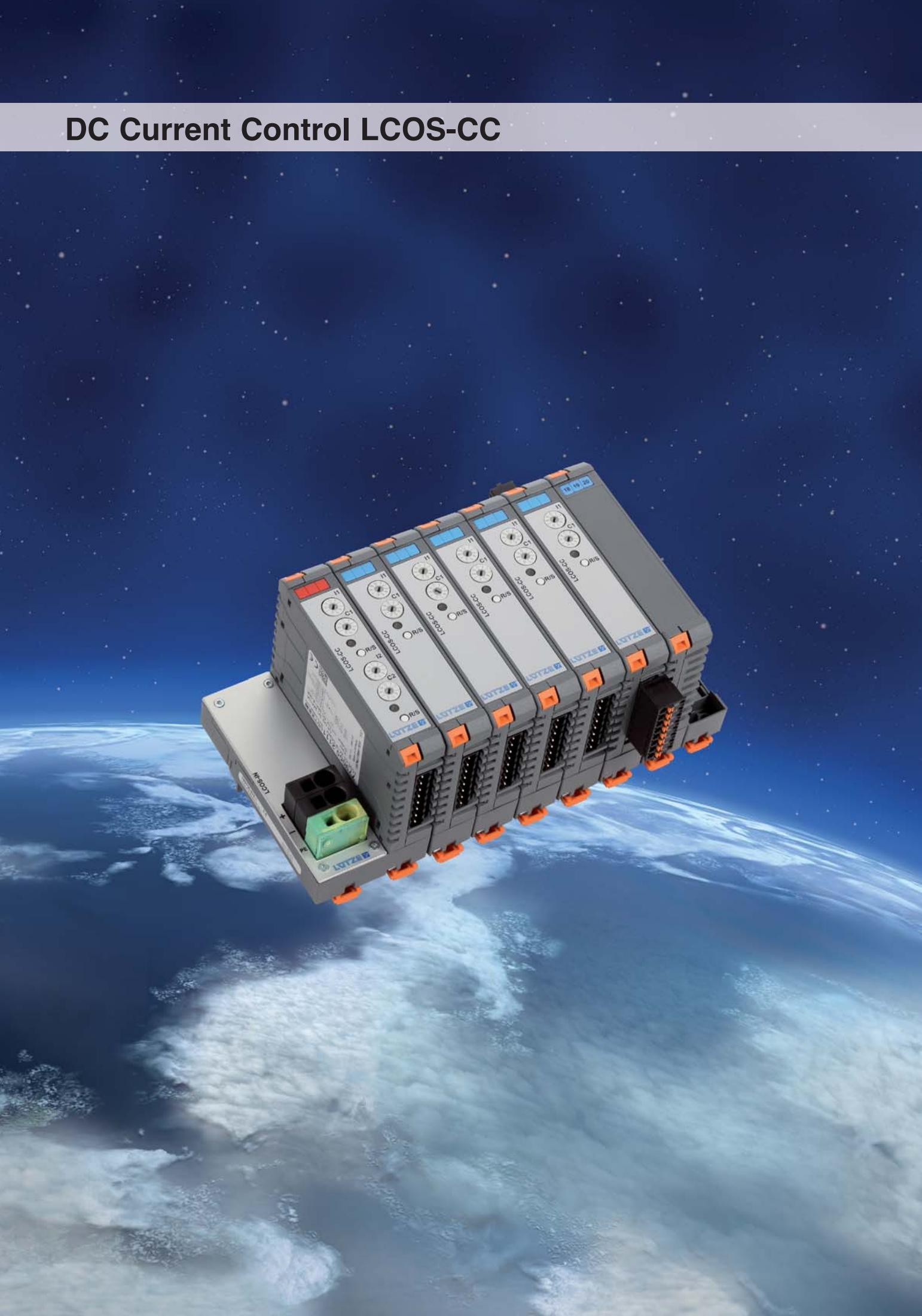
Overview of all connected modules



Plotter function for the selected module – current/voltage progression (analysis)

* in connection with a gateway (CANopen,EtherCAT, Profinet-IO, Profibus-DP)

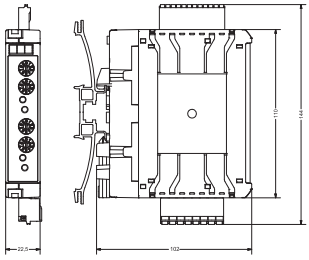
DC Current Control LCOS-CC



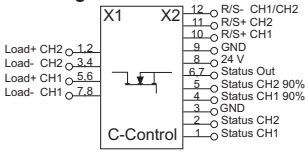
Load monitoring • LCOS-CC

Electronic load monitoring up to DC 10 A
2-channel version, one-pole switching, DC 1 A – DC 10 A, characteristic can be set
Collective fault message: single/collective/90% message, Remote Control input

Dimensions



PIN assignment

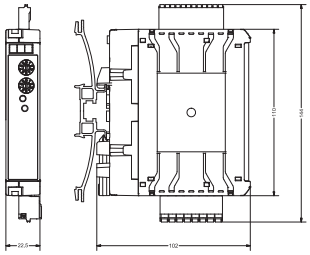


Description		Part-No.	Type	PU
Nominal voltage	DC 24 V	779000.2111	LCOS-CC-2K-1P-DC24V	1
Input				
Nominal voltage	DC 24 V			
Operation voltage range	DC 20.4 V – 28.8 V			
Rated current	DC 10 A			
Supply current	DC 32 A via LCOS power bus			
Reverse voltage protection	internal electronics			
Control input (Set / Reset)				
Signal level	DC 24 V (EN 61131)			
OFF	Pulse with falling edge >100 ms, <800 ms			
ON	Pulse with falling edge > 1 s			
Galvanic isolation I/O	2.5 kV, 50 Hz, 1 min.			
Output				
Switching element	MosFet			
Output current	max. DC 10 A			
Voltage drop	<170 mV (10 A)			
Status Indication	LED green: operating voltage ON, no fault, green flashing: 90 % I_B red flashing: triggered, red: OFF			
Switch-on capacity	>10000 µF			
Current range	1 A – 10 A (adjustable via switch in 1 A steps)			
Characteristic	fast (1), middle (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch			
Signal output				
Switching element	Transistor in open collector version with Pull Up resistance			
Single channel message	(Status CH1, CH2) Acc. to IEC 61131-2: High level, no errors, low level, there are errors			
90 % of the rated current I_B	(Status 90 % CH1, CH2) Acc. to IEC 61131-2: High level <90 %, low level >90 %			
Insulation voltage	–			
centralised fault signalling	(Status Out) Single channel message 1+2, decoupled via diodes			
General				
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)			
Field installation	can be connected to LCOS function carrier 22.5 mm (accessories), DIN Rail mounting EN 60715			
Protection class	IP 20			
Installation postition	Optional			
Vibration resistance	Vibration: EN 60068-2-6 Fc, Shock: EN 60068-2-27 Ea			
Climatic conditions	Acc. to EN 60721 Stationary use at weather protected locations			
Termination	X1: Load side: 8-pole measuring strip, CS 5,08 X2: Control side: 12-pole measuring strip, CS 3,5			
Operation temperature range	0 °C – 55 °C			
Storage temperature range	-40 – 70 °C			
Dimensions (w × h × d)	22.5 × 110.0 × 102.0 mm (including function carrier, without plug-in terminals on the side)			
Weight (kg/piece)	0.200			
Approvals	CE, in preparation: cULus			
Standards	EN 61131-2, EN 55016-1-2, EN 60529, EN 61000-6-2, EN 61000-6-4			

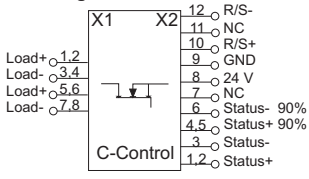
Accessories	Colour	Article number	Type	PU
Function carrier 22.5 mm, Power module		780402.225.1	LCOS-FT-PE-225-0P-02-1	1
Function carrier 22.5 mm, Power module		780402.225.2	LCOS-FT-PE-225-0P-02-1	10
Supply module DC 24 V, 57,5 mm, PE, no field bus connection		780700.575.1	LCOS-FTE-PE-575-NC-00-1	1
Power bridge 1-pole		780961.001.2	LCOS-ZB-PB-01-00	10
Power bridge 1-pole		780961.001.3	LCOS-ZB-PB-01-00	50
Label plate 5×5 mm, frame with 200 plates	white	780981.000.2	LCOS-ZB-BZS-white-00	10
Label plate 5×5 mm, frame with 200 plates	red	780982.000.2	LCOS-ZB-BZS-red-00	10
Label plate 5×5 mm, frame with 200 plates	blue	780983.000.2	LCOS-ZB-BZS-blue-00	10
Terminal black, CS 5.08, 8-pole, 2.5 mm^2 Push-in, 1-8 printed		780922.000.2	LCOS-ZB-KL-FS-508-25-8-black	10
Terminal black, CS3.50, 12-pole, 1.5 mm^2 Push-in, 1-12 printed		780921.000.2	LCOS-ZB-KL-FS-350-15-12-black	10

Electronic load monitoring up to DC 10 A
1-channel version, two-pole switching, DC 1 A – DC 10 A can be set, characteristic can be set
Collective fault message: single/collective/90% message, Remote Control input per channel

Dimensions



PIN assignment

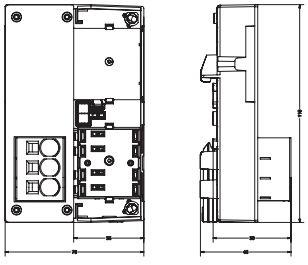


Description		Part-No.	Type	PU
Nominal voltage	DC 24 V	779000.1211	LCOS-CC-1K-2P-DC24V	1
Input				
Nominal voltage	DC 24 V			
Operation voltage range	DC 20.4 – 28.8 V			
Rated current	DC 10 A			
Supply current	DC 32 A via LCOS power bus			
Reverse voltage protection	internal electronics			
Control input (Set / Reset)				
Signal level	DC 24 V (EN 61131)			
OFF	Pulse with falling edge >100 ms, <800 ms			
ON	Pulse with falling edge > 1 s			
Galvanic isolation I/O	2.5 kV, 50 Hz, 1 min.			
Output				
Switching element	MosFet and relay (galvanic separation both poles: 500 V)			
Output current	max. DC 10 A			
Voltage drop	<170 mV (10 A)			
Status Indication	LED green: operating voltage ON, no fault, green flashing: 90 % I_B red flashing: triggered, red: OFF			
Switch-on capacity	>10000 µF			
Current range	1 A – 10 A (adjustable via switch in 1 A steps)			
Characteristic	fast (1), middle (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch			
Signal output				
Switching element	One relay with 1 S per signal type			
Single channel message	(Status CH1, CH2) 1 N/O contact, AC/DC 250 V, 1 A Relay closed: error Relay open: no error			
90 % of the rated current I_B	(Status 90 % CH1, CH2) 1 N/O contact, AC/DC 250 V, 1 A Relay closed: >90 %, Relay open: <90 %			
Insulation voltage	2.5 kV, 50 Hz, 1 min.			
centralised fault signalling	–			
General				
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)			
Field installation	can be connected to LCOS function carrier 22.5 mm (accessories), DIN Rail mounting EN 60715			
Protection class	IP 20			
Installation postition	Optional			
Vibration resistance	Vibration: EN 60068-2-6 Fc, Shock: EN 60068-2-27 Ea			
Climatic conditions	Acc. to EN 60721 Stationary use at weather protected locations			
Termination	X1: Load side: 8-pole measuring strip, CS 5,08 X2: Control side: 12-pole measuring strip, CS 3,5			
Operation temperature range	0 °C – 55 °C			
Storage temperature range	-40 – 70 °C			
Dimensions (w × h × d)	22.5 × 110.0 × 102.0 mm (including function carrier, without plug-in terminals on the side)			
Weight (kg/piece)	0.200			
Approvals	CE, in preparation: cULus			
Standards	EN 61131-2, EN 55016-1-2, EN 60529, EN 61000-6-2, EN 61000-6-4			

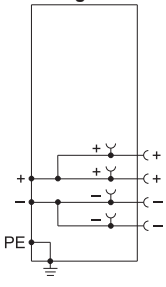
Accessories	Colour	Article number	Type	PU
Function carrier 22.5 mm, Power module		780402.225.1	LCOS-FT-PE-225-0P-02-1	1
Function carrier 22.5 mm, Power module		780402.225.2	LCOS-FT-PE-225-0P-02-1	10
Supply module DC 24 V, 57,5 mm, PE, no field bus connection		780700.575.1	LCOS-FTE-PE-575-NC-00-1	1
Power bridge 1-pole		780961.001.2	LCOS-ZB-PB-01-00	10
Power bridge 1-pole		780961.001.3	LCOS-ZB-PB-01-00	50
Label plate 5×5 mm, frame with 200 plates	white	780981.000.2	LCOS-ZB-BZS-white-00	10
Label plate 5×5 mm, frame with 200 plates	red	780982.000.2	LCOS-ZB-BZS-red-00	10
Label plate 5×5 mm, frame with 200 plates	blue	780983.000.2	LCOS-ZB-BZS-blue-00	10
Terminal black, CS 5.08, 8-pole, 2.5 mm^2 Push-in, 1-8 printed		780922.000.2	LCOS-ZB-KL-FS-508-25-8-black	10
Terminal black, CS3.50, 12-pole, 1.5 mm^2 Push-in, 1-12 printed		780921.000.2	LCOS-ZB-KL-FS-350-15-12-black	10

Supply module 57,5 mm, without data bus
Power bus: DC 500 V, 4 × 16 A
Integrated PE contact

Dimensions



PIN assignment



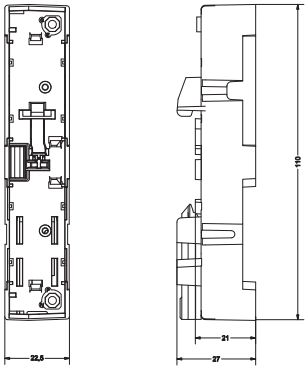
Description	Part-No.	Type	PU
Spring terminal			
Nominal voltage	780700.575.1	LCOS-FTE-PE-575-NC-00-1	1
Input			
Operating voltage	max. AC/DC 500 V UL max. 300 V max. AC/DC 16 A, 100 % ED		
Rated current	4 × 16 A, 100 % ED		
Reverse voltage protection	No		
Termination	Spring terminal (+, -, PE): 3 × 16 mm^2, 3 × 10 mm^2 with ferrules		
Length of stripped insulation	12 mm		
Powermodul			
Nominal voltage	–		
Rated current	4 × 16 A, 100 % ED		
Termination	Bridge 1-pole, connectable		
Voltage drop	Powerbus at I_{max} <80 mV		
Material	Polyamid PA 6.6 (UL 94 V0, NFF I2, F2)		
Contact material	CuCrSiTi		
Surface	Contact: tin-plated		
General			
Housing material	Polyamid PA 6.6 (UL 94 V0, NFF I2, F2)		
Field installation	Din rail TS35 with interlock (EN 60715)		
Protection class	IP 20		
Installation postition	Optional		
Operation temperature range	-40 °C – 85 °C		
Storage temperature range	-40 °C – 85 °C		
Dimensions (w × h × d) in mm	57.5 × 110.0 × 39.0		
Relative humidity	5 % – 95 % without condensing		
Weight (kg/piece)	0.102		
Approvals	cURus in preparation		
Loads from pollutants	According to IEC 60068-2-42, IEC 60068-2-43		
Insulation coordination	Acc. to EN 60664-1, EN 60947-1, EN 50178, EN 50124-1		
Length of entire node	1440 mm		
Shock resistance	15 g/11 ms acc. to IEC 60068-2-27 Ea		
Vibration resistance	1 g acc. to IEC 60068-2-6 Fc		
Rated insulation voltage (EN 50178)	500 V		
Overvoltage category	III		
Pollution degree	3		

Function carrier 22.5 mm, Power module

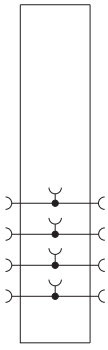
Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	AC/DC 500 V	780402.225.2	LCOS-FT-PE-225-0P-02-1	10
	AC/DC 500 V	780402.225.1	LCOS-FT-PE-225-0P-02-1	1

Powermodul	
Nominal voltage	AC/DC 500 V
Rated current	4 × 16 A, 100 % ED
Termination	Bridge 1-pole, connectable
Voltage drop	Powerbus at I_{max} <80 mV
Material	Polyamid PA 6.6 (UL 94 V0, NFF I2, F2)
Contact material	CuCrSiTi
Surface	Contact: tin-plated
General	
Housing material	Polyamid PA 6.6 (UL 94 V0, NFF I2, F2)
Field installation	Din rail TS35 with interlock (EN 60715)
Protection class	IP 20
Installation postition	Optional
Operation temperature range	-40 °C – 85 °C
Storage temperature range	-40 °C – 85 °C
Dimensions (w × h × d) in mm	22.5 × 110.0 × 21.0
Relative humidity	5 % – 95 % without condensing
Weight (kg/piece)	0.023
Approvals	cURus in preparation
Loads from pollutants	According to IEC 60068-2-42, IEC 60068-2-43
Insulation coordination	Acc. to EN 60664-1, EN 60947-1, EN 50178, EN 50124-1
Length of entire node	1440 mm
Shock resistance	15 g/11 ms acc. to IEC 60068-2-27 Ea
Vibration resistance	1 g acc. to IEC 60068-2-6 Fc

Dimensions



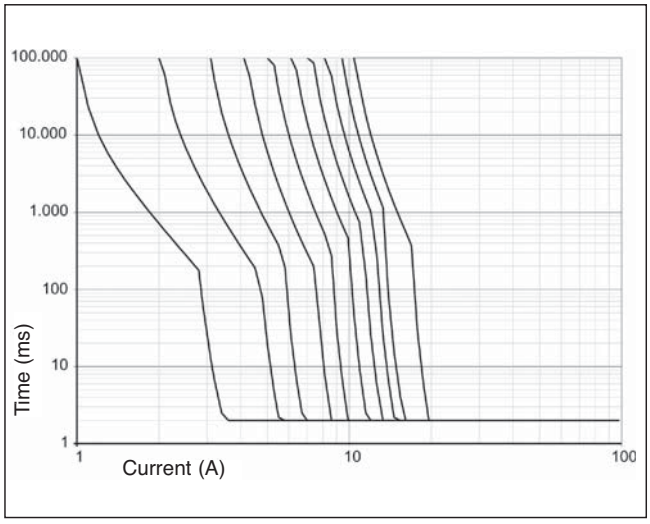
PIN assignment



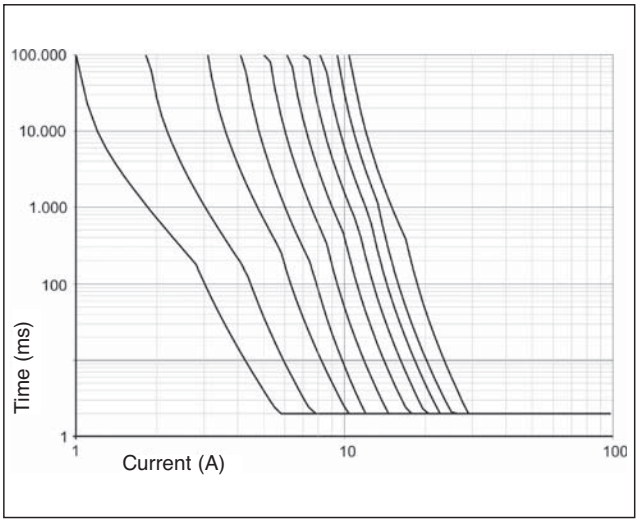
LCOS-CC · Characteristic Curves

All device variants incorporate the same characteristics

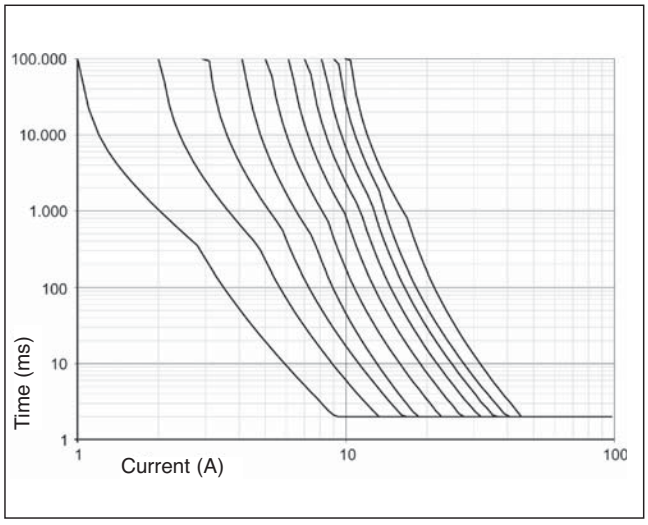
Switch position 1: Characteristic fast



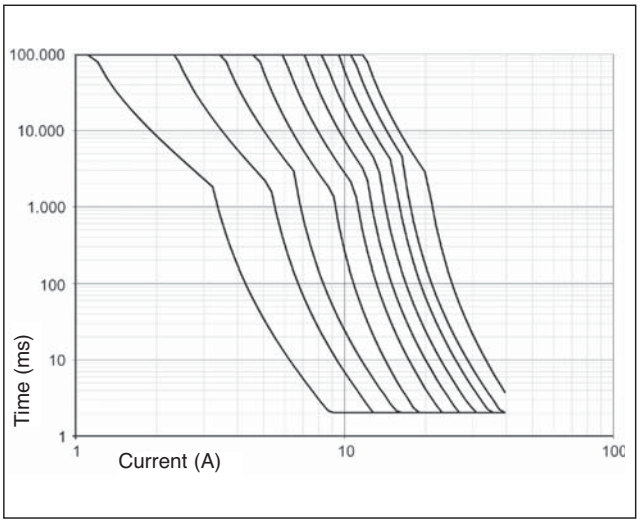
Switch position 2: Characteristic medium



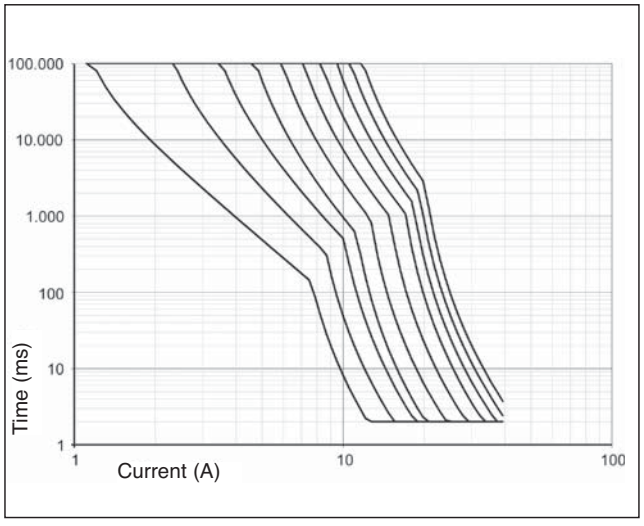
Switch position 3: Characteristic slow-1



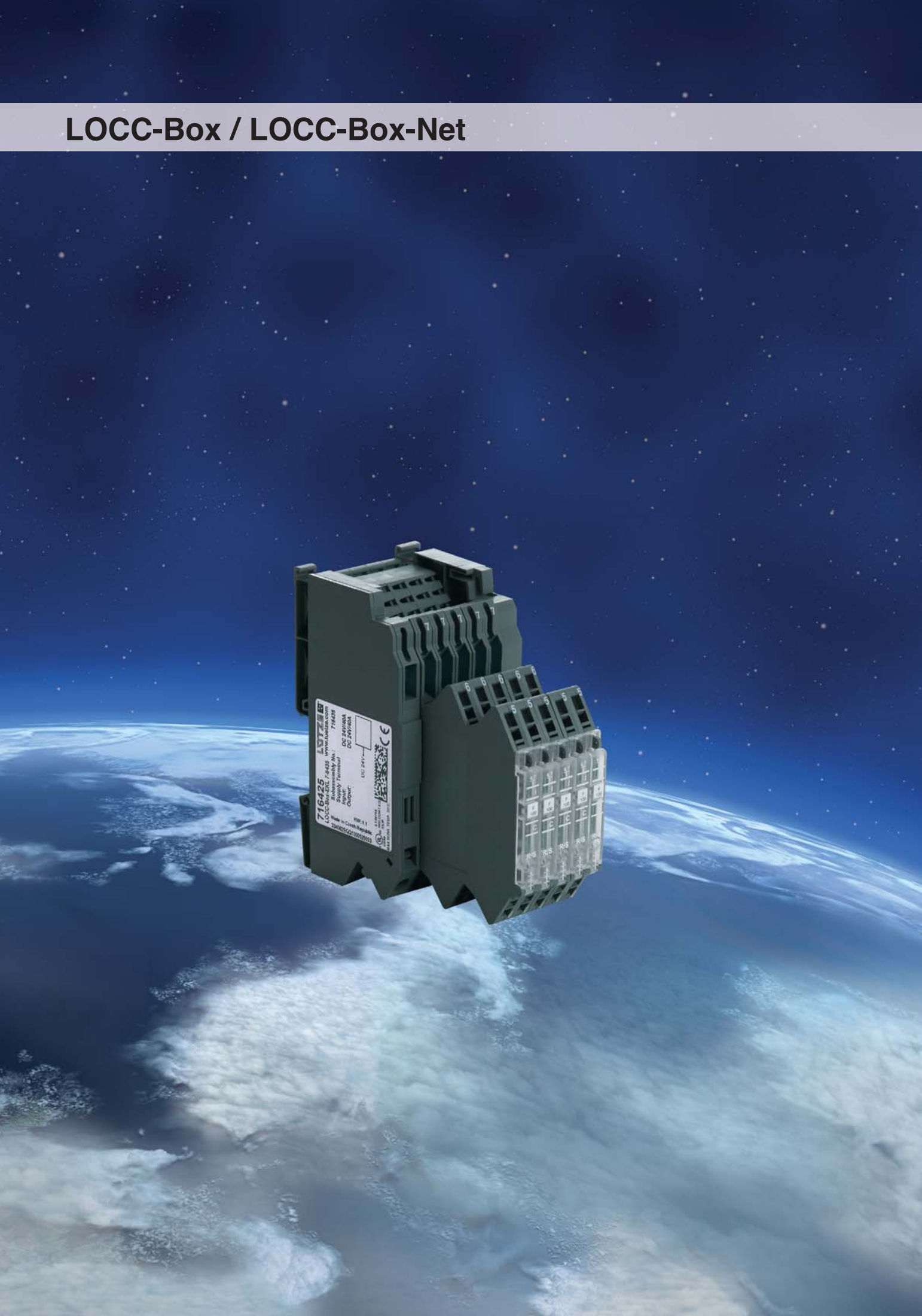
Switch position 4: Characteristic slow-2



Switch position 5: Characteristic slow-3

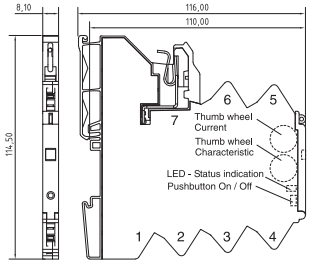


LOCC-Box / LOCC-Box-Net

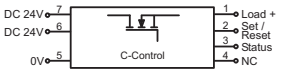


Electronic load monitoring up to DC 10 A
Single-channel design, Adjustable current range: DC 1 A – 10 A
Adjustable characteristics, fast, medium-speed, slow 1, -2, -3

Dimensions

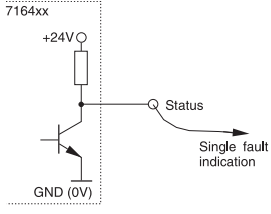


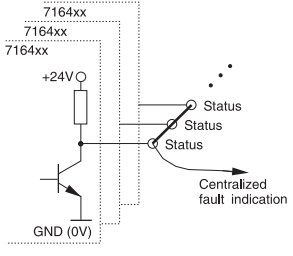
PIN assignment



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

Signal output





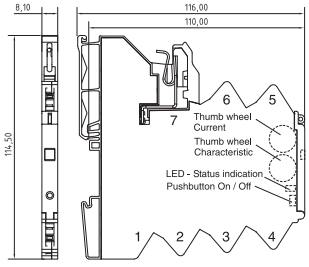
Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716400	LOCC-Box-FB 7-6400	1
	DC 12 / 24 V	716401	LOCC-Box-FB 7-6401	1
	DC 12 / 24 V	716401.0050	LOCC-Box-FB 7-6401	50

Input	LOCC-Box-FB 7-6400	LOCC-Box-FB 7-6401
Nominal voltage	DC 12 / 24 V	
Operation voltage range	DC 10 V – 32 V	
Rated current	DC 10 A	
Supply current	DC 40 A over Cu-rails 10 × 3 mm	
Reverse voltage protection	internal electronics	
Termination	screwless disconnect slide	
Control input (Set / Reset)		
Signal level	DC 12 / 24 V (EN 61131)	
OFF	Pulse with falling edge >100 ms, <800 ms	
ON	Pulse with falling edge > 1 s	
Output		
Switching element	MosFet	
Output current	max. DC 10 A	
Voltage drop	<170 mV (10 A)	
Status Indication	LED green: Operating voltage present, no error LED red: Error in load circuit	
Switch-on capacity	10000 µF	
Current range	1 A – 10 A (adjustable via switch in 1 A steps)	
Characteristic	fast-acting (1), medium-slow (2), slow 1 (3), slow 2 (4), slow 3 (5)	
Signal output		
Signal level	DC 12/24 V: operating voltage on stand-by, no error, DC 0 V: error, output switched off	DC 12/24 V: operating voltage on stand-by, no error, DC 0 V: error, output switched off and manual "OFF"
Switching element	Transistor, collector with pull-up resistance	
General		
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)	
Field installation	rail TS 35 (EN 50022)	
Protection class	IP 20	
Installation postition	Optional	
Termination	Spring terminal 0.25–2.5 mm^2	
Operation temperature range	-25 °C – 50 °C	
Storage temperature range	-40 – 85 °C	
Dimensions (w × h × d) in mm	8.1 × 114.5 × 116.0	
Weight (kg/piece)	0.120	
Approvals	cULus	
Standards	EN 60950-1; EN 61131-1,2; EN 61000; EN 60947-4-1; EN 55022	

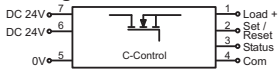
Accessories	Colour	Article number	Type	PU
0 V collective terminal		716420	LOCC Box-SK 7-6420	2
Supply terminal with cutout for copper rail to increase current		716421	LOCC Box-EKL 7-6421	2
Distance terminal without contact		716422	LOCC Box-DKL 7-6422	2
LOCC Box empty housing without terminal		716424	LOCC Box-DY 7-6424	2
Supply kit (supply and end terminals)		716425	LOCC Box ES 7-6425	1
Jumper comb, 8-pin, 6 A	white	716428	LOCC Box BKW 7-6428	5
Jumper comb, 8-pin, 6 A	red	716429	LOCC Box BKR 7-6429	5
Jumper comb, 8-pin, 6 A	blue	716430	LOCC Box BKB 7-6430	5
Jumper comb, 16-pin, 6 A	white	716438	LOCC Box BKW 7-6438	5
Jumper comb, 16-pin, 6 A	red	716439	LOCC Box BKB 7-6440	5
Jumper comb, 16-pin, 6 A	blue	716440	LOCC Box BKR 7-6439	5
Tag holder (quantity 200)	white (5×5 mm)	716431	LOCC Box BZW 7-6431	1
Tag holder (quantity 200)	red (5×5 mm)	716432	LOCC Box BZR 7-6432	1
Tag holder (quantity 200)	blue (5×5 mm)	716433	LOCC Box BZB 7-6433	1
Tag holder (quantity 200)	yellow (5×5 mm)	716434	LOCC Box BZG 7-6434	1
Tag holder (quantity 120)	white (12×6 mm)	716441	LOCC Box BZW 7-6441	1
Tag holder	white (39.3×5 mm)	716443	LOCC Box BZW 7-6443	20
Cover for tag holder 716443	transparent	716444	LOCC Box-BAD 7-6444	20
A4 label sheets (quantity 240)	white	716445	LOCC Box-LEB 7-6445	10
Tag holder (quantity 50), printing 1–50	white	716446	LOCC Box BZW 7-6446	1
Copper rail, 1 m		716426	LOCC Box CU 7-6426	1
CU rail cover, 1 m		716427	LOCC Box AD 7-6427	1

Electronic load monitoring up to DC 10 A
Single-channel design, Adjustable current range: DC 1 A – 10 A
Adjustable characteristics, fast, medium-speed, slow 1, -2, -3

Dimensions

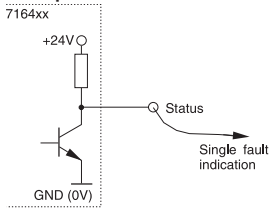


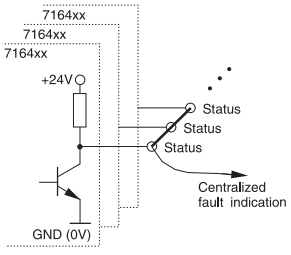
PIN assignment



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

Signal output





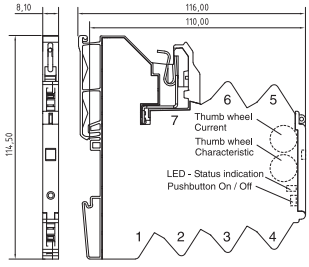
Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716403	LOCC-Box-FB 7-6403	1

Input	**LOCC-Box-FB 7-6403**
Nominal voltage	DC 12 / 24 V
Operation voltage range	DC 10 V – 32 V
Rated current	DC 10 A
Supply current	DC 40 A over Cu-rails 10 × 3 mm
Reverse voltage protection	internal electronics
Termination	screwless disconnect slide
Control input (Set / Reset)	
Signal level	DC 12 / 24 V (EN 61131)
OFF	Low level (falling edge)
ON	High level (rising edge)
Output	
Switching element	MosFet
Output current	max. DC 10 A
Voltage drop	<170 mV (10 A)
Status Indication	LED green: Operating voltage present, no error LED red: Error in load circuit
Switch-on capacity	10000 µF
Current range	1 A – 10 A (adjustable via switch in 1 A steps)
Characteristic	fast (1), middle (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch
Signal output	
Signal level	DC 24 V: operating mode, no error, DC 0 V: error, output switched off
Switching element	Transistor, collector with pull-up resistance
General	
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Termination	Spring terminal 0.25–2.5 mm^2
Operation temperature range	-25 °C – 50 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	8.1 × 114.5 × 116.0
Weight (kg/piece)	0.120
Approvals	cULus
Standards	EN 60950-1; EN 61131-1,2; EN 61000; EN 60947-4-1; EN 55022

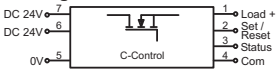
Accessories	**Colour**	**Article number**	**Type**	**PU**
0 V collective terminal		716420	LOCC Box-SK 7-6420	2
Supply terminal with cutout for copper rail to increase current		716421	LOCC Box-EKL 7-6421	2
Distance terminal without contact		716422	LOCC Box-DKL 7-6422	2
LOCC Box empty housing without terminal		716424	LOCC Box-DY 7-6424	2
Supply kit (supply and end terminals)		716425	LOCC Box ES 7-6425	1
Jumper comb, 8-pin, 6 A	white	716428	LOCC Box BKW 7-6428	5
Jumper comb, 8-pin, 6 A	red	716429	LOCC Box BKR 7-6429	5
Jumper comb, 8-pin, 6 A	blue	716430	LOCC Box BKB 7-6430	5
Jumper comb, 16-pin, 6 A	white	716438	LOCC Box BKW 7-6438	5
Jumper comb, 16-pin, 6 A	red	716439	LOCC Box BKB 7-6440	5
Jumper comb, 16-pin, 6 A	blue	716440	LOCC Box BKR 7-6439	5
Tag holder (quantity 200)	white (5×5 mm)	716431	LOCC Box BZW 7-6431	1
Tag holder (quantity 200)	red (5×5 mm)	716432	LOCC Box BZR 7-6432	1
Tag holder (quantity 200)	blue (5×5 mm)	716433	LOCC Box BZB 7-6433	1
Tag holder (quantity 200)	yellow (5×5 mm)	716434	LOCC Box BZG 7-6434	1
Tag holder (quantity 120)	white (12×6 mm)	716441	LOCC Box BZW 7-6441	1
Tag holder	white (39.3×5 mm)	716443	LOCC Box BZW 7-6443	20
Cover for tag holder 716443	transparent	716444	LOCC Box-BAD 7-6444	20
A4 label sheets (quantity 240)	white	716445	LOCC Box-LEB 7-6445	10
Tag holder (quantity 50), printing 1–50	white	716446	LOCC Box BZW 7-6446	1
Copper rail, 1 m		716426	LOCC Box CU 7-6426	1
CU rail cover, 1 m		716427	LOCC Box AD 7-6427	1

Electronic load monitoring up to DC 10 A
Single-channel design, Adjustable current range: DC 1 A – 10 A
Adjustable characteristics, fast, medium-speed, slow 1, -2, -3

Dimensions

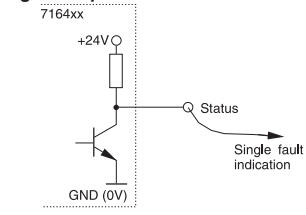


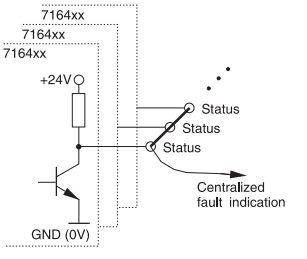
PIN assignment



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

Signal output





Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716404	LOCC-Box-FB 7-6404	1

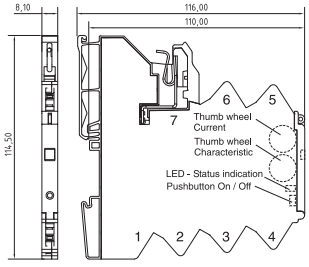
Input	**LOCC-Box-FB 7-6404**
Nominal voltage	DC 12 / 24 V
Operation voltage range	DC 10 V – 32 V
Rated current	DC 10 A
Supply current	DC 40 A over Cu-rails 10 × 3 mm
Reverse voltage protection	internal electronics
Termination	screwless disconnect slide
Control input (Set / Reset)	
Signal level	DC 12 / 24 V (EN 61131)
OFF	Low level (falling edge)
ON	High level (rising edge)
Output	
Switching element	MosFet
Output current	max. DC 10 A
Voltage drop	<170 mV (10 A)
Status Indication	LED green: Operating voltage present, no error LED red: Error in load circuit
Switch-on capacity	10000 µF
Current range	1 A – 10 A (adjustable via switch in 1 A steps)
Characteristic	fast (1), middle (2), slow 1 (3), slow 2 (4), slow 3 (5), adjustable via switch
Signal output	
Signal level	DC 24 V: operating mode, no error, DC 0 V: error, output switched off
Switching element	Transistor, collector with pull-up resistance
General	
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Termination	Spring terminal 0.25–2.5 mm^2
Operation temperature range	-25 °C – 50 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	8.1 × 114.5 × 116.0
Weight (kg/piece)	0.120
Approvals	cULus
Standards	EN 60950-1; EN 61131-1,2; EN 61000; EN 60947-4-1; EN 55022

Accessories	**Colour**	**Article number**	**Type**	**PU**
0 V collective terminal		716420	LOCC Box-SK 7-6420	2
Supply terminal with cutout for copper rail to increase current		716421	LOCC Box-EKL 7-6421	2
Distance terminal without contact		716422	LOCC Box-DKL 7-6422	2
LOCC Box empty housing without terminal		716424	LOCC Box-DY 7-6424	2
Supply kit (supply and end terminals)		716425	LOCC Box ES 7-6425	1
Jumper comb, 8-pin, 6 A	white	716428	LOCC Box BKW 7-6428	5
Jumper comb, 8-pin, 6 A	red	716429	LOCC Box BKR 7-6429	5
Jumper comb, 8-pin, 6 A	blue	716430	LOCC Box BKB 7-6430	5
Jumper comb, 16-pin, 6 A	white	716438	LOCC Box BKW 7-6438	5
Jumper comb, 16-pin, 6 A	red	716439	LOCC Box BKB 7-6440	5
Jumper comb, 16-pin, 6 A	blue	716440	LOCC Box BKR 7-6439	5
Tag holder (quantity 200)	white (5×5 mm)	716431	LOCC Box BZW 7-6431	1
Tag holder (quantity 200)	red (5×5 mm)	716432	LOCC Box BZR 7-6432	1
Tag holder (quantity 200)	blue (5×5 mm)	716433	LOCC Box BZB 7-6433	1
Tag holder (quantity 200)	yellow (5×5 mm)	716434	LOCC Box BZG 7-6434	1
Tag holder (quantity 120)	white (12×6 mm)	716441	LOCC Box BZW 7-6441	1
Tag holder	white (39.3×5 mm)	716443	LOCC Box BZW 7-6443	20
Cover for tag holder 716443	transparent	716444	LOCC Box-BAD 7-6444	20
A4 label sheets (quantity 240)	white	716445	LOCC Box-LEB 7-6445	10
Tag holder (quantity 50), printing 1–50	white	716446	LOCC Box BZW 7-6446	1
Copper rail, 1 m		716426	LOCC Box CU 7-6426	1
CU rail cover, 1 m		716427	LOCC Box AD 7-6427	1

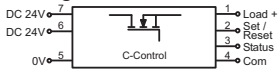
Comments
The triggered output can only be acknowledged via the device switch.

Electronic load monitoring up to DC 10 A, with communication
Single-channel design, programmable, Adjustable current range: DC 1 A – 10 A
Adjustable characteristics, fast, medium-speed, slow 1, -2, -3

Dimensions

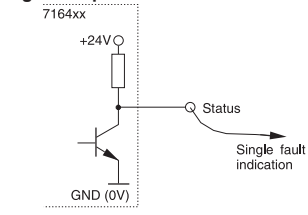


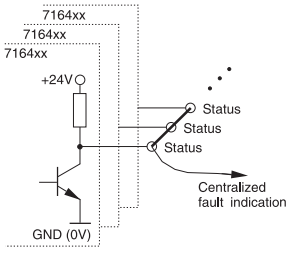
PIN assignment



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

Signal output





Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716410	LOCC-Box-Net 7-6410	1
	DC 12 / 24 V	716410.0050	LOCC-Box-Net 7-6410	50

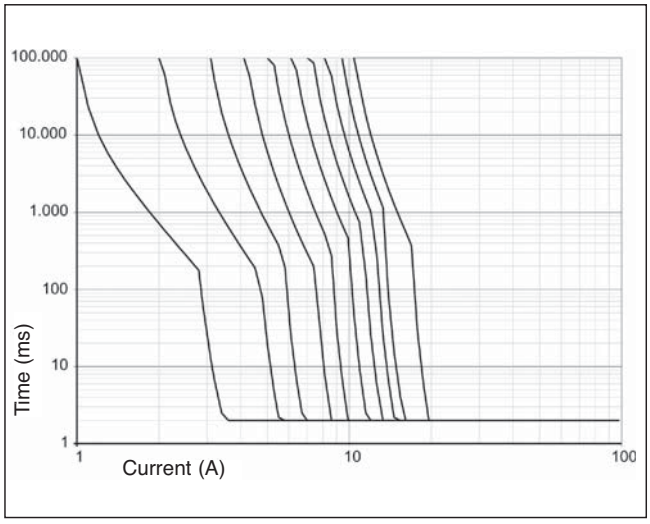
Input	**LOCC-Box-Net 7-6410**
Nominal voltage	DC 12 / 24 V
Operation voltage range	DC 10 V – 32 V
Rated current	DC 10 A
Supply current	DC 40 A over Cu rail 10 × 3 mm
Reverse voltage protection	internal electronics
Termination	screwless disconnect slide
Control input (Set / Reset)	
Signal level	DC 12 / 24 V (EN 61131)
OFF	Pulse with falling edge >100 ms, <800 ms
ON	Pulse with falling edge > 1 s
Output	
Switching element	MosFet
Output current	max. DC 10 A
Voltage drop	<170 mV (10 A)
Status Indication	LED green: Operating voltage present, no error LED red: Error in load circuit
Switch-on capacity	10000 µF
Current range	1 A – 10 A (adjustable via switch in 1 A steps)
Characteristic	fast-acting (1), medium-slow (2), slow 1 (3), slow 2 (4), slow 3 (5), programmable (10)
Signal output	
Signal level	DC 12/24 V: Operating voltage present, no error; DC 0 V: error, output switched off, programmable
Switching element	Transistor, collector with pull-up resistance
General	
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Termination	Spring terminal 0.25–2.5 mm^2
Operation temperature range	-25 °C – 50 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	8.1 × 114.5 × 116.0
Weight (kg/piece)	0.120
Approvals	cULus
Standards	EN 60950-1; EN 61131-1,2; EN 61000; EN 60947-4-1; EN 55022

Accessories	**Colour**	**Article number**	**Type**	**PU**
0 V collective terminal		716420	LOCC Box-SK 7-6420	2
Supply terminal with cutout for copper rail to increase current		716421	LOCC Box-EKL 7-6421	2
Distance terminal without contact		716422	LOCC Box-DKL 7-6422	2
LOCC Box empty housing without terminal		716424	LOCC Box-DY 7-6424	2
Supply kit (supply and end terminals)		716425	LOCC Box ES 7-6425	1
Jumper comb, 8-pin, 6 A	white	716428	LOCC Box BKW 7-6428	5
Jumper comb, 8-pin, 6 A	red	716429	LOCC Box BKR 7-6429	5
Jumper comb, 8-pin, 6 A	blue	716430	LOCC Box BKB 7-6430	5
Jumper comb, 16-pin, 6 A	white	716438	LOCC Box BKW 7-6438	5
Jumper comb, 16-pin, 6 A	red	716439	LOCC Box BKB 7-6440	5
Jumper comb, 16-pin, 6 A	blue	716440	LOCC Box BKR 7-6439	5
Tag holder (quantity 200)	white (5×5 mm)	716431	LOCC Box BZW 7-6431	1
Tag holder (quantity 200)	red (5×5 mm)	716432	LOCC Box BZR 7-6432	1
Tag holder (quantity 200)	blue (5×5 mm)	716433	LOCC Box BZB 7-6433	1
Tag holder (quantity 200)	yellow (5×5 mm)	716434	LOCC Box BZG 7-6434	1
Tag holder (quantity 120)	white (12×6 mm)	716441	LOCC Box BZW 7-6441	1
Tag holder	white (39.3×5 mm)	716443	LOCC Box BZW 7-6443	20
Cover for tag holder 716443	transparent	716444	LOCC Box-BAD 7-6444	20
A4 label sheets (quantity 240)	white	716445	LOCC Box-LEB 7-6445	10
Tag holder (quantity 50), printing 1–50	white	716446	LOCC Box BZW 7-6446	1
Copper rail, 1 m		716426	LOCC Box CU 7-6426	1
CU rail cover, 1 m		716427	LOCC Box AD 7-6427	1

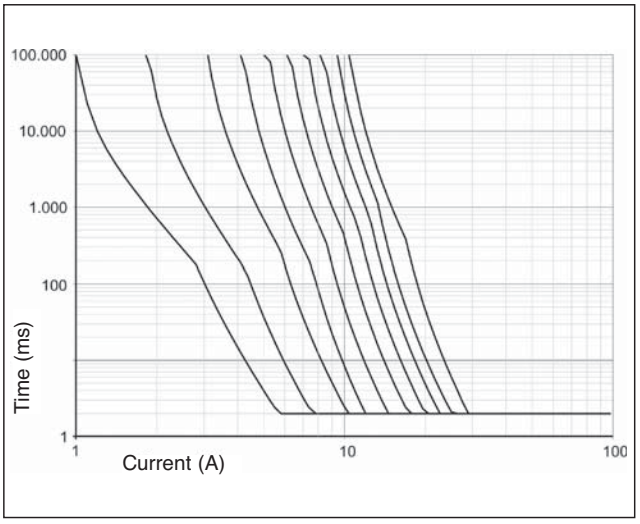
LOCC-Box / LOCC-Box-Net · Characteristic Curves

All device variants incorporate the same characteristics
Expandable
Customer specific characteristics - parameterisable with LOCC-Box-Net

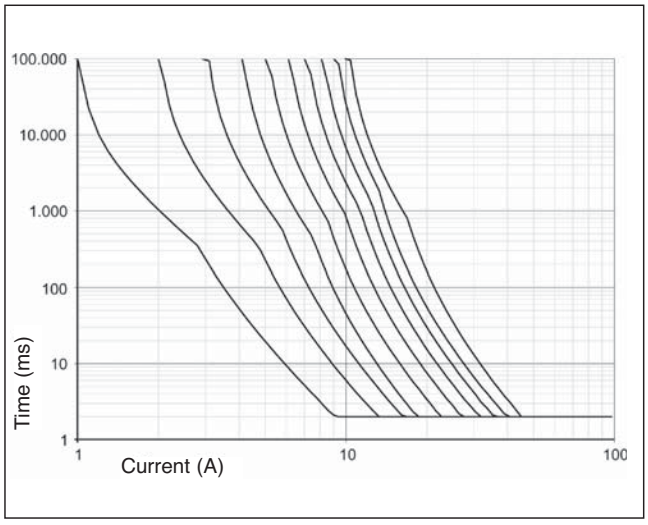
Switch position 1: Characteristic fast



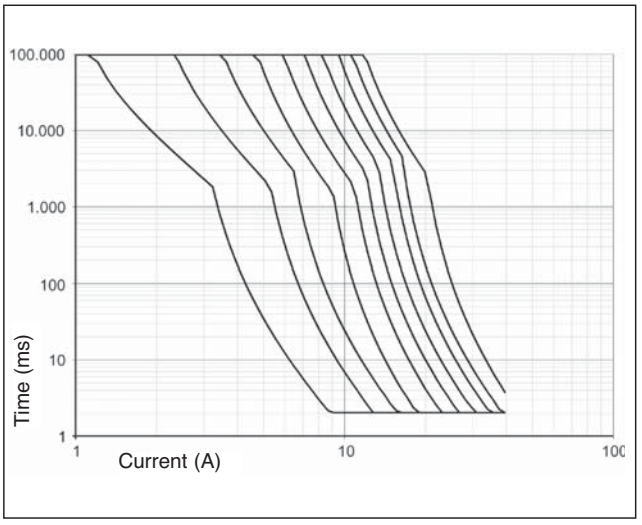
Switch position 2: Characteristic medium



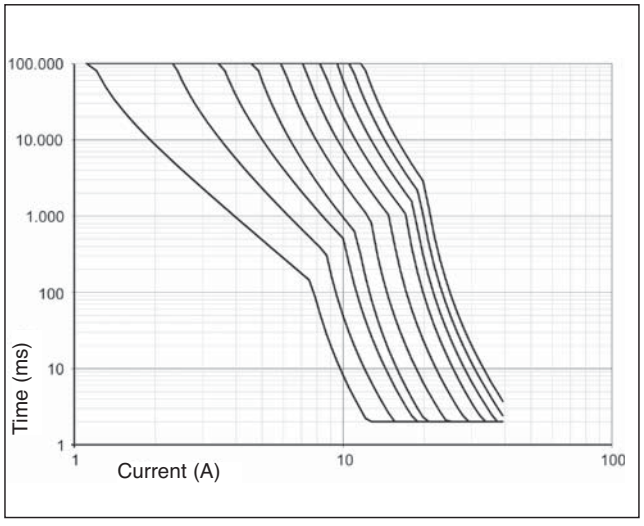
Switch position 3: Characteristic slow-1



Switch position 4: Characteristic slow-2

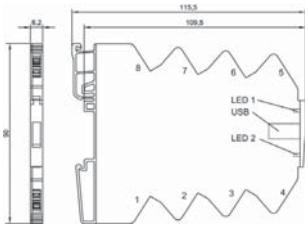


Switch position 5: Characteristic slow-3

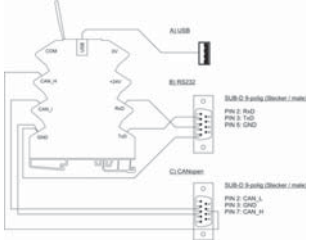


Gateway for LOCC-Box-Net (716410)
Input: LOCCbus (LIN)
Output: USB, RS 232, CANopen

Dimensions



PIN assignment



Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716459	LOCC-Box-GW 7-6459	1

Input	**LOCC-Box-GW 7-6459**
Bus system	LOCCbus, basic LIN
Access method	Single-Master - Multiple Slave
Bus technology	Line
Physical level	1-wire
Participants	40, max. 254
Bus length	max. 40 m
Transfer rate	9600 Baud
Data rate	8 Bit + fixed parity
Transfer protocol	Modified multi-drop

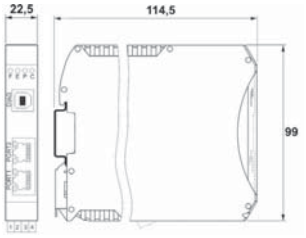
Output	**USB**	**RS232**	**CANopen**
Bus system	USB 2.0 Full-Speed	RS232	CANopen
Transfer rate	12 Mbit/s	600 – 11500 bit/s	10 – 1000 kbit/s

General	
Nominal voltage	DC 12 / 24 V
Operation voltage range	DC 10 V – 26.4 V
Rated current	max. 50 mA
Reverse voltage protection	Yes
Status Indication	LED 1 green/red: USB, RS232, Firmware; LED 2 green/red: CANopen
Insulation voltage	1.0 kV
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Termination	Spring terminal : 0.14 - 2.5 mm^2 (with AE 1.5 mm^2)
Operation temperature range	-20 °C – 60 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	6.2 × 90.0 × 115.0
Weight (kg/piece)	0.060
Approvals	CE
Standards	EN 60950-1, EN 61131-1, -2, EN 60898, EN 60947-4-1, EN 50081

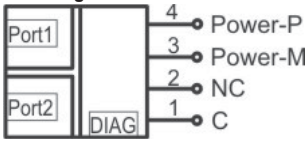
Accessories	**Colour**	**Article number**	**Type**	**PU**
Tag holder 4×11 mm	white	681313	BZT 0411	100
Isolation plate		760809	TP 7-0809	5
Labels for laser printer A4 un-punched		681031	LEB - A4	1

Gateway for LOCC-Box-Net (716410)
Input: LOCCbus (LIN)
Output: USB, PROFINET-IO

Dimensions

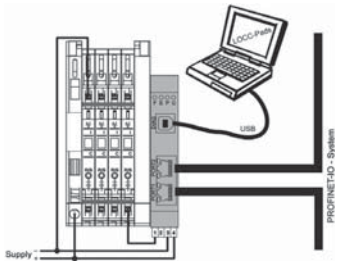


PIN assignment



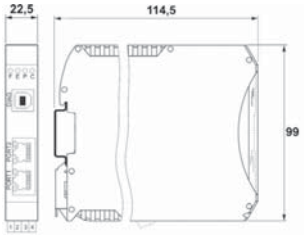
Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716457	LOCC-Box-GWPN 0-6457	1
Input				
Bus system	LOCCbus, basic LIN			
Access method	Single-Master - Multiple Slave			
Bus technology	Line			
Physical level	1-wire			
Participants	typ. 40, max. 100			
Bus length	max. 40 m			
Transfer rate	9600 Baud			
Data rate	8 Bit + fixed parity (Bit 9)			
Transfer protocol	Modified multi-drop			
Output	**USB**		**PROFINET-IO**	
Bus system	USB 2.0 Full-Speed		PROFINET-IO	
Transfer rate	12 Mbit/s		100 bit/s (IEE 802.3)	
Interface	USB connector, Type B		Port_1, Port_2, 2 × RJ-45 female with galvanic isolation and LEDs	
General				
Nominal voltage	DC 12 / 24 V			
Operation voltage range	10 – 32 V			
Rated current	120 mA @ 24 V			
Reverse voltage protection	Yes			
Status Indication	LED F, yellow - flashing: identification prompt (PROFINET) LED E, red - flashing: no connection (PROFINET) LED P, green - flashing: operating voltage is connected (POWER) LED C, green - flashing: data traffic with LOCC Box Net modules (LOCCbus) Link: yellow - 100Base/T-connection Activity green - valid connection, blanking: data traffic			
Insulation voltage	1.5 kV			
Housing material	PA			
Field installation	Snaps on to TS 35 rail (EN 50022)			
Protection class	IP 20			
Installation postition	Optional			
Termination	Spring terminal : 0.14 - 2.5 mm^2 (with AE 1.5 mm^2)			
Relative humidity	max. 90 % non-condensed			
Operation temperature range	-20 °C – 60 °C			
Storage temperature range	-40 – 85 °C			
Dimensions (w × h × d) in mm	22.5 × 99.0 × 114.5			
Weight (kg/piece)	0.130			
Approvals	CE			
Standards	EN 60950-1, EN 61131-1, -2, EN 60898, EN 60947-4-1, EN 50081			
Comments Screw terminal on request				

Use

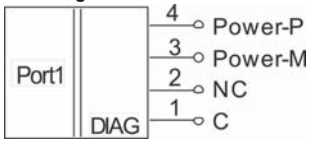


Gateway for LOCC-Box-Net (716410)
Input: LOCCbus (LIN)
Output: USB, PROFIBUS-DP

Dimensions

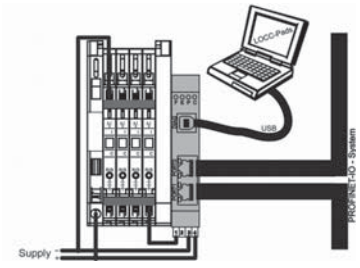


PIN assignment



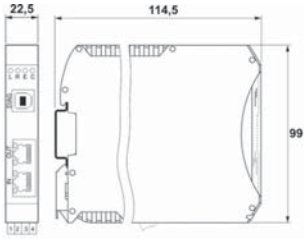
Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716458	LOCC-Box-GW/PB 0-6458	1
Input				
Bus system	LOCCbus, basic LIN			
Access method	Single-Master - Multiple Slave			
Bus technology	Line			
Physical level	1-wire			
Participants	typ. 40, max. 84			
Bus length	max. 40 m			
Transfer rate	9600 Baud			
Data rate	8 Bit + fixed parity (Bit 9)			
Transfer protocol	Modified multi-drop			
Output	**USB**		**PROFIBUS-DP**	
Bus system	USB 2.0 Full-Speed		PROFIBUS-DP	
Transfer rate	12 Mbit/s		max. 12 Mbit/s	
Interface	USB connector, Type B		Port_1, SUB-D 9pin with galvanic isolation	
General				
Nominal voltage	DC 12 / 24 V			
Operation voltage range	10 – 32 V			
Rated current	120 mA @ 24 V			
Reverse voltage protection	Yes			
Status Indication	LED D, green - on: data exchange via PROFIBUS-DP LED E, red - different flash codes for diagnosis of PROFIBUS-DP faults LED P, green - on: operating voltage is supplied (POWER) LED C, green - flashing: data traffic with LOCC-Box-Net modules (LOCCbus)			
Insulation voltage	1.5 kV			
Housing material	PA 6.6 (UL 94 V0)			
Field installation	Snaps on to TS 35 rail (EN 50022)			
Protection class	IP 20			
Installation postition	Optional			
Termination	Spring terminal : 0.14 - 2.5 mm^2 (with AE 1.5 mm^2)			
Relative humidity	max. 90 % non-condensed			
Operation temperature range	-20 °C – 60 °C			
Storage temperature range	-40 – 85 °C			
Dimensions (w × h × d) in mm	22.5 × 99.0 × 114.5			
Weight (kg/piece)	0.130			
Approvals	CE			
Standards	EN 60950-1, EN 61131-1, EN 61000, EN 60947-4-1, EN 50016			
Comments Screw terminal on request				

Use

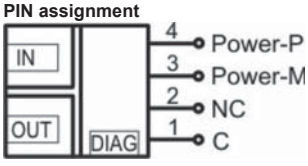


Gateway for LOCC-Box-Net (716410)
Input: LOCCbus (LIN)
Output: USB, EtherCAT

Dimensions

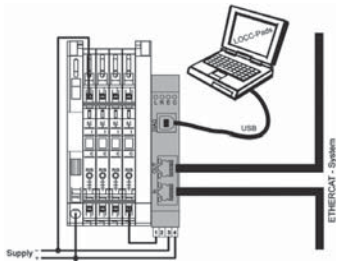


PIN assignment



Description		Part-No.	Type	PU
Spring terminal				
Nominal voltage	DC 12 / 24 V	716456	LOCC-Box-GWEC 0-6456	1
Input				
Bus system	LOCCbus, basic LIN			
Access method	Single-Master - Multiple Slave			
Bus technology	Line			
Physical level	1-wire			
Participants	typ. 40, max. 64			
Bus length	max. 40 m			
Transfer rate	9600 Baud			
Data rate	8 Bit + fixed parity (Bit 9)			
Transfer protocol	Modified multi-drop			
Output	**USB**		**EtherCAT**	
Bus system	USB 2.0 Full-Speed		EtherCAT	
Transfer rate	12 Mbit/s		100 bit/s (IEE 802.3)	
Interface	USB connector, Type B		IN, OUT, 2 × RJ-45 female with galvanic isolation and LEDs	
General				
Nominal voltage	DC 12 / 24 V			
Operation voltage range	10 – 32 V			
Rated current	55 mA @ 24 V			
Reverse voltage protection	Yes			
Status Indication	LED L, red - flashing: EEPROM error, EEPROM not loaded LED R, green - lit: ECT Run LED E, green - lit: ECT error LED C, green - flashing: data traffic with LOCC Box-Net modules (LOCCbus) link/activity: green - 100Base/T-connection, flashes with EtherCAT traffic Connect: yellow - speed LED,100Base/T-connection			
Insulation voltage	1.5 kV			
Housing material	PA			
Field installation	Snaps on to TS 35 rail (EN 50022)			
Protection class	IP 20			
Installation postition	Optional			
Termination	Spring terminal : 0.14 - 2.5 mm^2 (with AE 1.5 mm^2)			
Relative humidity	max. 90 % non-condensed			
Operation temperature range	-20 °C – 60 °C			
Storage temperature range	-40 – 85 °C			
Dimensions (w × h × d) in mm	22.5 × 99.0 × 114.5			
Weight (kg/piece)	0.130			
Approvals	CE			
Standards	EN 60950-1, EN 61131-1, -2, EN 60898, EN 60947-4-1, EN 50081			
Comments Screw terminal on request				

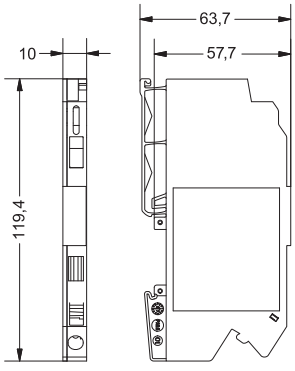
Use



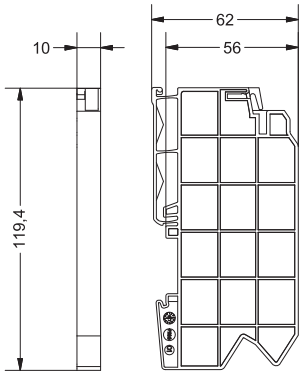
LOCC-Box supply set
consisting of supply terminal and end block
maximum total current 40 A

Dimensions

Supply terminal



End block

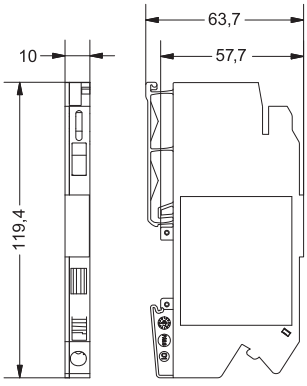


Description		Part-No.	Type	PU
Nominal voltage	DC 12 / 24 V	716425	LOCC-Box-ES 7-6425	1

Input	**LOCC-Box-ES 7-6425**
Nominal voltage	DC 12 / 24 V
Rated current	max. DC 40 A
Reverse voltage protection	No
Termination	Spring terminal : 0.33 – 10 mm^2 (AWG 22–8) conductor connection cross section, single wire (solid): max. 10 mm^2 conductor connection cross section, fine wire: max. 6 mm^2 conductor connection cross section, fine wire with AEH: max. 6 mm^2
Length of stripped insulation	12 mm
Output	
Nominal voltage	DC 12 / 24 V
Output current	max. DC 40 A
Termination	screwless disconnect terminal
Copper bus bar	3 × 10mm
General	
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Operation temperature range	-25 °C – 60 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	10.0 × 119.4 × 63.7
Weight (kg/piece)	0.035
Approvals	cURus
Standards	–

LOCC-Box supply terminal
Additional supply terminal for increased current
maximum total current 40 A

Dimensions



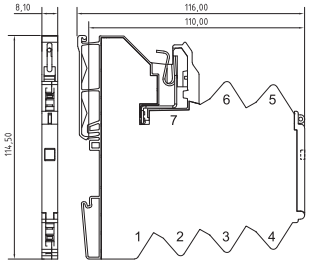
Use

Description		Part-No.	Type	PU
Nominal voltage	DC 12 / 24 V	716421	LOCC-Box-EKL 7-6421	2

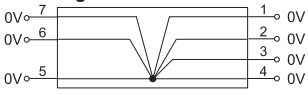
Input	**LOCC-Box-EKL 7-6421**
Nominal voltage	DC 12 / 24 V
Rated current	max. DC 40 A
Reverse voltage protection	No
Termination	Spring terminal : 0.33 – 10 mm^2 (AWG 22–8) conductor connection cross section, single wire (solid): max. 10 mm^2 conductor connection cross section, fine wire: max. 6 mm^2 conductor connection cross section, fine wire with AEH: max. 6 mm^2
Length of stripped insulation	12 mm
Output	
Nominal voltage	DC 12 / 24 V
Output current	max. DC 40 A
Termination	screwless disconnect terminal
Copper bus bar	3 × 10mm
General	
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Operation temperature range	-25 °C – 60 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	10.0 × 119.4 × 63.7
Weight (kg/piece)	0.035
Approvals	cURus
Standards	–

0V Collective Terminal
Single-channel design
maximum total current 40 A

Dimensions



PIN assignment



Description		Part-No.	Type	PU
Nominal voltage	DC 12 / 24 V	716420	LOCC-Box-SK 7-6420	2

Input	**LOCC-Box-SK 7-6420**
Nominal voltage	DC 12 / 24 V
Rated current	6× max. DC 10 A
Reverse voltage protection	No
Termination	Spring terminal: 0.25–2.5 mm^2
Connection	1 – 6
Output	
Output current	max. DC 40 A
Voltage drop	–
Termination	screwless disconnect terminal
Connection	7
General	
Housing material	PA 6.6 (UL 94-V0; NFF I2, F2)
Field installation	rail TS 35 (EN 50022)
Protection class	IP 20
Installation postition	Optional
Operation temperature range	-25 °C – 60 °C
Storage temperature range	-40 – 85 °C
Dimensions (w × h × d) in mm	8.1 × 114.5 × 116.0
Weight (kg/piece)	0.700
Approvals	–
Standards	–

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