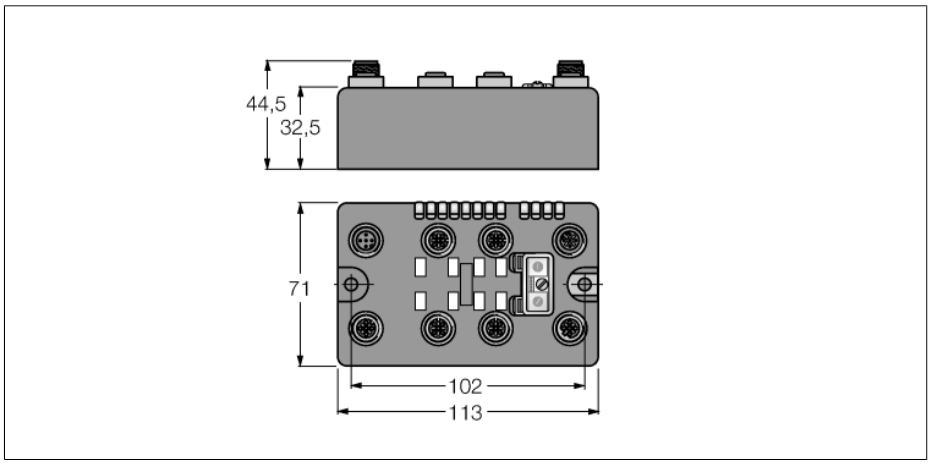
BL compact fieldbus station for PROFIBUS-DP
2 Analog Inputs for Current or Voltage and 2 Analog Outputs for Voltage
BLCDP-4M12MT-2AI2AO-VI



- **Compact fieldbus I/O module in IP69K**
- **PROFIBUS-DP slave**
- **9.6 kbps … 12 Mbps**
- **Two 5-pole M12, reverse-keyed, connectors for fieldbus connection**
- **2 rotary switches for node address**
- **IP69K**
- **M12 I/O connectors**
- **LEDs indicating status and diagnostics**
- **Electronics galvanically separated from the field level via optocouplers**
- **2 analog inputs for current or voltage**
- **0/4…20 mA or -10/0…+10 VDC (selectable per channel)**
- **2 analog voltage outputs**
- **-10/0…+10 VDC**

Type code	BLCDP-4M12MT-2AI2AO-VI
Ident no.	6811182

Nominal system voltage	24 VDC
System power supply	via auxiliary power
Voltage supply connection	2 x M12, 5-pole
Admissible range Vi	18…30VDC
Nominal current Vi	150 mA
Max. current Vi	1 A
Admissible range Vo	18…30VDC
Nominal current Vo	50 mA
Max. current Vo	4 A

Fieldbus transmission rate	9.6 kbps … 12 Mbps
Adjustment transmission rate	auto detection
Fieldbus addressing range	0...99
Fieldbus addressing	2 decimally coded rotary switches
Fieldbus connection technology	2 x M12 5-pole, reverse keyed
Fieldbus termination	external
Service interface	RS232 interface

Analog inputs	from 2AI2AO-VI
Input type	0/4 … 20 mA or -10/0 … 10 VDC
Type of input diagnostics	channel diagnostics
Sensor supply	24 VDC
Input resistance	Current: < 0.065 KΩ, Voltage: < 225 KΩ
Maximum limiting frequency analog	< 20 Hz
Basic fault limit at 23 °C	< 0.3 %
Repeatability	< 0.05 %
Temperature coefficient	< 300 ppm/°C of full scale
Resolution	16 bit
Measuring principle	Sigma Delta
Measured-value displayed	16 bit signed integer 12 bit full range left justified

Analog outputs	from 2AI2AO-VI
Output type	-10/0 … 10 V
Type of output diagnostics	Channel diagnostics
Sensor supply	24 VDC, 250 mA per channel
Load resistance, resistive	> 1 kΩ
Load resistance, capacitive	< 1 µF
Transmission frequency	< 100 Hz
Basic fault limit at 23 °C	< 0.3 %
Repeatability	< 0.05 %
Temperature coefficient	< 300 ppm/°C of full scale
Resolution	16 bit
Measured-value display	16 bit signed integer 12 bit full range left justified

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Dimensions	1130x 710x 325 mm
Operating temperature	-40...+70 °C
Storage temperature	-40...+85 °C
Relative humidity	15 to 95% (non-condensing)
Vibration test	according to IEC 61131-2
Extended vibration resistance	
- up to 20 g (at 10 to 150 Hz)	For mounting on base plate or machinery
Shock test	according to IEC 61131-2
Electro-magnetic compatibility	according to IEC 61131-2
Protection class	IP69K
Housing material	Glass-filled nylon, nickel plated brass connectors
Housing color	Black
Window material	Lexan
Screw material	Nickel plated brass
Label material	Polyester with Polycarbonate overlay
Ground tab material	Nickel plated brass
Weight	390 ± 20 g
Approvals and certificates	CE, cULus

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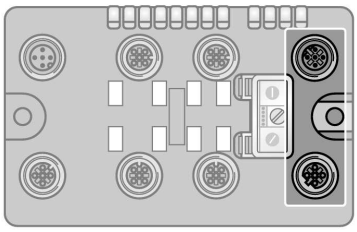
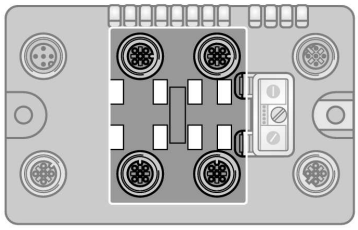
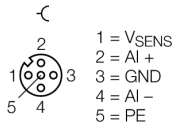


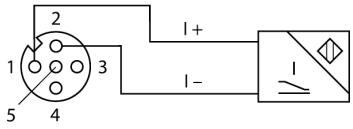
Fieldbus cable (example): RSSW RKSW 455-2M ident-no. U0350
or RSSW-RKSW455-2M ident-no. 6602222

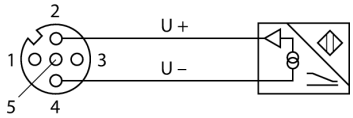


Extension cable (example): RK 4.5T-2-RS 4.5T/S653 ident-no.
U2187-09 or RKC4.5T-2-RSC4.5T/TEL ident-no. 6625212

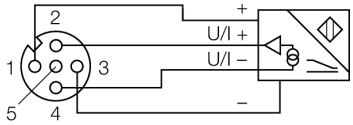


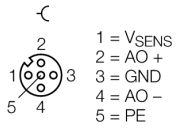
2-wire connection technology (current)

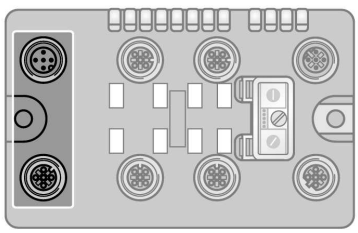




4-wire connection technology







Extension cable (example): RKC 4.4T-2-RSC 4.4T ident-no.
U5264 or RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208

Pin assignment

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Status: Station LED

LED	Color	Status	Description
IOs		OFF	No power supply
	RED	ON	Insufficient power supply
	RED	FLASHING (1Hz)	Deviating station configuration
	RED	FLASHING (4 Hz)	No module bus communication
	GREEN	ON	Station OK
	GREEN	FLASHING	Force mode active
BUS		OFF	No field bus communication
	GREEN	ON	Field bus communication active
	GREEN	FLASHING (1 Hz)	No field bus communication active, device status OK
	RED	ON	Bus error at the gateway; no data exchange
	RED	FLASHING	Faulty PROFIBUS-DP address
BUS		OFF	No field bus communication
	GREEN	ON	Field bus communication active
	GREEN	FLASHING (1 Hz)	No field bus communication active, device status OK
	RED	ON	Bus error at the gateway; no data exchange
	RED	FLASHING	Faulty PROFIBUS-DP address

Status: I/O LED

LED	Color	Status	Description
D *		OFF	Diagnostic disabled
	RED	ON	Station / module bus communication failure
	RED	FLASHING (0.5Hz)	Group diagnostic
AI channels 0…1		OFF	Channel disabled
	GREEN	ON	Channel active
	GREEN	FLASHING (0.5 Hz)	Measuring range undershoot
	GREEN	FLASHING (4 Hz)	Measuring range overshoot
AO channels 2…3			Without function (no LEDs for analog outputs)

* D LED also indicates gateway diagnostic

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I/O Data Map

INPUT	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
AI 1_0	0	AI 1_0 LSB							
	1	AI 1_0 MSB							
AI 1_1	2	AI 1_1 LSB							
	3	AI 1_1 MSB							
OUTPUT	**BYTE**	**Bit 7**	**Bit 6**	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
AO 1_2	0	AO 1_2 LSB							
	1	AO 1_2 MSB							
AO 1_3	2	AO 1_3 LSB							
	3	AO 1_3 MSB							

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