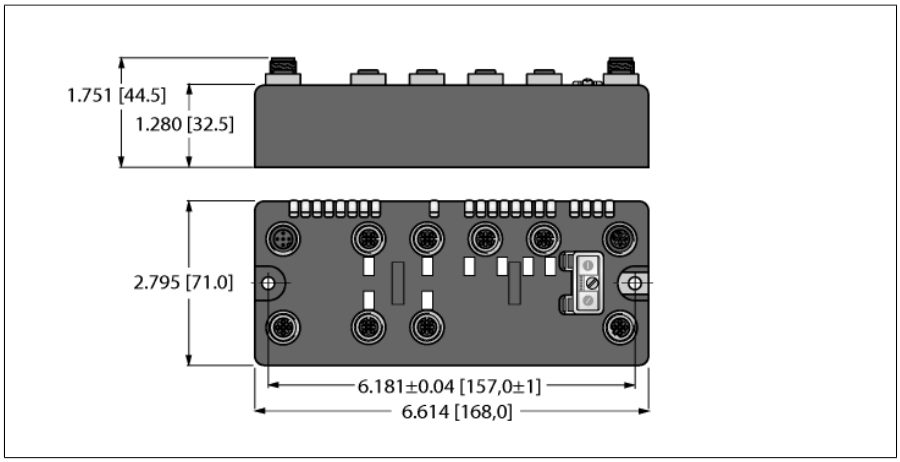
BL compact™ fieldbus station for PROFIBUS-DP
2 Analog Inputs for Pt and Ni Sensors and 8 Configurable Digital PNP Channels
BLCDP-6M12LT-2AI-PT-8XSG-PD



Type	BLCDP-6M12LT-2AI-PT-8XSG-PD
ID	6811169

Nominal system voltage	24 VDC
System power supply	Via auxiliary power
Voltage supply connection	2 x M12, 5-pin
Admissible range Vi	18…30 VDC
Nominal current Vi	245 mA
Max. current Vi	2 A
Admissible range Vo	18…30 VDC
Nominal current Vo	100 mA
Max. current Vo	4 A
Electrical isolation	The 8XSG I/O cards have a common reference potential for operating and load voltage due to their freely selectable digital channels. Subsequently, all voltage sources (VI / VO / V+) present on this device must be concurrently connected to suitable power supplies.

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

- On-machine Compact fieldbus I/O block
- PROFIBUS-DP slave
- 9.6 kbps … 12 Mbps
- Two 5-pole M12, reverse-keyed, connectors for fieldbus connection
- 2 rotary switches for node address
- IP67, IP69K
- M12 I/O connectors
- LEDs indicating status and diagnostics
- Electronics galvanically separated from the field level via optocouplers
- 8 Configurable digital PNP channels, 24 VDC
- Max. 0.5A per channel
- Channel diagnostics
- Selection of filtering times (Input delay)
- Invertible inputs
- 2 analog inputs for RTDs
- Pt100, Pt200, Pt500, Pt1000, Ni100, Ni1000, 0…100Ω, 0…200Ω, 0…400Ω, or 0…1000Ω (selectable per channel)

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Digital inputs	From 8XSG
Input type	PNP
Type of input diagnostics	Channel diagnostics
Sensor supply (V_{SENS})	24 VDC, 100 mA short-circuit limiting
Low-level signal voltage	4.5 V
Low-level signal voltage	< 4.5 VDC
High-level signal voltage	7…30 VDC
Low-level signal current	< 1.5 mA
High-level signal current	2.1…3.7 mA
Input delay	0.25 or 2.5 ms (configurable)

Digital outputs	From 8XSG
Output type	PNP
Type of output diagnostics	Channel diagnostics
Sensor supply (V_{SENS})	24 VDC
Output current per channel	0.5 A
Output voltage	24 VDC
Output delay	3 ms
Load type	resistive, inductive, lamp load
Load resistance, resistive	> 48 Ω
Load resistance, inductive	< 1.2 H
Lamp load	< 3 W
Switching frequency, resistive	< 200 Hz
Switching frequency, inductive	< 2 Hz
Switching frequency, lamp load	< 20 Hz
Short-circuit protection	yes

Analog inputs	from 2AI-PT
Operating modes	Pt100, 200, 500, 1000 & NI100, 1000
Type of input diagnostics	Channel diagnostics
Sensor supply	24 VDC, 1 amp max.
Basic fault limit at 23 °C	< 0.2 %
Repeatability	< 0.05 %
Temperature coefficient	< 300 ppm / °C of full scale
Resolution	16 Bit
Measurement display	16 bit signed integer
	12 bit full range left-justified

Dimensions	168 x 71 x 32.5 mm
Mounting	2 × 5.4 mm diameter holes, 1.7 Nm torque
Weight	600 ± 20 g
Housing material	Glass-filled nylon, nickel plated brass connectors
Housing color	Black
Material screw	Nickel-plated brass
Material label	Polyester with polycarbonate overlay
Ground label material	Nickel plated brass
Protection class	IP67 IP69K
Ambient temperature	-40…+70 °C
Storage temperature	-40…+85 °C
Relative humidity	15 to 95% (non-condensing)
Vibration test	Acc. to IEC 61131-2
- up to 20 g (at 10 up to 150 Hz)	For mounting on base plate or machinery
Shock test	according to IEC 61131-2
Electromagnetic compatibility	Acc. to IEC 61131-2
Approvals and certificates	CE, cULus

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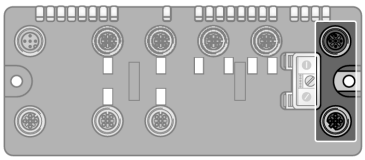
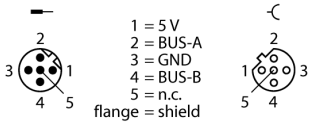
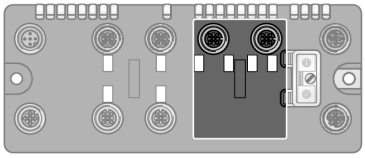
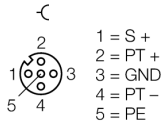
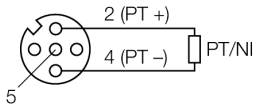
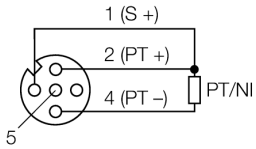
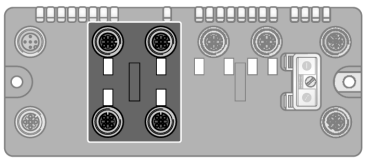
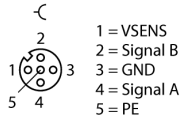
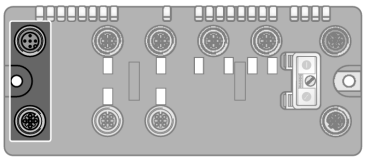
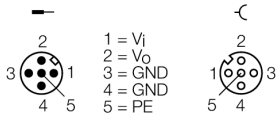
Pinning and wiring diagram

	**PROFIBUS-DP** Fieldbus cable (example): RSSW RKSW 455-2M ident-no. U0350 or RSSW-RKSW455-2M ident-no. 6602222	Pin Assignment (M12, B-Code) 
	**Slot 1: RTD Inputs** Extension cable (example): RK 4T-2-RS 4T/S3041 ident-no. U-1666 or RKC4.5T-2-RSC4.5/TEL ident no. 6625212 NOTE: Do not connect Pin 3. Use only sensor cables without pin 3 or field-wireable connectors.	Pin Assignment  2-wire Technology  3-wire Technology 
	**Slot 2: Digital Inputs and Outputs** Extension cable (example): RK 4.4T-2-RS 4.4T ident-no. U2445 or RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208	Pin Assignment 
	**Auxiliary Power** 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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Station LED status

LED	Color	Status	Description
IOs		OFF	No power
	RED	ON	Low power or station error
	RED	FLASHING (1 Hz)	I/O module configuration error
	RED	FLASHING (4 Hz)	No I/O 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

I/O LED status slot 1

LED	Color	Status	Description
D1 *		OFF	No diagnostics active
	RED	ON	Station error/ module bus communication failure
	RED	FLASHING (0.5Hz)	Diagnostics active (Slot 1)
AI channels 0 / 1			Not connected

* D1 LED also indicates gateway diagnostics

I/O LED status slot 2

LED	Color	Status	Description
D2 *		OFF	No diagnostics active
	RED	ON	Station error/ module bus communication failure
	RED	FLASHING (0.5Hz)	Diagnostics active (Slot 2)
XSG channels 0...7		OFF	Channel status x = “0“ (OFF), no diagnostics active
	GREEN	ON	Channel status x = “1“ (ON)
	RED	ON	Short-circuit at output
	RED	FLASHING (2 Hz)	Short-circuit sensor supply

* D2 LED also indicates gateway diagnostics

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							
	4	DI 2_7	DI 2_6	DI 2_5	DI 2_4	DI 2_3	DI 2_2	DI 2_1	DI 2_0
	5	-	-	-	-	-	-	-	-
OUTPUT	**BYTE**	**Bit 7**	**Bit 6**	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
	0	DO 2_7	DO 2_6	DO 2_5	DO 2_4	DO 2_3	DO 2_2	DO 2_1	DO 2_0
	1	-	-	-	-	-	-	-	-