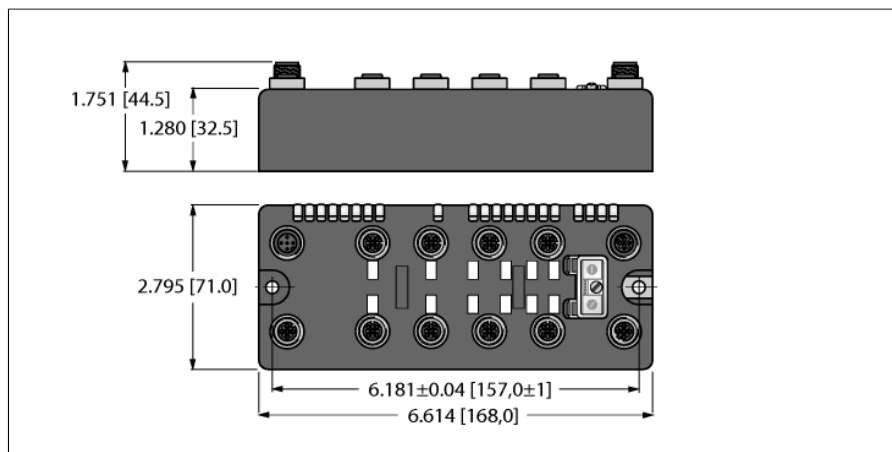


BL compact™ fieldbus station for PROFIBUS-DP

4 Analog Inputs for Current or Voltage and 8 Configurable Digital PNP Channels

BLCDP-8M12LT-4AI-VI-8XSG-PD



Type	BLCDP-8M12LT-4AI-VI-8XSG-PD
ID	6811175
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	212 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 x 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
- 4 analog inputs for current or voltage
- 0/4...20 mA or -10/0...+10 VDC (selectable per channel)

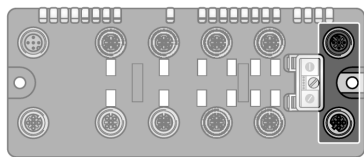
Digital inputs	From 8XSG
Input type	PNP
Type of input diagnostics	Channel diagnostics
Sensor supply (V _{SENS})	24 VDC, 100 mA short-circuit limiting
Low-level signal voltage	4.5 V
Low-level signal voltage	< 4.5 VDC
High-level signal voltage	7...30 VDC
Low-level signal current	< 1.5 mA
High-level signal 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 4AI-VI
Operating modes	0/4 ... 20 mA or -10/0 ... 10 VDC
Type of input diagnostics	Channel diagnostics
Sensor supply	24 VDC, 1 amp max.
Input resistance	Current: < 0.125 KΩ, Voltage: < 98.5 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
Measurement display	16 bit signed integer
	12 bit full range left-justified

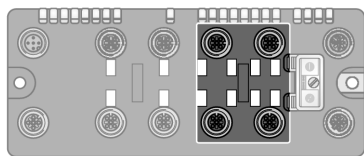
Dimensions	168 x 71 x 32.5 mm
Mounting	2 × 5.4 mm diameter holes, 1.7 Nm torque
Weight	620 ± 20 g
Housing material	Glass-filled nylon, nickel plated brass connectors
Housing color	Black
Material screw	Nickel-plated brass
Material label	Polyester with polycarbonate overlay
Ground label material	Nickel 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

Pinning and wiring diagram



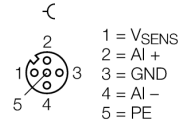
PROFIBUS-DP
Fieldbus cable (example): RSSW RKSW 455-2M ident-no. U0350
or RSSW-RKSW455-2M ident-no. 6602222

Pin Assignment (M12, B-Code)

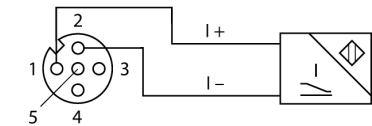


Slot 1: Analog Inputs
Extension cable (example): RK 4.5T-2-RS 4.5T/S653 ident-no.
U2187-09 or RKC4.5T-2-RSC4.5T/TEL ident-no. 6625212

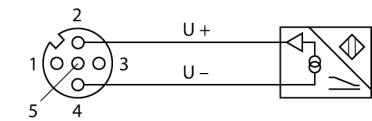
Pin Assignment



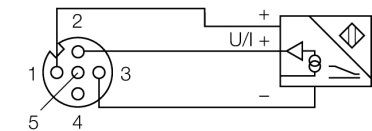
2-wire Technology (Current)



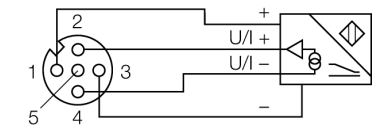
2-wire Technology (Voltage)



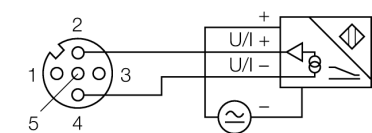
3-wire Technology

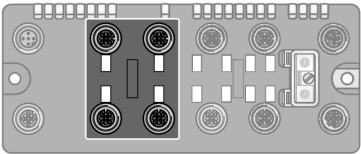


4-wire Technology



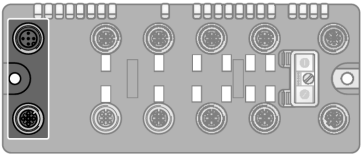
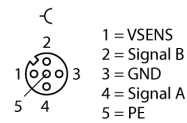
4-wire Technology (External Power)





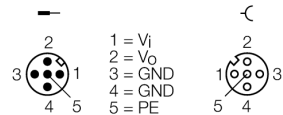
Slot 2: Digital Inputs and Outputs
Extension cable (example): RK 4.4T-2-RS 4.4T ident-no. U2445 or
RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208

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



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 1 ₀ ...1 ₃		OFF	Not active
	GREEN	ON	Active
	GREEN	FLASHING (0.5 Hz)	Underflow in measuring range
	GREEN	FLASHING (4 Hz)	Overflow in measuring range

* 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							
AI 1 ₂	4	AI 1 ₂ LSB							
	5	AI 1 ₂ MSB							
AI 1 ₃	6	AI 1 ₃ LSB							
	7	AI 1 ₃ MSB							
	8	DI 2 ₇	DI 2 ₆	DI 2 ₅	DI 2 ₄	DI 2 ₃	DI 2 ₂	DI 2 ₁	DI 2 ₀
	9	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-