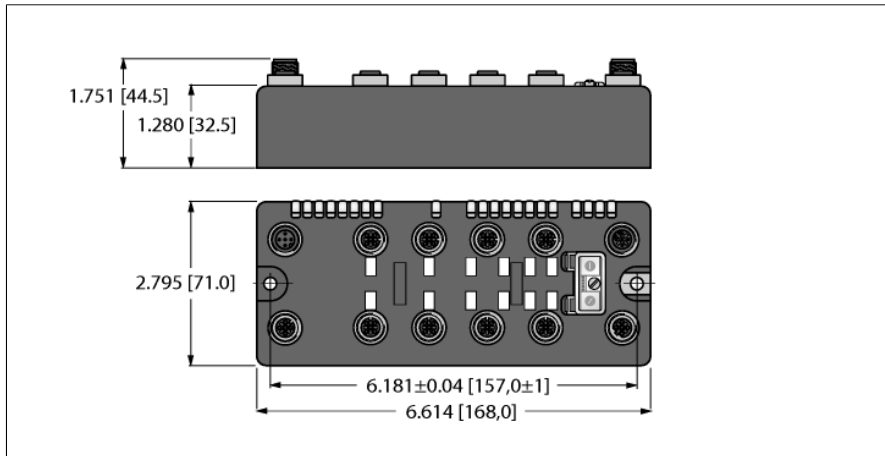


BL compact™ fieldbus station for CANopen

4 Analog Inputs for Current or Voltage and 4 Digital PNP Outputs

BLCCO-8M12LT-4AI-VI-4DO-2A-P



- On-machine Compact fieldbus I/O block
- CANopen slave
- 10, 20, 50, 125, 250, 500, 800, or 1000 kbps
- Two 5-pole M12 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
- 4 digital PNP outputs, 24 VDC
- Max. 2A per output (4A total)
- 4 analog inputs for current or voltage
- 0/4...20 mA or -10/0...+10 VDC (selectable per channel)

Type designation BLCCO-8M12LT-4AI-VI-4DO-2A-P
Ident-No. 6811325

Nominal system voltage 24 VDC
System power supply Via fieldbus and auxiliary power
Voltage supply connection 2 x M12, 4-pin
Nominal current V+ 30 mA
Max. current V+ 4 A
Admissible range Vi 11...30VDC
Nominal current Vi 12 mA
Max. current Vi 2 A
Admissible range Vo 11...30VDC
Nominal current Vo 100 mA
Max. current Vo 4 A

Fieldbus transmission rate 10 kbps ...1 Mbps
Adjustment transmission rate Automatic detection
Fieldbus address range 1...99
Fieldbus addressing 2 decimally coded rotary switches
Fieldbus connection technology 2 x M12
5-pole
Fieldbus termination external
Service interface RS232 interface

Digital outputs
Output type PNP
Type of output diagnostics Channel diagnostics
Sensor supply (V_{SENS}) 24 VDC
Output current per channel 2 A
Output voltage 24 VDC
Output delay 3 ms
Load type resistive, inductive, lamp load
Load resistance, resistive > 12 Ω
Load resistance, inductive < 1.2 H
Lamp load < 10 W
Switching frequency, resistive < 200 Hz
Switching frequency, inductive < 2 Hz
Switching frequency, lamp load < 20 Hz
Short-circuit protection yes

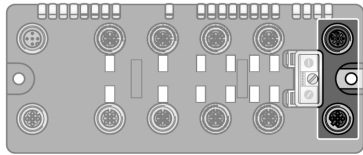
BL compact™ fieldbus station for CANopen
4 Analog Inputs for Current or Voltage and 4 Digital PNP Outputs
BLCCO-8M12LT-4AI-VI-4DO-2A-P

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 K Ω , Voltage: < 98.5 K Ω
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 x 5.4 mm diameter holes, 1.7 Nm torque
Weight	620 $\pm$ 20 g
Housing material	Glass-filled nylon, nickel plated brass connectors
Housing color	Black
Window material	Lexan
Material screw	Nickel-plated brass
Material label	Polyester with polycarbonate overlay
Ground label material	Nickel plated brass
Protection class	IP67 IP69K
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 up to 150 Hz)	For mounting on base plate or machinery
Shock test	according to IEC 61131-2
Electromagnetic compatibility	according to IEC 61131-2
Approvals and certificates	CE, cULus

BL compact™ fieldbus station for CANopen
4 Analog Inputs for Current or Voltage and 4 Digital PNP Outputs
BLCCO-8M12LT-4AI-VI-4DO-2A-P

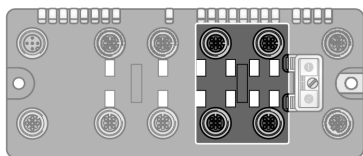
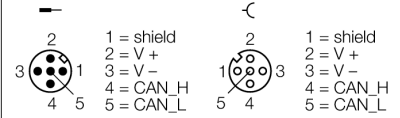
Pinning and wiring diagram



CANopen

Fieldbus cable (example): RSC RKC 572-2M ident-no. U0323 or
RSC-RKC572-2M ident-no. 6603629

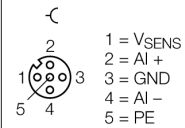
Pin Assignment



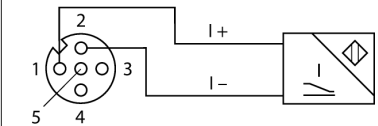
Slot 1: Analog Inputs

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

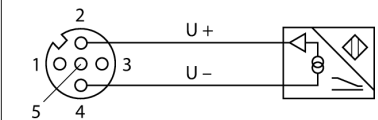
Pin Assignment



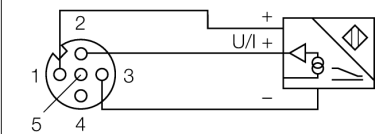
2-wire Technology (Current)



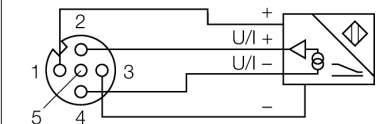
2-wire Technology (Voltage)



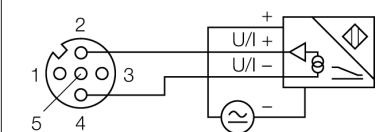
3-wire Technology



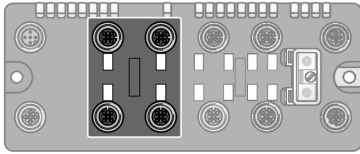
4-wire Technology



4-wire Technology (External Power)



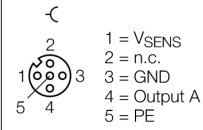
BL compact™ fieldbus station for CANopen
4 Analog Inputs for Current or Voltage and 4 Digital PNP Outputs
BLCCO-8M12LT-4AI-VI-4DO-2A-P



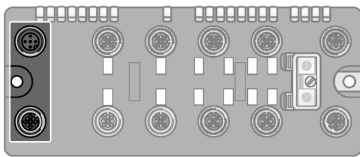
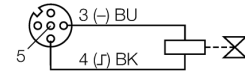
Slot 2: Digital Outputs

Extension cable (example): RK 4T-2-RS 4T ident-no. U2151-3 or
RKC4T-2-RSC4T/TEL ident-no. 6625204

Pin Assignment



Wiring Diagram



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



BL compact™ fieldbus station for CANopen**4 Analog Inputs for Current or Voltage and 4 Digital PNP Outputs****BLCCO-8M12LT-4AI-VI-4DO-2A-P****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
ERR	-	OFF	No communication error
	RED	ON	CAN bus communication error
BUS	GREEN	ON	NMT-slave state is „Operational“
	ORANGE	ON	NMT-slave state is „Pre-Operational“
	RED	ON	NMT-slave state is „Stopped“
ERR & BUS	RED (ERR) & GREEN (BUS)	FLASHING (4 Hz)	Searching for the baud rate

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)

* D2 LED also indicates gateway diagnostics

BL compact™ fieldbus station for CANopen**4 Analog Inputs for Current or Voltage and 4 Digital PNP Outputs****BLCCO-8M12LT-4AI-VI-4DO-2A-P****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							
OUTPUT	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	0	-	-	-	-	DO 2 ₁	DO 2 ₂	DO 2 ₁	DO 2 ₀
	1	-	-	-	-	-	-	-	-