

- On-machine Compact fieldbus I/O block
- EtherNet/IP™, Modbus® TCP, or PROFINET slave
- Integrated Ethernet Switch
- 10 Mbps / 100 Mbps supported
- Two 4-pole M12, D-coded, 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
- Transmission of serial data via RS485/422 interface
- For connection of devices such as: printers, scanners, or bar code readers

<b>Type code</b>	BLCEN-1M12MT-1RS485-422
Ident-No.	6811462
Ident-No (TUSA)	F6811462
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<b>Nominal system voltage</b>	24 VDC
System power supply	via auxiliary power
Voltage supply connection	2 x M12, 5-pin
Admissible range Vi	18...30VDC
Nominal current Vi	150 mA
Max. current Vi	1 A
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<b>Fieldbus transmission rate</b>	10/100 Mbps
Adjustment transmission rate	auto detection
Fieldbus address range	1...92 0 (192.168.1.254) 93 (BootP) 94 (DHCP) 95 (PGM) 96 (PGM-DHCP) *Recommended for PROFINET 97...99 (manufacturer specific)
Fieldbus addressing	2 decimally coded rotary switches
Fieldbus connection technology	2 x M12 4-pole, D-coded
Protocol detection	automatic
Web server	Integrated
Service interface	Ethernet
Vendor ID	48
Product type	12
Product code	11462
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<b>Modbus TCP</b>	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Simultaneous CIP connections	6
Input Data Size	max. 6 register
Input register start address	0 (0x0000 hex)
Output Data Size	max. 4 register
Output register start address	2048 (0x0800 hex)
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<b>EtherNet/IP™</b>	
Addressing	acc. to EtherNet/IP™ specification
Device Level Ring (DLR)	supported
Simultaneous CIP connections	6
Input Assembly Instance	103
Input Data Size	6 INT
Output Assembly Instance	104
Output Data Size	4 INT
Configuration Assembly Instance	106
Configuration Size	0
Comm Format	Data - INT

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**PROFINET**

Addressing	DCP
Conformance Class	B (RT)
MinCycleTime	1 ms
Diagnostics	acc. to PROFINET alarm handling
Topology detection	supported
Automatic addressing	supported
Media Redundancy Protocol (MRP)	supported
Input Data Size	max. 8 BYTE
Output Data Size	max. 8 BYTE

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**Technology**

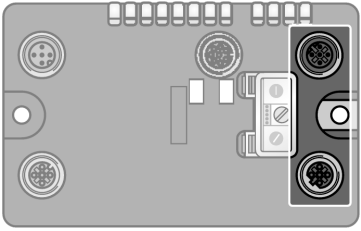
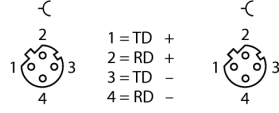
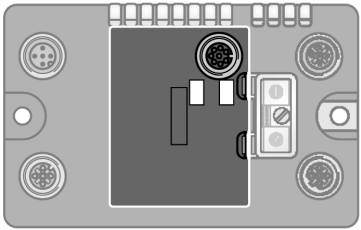
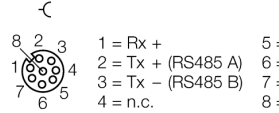
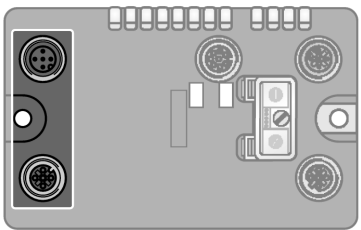
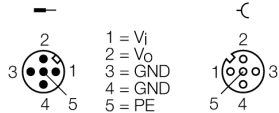
Signal type	RS485 / 422
Number of channels	1
Transmission signals	TxD, RxD
Connection type	2-wire half duplex or 4-wire full duplex
Cable length	1000 m
Line impedance	120 Ω
Terminating resistor	external
Parameters	RS485/422, transmission rate, diagnostics, data bits, stop bits, XON-character, XOFF-character, parity, flow control
Electrical isolation	isolation of electronics and field level via optocouplers

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**Dimensions**

Operating temperature	113 x 71 x 32.5 mm
Storage temperature	-40...+70 °C
Relative humidity	-40...+85 °C
Vibration test	15 to 95% (non-condensing)
Extended vibration resistance - up to 20 g (at 10 to 150 Hz)	according to IEC 61131-2
Shock test	For mounting on base plate or machinery
Electro-magnetic compatibility	according to IEC 61131-2
IP Rating	according to IEC 61131-2
Housing material	IP67
Housing color	IP69K
Material Fenster	Glass-filled nylon, nickel plated brass connectors
Screw material	black
Label material	Lexan
Ground tab material	nickel-plated brass
Weight	Polyester with Polycarbonate overlay
Approvals and certificates	Nickel plated brass
	330 ± 20 g
	CE, cULus

**Pinning and wiring diagram**

	<p><b>Ethernet</b> Fieldbus cable (example): RSSD RSSD 441-2M ident-no. U-02482 or RSSD-RSSD-441-2M/S2174 ident-no. 6914218</p>	<p>Pin Assignment (M12, D-code)</p>  <p>1 = TD + 2 = RD + 3 = TD - 4 = RD -</p>
	<p><b>RS485/422 interface</b> Extension cable (example): RKC 8T-2-RSC 8T/S1555 ident-no. U0933-01 or BS8181-0 ident-no. 6901004</p>	<p>Pin Assignment</p>  <p>1 = Rx + 2 = Tx + (RS485 A) 3 = Tx - (RS485 B) 4 = n.c. 5 = Rx - 6 = GND<sub>ISO</sub> 7 = n.c. 8 = shield</p>
	<p><b>Auxiliary power</b> Extension cable (example): RKC 4.4T-2-RSC 4.4T ident-no. U5264 or RKC4.4T-2-RSC4.4T/TEL ident-no. 6625208</p>	<p>Pin Assignment</p>  <p>1 = V<sub>I</sub> 2 = V<sub>O</sub> 3 = GND 4 = GND 5 = PE</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
BUS		OFF	Power Off
	GREEN	ON	Connected to Master
	GREEN	FLASHING	Ready
	RED	ON	Error
	RED	FLASHING	WINK
	YELLOW	ON	DHCP/BOOTP Search
LNK/ACT		OFF	No Link
	GREEN	ON	Link
	GREEN	FLASHING	Traffic
	YELLOW	ON	100 Mbit Linked

**I/O LED status**

LED	Color	Status	Description
D *		OFF	No diagnostics active
	RED	ON	Station error/ module bus communication failure
	RED	FLASHING (0.5Hz)	Diagnostics active

\* D LED also indicates gateway diagnostics

**Process Data Mapping of Each Protocol**

**EtherNet/IP™ I/O & Diagnostics Data Mapping**

INPUT	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Status Bytes	0	STAT	TX_CNT_ACK		RX_CNT		RX_BYTE_CNT		
	1	BUF_OVFL	FRAME_ERR	HNDSH_ERR	HW_FAILURE	PRM_ERR	-	-	-
User Data	2	Data Byte 0							
	3	Data Byte 1							
	4	Data Byte 2							
	5	Data Byte 3							
	6	Data Byte 4							
Diagnostics	8	Module number reporting diagnostic data							
	9	Replace Station	-	Diagnostics Active	-	-	-	-	-
Slot 1 (ref. Byte 8)	10	-	-	-	Buffer Overflow	Frame Error	Data Flow Control Error (RS422 Only)	Hardware Failure	Parameterization Error
	11	-	-	-	-	-	-	-	-
OUTPUT	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Control Bytes	0	STAT_RES	RX_CNT_ACK		TCX_CNT		TX_BYTE_CNT		
	1	-	-	-	-	-	-	RXBUF_FLUSH	TXBUF_FLUSH
User Data	2	Data Byte 0							
	3	Data Byte 1							
	4	Data Byte 2							
	5	Data Byte 3							
	6	Data Byte 4							
7	Data Byte 5								

**Modbus® TCP Register Mapping**

	REG	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Inputs (RO)	0x0000	BUF OVFL	FRM	HNDSH_ERR	HW	PRM	-	-	-	STAT	TX_CNT_ACK	RX_CNT	RX_BYTE_CNT				
	0x0001 ... 0x0003	Read Data (3 Words)															
Status (RO)	0x0004	-	FCE	-	-	CFG	COM	VI low	-	VO low	-	-	-	-	-	-	DIA
Diag. (RO)	0x0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	S1 DIA
Outputs (RW)	0x0800	-	-	-	-	-	-	RXBUF_FLUSH	TXBUF_FLUSH	STAT RES	RX_CNT_ACK	TCX_CNT	TX_BYTE_CNT				
	0x0801 ... 0x0803	Write Data (3 Words)															
I/O Diag. (RO)	0xA000	-	-	-	-	-	-	-	-	OF	FRM	DFC	HW	PRM	-	-	-

**PROFINET® Process Data**

	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Inputs	0	STAT	TX_CNT_ACK		RX_CNT		RX_BYTE_CNT		
	1	BUF_OVFL	FRAME_ERR	HNDSH_ERR	HW_FAILURE	PRM_ERR	-	-	-
	2	Data Byte 0							
	3	Data Byte 1							
	4	Data Byte 2							
	5	Data Byte 3							
	6	Data Byte 4							
Outputs	0	STAT_RES	RX_CNT_ACK		TCX_CNT		TX_BYTE_CNT		
	1	-	-	-	-	-	-	RXBUF_FLUSH	TXBUF_FLUSH
	2	Data Byte 0							
	3	Data Byte 1							
	4	Data Byte 2							
	5	Data Byte 3							
	6	Data Byte 4							
7	Data Byte 5								