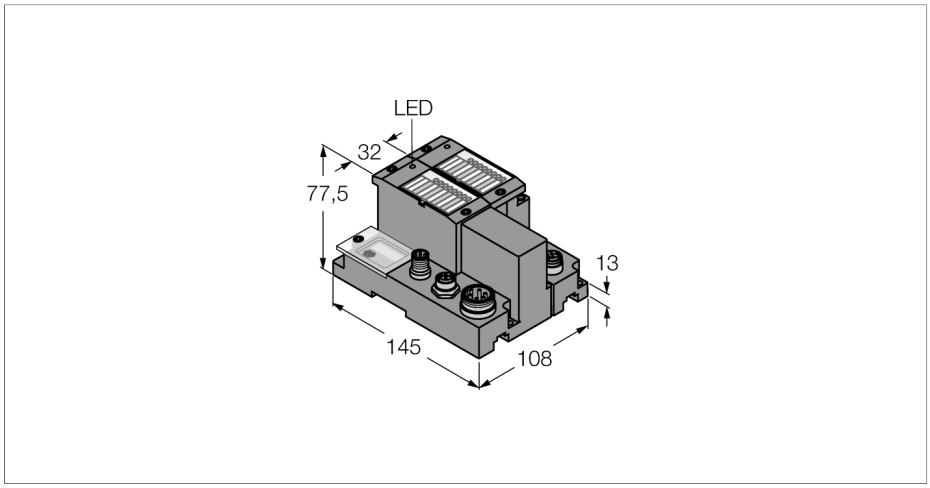
Kit for simple I/O communication via Ethernet Modbus/TCP/ EtherNet/IP in IP67
TI-BL67-EN-S-2



Type	TI-BL67-EN-S-2
Ident-No.	1545150
Number of channels	2
Dimensions (W x L x H)	108 x 145 x 77.5 mm
Supply voltage	24 VDC
max. system supply current $I_{mb\ (5V)}$	1.3, A
max. sensor supply I_{sens}	4 A electronically limited current supply electronically limited current supply
Max. load current I_{o}	10 A
Admissible range	18…30 VDC
Service interface	Mini USB, Ethernet
Transmission rate	115.2 kbps
Cable length	50 m
Electrical isolation	isolation of electronics and field level via opto-couplers
Connection technology	M12
Simultaneity factor	1
Sensor supply	0.5 A per channel, short-circuit proof
Operating temperature	-40…+70 °C
Temperature derating	
> 55 °C Circulating air (Ventilation)	no limitation
> 55 °C Steady ambient air	Isens < 3A, Imb < 1A
Storage temperature	-40 … +85 °C
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45 °C storage)
Vibration test	acc. to EN 61131
Extended vibartion resistance	VN 02-00 and higher
Extended vibartion resistance	
- up to 5 g (at 10 to 150 Hz)	For mounting on DIN rail no drilling according to EN 60715, with end bracket
- up to 20 g (at 10 to 150 Hz)	For mounting on base plate or machinery Therefore every second module has to be mounted with two screws each.
Shock test	acc. to IEC 68-2-27
Drop and topple	acc. to IEC 68-2-31 and free fall to IEC 68-2-32
Electro-magnetic compatibility	acc. to EN 61131-2
Protection class	IP67

- **A special software (function module) for integration in PLC systems is not required.**
- **Cable max. 50 m between interface and read/write head**
- **10/100 Mbps**
- **LEDs for display of supply voltage, group and bus errors as well as status and diagnostics**
- **Connection of up to 2 read/write heads via BL ident M12 extension cables**
- **Mixed operation of HF and UHF read/write heads**

Functional principle

BL67 gateways are the head component of a BL67 station. They are designed to connect the modular fieldbus nodes to the higher level fieldbus (PROFIBUS-DP, DeviceNet™, CANopen, Ethernet Modbus TCP, PROFINET IO or EtherNet/IP™).

All BL67 electronic modules communicate over the internal module bus, the data of which is transferred to the fieldbus via the gateway. All I/O modules can thus be configured independently of the bus system.

BL ident® can be integrated in your installation in various different ways.

Various fieldbus standards such as PROFIBUS-DP, EtherNet/IP, Ethernet Modbus TCP, DeviceNet™, CANopen und PROFINET IO enable a flexible integration.

BL ident® simple electronic modules (BL20-2RFID-S, BL67-2RFID-S) can be integrated without function block in existing control or host systems, since standard input and output process data are used for communication.

Programmable gateways with periferal preprocessing function to relieve the higher-level control and bus system.

Premounted sets (2, 4, 6 or 8-port) for all fieldbus networks reduce the mounting effort.

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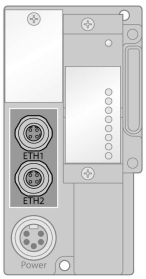
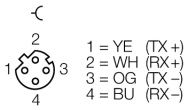
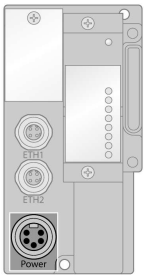
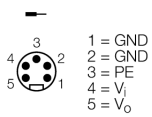
Pin configuration and supply concept

	Ethernet ports Starting from version VN 03-00, the gateway features two D-coded M12 Ethernet ports with integrated switch. The ports are used as interfaces for configuration and fieldbus communication. The gateway supports the EtherNet/IP™ and Modbus TCP protocols	Pin assignment 
	Power supply Double-tuned power supply of the BL67 system. System power supply V_i V_i is for the internal system supply at the backplane bus($V_{MB(5V_i)}$) and for the 4A short-circuit limited sensor supply (V_{sens}). Load voltage V_o V_o for output supply, limited to max.10A.	Pin assignment 

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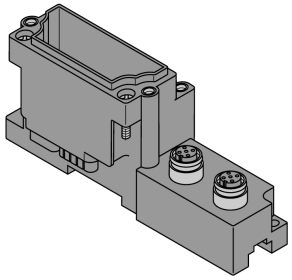
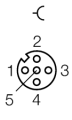
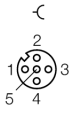
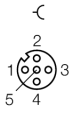
Compatible base modules

Dimension drawing	Type	Pin configuration
	BL67-B-2M12 6827186 2 x M12, 5-pole, female, a-coded	Connectors …/S2500  1 = BN (+) 2 = BK (Data) 3 = BU (GND) 4 = WH (Data) 5 = shield Connectors …/S2501  1 = BN (+) 2 = WH (Data) 3 = BU (GND) 4 = BK (Data) 5 = shield Connectors …/S2503  1 = RD (+) 2 = BU (Data) 3 = BK (–) 4 = WH (Data) 5 = shield

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LED display

LED	color	status	description
D		OFF	Error report or diagnostics active.
	RED	ON	Failure of MODBUS communication Check if more than 2 adjacent electronic modules are pulled. Relevant modules are located between gateway and this module.
	RED	FLASHING (0.5 Hz)	Upcoming module diagnostics
RW0 / RW1		OFF	No tag, diagnostics disabled
	GREEN	ON	Tag available
	GREEN	FLASHING (2 Hz)	Data exchange with tag enabled
	RED	ON	Read/write head fault
	RED	FLASHING (2 Hz)	Short-circuit in the supply line of read/write head

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I/O Data Mapping

INPUT	BYTE	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Channel 0	n	DONE	BUSY	ERROR	XCVR CON	XCVR ON	TP	TFR	Reserved
	n+1	Error Code							
	n+2	Error Code 1							
	n+3	Reserved							
	n+4	READ DATA (8 Byte)							
	n+5								
	…								
	n+10								
	n+11								
Channel 1	n+12	DONE	BUSY	ERROR	XCVR CON	XCVR ON	TP	TFR	Reserved
	n+13	Error Code							
	n+14	Error Code 1							
	n+15	Reserved							
	n+16	READ DATA (8 Byte)							
	n+17								
	…								
	n+22								
	n+23								
OUTPUT	**BYTE**	**Bit 7**	**Bit 6**	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
Channel 0	m	XCVR	NEXT	TAG ID	READ	WRITE	TAG INFO	XCVR INFO	RESET
	m+1	Reserved					Byte Count 2	Byte Count 1	Byte Count 0
	m+2	Address high byte							
	m+3	Address low byte							
	m+4	WRITE DATA (8 Byte)							
	m+5								
	…								
	m+10								
	m+11								
Channel 1	m+12	XCVR	NEXT	TAG ID	READ	WRITE	TAG INFO	XCVR INFO	RESET
	m+13	Reserved					Byte Count 2	Byte Count 1	Byte Count 0
	m+14	Address high byte							
	m+15	Address low byte							
	m+16	WRITE DATA (8 Byte)							
	m+17								
	…								
	m+22								
	m+23								

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