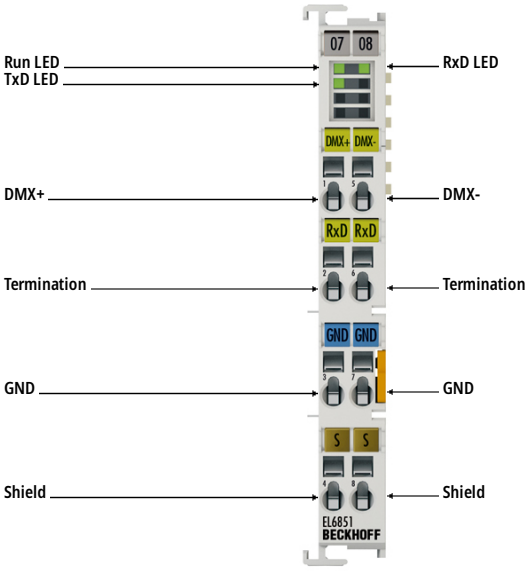
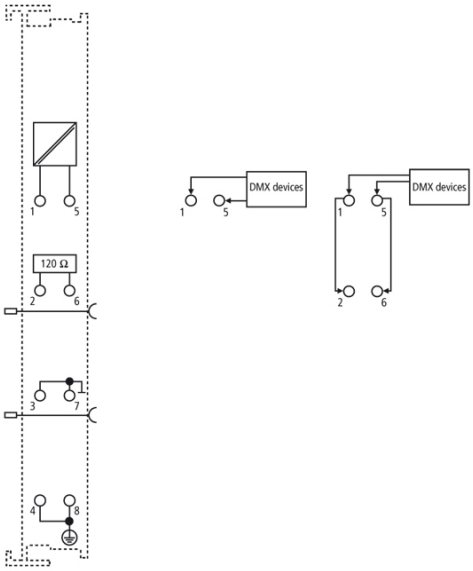
EL6851 | EtherCAT Terminal, 1-channel communication interface, DMX, master



Top view



Contact assembly

Product status: Regular delivery

The EL6851 EtherCAT Terminal is a DMX master terminal and enables connection of up to 32 devices without repeater. The DMX master terminal can send up to 512 bytes of data (this can be set via the terminal). At 250 kbit/s a maximum data rate of 44 kHz is therefore possible. The RS485 interface in the EL6851 is electrically isolated and guarantees high interference immunity.

In addition, the RDM (Remote Device Management) protocol can be run via the EL6851. RDM is an extension of the DMX protocol and enables addressing and parameterization of devices. TwinCAT offers associated libraries.

The EL6851-0010 EtherCAT Terminal is a DMX slave terminal. The DMX slave terminal can receive up to 512 bytes of data. The start address and the data length can be set via the CoE (CAN application protocol over EtherCAT) objects. The RS485 interface in the EL6851-0010 is electrically isolated and guarantees high interference immunity.

The DMX slave receives data from a DMX master and transmits them to the application via EtherCAT. In this way, non-DMX-capable devices, like DALI lamps or dimmer terminals, can also be addressed.

DMX is based on RS485 physics. An integrated termination resistor can be connected through two-wire jumpers in the terminal.

Product information

Technical data

Technical data	EL6851	EL6851-0010
Technology	DMX master terminal	DMX slave terminal

Data transfer channels	RS485 physics/half duplex	
Data transfer rates	250 kbit, one start bit, two stop bits	
Interfaces	RS485, termination resistor can be switched, half duplex	
Bus device	max. 32 without repeater	–
Line impedance	120 Ω	
Power supply	via the E-bus	
Distributed clocks	–	
Electrical isolation	500 V (E-bus/signal voltage)	
Protocol	DMX512	
Bit width in the process image	variable	
Configuration	no address setting, configuration via PLC	
Current consumption power contacts	–	
Current consumption E-bus	typ. 130 mA	
Special features	supports RDM protocol, library available; electrically isolated	start address and data length can be set
Weight	approx. 55 g	
Operating/storage temperature	0...+55 °C/-25...+85 °C	
Relative humidity	95 %, no condensation	
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27	
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4	
Protect. rating/installation pos.	IP20/variable	
Approvals/markings	CE, UL, ATEX	
Ex marking	II 3 G Ex nA IIC T4 Gc	

Housing data	**EL-12-8pin**
Design form	compact terminal housing with signal LEDs
Material	polycarbonate
Dimensions (W x H x D)	12 mm x 100 mm x 68 mm
Installation	on 35 mm DIN rail, conforming to EN 60715 with lock
Side by side mounting by means of	double slot and key connection
Marking	labeling of the BZxxx series
Wiring	solid conductor (e), flexible conductor (f) and ferrule (a): spring actuation by screwdriver
Connection cross-section	s*: 0.08...2.5 mm^2, st*: 0.08...2.5 mm^2, f*: 0.14...1.5 mm^2
Connection cross-section AWG	s*: AWG 28...14, st*: AWG 28...14, f*: AWG 26...16
Stripping length	8...9 mm

Current load power contacts	I_{max}: 10 A

*s: solid wire; st: stranded wire; f: with ferrule

Ordering information

Ordering information	
EL6851	EtherCAT Terminal, 1-channel communication interface, DMX, master
EL6851-0010	EtherCAT Terminal, 1-channel communication interface, DMX, slave