eks EL-100-4 8 Port Unmacched Ethernet Switch User Manual

fiber optic systems

EL-100-4 8 Port Unmatched Ethernet Switch
User Manual

Contents

Legal Notice

This manual contains important notes and warnings. Their ignoration can cause serious injuries or damage to the system. Please read the manual carefully before using the equipment EL-100-4. Correct transport, proper storage,

and installation as well as careful operation and maintenance of EL-100-4 are critical for safe operation.

System description

The EL-100-4 series are 5-Port, 6-Port, 8-Port, and 10-Port Unmanaged Industrial Ethernet Layer 2 Switches with auto-negotiation and auto MDI/MDIX.
The rugged and compact housing allows a flexible FX-Port configuration. Up to 4 FX-Ports are available, each having an ST, SC, or an E-2000 fiber optic connector. All systems can communicate via two as well as one fiber with the help of the BIDI technology with an SC port.
Important performance features of the transfer with POF, HCS, multimode, or single-mode fiber optic are the electromagnetic ruggedness, the potential separation of transmitter and receiver, as well as ranges up to 40 km between two fiber optic systems. LEDs and potential-free contacts (optional) of a fault detector relay are able to signal defective states.

Hardware Installation

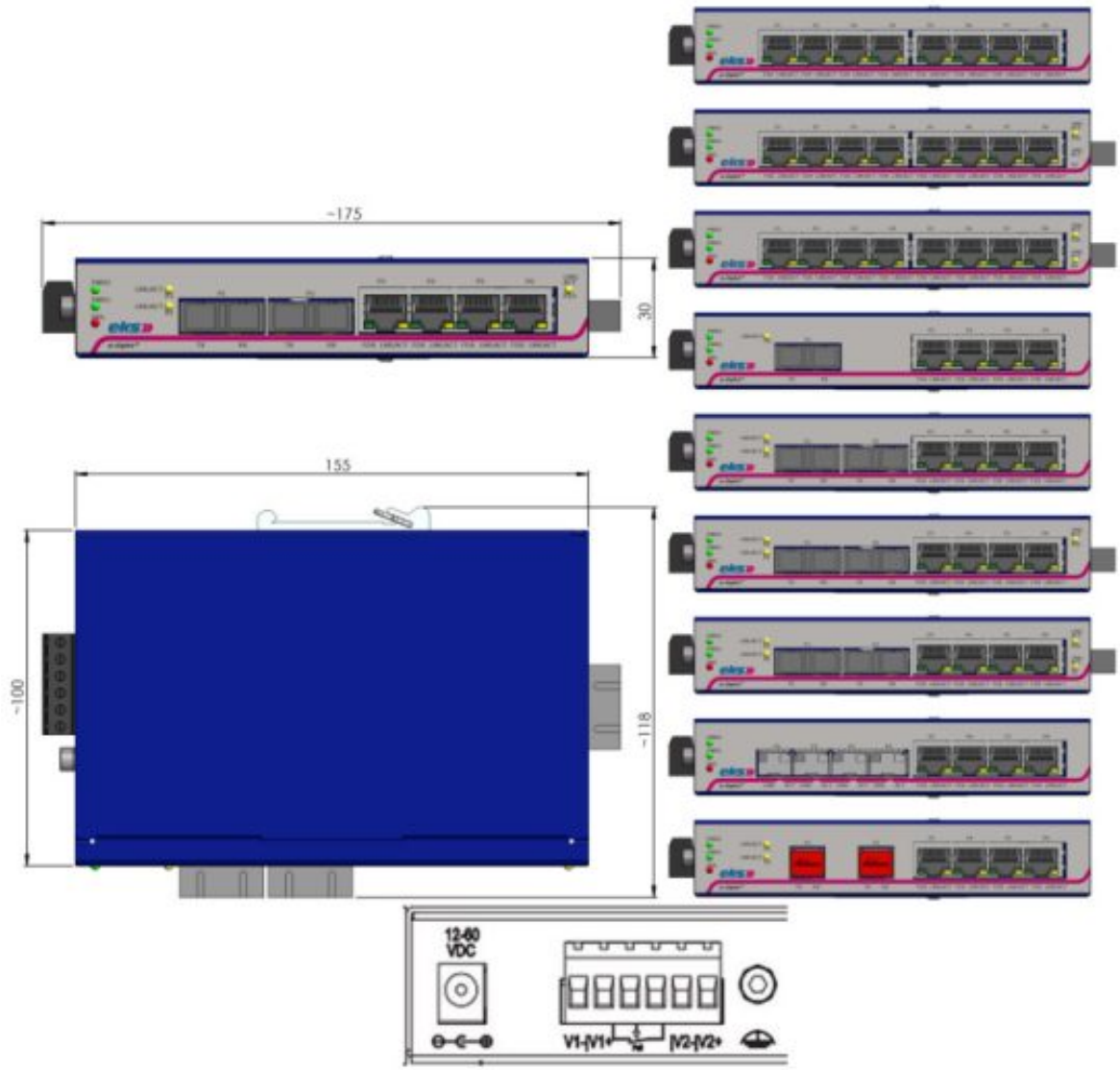
Attention: During the operation of electrical equipment and systems, parts carry dangerous voltages. Work on the electrical systems or equipment is only allowed by a skilled electrician himself or by specially instructed persons under the control and instructions of a qualified electrician and the compliance of the electrotechnical regulations.
Power off the devices, which will be connected.
Snap the system onto the DIN EN rail or use the wall mount. Check the correct holding!
Attention: Only use the correct optical connectors for the fiber optic system. Using incorrect connectors can cause damage to the fiber optic system. Take care that connectors with a latch can only be mounted in a defined position.
Attention: Don't stare into the optical cable or the transmitter of the fiber optic system. Visible and nonvisible light (depending on its wavelength) of the optical transmitter can cause eye damage!
Connect the fiber optic system by using the correct fiber optic cable. Take care that you always have to connect an optical transmitter and an optical receiver.
Use the plugs to save the unused optical receiver and transmitter against impurity.
Attention: Don't bend the fiber optic cable! Please refer to the manufacturer's specifications. Otherwise, the fiber optic cable can be damaged and/or the communication will be disturbed.
Attention: The ETHERNET connections are only intended for connection to computer networks (LANs) and must not be connected to telephone networks or telecommunication lines.
Attention: This device was designed for operation with NEC Class 2 compliant power supplies.
Power on the devices. Please use a power supply of 5TX: 12-48 VDC or 18-30 VAC
All others: 12-60 VDC connected to the terminals marked with V1+/V1- and/or V2+/V2-.
Note, that the system has reverse voltage protection.
Attention: BIDI Switches must always be connected from transceiver type A to a transceiver type B.

Status-LEDs:

- **PWR1** / **PWR2:** operating voltage connected to V1 / V2
- **Fail (red):** one of the operating voltages is not connected
- **FDX (green):** lights when the port is connected
- **Link/Act (yellow):** flashes during data transfer on the port
- **LWL (yellow) :** lights if connected, flashes during data transfer
- **LINK/ACT (Port n):**

Failure relay:
There is a potential free failure relay contact at K1 and K2. The relay switches if there is no supply voltage at the VDC inputs.
Function of K1 – K2: Failure relay contact, closed in case of failure.
All switches feature autonegotiation und auto MDI/MDIX.

Views



Disposal notes

The units must not be disposed with normal household waste but can be returned to eks Engel FOS GmbH & Co. KG for disposal.

Technical Data *

10/100Base T/TX Port	RJ45 / Autonegotiation / Auto MDX/MDIX / untershitzt Langen bis 100 m / supports cable till 100 m (Cat5e)
Status LEDs	System fault (red) / Port LEDs (green/yellow) / Power supply (green)
Operating voltage	5TX 12-48 VDC and 18-30 VAC redundant power supply All others : 12-60 VDC redundant power supply, other voltages on request
Power consumption	5TX : 3 W, 120 mA @ 24 VDC All others : 7 W, 300 mA @ 24 VDC
Potential separation	500 V
Operating Temperature	-40 °C – +70 °C (5TX, 8TX, Multimode and Singlemode with SC or ST) -20 °C — +55 °C (all others)
Storage Temperature	-40 °C — +85 °C
Failure Relay (optional)	24 VDC (1A) / 60 VDC (0.3 A)
Weight	TX 400 g All others 510 g
Dimensions WxHxD	5TX : 25 x 130 x 105 mm All others : 30 x 155 x 118 mm
Housing	Rostfreler Stahl, puiverbeschichtet / rust-free steel, powder coated
Humidity	Feuchtigkeit 5-95% RHD nicht kondenslerend / Humidity 5-95% RHD non-conden sing
Electromagnetic Compatibi lity	EN61000-6-2 / EN55032 Class A

Ordering information

TX	**EL-100-4-5TX**	**EL-100-4-8TX**	
Order-No.	0 5005 01 00 00 00EV00-00	0 5008 01 00 00 00EV00-00	
100 TX Ports	5 x RJ45	8 x RJ45	
SFP	**EL-100-4-4TX / 4 SFP**		
Order-No.	0 5004 01 99 99 99 99EV00-00		
100 TX Ports	4 x RJ45		
100 FX Ports	4 x SFP (100 mBit)		

POF 4TX/2FX	**EL-100-4-4TX-2FX-PO**		
Order-No.	0 5004 01 00 08 08EV00-00		
100 FX Ports	2 x Optolock		
100 TX Ports	4 x RJ45		
Fiber Type	POF 980 / 1000 µm		
Attenuation	180 dB/km		
Wavelength	650 nm		

Multimode 4TX/3FX	**EL-100-4-4TX-3FX-MM-ST**	**EL-100-4-4TX-3FX-MM-SC**	**EL-100-4-4TX-3FX-MM-E2**
Order-No.	0 5004 01 31 31 31EV00-00	0 5004 01 33 33 33EV00-00	0 5004 01 35 35 35EV00-00
100 FX Ports	3 x ST	3 x SC	3 x E2000
100 TX Ports	4 x RJ45	4 x RJ45	4 x RJ45
Multimode 4TX/4FX	**EL-100-4-4TX-4FX-MM-ST**	**EL-100-4-4TX-4FX-MM-SC**	**EL-100-4-4TX-4FX-MM-E2**
Order-No.	0 5004 01 31 31 31 31EV00-00	0 5004 01 33 33 33 33EV00-00	0 5004 01 35 35 35 35EV00-00
100 FX Ports	4 x ST	4 x SC	4 x E2000
100 TX Ports	4 x RJ45	4 x RJ45	4 x RJ45
Multimode 8TX/1FX	**EL-100-4-8TX-1FX-MM-ST**	**EL-100-4-8TX-1FX-MM-SC**	**EL-100-4-8TX-1FX-MM-E2**
Order-No.	0 5008 01 00 00 31EV00-00	0 5008 01 00 00 33EV00-00	0 5008 01 00 00 35EV00-00
100 FX Ports	1 x ST	1 x SC	1 x E2000
100 TX Ports	8 x RJ45	8 x RJ45	8 x RJ45
Multimode 8TX/2FX	**EL-100-4-8TX-2FX-MM-ST**	**EL-100-4-8TX-2FX-MM-SC**	**EL-100-4-8TX-2FX-MM-E2**
Order-No.	0 5008 01 00 31 31EV00-00	0 5008 01 00 33 33EV00-00	0 5008 01 00 35 35EV00-00
100 FX Ports	2 x ST	2 x SC	2 x E2000
100 TX Ports	8 x RJ45	8 x RJ45	8 x RJ45
Fiber	Multimode		
Fiber Type	50(62,5)/125 µm		
Bandwidth	800 (500) MHz*km		
Wavelength	1300 nm		
Budget	12 dB (15 dB)		
Distance	5 km (4 km) (1 dB/km)		

Singlemode 4TX/1FX	**EL-100-4-4TX-1FX-SM-ST**	**EL-100-4-4TX-1FX-SM-SC**	**EL-100-4-4TX-1FX-SM-E2**
Order-No.	0 5004 01 00 00 51EV00-00	0 5004 01 00 00 53EV00-00	0 5004 01 00 00 55EV00-00
100 FX Ports	1 x ST	1 x SC	1 x E2000
100 TX Ports	4 x RJ45	4 x RJ45	4 x RJ45

Singlemode 4TX/2FX	**EL-100-4-4TX-2FX-SM-ST**	**EL-100-4-4TX-2FX-SM-SC**	**EL-100-4-4TX-2FX-SM-E2**
Order-No.	0 5004 01 00 51 51EV00-00	0 5004 01 00 53 53EV00-00	0 5004 01 00 55 55EV00-00
100 FX Ports	2 x ST	2 x SC	2 x E2000
100 TX Ports	4 x RJ45	4 x RJ45	4 x RJ45
Singlemode 4TX/2FX	**EL-100-4-4TX-3FX-SM-ST**	**EL-100-4-4TX-3FX-SM-SC**	**EL-100-4-4TX-3FX-SM-E2**
Order-No.	0 5004 01 51 51 51EV00-00	0 5004 01 53 53 53EV00-00	0 5004 01 55 55 55EV00-00
100 FX Ports	3 x ST	3 x SC	3 x E2000
100 TX Ports	4 x RJ45	4 x RJ45	4 x RJ45
Singlemode 4TX/2FX	**EL-100-4-4TX-4FX-SM-ST**	**EL-100-4-4TX-4FX-SM-SC**	**EL-100-4-4TX-4FX-SM-E2**
Order-No.	0 5004 01 51 51 51 51EV00-00	0 5004 01 53 53 53 53EV00-00	0 5004 01 55 55 55 55EV00-00
100 FX Ports	4 x ST	4 x SC	4 x E2000
100 TX Ports	4 x RJ45	4 x RJ45	4 x RJ45
Singlemode 8TX/1FX	**EL-100-4-8TX-1FX-SM-ST**	**EL-100-4-8TX-1FX-SM-SC**	**EL-100-4-8TX-1FX-SM-E2**
Order-No.	0 5008 01 00 00 51EV00-00	0 5008 01 00 00 53EV00-00	0 5008 01 00 00 55EV00-00
100 FX Ports	1 x ST	1 x SC	1 x E2000
100 TX Ports	8 x RJ45	8 x RJ45	8 x RJ45
Singlemode 8TX/2FX	**EL-100-4-8TX-2FX-SM-ST**	**EL-100-4-8TX-2FX-SM-SC**	**EL-100-4-8TX-2FX-SM-E2**
Order-No.	0 5008 01 00 51 51EV00-00	0 5008 01 00 53 53EV00-00	0 5008 01 00 55 55EV00-00
100 FX Ports	2 x ST	2 x SC	2 x E2000
100 TX Ports	8 x RJ45	8 x RJ45	8 x RJ45
Fiber	Singlemode		
Fiber Type	9/125µm		
Bandwidth	3,5 ps/nm*km		
Wavelength	1310 nm		
Budget	16 dB		
Distance	30km (andere Reichweiten auf Anfrage / please request for other distances) (0,3 dB/km)		

* Weitere Typen auf Anfrage / * Please request for other types

Documents / Resources

	**eks EL-100-4 8 Port Unmacched Ethernet Switch** [pdf] User Manual EL-100-4 8 Port Unmacched Ethernet Switch, EL-100-4, 8 Port Unmacched Ethernet Switch

References

- **ENGEL CANESSA - Immobilienberatung - Property Management - Projektentwicklung - Home**
- **info@eks-engel.de**
- **fiber optic systems – eks Engel**
- **fiber optic systems – eks Engel**