

RS – 485 to Multimode Fibre Optic Converter ELO E171



Characteristics

- Independent on communication protocol**
- Minimum data delay**
- AI case - for DIN rail mounting**
- Supply voltage DC 9-24 V**
- Link range 2 km**

Introduction

Fiber Optic (SINGLE MODE and/or MULTI MODE) has been used for signal transmission in automation for communication more and more often. The main advantage of Fiber Optic is its immunity to electromagnetic interference, slight radiation and high transmission capacity

Use of the converter

Conversion of metallic media to more expensive fiber optic is mainly suitable:

- 1] in the environment of high interference level,
- 2] if the higher isolation is required, (switching stations, transformers),
- 3] if the metallic line can not be used because of EMI ,
- 4] if the higher transport security and safety is necessary,
- 5] if isolation via the optocouplers is not suitable for different reasons

These problems can be solved if the converter ELO E171 (MULTI MODE) is applied.

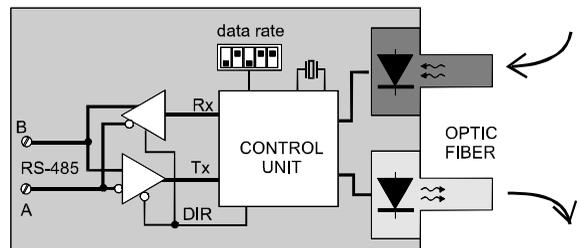
Operation principles

ELO E171 transfers signal received from RS-485 interface to transmitting fiber of the optic cable and the signal from receiving fiber is transmitted to RS-485. Besides the signal transfer, the converter matches the full duplex fiber to the half duplex RS-485 (data-flow direction switching).

Its independent operation is based on the set data rate (1200 to 115200 bps) and data format which must be asynchronous of 10 and/or 11bits (start bit, 8 to 9 information bits, stop bit). The switching speed is sufficient to use the converter in data transmission network organized as MASTER-SLAVE and MULTI MASTER.

The converter also corrects bits width distortion which could occur during transmission. For fiber optic connection optical connector ST is used as standard.

Block diagram



Specification

Parameters

Transmitted signals	differential signal AB
Type and connection of RS-485 connector	clamps
Isolation	RS-485 galvanic isolation from GND 3 kV/1 sec supply
Transmit mode	asynchronous, half-duplex
Fiber optic cable	two multimode fiber cables 50/125 μm (62/125μm)
Optic connectors	ST type
Maximum data rate	115 200 bps
Minimum data rate	1200 bps
Supply	external DC supply 9-24V/200 mA

Dimension:	Length	115 mm
	Width	55 mm
	Height	24 mm
Weight		137 g

Other

Stocking temperature	-10° to +55°C
Working temperature	+0° to +50°C
Humidity	0 – 85% (non-condensing)