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Digital optical transmission system DOtech Type K73 for K-Line diagnosis according to ISO 9141: Technical specification

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Principle of transmission

The transmission system consists of two identical transceiver circuits. The supply is done by an external battery U_{bat}. The system serves for the bi-directional optical transmission of digital K-Line signals (according to ISO 9141) in harsh electromagnetic environments and for bus simulations during emission tests.

Technical data

System

o	Two identical transceivers, interchangeable		
o	Fault LED		
o	Transmitter and receiver are usable on different voltage levels		
o	Automatic switching of the pull-up-resistors for operation in 12V- and 24V-systems and display via LEDs		
o	Transmission capability:	DC – 30 kBaud	
o	U_{bat}:	$5\ V < U_{bat} < 35\ V$	
o	Guaranteed susceptibility:	$\hat{E} = 400$ V/m	
o	Pull-up-resistor for 12V systems:	510 Ohm	
o	Pull-up-resistor for 24V systems:	1 kOhm	
o	Input capacitance of the K-Line:	$C_{in} < 2$ nF	
o	Housing:	aluminium, connected to ground	
o	Housing dimensions:	100 x 80 x 50 mm	
o	Electrical connectors:	K-Line	female connector, green
		U_{bat}	female connector, red
		Ground	female connector, black
o	Optical connectors:	RX	receiver input
		TX	transmitter output

Fiber optics

Style:	Duplex multimode 62,5/ 125 µm
Connectors (RX and TX):	FSMA