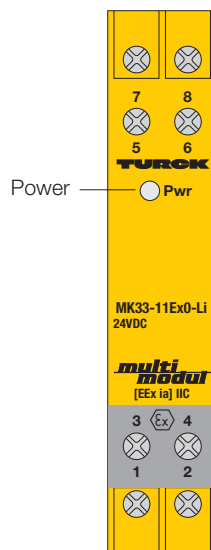


2-wire Loop Isolator MK33-11Ex0-Li/24VDC 1-channel



3

- 1-channel loop isolator
- Intrinsically-safe input circuit EEx ia
- Area of application according to ATEX: II (1) GD
- Input circuit 0/4...20 mA
- Supply of 2-wire loop powered transducers
- Galvanic isolation between input circuit, output circuit and supply voltage
- Defined current limitation in the transducer circuit
- Output circuit 0/4...20 mA
- Linearity $\leq 0.1 \%$
- Temperature drift $\leq 0,01 \%/K$ of final value
- Constant transducer voltage

The single channel MK33-11Ex0-Li... loop isolators are used to operate intrinsically safe 2-wire loop powered transducers in explosion hazardous area and to transfer signals to the safe area.

The MK33-11Li-Ex0... types are single channel device with an input and output circuit of 0/4...20 mA. A green LED indicates that the device is powered.

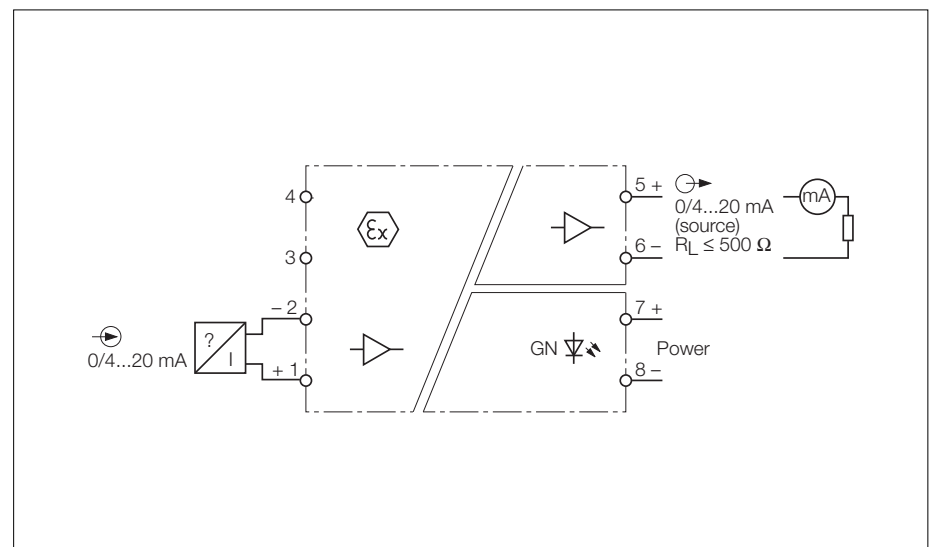
The input circuit is isolated from the output circuit and from the supply voltage. Input signals are passed (1:1) without attenuation to the output located in the non-hazardous area.

Due to this function it is possible to connect this device to power supplying input circuits of a PLC and to install it in such applications which previously used Zener barriers.

Due to the 1:1 transmission characteristic of the loop powered transducer circuit, wire-break or short-circuit faults are shown as 0 mA or > 22 mA respectively.

For applications with HART® transducers, there are loop-isolators available which not only transmit analogue signals but also transfer digital signals bidirectionally:

- IM33-11Ex-Hi/24VDC (page 3 – 43)
- IM33-22Ex-Hi/24VDC (page 3 – 45)



2-wire Loop Isolator MK33-11Ex0-Li

Type	MK33-11Ex0-Li/24VDC
Ident-No.	7506402
Supply voltage U_B	19...29 VDC
Ripple W_{PP}	$\leq 10 \%$
Current consumption	$\leq 80 \text{ mA}$
Galvanic isolation	between input circuit, output circuit and supply voltage for $250 V_{\text{rms}}$ test voltage $4 \text{ kV}_{\text{rms}}$
Transducer circuits	intrinsically safe according to EN 50020
Input resistance	50Ω
Operating characteristics	
– Voltage	15.2 V constant voltage ($\pm 2 \%$ at 20 mA)
– Current	0/4...20 mA
– Short-circuit current	24 mA
Output circuits	active, current source mode
Current output	0/4...20 mA
– Load impedance	$\leq 500 \Omega$
– Output current with wire break	0 mA
– Output current with short-circuit	$> 22 \text{ mA}$
Ex-approvals acc. to certificate of conformity	TÜV 03 ATEX 2312
Input circuit	
Maximum values	
– No load voltage U_0	$\leq 20 \text{ V}$
– Short-circuit current I_0	$\leq 77 \text{ mA}$
– Internal impedance R_i	408Ω
– Power P_0	$\leq 560 \text{ mW}$
– Characteristic	trapezoidal curve
Max. external inductances/capacitances L_0/C_0	
– [Ex ia] IIC	1 mH/85 nF (alternatively 0.5 mH/110 nF)
– [Ex ia] IIB	5 mH/680 nF (alternatively 0.5 mH/830 nF)
Temperature range T_u	$-25...+60 \text{ }^\circ\text{C}$
Marking of the device	Ⓔ II (1) GD [Ex ia] IIC
Transfer characteristics	
Linearity tolerance of setpoint adjustment	$\leq 0.1 \%$ of final value
Measuring tolerance	$\leq 0.2 \%$
Load impedance	$\leq 0.02 \%$ of final value
Effect of load impedance	$\leq 0.05 \%$ of final value
Ambient temperature sensitivity	$\leq 0.01 \%$ of final value
Pulse rise time (10 %...90%)	$< 90 \text{ ms}$
Release time (90 %...10 %)	$< 90 \text{ ms}$
LED indications	
– Power	green
Housing	8-pole, 18 mm wide, Polycarbonate/ABS flammability class V-0 per UL 94
Mounting	snap-on clamps for top-hat rail (DIN 5002 or screw terminals for panel mounting
Connection	via flat terminals with self-lifting pressure plates
Connection profile	$\leq 2 \times 2.5 \text{ mm}^2$ or $2 \times 1.5 \text{ mm}^2$ with wire sleeves
Degree of protection (IEC 60529/EN 60529)	IP20
Operating temperature	$-25...+70 \text{ }^\circ\text{C}$

