

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



- 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 ≤ 0.1 %
- Temperature drift ≤ 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-isolaters 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 MK3-11E30.U24/DC Supply voltage U ₀ 1929 VDC Supply voltage U ₀ 4.0.% Galvanic isolation 50 mA Device circuits intrinscally safe according to EN 50020 Operating characteristics 50 mA Operating characteristics 15.4 Constant voltage 4 K/m, m, m - Voltage 0420 mA - Stratic characteristics 15.4 Constant voltage (+ 2 % at 20 mA) Operating characteristics 0420 mA - Output circuits 04420 mA Exapprovia soc. to certificate of conformity TUV 03 ATEX2312 Individual Ministry 04920 mA Exapprovia soc. to certificate of conformity TV V03 ATEX2312 Individual Ministry 10400		
Ident-No. 7904402 Supply Vymoltage Uy 1929 VDC Ripple Wymoltage Uy 10 % Galwardi isolation between input circuit, output circuit and supply voltage for 250 V _{ma} Transducer circuits intrinsicely are according to EN 50020 Operating characteristics 50.0 Power No 50.0 Operating characteristics 50.0 - Current 0420 mA Output circuits active, current source mode Output circuits active, current source mode Output current 24 mA Output current with wire break 0 mA - Output current with wire break 20 V - Stort circuit current 2 mA Ex-approvals acc. to certificate of conformity 10V 03 ALEX 2312 Input current with wire break 0 mA - No bad valage Ub 400 a - No bad valage Ub 5 50 mW - Transducer active	Туре	MK33-11Ex0-Li/24VDC
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Input circuit Maximum values - No load voltage U, ≤ 20 V - Short-circuit current I, ≤ 77 mA - Internal impedance R, 408 Ω - Power P, ≤ 560 mW - Characteristic trapezoidal curve Max. external inductances/capacitances L _q /C ₀ 1 mH/85 nF (alternatively 0.5 mH/110 nF) - [EEx la] IIC 1 mH/85 nF (alternatively 0.5 mH/130 nF) Temperature range T, -25+60° C Marking of the device II (1) GD [EEx la] IIC Tansfer characteristics Linearity tolerance of setpoint adjustment ≤ 0.1 % of final value Measuring tolerance ≤ 0.02 % of final value Actional impedance ≤ 0.02 % of final value Anbient temperature sensitivity ≤ 0.01 % of final value Pulse rise time (10 %90%) < 90 ms	Ex-approvals acc. to certificate of conformity	TÜV 03 ATEX 2312
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Degree of protection (IEC 60529/EN 60529) IP20 Operating temperature -25+70 °C	Connection profile	$\int (2 \times 2.5 \text{ mm}^2) \text{or} 2 \times 1.5 \text{ mm}^2$
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