HART®– 2-Wire Loop Isolator MK33-11Ex-HLi

- **Loop isolator without auxiliary power**
- **Intrinsically safe input circuits**
- **Supply of intelligent 2-wire transducers using the HART® communication protocol**
- **Defined current limitation in the transducer circuit**
- **Input circuit monitoring for wire-break**
- **FSK bus connection** [1)]
- **Output circuit 0/4…20 mA**
- **Linearity error ≤ 0.1 %**
- **Temperature coefficient ≤ 0.1 %/10 K**
- **Additional power supply not necessary**

[1)] FSK = frequency shift keying

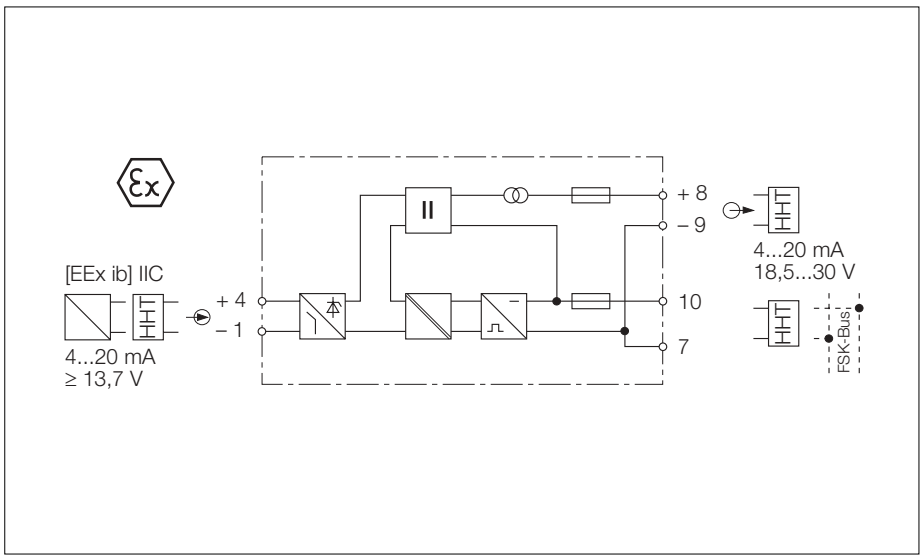
The single channel loop isolator MK33-11Ex-HLi is used to energise intelligent 2-wire transducers in the hazardous area and to transmit the 4...20 mA signal to the safe area. In addition to analogue signals, digital HART® communication signals can be transferred bidirectionally.

The loop isolator does not require auxiliary power and can be connected directly to the supply input circuits of control systems.

The input circuit is securely isolated from the output circuit.

The analogue input signals are transferred without attenuation (1:1 transfer) to the output circuit in the non-hazardous area.

The loop isolator is connected via terminals 1/4. Handheld terminals (HHT) can be connected to input terminals 1/4, output terminals 8/9, or to the FSK bus terminals 7/10.



2-wire Loop Isolator MK33-11Ex-HLi

Type	MK33-11Ex-HLi
Ident-No.	7506410
Supply voltage U_B	20...30 VDC
Ripple W_{PP}	≤ 10 %
Input current	4...20 mA
Voltage drop	< 7.2 V
Galvanic isolation	between input circuit, output circuit for 250 V_{rms}, test voltage 2.3 kV_{rms}
Transducer circuits	intrinsically safe according to EN 50020
Input resistance	
Operating characteristics	
– Voltage	12.8...14 V
– Current	4...20 mA
– Overload trip-point	> 23.6 mA
– Short-circuit current	23...30 mA
Output circuits	
Current output terminals 8/9	0/4…20 mA
Wire-break performance	< 400 µA
– Load impedance 8/9	≤ 75 Ω
FSK-interface terminals 7/10	0...30 VDC
Ex-approvals acc. to certificate of conformity	pending
Input circuit	
– No load voltage U_0	–
– Short-circuit current I_0	–
– Power P_0	–
Internal inductances/capacitances	–
Max. external inductances/capacitances L_0/C_0	
– [EEx ib] IIB	–
– [EEx ib] IIC	–
Transfer characteristics	
Linearity tolerance	≤ 0.1 % of final value
Measuring tolerance	≤ 0.25 %
Load impedance	≤ 0.05 %
Effect of load impedance	≤ 0 % of final value
Ambient temperature sensitivity	≤ 0.1 %/10 K (at <-10 °C 0.25 %/10 K)
Pulse rise time (10 %…90 %)	< 50 ms
Release time (90 %…10 %)	< 50 ms
Housing	12-pole, 27 mm wide, Polycarbonate/ABS flammability class V-0 per UL 94
Mounting	snap-on clamps for top-hat rail (DIN 50022) or srew terminals for panel mounting
Connection	via flat terminals with self-lifting pressure plates
Connection profile	≤ 2 x 2.5 mm^2 or 2 x 1.5 mm^2 with wire sleeves
Degree of protection (IEC 60529/EN 60529)	IP20
Operating temperature	-25…+60 °C