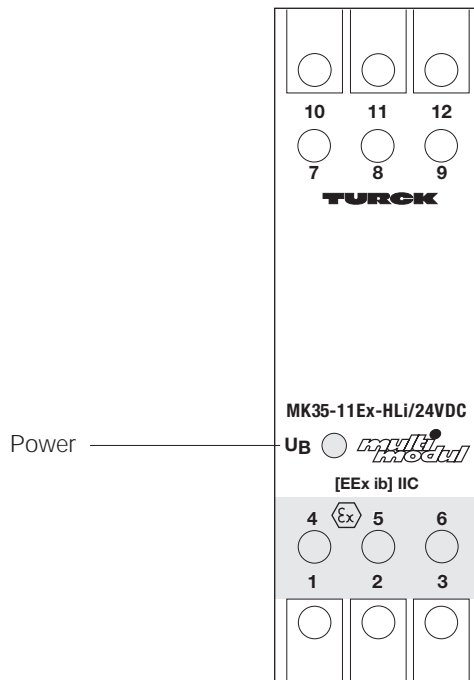


HART – Analogue Data Transmitter MK35-11Ex-HLi/24VDC



- **Transmission of current signals 0/4...20 mA**
- **Supply of intelligent actuators using the HART communication protocol**
- **Intrinsically safe output circuit [EEx ib] IIC**
- **FSK bus connection¹⁾**
- **Linearity error $\leq 0.1\%$**
- **Temperature drift $\leq 0.1\%/10\text{ K}$**
- **Galvanic isolation of output circuit from input circuit and from supply voltage**

¹⁾ FSK = frequency shift keying

The analogue data transmitter MK35-11Ex-HLi/24VDC is designed to isolate and transmit standard current signals from the safe to the hazardous area. Signals are transferred without attenuation (1:1 transfer).

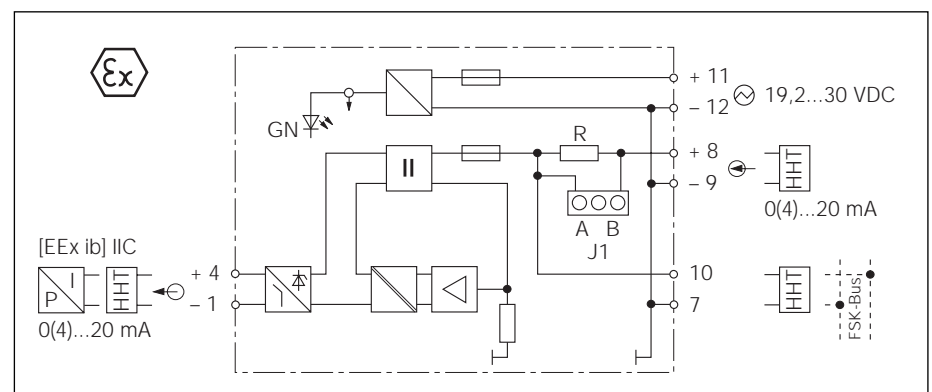
A power supply of 24 VDC is required for operation.

In addition to analogue signals, digital Hart communication signals can be transferred bidirectionally.

The device is typically used to drive I/P transducers (e.g. for valve control) or display devices in the hazardous area.

The actuator is connected to terminals 1/4. Handheld terminals [HHT] can be connected to output terminals 1/4, input terminals 8/9 or to the FSK bus terminals 7/10.

3



Analogue Data Transmitters



Type	MK35-11Ex-HLi/24VDC
Ident-No.	75 065 11
Supply Voltage U_B	19.2...30 VDC
Ripple W_{PP}	$\leq 10\%$
Current consumption	$\leq 0.7\text{ W}$
Galvanic isolation	between input circuit, output circuit and supply voltage for 250 V_{rms} , test voltage 2.3 kV_{rms}
Input Circuits	
Voltage drop	$< 1.5\text{ V}$, 6.5 V (inputs not HART-compatible)
Input current	0/4...20 mA
Output Circuits	intrinsically safe according to DIN EN 50020
Current output terminals 1/4	0/4...20 mA, 20...30 mA (input override)
Ripple W_{PP}	$< 0.25\%$ without input interference voltage
Load impedance	0...600 Ω
FSK-interface terminals 7/10	0...30 VDC
Ex-Approvals acc. to Certificate of Conformity	PTB Ex-97.D.2152
Output Circuits	
Maximum values	
- No load voltage U_0	$< 20\text{ V}$
- Short-circuit current I_k	$< 28.5\text{ mA}$
- Power P_0	$< 570\text{ mW}$
Internal inductances/capacitances	$< 220\ \mu\text{H}/1.5\ \text{nF}$
Maximum external inductances/capacitances	
- [EEx ib] IIB	4.8 mH/397 nF
- [EEx ib] IIC	1.3 mH/95 nF
Transfer Characteristics	
Linearity tolerance of setpoint adjustment	$\leq 0.1\%$ of final value
Measuring tolerance	$\leq 0.25\%$ at $R_a = 0$
Load impedance	$\leq 0.1\%$ in load range 0...600 Ω
Ambient temperature sensitivity	$\leq 0.1\%/10\text{ K}$ (at $< -10\text{ }^\circ\text{C}$ 0.25%/10 K)
Pulse rise time (10 %...90 %)	$< 50\text{ ms}$
Release time (90 %...10 %)	$< 50\text{ ms}$
LED Indications	
- Power "ON"	green
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 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	$-25\text{...}+60\text{ }^\circ\text{C}$

