

HART® Isolating Transducer IM33-22Ex-Hi/24VDC 2-channel



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- **2-channel HART® isolating transducer with removable terminal blocks**
- **Intrinsically safe input circuits EEx ia**
- **Area of application according to ATEX: II (1) GD**
- **Supply of intelligent 2-wire transducers using the HART® communication protocol as well as connection to active 2-wire transmitters and to passive 3-wire transmitters**
- **Complete galvanic isolation**
- **Short-circuit protected transducer circuit**
- **Two input circuits 4...20 mA**
- **Two output circuits 4...20 mA**
- **Linearity tolerance $\leq 0.1\%$**
- **Temperature coefficient $\leq 0.01\%$ /K of final value**
- **Constant voltage in transducer circuit**
- **EMC acc. to NE 21**

The isolating transducer IM33-22Ex-Hi/24VDC is used to energise intrinsically safe 2-wire HART® transducers in the hazardous area and to transmit the measuring signals to the non-hazardous area.

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

Further it is possible to connect active 2-wire (II) and passive 3-wire (I) transmitters. The device features two channels with 0/4...20 mA input and output circuits.

A green LED indicates operational readiness. A 24 VDC voltage supply is required for operation.

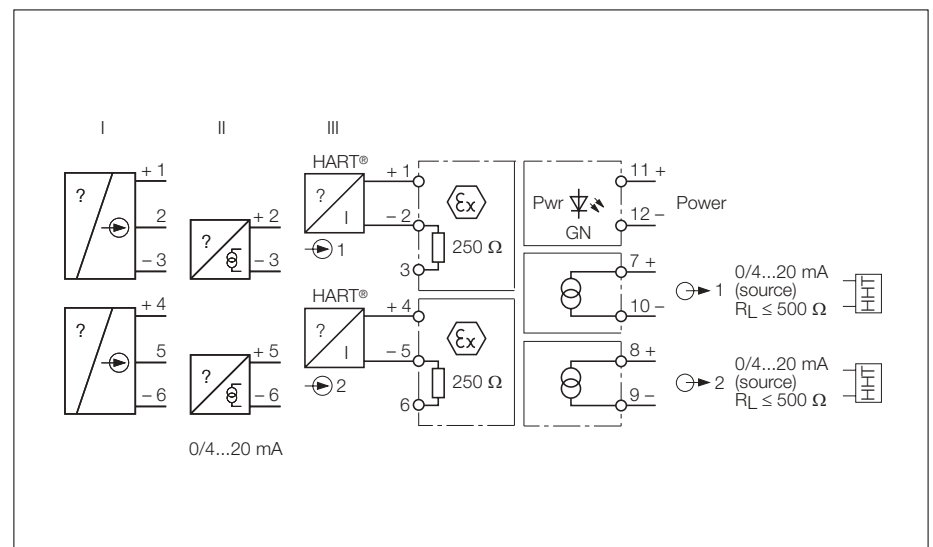
The input circuits are galvanically isolated from the output circuits, the supply voltage and from each other.

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

Due to the 1:1 transmission characteristic, wire-break or short-circuit conditions in the transducer circuit are indicated by an output current of 0 mA or > 22.5 mA, respectively.

Further devices with other I.S. data are available on request.

The removable terminal blocks are equipped with test sockets ($\varnothing 2$ mm) for connection of a HART® handheld.



HART® Isolating Transducer IM33-22Ex-Hi/24VDC

Type	IM33-22Ex-Hi/24VDC
Ident-no.	7506441
Supply voltage U_B	19...29 VDC
Ripple W_{PP}	≤ 10 %
Galvanic isolation	between input circuit, output circuit and supply voltage for 250 V _{rms} , test voltage 2.5 kV _{rms}
Transducer circuits	intrinsically safe according to EN 50020
Input resistance	250 Ω
Operating characteristics	
– Voltage	17 V at 20 mA
– Current	0...22 mA
Short-circuit current (short-term)	60 mA (for 50 ms)
Output circuits	
Current output	0/4...20 mA
– Load impedance	≤ 500 Ω
– Wire-break indication	0 mA
– Short-circuit indication	> 22.5 mA
Ex-approval acc. to certificate of conformity	TÜV 00 ATEX 1595
Maximum values	
– No load voltage U_0	< 21.9 V
– Short-circuit current I_0	< 99.1 mA
– Internal resistance R_0	317 Ω
Maximum values of external input	
– Voltage U_1	≤ 40 V
– Power P_1	≤ 0.65 W
Max. external inductances/capacitances L_0/C_0	
– [EEx ia] IIB	5 mH/260 nF
– [EEx ia] IIC	0.36 mH/58 nF
Marking of devices	II (1) GD [EEX ia] IIC
Transfer characteristics	
Linearity tolerance (o.f.v. = of final value)	≤ 0.1 % o.f.v.
Measuring tolerance	≤ 0.2 %
Long term error	0.1 %/year
Load impedance	≤ 0.02 % o.f.v.
Input voltage effect	≤ 0.05 % o.f.v.
Temperature effect	≤ 0.01 %/K o.f.v.
Pulse rise time (10 %...90 %)	< 50 ms
Release time (90 %...10 %)	< 50 ms
LED indication	
– Power	green
Housing	12-pole, 18 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	removable terminal blocks, reverse-polarity protected, screw connection, test sockets Ø 2 mm
Connection profile	≤ 1 x 2.5 mm ² , 2 x 1.5 mm ² or 2 x 1.0 mm ² with wire sleeves
Degree of protection (IEC 60529/EN 60529)	IP20
Operating temperature	-25...+60 °C

