

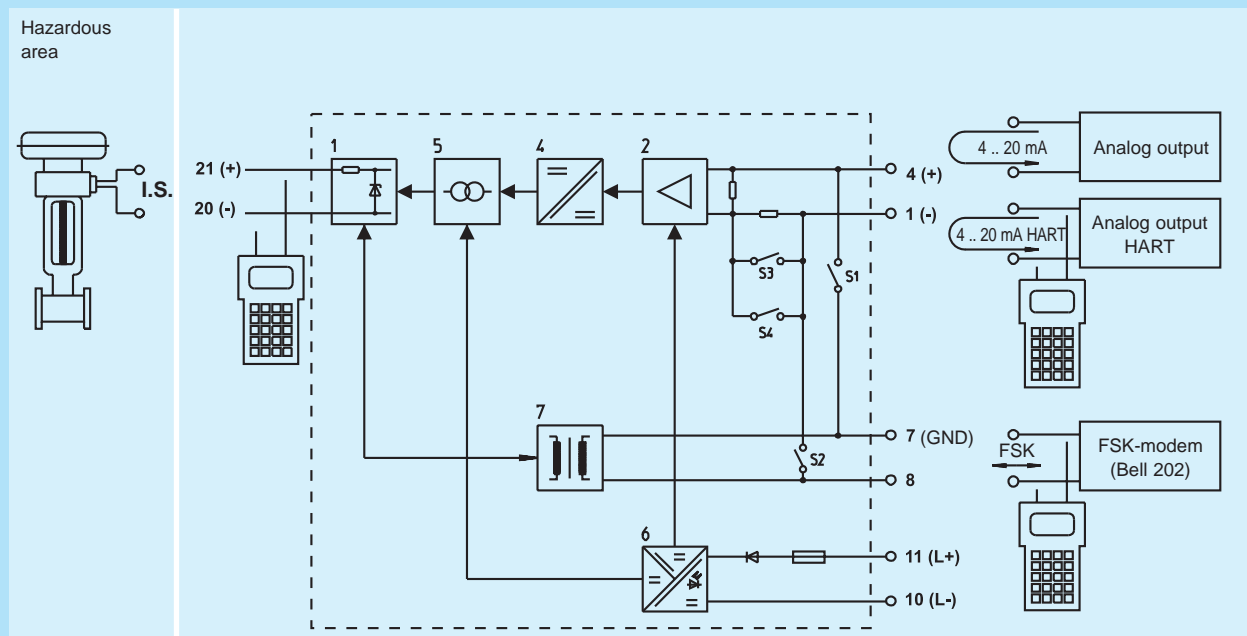


## I.S. Isolators (DIN Rail Mounting) mA Isolating Repeater HART Type 9318/16

- For HART output signals  
4 .. 20 mA with superimposed FSK
- Separate connection for Hand Held Terminal, modem etc. with galvanic isolation
- Intrinsically safe output [EEx ia] IIC/IIB
- Galvanic isolation between input, output, power supply and communications input
- Power supply 18 .. 35 V DC
- Installation in Zone 2 (Div 2) possible
- EMC tested, CE marking



Basic function: analog output 4 .. 20 mA for HART, 1 channel  
These isolators are used in the intrinsically safe operation of intelligent HART valves. They enable them to be used on either conventional 4 .. 20 mA outputs not designed for HART operation - or on outputs specially designed for HART operation.



Selection table	
Version	Ordering code
mA Isolating repeater HART	9318 / 16 - 22 - 10

Safety data for output	
Certifications	BVS (Europe, CENELEC), CSA (Canada), SEV (Switzerland), FTZU (Czech Republic), BKI (Hungary), KDB (Poland), VNIIEF (Russia), FM (USA)
Marking Classification	[EEx ia] IIC/IIB according to CENELEC associated electrical apparatus
Safe maximum values (CENELEC)	
Max. voltage $U_m$	25.2 V
Max. current $I_m$	96 mA
Max. power $P_m$	605 mW
Max. capacitance $C_a$ for [EEx ia] IIC / IIB	90 nF / 580 nF
Max. inductance $L_a$ for [EEx ia] IIC / IIB	4.4 mH / 16 mH
Further information and combinations of values, see certifications	

Technical data	
Power supply	
Rated voltage $U_N$	24 V DC
Voltage range	18 .. 35 V
Rated current (for $U_N$ , $I_L = 20$ mA) $I_N$	55 mA
Max. power consumption	1.4 W
Polarity reversal protection	yes
Signal transmission	
The current ( $I_E$ ) fed to the analog input is transferred linearly to the I.S. output ( $I_L$ ). In addition an FSK-HART signal is transferred bidirectionally between analog or communication input and output.	
Current range	$I_L = I_E$ 3.5 .. 22 mA
Response time analog signal (10 .. 90%)	$\leq$ 40 ms
Analog input	
Input resistance (DC)	
for communication via communication input	50 $\Omega$
for communication via analog input	600 $\Omega$
Impedance for FSK-HART signals (150 Hz .. 10 kHz)	$\geq$ 500 $\Omega$
Communication input	
Impedance for FSK-HART signals	
1 kHz .. 10 kHz, output open	$\geq$ 5.5 k $\Omega$
otherwise: = valve impedance	
Number of parallel connectable comm. inputs:	
Impedance of the parallel connected valves	$\geq$ 200 $\Omega$
Output	
Range of load resistance $R_L$ (DC)	0 .. 700 $\Omega$
Impedance for FSK-HART signals	
(1 kHz .. 10 kHz)	
comm. input open	$\geq$ 5.8 k $\Omega$
otherwise: = impedance of HHT at comm. input	
Analog signal error limits	
Tolerance band setting, in % of the measuring range	
Linearity error at $U_N$ , 23 °C	$\leq$ 0.05 %
Dimensions (Casing type A), mechanical data, ambient conditions and accessories see page 3/58f.	

