

Active voltage or current signals are galvanically isolated and transmitted via the 1-channel analog data transmitter IM31-12EX-I from the Ex area to the safe area. The signal is duplicated and is thus provided twice at the outputs.

isolated.

In 1 : 1 switch position input signals are transmitted without attenuation to the outputs in the safe area. In "LZ" switch position a dead-zero signal at the input (0...10 V / 0...20 mA) is converted to a live-zero signal at the output (4...20 mA)

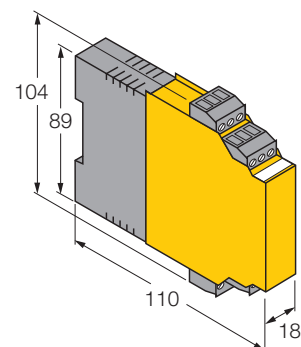
The device is equipped with one input circuit of 0/2...10 V or 0/4...20 mA and two short-circuit protected output circuits of 0/4...20 mA. Input circuits, output circuits and supply voltage are each galvanically

The green LED indicates operational readiness.

- **Intrinsically safe input circuits EEx ia**
- **Application area according to ATEX : II (1) GD**
- **Transmission of standard analog signals from the explosion hazardous area to the safe area**
- **Input 0/2...10V or 0/4...20mA**
- **Output: 2x0/4...20 mA**
- **Galvanic isolation of input circuits to output circuits and supply voltage**
- **Removable terminal blocks**
- **Universal operating voltage (20...250VAC/ 20...125VDC)**
- **Galvanic isolation of input circuits to output circuits and supply voltage**

**analogue signal transmitters**  
**1-channel**  
**IM31-12EX-I**

**Dimensions**



<b>Type</b>	IM31-12EX-I									
Ident-No.	7506321									
<b>Nominal voltage</b>	Universal voltage supply unit									
Operational voltage range:	20 ... 250 VAC									
Frequency	≥ 40 ... ≤ 70 Hz									
Operational voltage range:	20 ... 125 VDC									
Power consumption	≤ 2.2 W									
<b>Voltage</b>	0/2...10 VDC									
Input resistance	50 kΩ									
Input resistance	50 Ω									
Current	0/4...20 mA									
<b>Output current</b>	2* 0/4...20 mA									
Load resistance current output	≤ 0.5 kΩ									
<b>Limit frequency</b>	< 30 Hz									
Rise time (10-90%)	50 ms									
Dropout time (90...10%)	50 ms									
Measuring accuracy	≤ 0.2 % of full scale									
Linearity deviation	≤ 0.1 % of full scale									
Drift	< 0.1 % /annually									
Effect of load impedance	< 0.02 % of full scale									
Effect of supply voltage	< 0.5 % of full scale									
Temperature drift	≤ 0.01 % / K									
<b>Test voltage</b>	2.5 kV									
Constant voltage supply	250 V									
<b>Ex approval acc. to conformity certificate</b>										
Ex approval acc. to conformity certificate	TÜV 04 ATEX 2679									
Application area	II (1) GD									
Protection type	[EEx ia] IIC									
Max.output voltage $U_o$	≤ 7.2 V									
Max. output current $I_o$	≤ 1 mA									
Max. output power $P_o$	≤ 2 mW									
Characteristic	Linear									
External inductance/capacitance $L_o/C_o$										
	<table border="1"> <thead> <tr> <th></th> <th>EEx ia IIC</th> <th>EEx ia IIB</th> </tr> </thead> <tbody> <tr> <td><math>L_o</math> [mH]</td> <td>0.5, 4.5, 9.5</td> <td>1.5, 9.5, 20</td> </tr> <tr> <td><math>C_o</math> [uF]</td> <td>2, 1.5, 1.3</td> <td>9, 6.7, 6.1</td> </tr> </tbody> </table>		EEx ia IIC	EEx ia IIB	$L_o$ [mH]	0.5, 4.5, 9.5	1.5, 9.5, 20	$C_o$ [uF]	2, 1.5, 1.3	9, 6.7, 6.1
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$L_o$ [mH]	0.5, 4.5, 9.5	1.5, 9.5, 20								
$C_o$ [uF]	2, 1.5, 1.3	9, 6.7, 6.1								
Application area	II 3 G									
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Protection type	EEx nA nC [nL] IIC/IIB T4									
<b>Indication</b>										
Operational readiness	green									
<b>Degree of protection</b>	IP20									
Ambient temperature	-25 ...+ 70 °C									
Housing length	104 mm									
Housing width	18 mm									
Housing height	110 mm									
Weight	133 g									
Mounting instruction	Mounting on DIN rail or mounting panel									
Housing material	polycarbonate/ABS									
Electrical connection	4 x 3-pole removable terminal blocks, reverse polarity protected, screw connection									
Terminal cross-section	1 x 2.5 mm <sup>2</sup> / 2 x 1.5 mm <sup>2</sup>									