

## EGT-101

- 2-channel
- ATEX approval
- Inputs EEx ia IIC
- DC 24 V supply voltage
- Ex-parameters of the intrinsically safe circuits:  
 $U_0 = 26\text{ V}$ ,  $I_0 = 93\text{ mA}$
- Input: 0 mA ... 20 mA  
Output: 0 mA ... 20 mA  
(input/output options see table on page 4)
- Current output:  
load: max. 1 k $\Omega$   
Voltage output:  
load:  $\geq 50\text{ k}\Omega$
- Test jacks
- LED for output current control
- EMC per NAMUR NE 21

Inputs, outputs and power supply are galvanically isolated from each other.

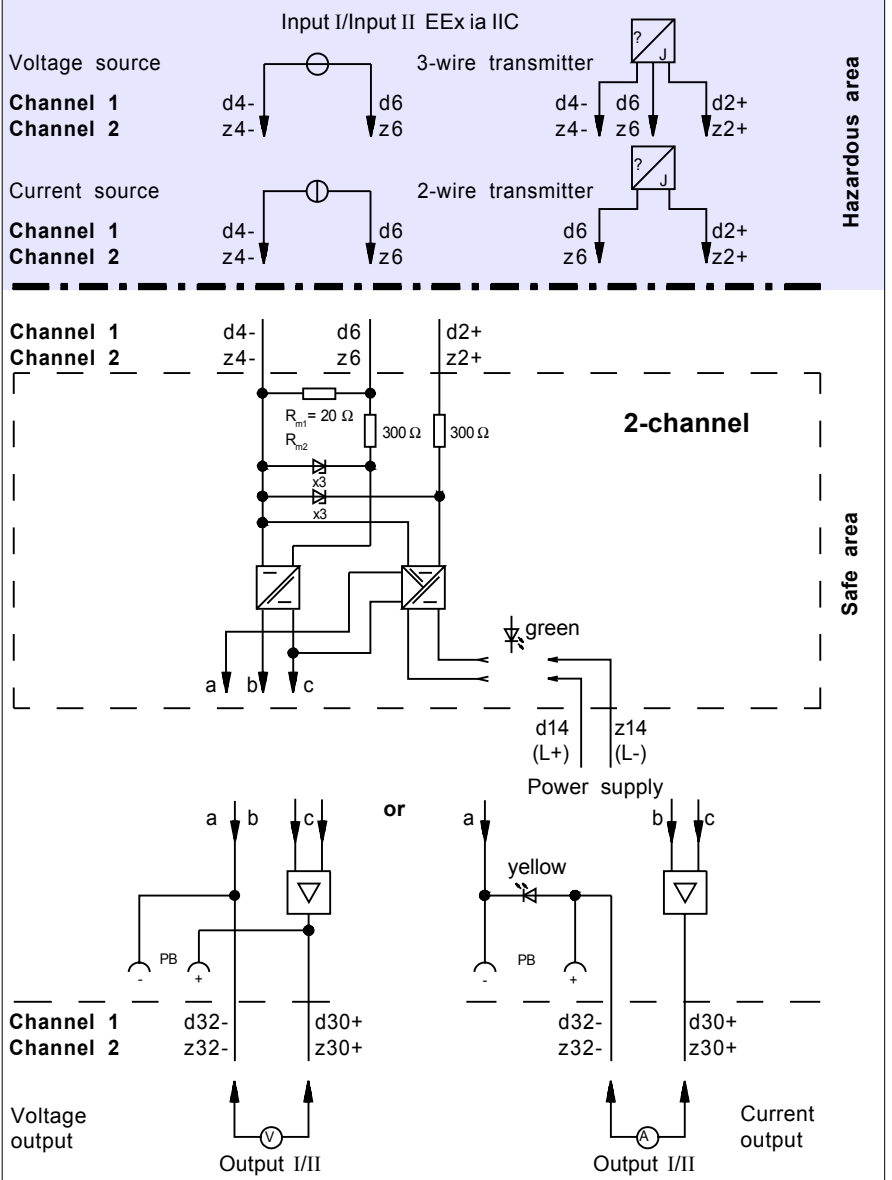
### Application

- Supply from 2 or 3 wire transmitters.
- Transmission of the test current or the test voltage.

**2-wire transmitters** must be connected to d2, d6 or z2, z6 so that the transmitter current of 4 mA ... 20 mA flows through test resistor  $R_m$  in series to d6 or z6. At least 17.6 V are available to a transmitter including a lead with a 20 mA test current.

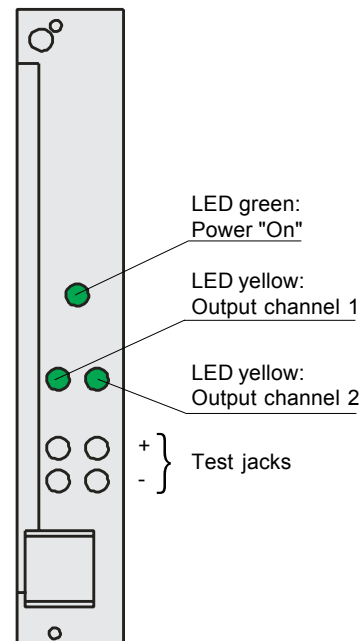
**3-wire transmitters** must be connected at d2, d4, d6 or z2, z4, z6. About 16 V are available to the transmitter including a lead with a 25 mA current requirement.

**Current sources**, which produce a current of 20 mA, must be connected to d4, d6 or z4, z6, so that the current flows through the test resistors; d2 and z2 are unused.



### Front View

Type A  
(dimensions see page 16)

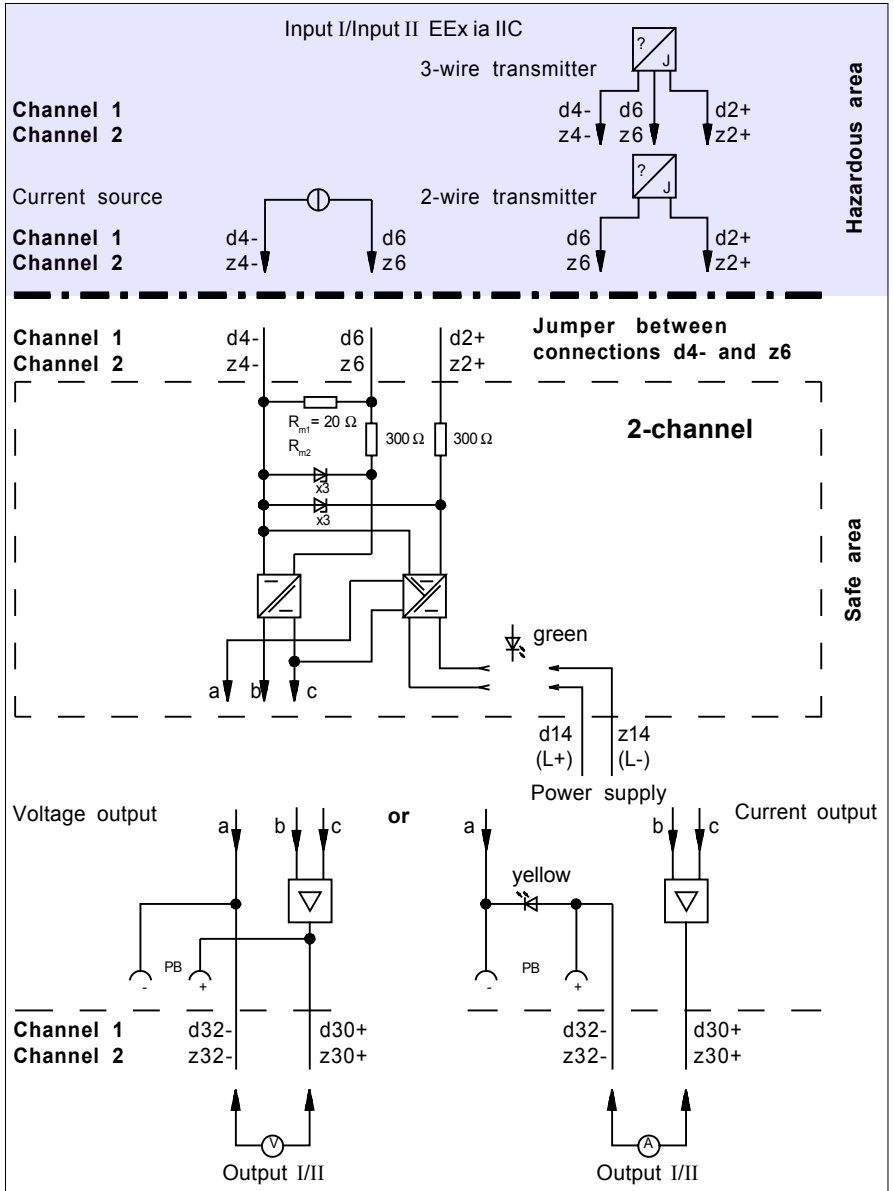


**Method of operation: 1 input/2 outputs**

**2-wire transmitters** must be connected to z2 and d6 with a bridge between d4 and z6, so that the transmitter current of 4 mA ... 20 mA flows through the test resistors ( $R_{m1}$  and  $R_{m2}$ ); d2 is unused. A max. of 17.2 V are available to the transmitter including a lead with a 20 mA test current.

**3-wire transmitters** must be connected at z2, d6 and z4 with a bridge between d4 and z6; d2 is unused. About 16 V are available to the transmitter including a lead with 25 mA.

A **current source**, which produces a current of 20 mA, must be connected at d6 and z4, with a bridge between d4 and z6, so that the current flows through the test resistors ( $R_{m1}$  und  $R_{m2}$ ); d2 and z2 are unused.



<b>Technical data</b> <b>Power supply</b> Nominal voltage Ripple Power consumption	20 V DC ... 35 V DC within the supply tolerance about 5 W	connections d14 (L+); z14 (L-)									
<b>Inputs (intrinsically safe)</b> Output voltage Output voltage Output voltage	about 16 V at 25 mA about 17.6 V at 20 mA about 17.2 V at 20 mA (option: 1 input/2 outputs)	connections d2+, d4-, d6; z2+, z4-, z6 connections d2+, d4-; z2+, z4- connections d2+, d6; z2+, z6 connections z2+, d6									
<b>Data for application in conjunction with hazardous areas</b> EC-Type Examination Certificate Group, category, type of protection <b>Input</b> Voltage $U_0$ Current $I_0$ Power $P_0$	BAS 03 ATEX 0298 X, for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> $\text{Ex}$ II (1) G D [EEx ia] IIC (-20 °C ≤ $T_a$ ≤ +60 °C) EEx ia IIC 26 V 93 mA 585 mW values valid for connections d2+, d6 (channel 1); z2+, z6 (channel 2)										
<b>Type of protection [EEx ia or EEx ib]</b> Explosion group Max. external capacitance $C_0$ Max. external inductance $L_0$ <b>Fail-safe max. voltage <math>U_m</math></b> Supply Output <b>Directive conformity</b> Directive 94/9 EC	<table border="0"> <tr> <td>IIA</td> <td>IIB</td> <td>IIC</td> </tr> <tr> <td>2.6 μF</td> <td>0.77 μF</td> <td>0.099 μF</td> </tr> <tr> <td>33.9 mH</td> <td>16.71 mH</td> <td>4.04 mH</td> </tr> </table> 250 V (Attention! The nominal voltage is 24 V DC.) 250 V (Attention! The nominal voltage is 24 V DC.)	IIA	IIB	IIC	2.6 μF	0.77 μF	0.099 μF	33.9 mH	16.71 mH	4.04 mH	
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2.6 μF	0.77 μF	0.099 μF									
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<b>Outputs (not intrinsically safe)</b> <b>Current output:</b> Available voltage Load resistance Ripple <b>Voltage output:</b> Output resistance Ripple	20 V DC 0 Ω ... 1 kΩ ≤ 20 μA <sub>SS</sub>  about 50 Ω ≤ 5 mV <sub>SS</sub>	connections d30+, d32-; z30+, z32-									
<b>Transfer characteristics</b> <b>Current output</b> Calibrated accuracy at 20 °C (293 K) Temperature drift <b>Voltage output</b> Calibrated accuracy at 20 °C (293 K)  Temperature drift Long term stability <b>All output configurations</b> <b>Build-up time</b> Current output Voltage output Fault protection	≤ ± 5 μA including non-linearity, hysteresis and supply voltage fluctuations ≤ 1 μA/°C  ≤ ± 1.5 mV or 0.03 %, dependent on which value is larger, including non-linearity, hysteresis, and supply voltage fluctuations ≤ 0.3 mV/°C or 0.006 %/°C, dependent on which value is larger ≤ 0.02 % for 30 days, tested per IEC 770: 1984  about 100 μs (about 50 μs for 250 Ω load) about 200 μs not influenced by 250 V, 50 Hz phased input signal or by 27 MHz telecommunications device										
<b>Isolation</b>	tested to 2500 V, 50 Hz between the hazardous and safe area terminals; 50 V DC between the outputs and the supply voltage										
<b>Galvanic isolation</b> Output I and II from each other Output I and II from power supply Input I and II from power supply Input I and II from output I and II	Function insulation, design isolation voltage 50 V DC Function insulation, design isolation voltage 50 V DC Safe galvanic isolation per EN 50020, voltage peak value 375 V Safe galvanic isolation per EN 50020, voltage peak value 375 V										
<b>Conformity to standard</b> Climatic conditions EMC / Electromagnetic compatibility	per DIN IEC 721 per EN 50081-2/EN 50082-2, NAMUR NE 21										
<b>Ambient temperature</b> <b>Connection method</b> <b>Coding</b> <b>Weight</b>	-20 °C ... +60 °C (253 K ... 333 K) 32-pin connector per DIN 41612, series 2, type F; z and d provided a27/c11 about 150 g										

<b>Function</b>	The open circuit voltage of the transmitter's supply circuits d2, d4 or z2, z4 is about 25 V in the allowable supply voltage range. 17.6 V is available for the transmitter including the lead, at a 20 mA test current. A 20 Ω resistor is located in the test circuit (d4, d6 or z4, z6) which performs an I/U-conversion. The voltage is transferred through an amplification stage to the output where a current or voltage is available depending on the selected output option (see table, input/output options).																	
<b>Current output</b>	The max. load to be connected is 1 kΩ within the allowable supply voltage range.																	
<b>Voltage output</b>	The load to be connected, must be > 50 kΩ in order to achieve a fault of the output voltage of less than 0.1 %. In the case of lead breakage or a short circuit, the output is switched to 0. This means that with a short circuit between the connections d2 and d6, output d30 and d32 are switched to 0.																	
<b>Table: Input/output options</b>	<table border="1"> <thead> <tr> <th rowspan="2">Input</th> <th colspan="3">Output</th> </tr> <tr> <th>0 mA ... 20 mA</th> <th>4 mA ... 20 mA</th> <th>0 V ... 10 V</th> </tr> </thead> <tbody> <tr> <td>0 mA ... 20 mA</td> <td>basic model</td> <td>-</td> <td>-</td> </tr> <tr> <td>4 mA ... 20 mA</td> <td>1</td> <td>(basic model)</td> <td>13</td> </tr> </tbody> </table>			Input	Output			0 mA ... 20 mA	4 mA ... 20 mA	0 V ... 10 V	0 mA ... 20 mA	basic model	-	-	4 mA ... 20 mA	1	(basic model)	13
Input	Output																	
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<b>Note:</b>	The transfer range of a basic model can only be partially used with the options listed in parentheses; i. e. 4 mA ... 20 mA of the basic model 0 mA ... 20 mA																	
<b>Example of placing an order:</b>	Input: 4 mA ... 20 mA Output: 0 V ... 10 V results in: code number 13 EGT-101-13																	
<b>Model number:</b>																		
<b>Face plate elements</b>	<ul style="list-style-type: none"> <li>- Test jacks for the outputs</li> <li>- With a current output: yellow LED remains proportional to current</li> <li>- Nominal voltage on: LED green</li> </ul>																	