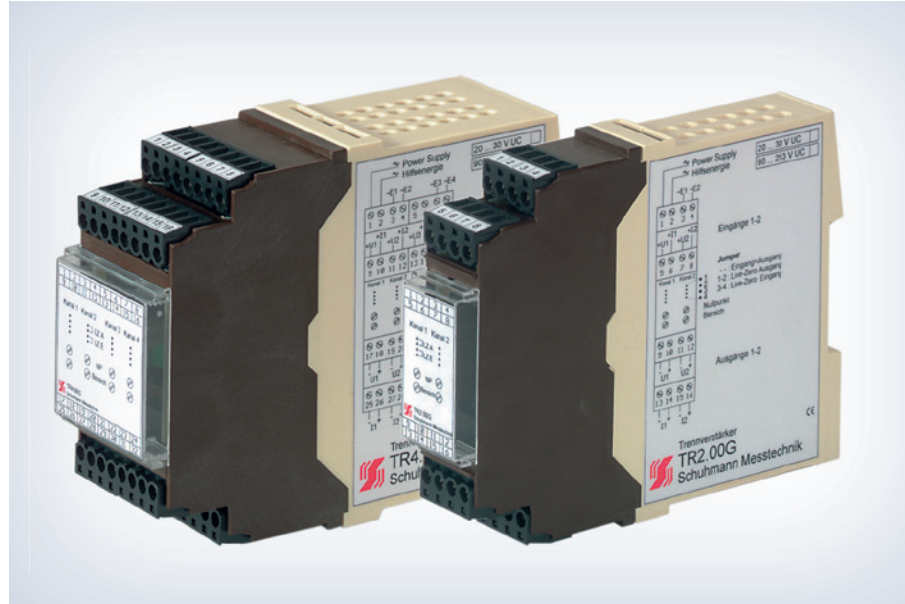


### FEATURES

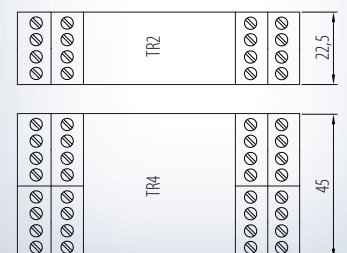
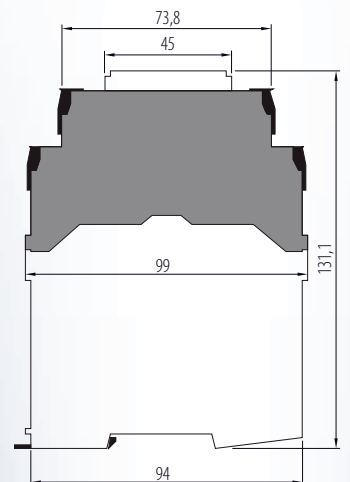
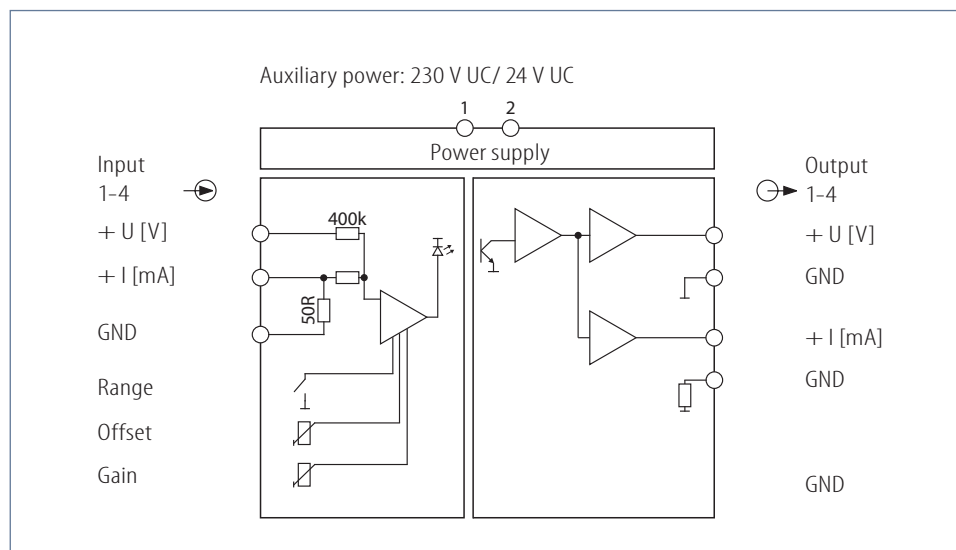
- **Input:**  
Current 0(4)...20 mA or  
Voltage 0(2)...10 V
- **Output simultaneous:**  
Current 0(4)...20 mA and  
Voltage 0(2)...10 V
- **Fine-adjustment of  
offset and gain by trimmer**
- **Pluggable screw-clamps**
- **Galvanic 3-way isolation  
per channel**



### FUNCTION

The 2- or 4- channel isolating amplifier is used for the precise potential isolation of different measuring signal. It can process different input and output signals. The fine adjustment for the zero point and final value alignment is being made by trimmer. The transmission or rather the signal conversion of the ranges can be selected with the front sided jumper. **An adjustment of the device is not necessary any longer.**

The galvanic 3-way isolation protect against faulty measurement or damage of the following instruments such as e.g. analog control devices, control rooms, guidance systems and PLC units. The integrated protective switching with suppressor diode protects the secondary circuit from voltage peaks and transient excess voltage.

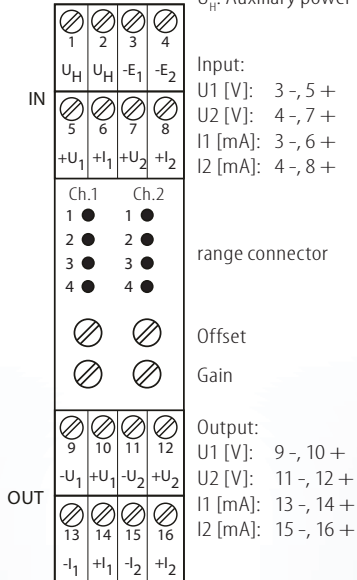


# TR 2.00 TR 4.00

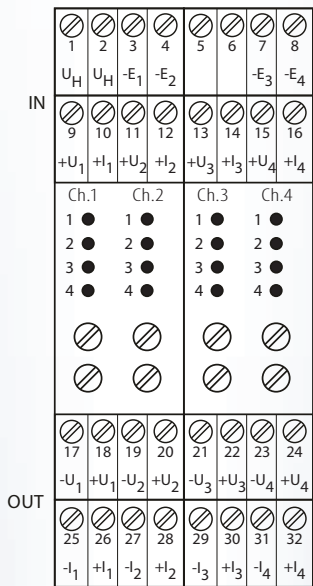
connection diagramm

## TR 2.00

U<sub>H</sub>: Auxiliary power



## TR 4.00



### Input:

I: DC current 0(4)...20 mA input resistance approx. 50 Ω  
connection: see connection diagram

U: DC voltage 0(2)...10 V input resistance approx. 40 kΩ  
connection: see connection diagram

### Output:

I: load-independent DC current 0(4)...20 mA permissible load max. 600 Ω  
Output current limiting: approx. 23mA  
connection: terminal 10 -, 11 +

U: load-independent DC voltage 0(2)...10 V permissible load ≥ 5 kΩ simultaneous  
permissible load ≥ 1 kΩ exclusive

Gain adjustment: trimmer ± 5 %  
Offset adjustment: trimmer ± 7 %

connection: see connection diagram

### Adjustment:

Range connector	Input	Output	Remarks
2-3	0...20 mA/ 0...10 V	0...20 mA/ 0...10 V	1:1 transmission
2-3	4...20 mA/ 2...10 V	4...20 mA/ 2...10 V	with 4...20 mA/ 2...10 V transmission
1-2	0...20 mA	4...20 mA	signal transformation:
1-2	0...10 V	2...10 V	basic offset at output 4 mA/ 2 V
3-4	4...20 mA	0...20 mA	signal transformation:
3-4	2...10 V	0...10 V	basic offset at input 4 mA/ 2 V

Measuring range errors at change-over of the individual measuring ranges ≤ 0,5 %.

### Environmental conditions:

Storage temperature: -40...+70 °C

Operating temperature: 0...55 °C

Isolation voltage:

2,5 kV eff. 1 sec. input-output

4 kV eff. 1 sec. auxiliary voltage

500 kV eff. 1 sec. channel-channel

### Auxiliary power:

230 V UC 90...253 V AC/ DC  
approx. 11/ 16 mA

24 V UC: 20...30 V AC/ DC  
approx. 100/ 150 mA

Influence of

auxiliary power: < 0,1 %

### Characteristics of transmission:

Transmission error: < 0,12 %

Linearity error: < 0,1 %

Temperature error: < 100 ppm/ K

Load influence I: < 50 ppm  
of final value

Load influence U: < 0,5 % at 1 kΩ load

Setting time: < 200 msec.

### Directive:

EMC Directive: 2004/108/EC\*

Low Voltage Directive: 2006/95/EC

\*minimum deviations possible during

HF-radiation influence

### Mounting details:

Housing for top hat rail

Type of protection: IP 20 housing

IP 10 clamps

Mounting rail fixed according to

EN 50022-35 x 6,2 mm

Width: 22,5/ 45 mm

Weight: 160/ 320 g

Material: Polycarbonate (PC)

Flammability class: V0 (UL94)

Approval: CE

Connection: pluggable

screw clamps

0,2...2,5 mm<sup>2</sup>

**For safety reasons we recommend to mount the housing for top hat rail with a distance of approx. 5 mm to each other. Please check Range connector before initial operation!**

### Ordering information:

Type: 2-channel:

**TR 2.00** 230 V UC

**TR 2.00 UC** 24 V UC

4-channel:

**TR 4.00** 230 V UC

**TR 4.00 UC** 24 V UC

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