Universal Isolating Amplifier

UT 1.00 G

FEATURES

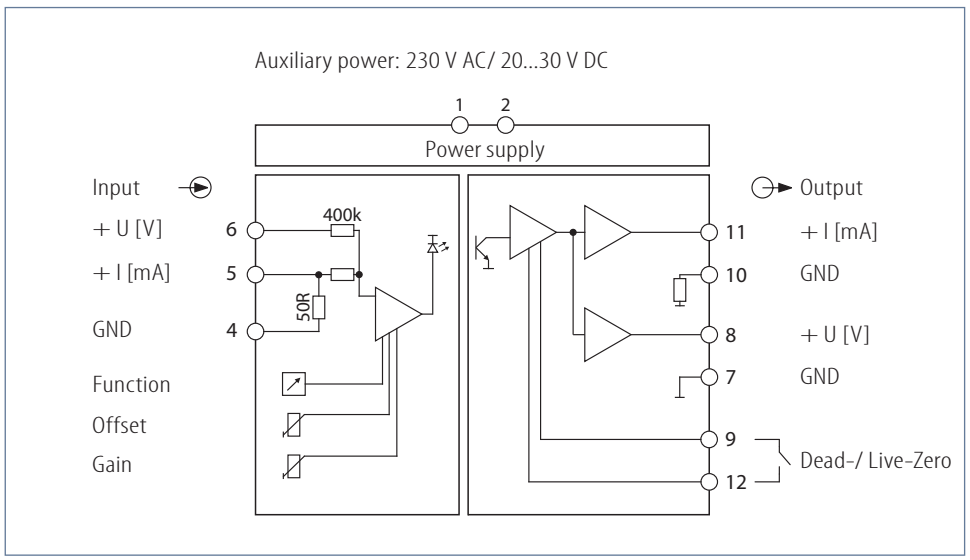
- *Input, switchable:*
  Current 0(4)...20 mA, ± 10 mA or
  Voltage 0(2)...10 V, ± 10 V
- *Output, simultaneous:*
  Current 0(4)...20 mA and
  Voltage 0(2)...10 V
- *Fine adjustment of*
  offset and gain by trimmer
- *Galvanic 3-way isolation*
  of 4 kV

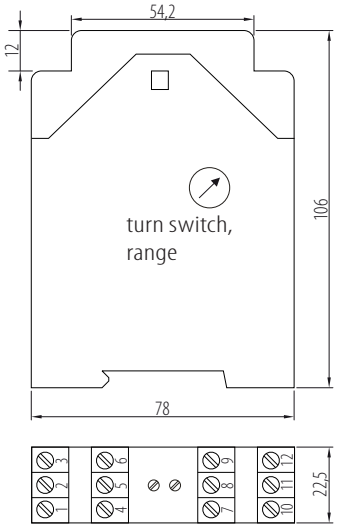
FUNCTION

Isolating amplifiers are mainly used for the galvanic isolation or conversion of analog signals. This guarantees a safe decoupling between sensor and evaluation circuit and any influence of sensor circuits among each other is absolutely impossible. The UT 1.00 G has one input for current or voltage and one output which can do current and voltage simultaneous. Fine adjustment of offset and gain is being made by trimmer.

An adjustment of the device is not necessary any longer!

The desired input range can be chosen from the table on the side, the adjustment is carried out by turn switch. The output ranges are switchable. The integrated protective switching with suppressor diode protects the secondary circuit form peaks and transient excess voltage.

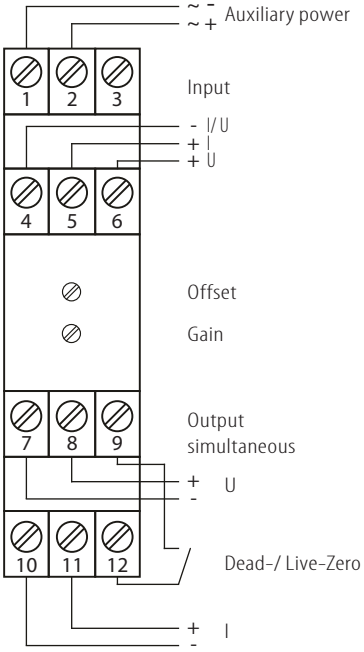




Schuhmann Messtechnik

UT 1.00 G

Connection diagram:



Input:

I: DC current:	0(4)...20 mA	input resistance approx. 50 Ω
connection:	terminal 4 -, 5 +	
U: DC voltage:	0...1/ 5/ 10/ 20 V	input resistance approx. 40 kΩ/ V
connection:	terminal 4 -, 6 +	

Input ranges selectable by turn switch:

Position	Input U	Input I
0	0...20 V	0...20 mA
1*	0...10 V	0...20 mA
2	0... 1 V	0...20 mA
4	-	4...20 mA
8	-10...0...+10 V	-10...0...+10 mA
9	-5...0...+5 V	-10...0...+10 mA
A	-500...0...+500 mV	-10...0...+10 mA

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

Output:

I: load-independent DC current:	0(4)...20 mA	permissible load max. 500 Ω
connection:	terminal 10 -, 11 +	
U: load-independent DC voltage:	0(2)...10 V	perm. load ≥ 5 kΩ simult. operation perm. load ≥ 1 kΩ exclusive
Gain adjustment:	trimmer ± 5 %	
Offset adjustment	trimmer ± 7 %	
connection:	terminal 7 -, 8 +	

Output ranges switchable by connection of terminal 9 + 12 (Dead-/ Live-Zero):

Terminal 9/ 12	Output voltage	Output current
Open*	0...10 V	0...20 mA
Closed	2...10 V	4...20 mA

* Factory setting: transmission 1:1; with Live-Zero transmission.

Position	Input I	Output I	Clamp 9/ 12	Remark
1*	0...20 mA	0...20 mA	Open*	transmission 1:1 with Live-Zero transmission
1*	4...20 mA	4...20 mA	Open*	
1	0...20 mA	4...20 mA	Closed	basic offset at output 4 mA

Environmental conditions:

Storage temperature:	-40...+70 °C
Operating temperature:	0...55 °C
Isolation voltage:	4 kV eff. 1 sec. input-output-auxiliary power

Auxiliary power:

230 V AC:	230 V AC
24 V DC:	20...30 V DC
	< 3 W
Influence of auxiliary power:	< 0,1 %

Characteristics of transmission:

Transmission error:	< 0,12 %
Linearity error:	< 0,15 %
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:	2014/30/EU*
Low Voltage Directive:	2014/35/EU

*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 mm
Weight:	190 g
Material:	Noryl V0 150/ ABS
Flammability class:	ISO R75A 147°C/ 90°C
Approval:	CE
Connection:	screw clamps ≤ 2 x 2,5 mm²

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 switch position before initial operation!

Ordering information:

Please specify special signals in clear text:

UT 1.04 special input
UT 1.05 special output

Type: **UT 1.00 G** 230 V AC
UT 1.00 GDC 24 V DC

23.01.2019