



Measuring Transmitter VT 225

Measuring Transmitter with mV input

- Lowest voltage input 10 mV
- Output current 0/4...20 mA and voltage 0...10 V
- Current output to be selected between 0/4...20 mA
- Measuring range adjusted on customer's demand
- Supply voltage 230 Vac, 115 Vac, 24 Vac or 24 Vdc
- slim structural shape 22,5 mm for DIN-rail mounting




Description and operation

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Safety instructions

	Attention! Please read these instructions carefully prior to connecting the device and putting it into operation. The device contains shock hazardous voltage, it may only be connected and put into operation by qualified expert staff.
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Application

The measuring transmitter VT 225 is a voltage measuring transmitter. It is used for converting lowest voltage from 10 mV to 500 mV into a current signal and voltage signal. These standard signals can so be easily transmitted via longer distances.

The measuring transmitter is designed for mounting into a control cabinet onto a DIN-rail.

An auxiliary energy is required for supplying the measuring transmitter.

Description

The mV-input signal will be converted into a standard voltage signal of 0...10 V by a input amplifier. The input amplifier has a high input resistance of $> 1 \text{ M } \Omega$

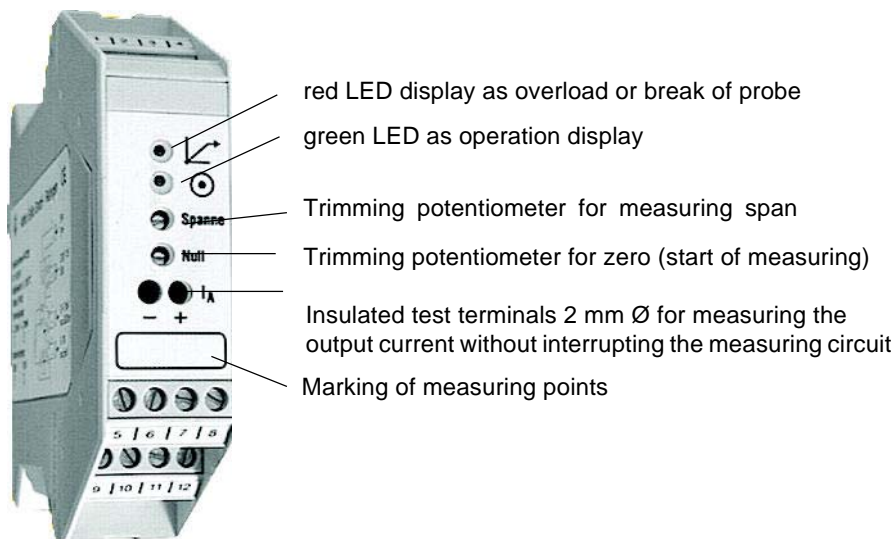
Another amplifier generates a current output signal of 0/4...20 mA from the voltage signal of 0...10 V. The signal range of 0...20 mA or 4...20 mA can be converted by means of a DIP switch in the device.

The measuring transmitter can be supplied with 230 Vac, 115 Vac, 24 Vac or with 24 Vdc.

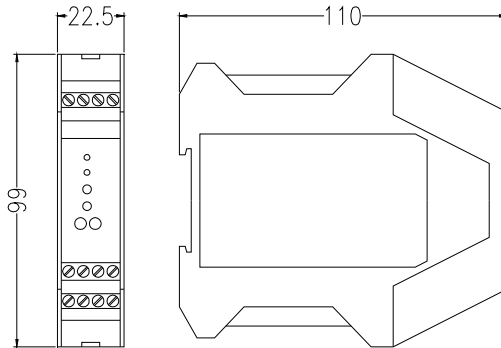
230 Vac and 115 Vac are separated from the input and output by means of a mains transformer. Supply is effected directly with 24 Vac or 24 Vdc.

The negative poles of the output signals of current and voltage as well as the 24 V supplies have a common potential.

Display and Operating Elements

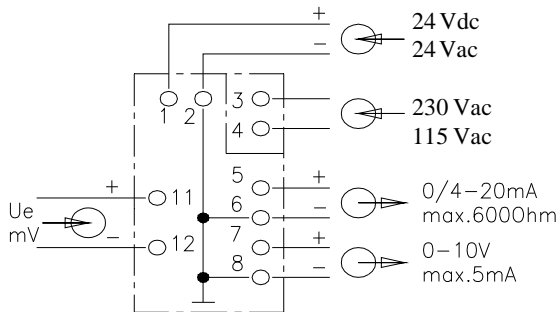


Physical dimensions



Mounting on 35 mm DIN-rail acc. to DIN 46277 or EN 50022
Ambient temperature 0...50 °C
rel. humidity max. 85 %, no bedewing

Wiring diagram

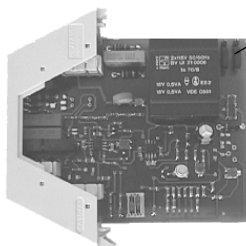


Input voltage 0...10 mV or 0...500 mV at terminals 11+ 12 -
Current output at terminals 5+ and 6-
Voltage output at terminals 7+ and 8-
Supply voltage 230 Vac or 115 Vac at terminals 3 and 4
(incorporated mains transformer)
Supply voltage 24 Vac or 24 Vdc at terminals 1+ and 2-

Terminals 8, 6 and 2 are internally connected.

Conversion of mains transmitter from 230 Vac to 115 Vac

The nominal voltage adjusted at delivery can be seen on the identification plate. The mains transformer can be converted in the device from 230 Vac to 115 Vac by means of two plug-in jumpers.



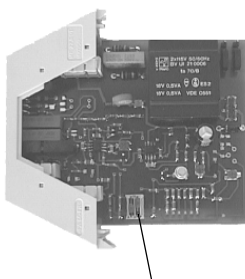
Plug-in jumpers for conversion of the mains transformer
230 V Jumpers A - B
115 V Jumpers B - C



Attention! The plug-in jumpers for converting the mains transformer carry shock hazardous voltage when the device is in operation. Disconnect the supply voltage of the measuring transformer before touching these components.

Conversion of the current output from 0...20 mA to 4...20 mA

The signal range of the current output at delivery can be seen on the identification plate. It can be converted in the device from 0...20 mA to 4...20 mA by means of two DIP-switches.



Output 0...20 mA:	1 ON	2 OFF
Output 4...20 mA:	1 OFF	2 ON

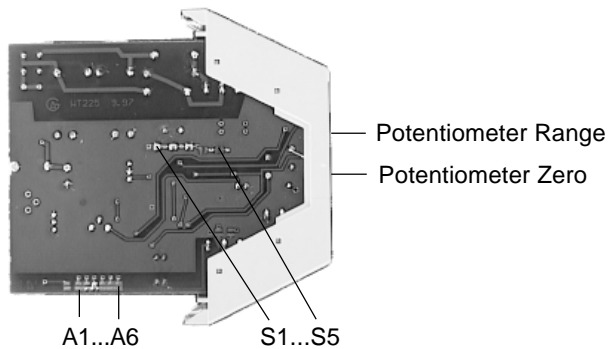
DIP switch for conversion of the signal range of the current output

Setting to other measuring ranges

The technical data of the measuring transmitter VT 225 can be converted to other measuring ranges. A mV-Simulator and a digital voltmeter 0...10 V are required for recalibration.

Recalibration is effected in the following manner:

1. Rough fixing of the start of measuring by soldering jumpers S1...S5, A3...A6
4. Fine adjustment of the start of measuring via trimming potentiometer Zero in the front
5. Fine adjustment of the measuring range via trimming potentiometer Range in the front



Measuring range table

Measuring range	soldering jumpers S to be closed	soldering jumpers A to be closes
10 mV	S1, S2, S3, S4, S5	A3
20 mV	S1, S2, S3, S4	A3
50 mV	S1, S2, S3	A3
100 mV	S1, S2	A3
200 mV	S1	A3, A5
500 mV	-	A3, A6

Technical data

Input:	voltage
lowest measuring range:	10 mV
highest measuring range:	500 mV
Input resistance:	> 1 M Ω
Voltage output:	0...10 V, short-circuit proof, max. load 5 mA
Current output:	0/4...20 mA, to be chosen via DIP switch max. load 600 Ω
Insulated test terminals:	2 mm \varnothing for measuring the output current, internal resistance of the current meter max. 10 Ω
max. output current:	ca. 25 mA with overload or break of probe, Display by means of red LED
Characteristic:	voltage linear
Supply voltage:	230 Vac or 115 Vac via incorporated mains transformer, or 24 Vac or 24 Vdc direct supply
Power consumption:	appr. 1,5 VA
Case:	Polyamide grey, for mounting on 35 mm standard profile DIN-rail as per DIN 46277 or EN 50022 22,5 x 99 x 110 mm (B x H x T)
Connections:	Terminal screws up to 2,5 mm ²
Protection:	IP20 acc. to EN 60529
Settings:	Start of measuring and measuring range to be adjusted at the front via trimmer
Displays:	Operation display green, Overload or break of probe red
Ambient temperature:	0...50 °C
rel. humidity:	0...85 %, no bedewing
Weight:	ca. 160 g
EMC:	Test as per EN 50082-1, EN 50082-2, CE sign
Error limits:	Tolerance: $\pm 0,2 \%$ Temperature drift: $\pm 0,2 \%$ / 10 K