

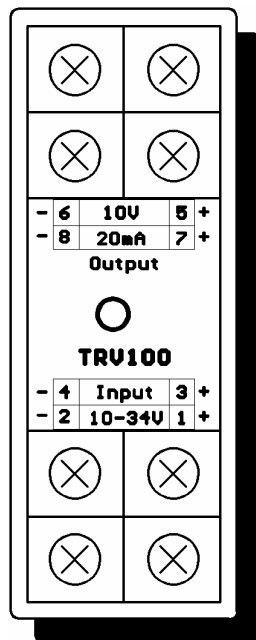
Universal - Buffer Amplifier TRV100 (Three-way 1000V)

Application:

The buffer amplifier TRV100 is used for the potential separation of measuring circuits in disturbed environments, for ambiguous potentials and as a line driver. The potential separations of **1000 V** between supply, input and output circuit allows the safe decoupling, amplification or conversion of signals on different low-voltage levels.

The TRV100 is supplied with a wide DC voltage range of **10 - 34 V**.

The input value is transferred to the output in a linear fashion. Internal jumper settings allow the selection of the output ranges 0-20mA, 4-20mA, 0-10V und 2-10V which can also be combined, thus allowing the unit to be set to **16 functional ranges**. For the purposes of adapting the unit to the periphery, amplification and zero point (4mA) can be adjusted using the trimmer potentiometers accessible on the top of the unit.



Special Applications

By customer request input measuring voltages of **1mV** to **500V(DC)** and input measuring currents of **1mA** to **5A(DC)** can be realized which produce the rated signals of 20mA and 10V at the output terminals.

The input signal will be transmitted linear to the output with low temperature shift up to a cross-over frequency of appr. 1kHz.

Additionally all amplifiers TRV100 got an internal zero-calibration.

Connections and Settings

The output circuit can supply the 20mA signal or a simultaneous 10V signal (top terminals). The supply voltage is connected to the bottom terminals. The coding of the jumpers for setting the operating modes is usually carried out according to customer specifications. For fine adjustments of gain and 4mA (0-point) there are 2 potentiometers on the upper side of the unit to be used. With this the customer can adjust the output values to the given peripherals.

Remarks: Frontside position = 4mA-Setting, Backside Position = Gain-Setting.

Setting of Ranges (internal jumpers, normally setting by manufacturer)

Input.: 0-20mA 0-20mA 4-20mA 4-20mA 4-20mA 4-20mA 0-20mA 0-20mA 0-10V 0-10V 0-10V 2-10V 2-10V 0-10V 2-10V 2-10V 0-10V 2-10V
 Output.: 0-20mA 0-10V 4-20mA 2-10V 0-20mA 0-10V 4-20mA 2-10V 0-20mA 0-10V 4-20mA 2-10V 4-20mA 2-10V 4-20mA 2-10V 0-20mA 0-10V
 Jumpers: A D A D A D A D B D B D C D C D A E A E C E A E A E C E B E B E

Technical Data

Typ	Buffer Amplifier (Three separation) TRV100
Construction	Plastic housing on 35 mm hat acc. to DIN EN 50022
Material of housing	Bayblend FR 1439/0240 modified ABS with burning protection UL 94 VO
Dimension/Weight	22,5x68x109mm (WxHxD), appr. 100 g
Supply voltage	10 - 34 VDC, max. 100mA, mispolarisation protection (or 15-20VAC, 100mA)
Input	0/4-20 mA (50 Ohm) or 0/2-10V (10 kOhm) Other input voltages (0-1mVDC ... 0-500VDC) or currents on request
Outputs	0/4-20mA (Load 0-500 Ohm) and 0/2-10V (min. 1KOhm or max. 10mA)
Cut-off frequency	1 kHz
Class of accuracy	< 1%
Linear distortion	< 0,5%
Temperature drift	< 0,25% / 10°C
On-period	100 %
Voltage protection	Rated isolation voltage 1000V 50Hz (Input- Output, Input- Aux., Output- Aux.)
Connecting terminals	2 Wires per terminal up to 2,5 mm² each
Type of protection	Housing IP 40 , terminals IP 20 (VDE 0106T100/VBG4)
Ambient temperature	-10 °C to +55°C, 95% Hum
Mains isolating	EN 60 742 (safety transformers)
General regulations	EN 50 178 (electrical units in power current installation)
Radio interference	EN 55 022/B
EMI	EN 61000 and EN V 50 140
Installation position	Any
Maintenance	Maintenancefree