**Universal - Buffer Amplifier TRV100 (Three-way 600V)**

**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 600 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.

**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**

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

**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.

**Technical Data**

- **Type:** Buffer Amplifier (Three separation)
- **Construction:** Plastic housing on 35 mm half 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 600V 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

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**Product Description**

Tel.: 49 2162 40025
Fax: 49 2162 40035
info@dsl-electronic.de
www.dsl-electronic.de

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

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

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

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