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## SEPGAL U/U

Galvanic separator of  
analog voltage signal  
0/1-10V to 0/1-10V  
in a housing for a DIN rail



### 1. Main description of SEPGAL U/U

SEPGAL U / U separator is used to provide galvanic isolation between two circuits of standard analog signals, voltage type 0-10V or 1-10V.

For an analog input (terminals 5 = IN and 6 = GND), a 0 / 1-10V voltage signal should be provided by any other electrical / electronic device. The analog input can also be connected to a potentiometer or a 3-wire transmitter of any physical size (eg temperature, pressure) operating in the 0 / 1-10V standard.

Ways of connecting the analog input SEPGAL U / U are shown in the diagram.

If the potentiometer is connected to its power supply, an additional stabilized + 10V voltage output should be used - terminal No. 4. A stable, regulated control voltage of 0-10V is obtained from the potentiometer slider.

If you connect a 3-wire transmitter to its power supply, you can use an extra voltage + 20-24V output - terminal no. 3. You do not need to use an additional power supply to supply the transmitter.

It should be remembered that the maximum current that can be taken from both additional power supply outputs (+ 10V and + 20-24V) in total can not exceed 30mA. Therefore, they should not be used to power other devices than a potentiometer or transducer, which usually draws a current of several mA.

All auxiliary power outputs are protected against short circuits.

Short-circuit protection is also implemented at the analog input and output, providing effective device protection against damage in the event of incorrect connection of external signals, e.g. supplying 24V voltage to the input or analog output of the separator.

The analog output of the separator (terminals No. 8 = OUT and 7 = GND) can control any device equipped with a voltage signal input of 0-10V or 1-10V. The output circuit can also provide an additional, non-stabilized + 20-24V supply voltage (terminal No. 9) for any use.

The sum of the currents taken from terminals 8 and 9 can not exceed 30mA.

### 2. SEPGAL U/U separator configuration.

The separator can work with an input signal of 0-10V or 1-10V converting it to an output signal of 0-10V or 1-10V. Thus, there are 4 operating modes available, which are selected using two jumpers, on terminals 10,11,12.

Configuration of the IN input using the jumpers jump.1:

- jump. 1 OFF (no jumper 1) - 0-10V input signal
- jump.1 ON (jumper 1 connected) - 1-10V input signal

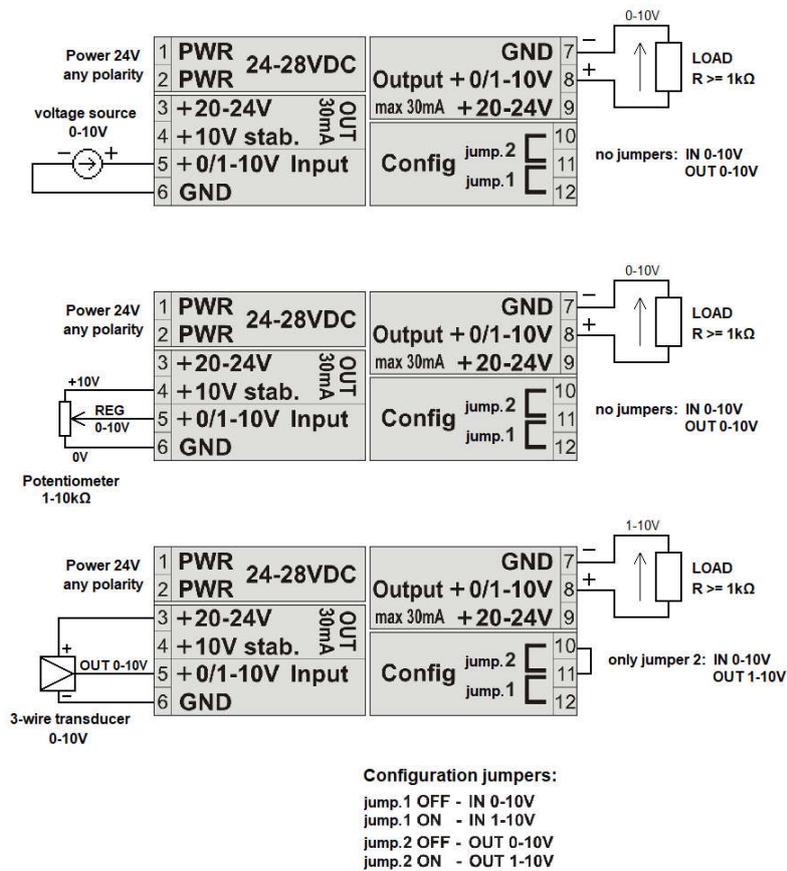
Configuration of the OUT output using the jumpers jump.2:

- jump.2 OFF (no jumper 2) - 0-10V output signal
- jump.2 ON (jumper 2 connected) - output signal 1-10V

Jumpers should be made with a short section of the electric wire.  
No other signals should be connected to the jumper terminals.

### 3. Connection diagram of SEPGAL U/U separator.

#### SEPGAL U / U



### 4. Conditions for the correct and safe use of SEPGAL U/ U separator.

- observe the power supply conditions of the device in accordance with technical data
- all connecting cables must be protected against mechanical and thermal damage
- all assembly operations and connection of wires to the terminals they can be made only when the power supply is disconnected
- protect the device against contact with water and other liquids, absolutely do not turn on the device in high humidity conditions

## 5. Technical data SEPGAL U/U.

### Power supply (PWR - terminals 1 and 2):

- power supply voltage:
- power consumption:

**24V...28V DC any polarization**  
**≤ 40mA outputs without load**

### Voltage input (terminals 5 and 6):

- input resistance:

**≥ 220kΩ**

### Additional power inputs in the input circuit (terminals 3 and 4):

- terminal 3 - supply voltage not stabilized:
- terminal 4 - stabilized supply voltage:
- current limit (for terminals 3+4):

**20V...24V DC**  
**10V DC - e.g. to power the potentiometer**  
**30mA - protection against short circuit to ground**

### Voltage output (terminals 8 and 7):

- load resistance:
- short-circuit protection:

**≥ 1kΩ**  
**YES**

### The additional power output in the output circuit (terminal 9):

- terminal 9 - supply voltage not stabilized:
- current limit (for terminals 8 + 9):

**20V...24V DC**  
**30mA - protection against short circuit to ground**

### Other:

- accuracy of analog signal processing:
- response / conversion time (10-90%):
- separation (PWR/In/Out):
- operating temperature range:
- relative humidity range:
- level of security:
- work position:
- weight:
- housing dimensions:
- assembly:

**± 0.2%**  
**≤ 0.3sek**  
**1kV, 50Hz, 1 min**  
**0-65 °C**  
**0-90% (without condensation)**  
**IP20**  
**any**  
**≤ 150g**  
**17.5 x 120 x 116 mm**  
**in a housing for a DIN rail (TS35)**