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Analog voltage signal regulator 0-10V

ZU-10

in a housing for a DIN rail

1. Main description of ZU-10

The ZU-10 voltage regulator is used for forcing the DC voltage in the range of 0-10V by means of a regulation potentiometer or by means of electric signals - analog 0-5V or digital PWM (TTL 0-5V 100Hz - 10kHz).

The unit provides a stable voltage on the output regardless of changes in the load resistance (within an acceptable range).

The device is used to control devices having voltage analogue inputs, for example to control the position of regulated dampers or motor revolutions. It can also be used as a test bench for checking analog voltage circuits.

2. How to use

The ZU-10 has 2 voltage outputs marked as OUT 5V and OUT 0 10V.

The OUT 5V output always has a constant voltage of + 5V. This output can be used freely, and if a potentiometer is used, it serves as a potentiometer power supply output.

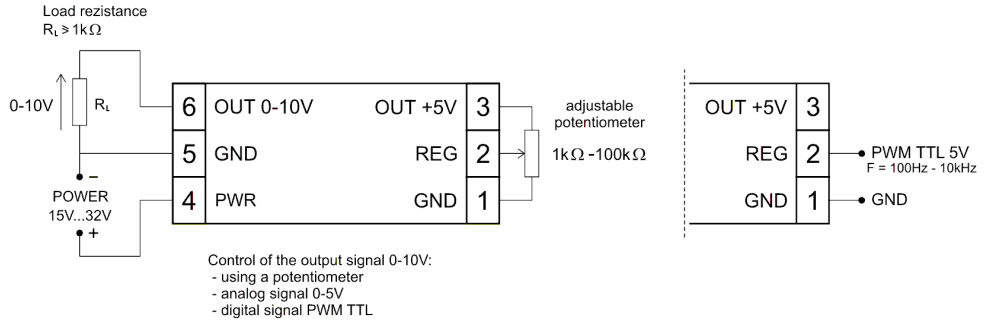
The OUT 0-10V output is the correct output of the ZU-10 regulator, on which the voltage varies from 0V to 10V in proportion to the voltage variations at the REG regulation input in the range from 0V to 5V.

Therefore, the voltage control at the OUT 0-10V output can be done by means of 0-5V voltage at the REG input or by means of a control potentiometer connected to terminals 1, 2 and 3 of the ZU-10.

The REG input can also be provided with a PWM digital signal (TTL 0-5V), the filling of which will control the voltage at the OUT 0-10V output.

The supply of voltage greater than + 5V to the REG regulation input, eg the supply voltage Uzas, will increase the voltage at the OUT 0-10V output, but only up to a value of + 12V max.

3. Connection diagram of ZU-10 regulator.



4. **Technical data.**

- power supply voltage Usv: **+15V to +32V**
- power consumption: **10mA max** (outputs not loaded)
- accuracy of voltage stabilization on outputs OUT 5V and OUT 0-10V: **+/- 0.2%**
- load resistance of outputs OUT 5V i OUT 0-10V: **1kΩ or more**
- short-circuit protection on both outputs: **30mA** - max short-circuit current of outputs
- input resistance of the regulating input REG: **1MΩ**
- the value of the regulating potentiometer: **1kΩ - 100kΩ**
- parameters of the PWM control signal: **0-5V** (TTL standard), pulse frequency**: 100Hz - 10kHz**
- temperature range and working conditions: **+5°C - +45°C**, dry rooms
- mass of the device: **below 50g**
- level of security: **IP20**
- housing dimensions: **17.5 x 94 x 65 mm**
- work position: **any**
- assembly: **in a housing for a DIN rail (TS35)**