

AC/DC ISOLATED CURRENT TRANSMITTER TYPE 5AAC/4-20mADC-D



APPLICATION

This transmitter is functionally designed to provide isolation between two electrical circuits and to convert 50 Hz AC current to 4 – 20 mA DC (The input current frequency could be higher when requested). The offered design is very suitable for data acquisition when monitoring the load of various units in distributed control and measurement systems. All you have to do is to hook the transmitter on the wire with the measured current. The influence on the monitored circuit is negligible, as the equivalent reduced impedance is less than 0.05 Ω .

OPERATING PRINCIPLE

The measured current wire is passed through the transmitter housing vertical hole, this way forming the single-winding primary coil of a precise current transformer. The transformer secondary current is amplified, converted and scaled into 4–20 mA direct current, that flows in the transmitter's secondary circuit.

The power supply of the electronic circuit is 220 VAC. There is another loop-powered version of this transmitter, which draws power from the output signal (< 4 mA).

The device is housed in an IP30 protected plastic box for mounting on a standard rail in a cabinet at a normal ambient temperature.

M e a s u r e m e n t & C o n t r o l I n s t r u m e n t s

TRANSMITTER CALIBRATION

For the user's convenience when testing the transmitter, span and zero settings are provided for adjustment. The trim-potentiometers are accessible through holes on the device front side.

ATTENTION! The test is performed only for input currents greater than 3 – 4 % FS. A two-point calibration is made – calibrating the zero at a current equal to 10 % FS, and the span (sensitivity) at 100 % FS.

Current magnitudes that are less than 3% FS are not measurable because of the specific initial dead-band, known to be a common feature for similar transmitters. When additionally requested, this band could be narrowed ten times.

SPECIFICATIONS

Isolation absolute rating	1 500 V
Power supply	220 VAC
Measuring range	0 ÷ 5 AAC or different on demand
Bandwidth	40 ÷ 400 Hz
Output signal	4 ÷ 20 mADC
Equivalent input impedance	< 0.05 Ω
Basic accuracy	< 0.5 % FS
Temperature influence error	< 0.05 % / °C
Operating temperature	from +5 to +55 °C
Protection	IP30
Output connection	Screw-type terminal block 1.5 mm ²
Mounting	Standard 35mm DIN rail
Overall dimensions	88 x 35 x 60 mm
Weight	< 100 g