



Digital measuring device TK-6-2 has unified measuring input which can be connected with temperature sensors (resistance temperature detectors – RTD, thermocouples - TC), instrument shunts and sensors with unified current output.

Device designed for sensors signals continuous measurement according to settings, converting measured value to unified current output and to digital signal for transferring to SCADA.

Device settings performs using buttons on front panel or via RS-485 interface with application (includes in scope of supply).

- Cold junction temperature compensation:
 - internal sensor;
 - receiving from external meter over RS-485 interface, Modbus RTU protocol.
- Configurable analog input.
- Input, supply and output circuits are galvanic isolated.
- Programmable current output 0..5, 0..20 or 4..20 mA.
- Measured value bounds setting for converting to current output.
- Five-digit green LED display with 10 mm symbol height.
- 2 optorelay for AC/DC circuits 48V/0,4A.
- Interface RS-485, protocol Modbus (RTU).
- Installation on DIN rail, 35 mm.

SPECIFICATION

- Thermocouples..... K, L, T, S, B
- RTDs:
 - Pt50, Pt100, Pt500 ($W_{100}=1,3850$ и $W_{100}=1,3910$);
 - Cu50, Cu100 ($W_{100}=1,4260$ и $W_{100}=1,4280$).
- DC-current input signal range, mA..... 0..5; 0..20; 4..20
- Instrument shunt (75mV nominal), mV 0..90
- Current output signal range, mA..... 0..5; 0..20; 4..20
- Least significant digit value..... 0,001; 0,01; 0,1; 1

MAIN MEASURING ERRORS

For **TK-6-2** modification

- RTD temperature measuring absolute error, °C, up to:
 - $\pm(0,2 \cdot 10^{-2} \cdot (t+273)+0,1)$
- TC temperature measuring absolute error, °C, up to:
 - K, T, L in -150..0°C..... $\pm(0,25 \cdot 10^{-2} \cdot |t|+0,5)$
 - K, T, L in 0..800 (1300)°C range..... $\pm(0,1 \cdot 10^{-2} \cdot |t|+0,5)$
 - S 5,0
 - B 7,0
- Unified current signal measuring reduced error, %, up to $\pm 0,25$
- Instrument shunts measuring reduced error, %, up to $\pm 0,5$

For **TK-6-2-P** modification

- RTD temperature measuring absolute error, °C, up to:
 - in negative temperatures range:
 - Cu50, Pt50 $\pm(0,05 \cdot 10^{-2} \cdot (t+273)+0,5)$
 - Cu100, Pt100 $\pm(0,05 \cdot 10^{-2} \cdot (t+273)+0,25)$
 - Pt500 $\pm(0,05 \cdot 10^{-2} \cdot (t+273)+0,1)$
 - in positive temperatures range:

- Cu50, Pt50 $\pm(0,05 \cdot 10^{-2} \cdot (t+273)+0,2)$
- Cu100, Pt100 $\pm(0,05 \cdot 10^{-2} \cdot (t+273)+0,1)$
- Pt500 $\pm(0,05 \cdot 10^{-2} \cdot (t+273)+0,05)$
- TC temperature measuring absolute error, °C, up to:
 - S, B 5,0
 - in negative temperatures range:
 - K, T $\pm(0,1 \cdot 10^{-2} \cdot |t|+0,5)$
 - L $\pm(0,1 \cdot 10^{-2} \cdot |t|+0,25)$
 - in positive temperatures range:
 - K, T $\pm(0,05 \cdot 10^{-2} \cdot |t|+0,2)$
 - L $\pm(0,05 \cdot 10^{-2} \cdot |t|+0,1)$
- Unified current signal and instrument shunt measuring reduced error, %, up to $\pm 0,25$

ADDITIONAL INFO

- Operating temperature range $+5^{\circ}\text{C}..+50^{\circ}\text{C}$
- Dust and moisture protection IP20
- Galvanic isolation voltage, V 500
- Optorelays count 2
- Current output load resistance, up to:
 - for 0..5 mA range 2000
 - for 0..20 mA and 4..20 mA ranges 600
- Power supply (12..24) VDC
- Power consumption, up to 3
- Baud rate, kbit/s 9,6; 19,2; 38,4
- Overall dimensions (W×H×D), mm 53×98×58

ORDERING DESIGNATION

Digital measuring device **TK-6-2-X-Y-Z**, where:

X – modification:

- «P» – high precision;
- no marking – standard precision.

Y – interface RS-485:

- «R» – with RS-485;
- no marking – without RS-485.

Z – current output:

- «C» – with current output;
- no marking – without current output.