



Linear and angular shift meter IK-1-TK-1 is designed for mechanical measurements: rotor's axial shift and rotor's differential expansion (axial growth), case thermal expansion, valve position, servomotor stroke.

Complies with requirements of technical conditions TU U 33.2-32436145-002:2008 and

listed in the State Register of Measurement Instruments of Ukraine under the number U2747.

- Vector displacement sensor (VDP) signal measuring and conversion.
- Shift indication in mm.
- 4 NO relay outputs for signaling.
- Continuous sensor fault detection.
- Value registration before and after signaling.
- Individual sensor calibration capability.
- False alarms protection for noises and power failures.
- Provides supply voltage for sensor
- Programmable DC-current output 0..5, 0..20 or 4..20 mA.
- Interface RS-485, protocol Modbus (RTU).
- Five-digit green LED display with 20 mm symbol height.

CONSIST

Linear and angular shift meter **IK-1-TK-1** consist of:

- digital measuring device IP-1-TK;
- remote console for device setting up;
- vector displacement sensor VDP (on demand).

SPECIFICATION

- Measuring displacements range L depends on vector sensor type and collar thickness:

$$L = 1,75 \cdot D_N + (D_N - D_U), \text{ mm}$$

where D_N – nominal collar width for sensor, mm;

D_U – used collar width, mm.

- Linear displacement measuring error, mm, up to:

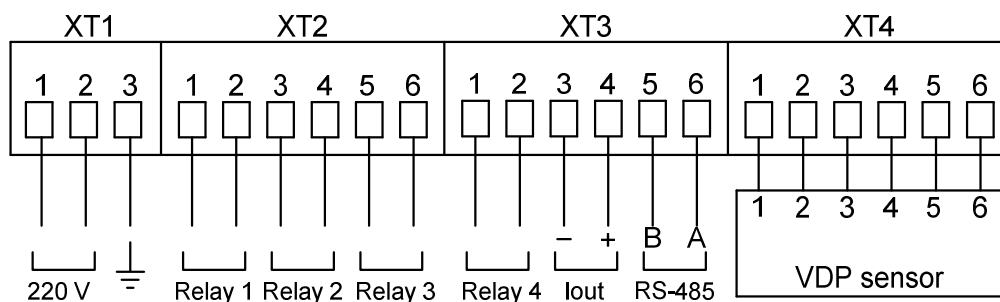
$$\pm(0,02 \cdot D_N + 0,01 \cdot |D_N - D_U|)$$

- $0,1 \cdot D_N$ displacement measuring differential error within $0,5 \cdot L$ range:

$$\pm(0,03 + 0,002 \cdot D_N + 0,01 \cdot |D_N - D_U|)$$

- DC-current output error, mA, up to: $\pm 0,05$
- Time interval between measuring value set value reaching and relay switching, ms, up to: ... 70
- Sensor voltage supply 7,5 VAC (50 ± 1) Hz
- Least significant digit value 0,01; 0,1; 1

WIRING DIAGRAM



ADDITIONAL INFORMATION

- Operating temperature range:
 - device +5°C..+50°C
 - sensor -10°C .. +100°C
 - sensor (special make) -10°C .. +150°C
- Protection type (IP code):
 - device IP41
 - sensor IP67
- Relays count 4
- Current output load resistance, Ohm, up to:
 - for 0..5 mA range 2000
 - for 0..20 mA, 4..20 mA ranges 600
- Power supply 220⁺²²₋₃₃ V (50±1) Hz
- Power consumption, VA, up to 10
- Overall dimensions (W×H×D), mm 144×74×120
- Mounting dimensions:
 - cutout size, mm 137×68
 - mounting depth, mm 140

ORDERING DESIGNATION

Linear and angular shift meter **IK-1-TK-1**.

Specify VDP (vector displacement sensor) model when ordering.

Example . Linear and angular shift meter IK-1-TK-1 composed of:

- digital measuring device IP-1-TK;
- vector displacement sensor VDP-24-42-P-U;
- connection cable.