



Electronic tachometer TE-6K-TK is designed for continuous measurement and indication of rotor or shaft rotational frequency of any mechanism.

It complies with requirements of GOST 21339 and TU U 33.2-32436145-001:2007 and listed in the State Register of Measurement Instruments of Ukraine with the number U2582.

- 4 NO relay outputs for signaling.
- Adjustable relay output retention time.
- Fixing value of rotational frequency in moments of input terminal switch actuation.
- Computation of supply mains frequency based on measured rotational frequency.
- Indication can be duplicated on remote display unit BVI-TK-1.
- Can be equipped with portable calibrator MIG-1-TK.
- 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

Electronic tachometer TE-6K-TK consists of:

- digital measuring device TE-6K-TK-X-YYY-Z, where
 X – input type;
 YYY – power supply;
 Z – device modification;

X	YYY	Z
«1» – pulse input	«24V» – (24±4) V	«U» – without RS-485, relay, current output
«2» – universal input	- - 220 ⁺²² ₋₃₃ V, (50±1) Hz	«I» – with two RS-485, relay, without current output
«3» – differential input		- - one RS-485, relay, current output

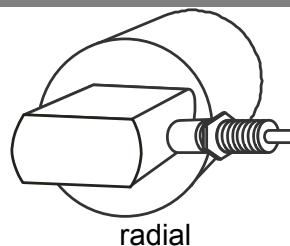
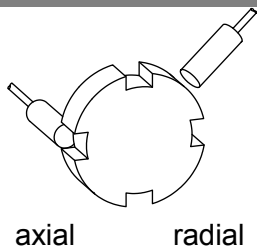
- remote console for device setting up;
- rotational frequency sensor (optional);
- remote display unit BVI-TK-1 (optional).

SENSORS PARAMETERS

Compatible sensors (depends on tachometer model):

- contactless inductive switches with pulsed type signal of 8 to 30 VDC at 750 ohm load. Pulse width not less than 100 µs. Inductive sensors from TURCK can be used as a sensor;
- magnetic inductive sensors with differential-mode output signal of 0.2 to 200 V at 4.4 kOhm load.

SENSOR INSTALLATION EXAMPLES



- Number of marks..... 1..130
- Rotational frequency absolute error, rpm, up to:

$$\Delta_{DI} = \pm \left(\frac{\alpha \times N}{100} + M \right),$$

where α – accuracy class, $\alpha=0,02$;

N – set rotational frequency, rpm;

M – digital indicator least significant digit value.

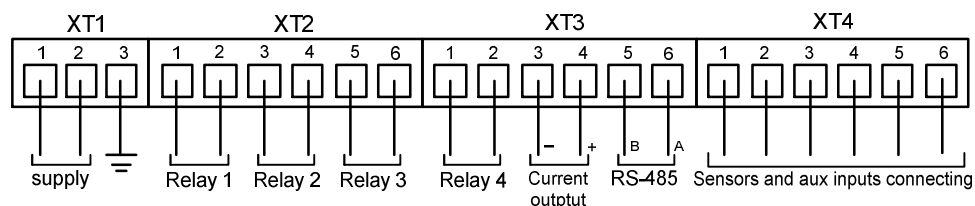
- Rotational frequency converting to current output error, mA, up to..... $\pm 0,05$

Electronic tachometer TE-6K-TK modifications:

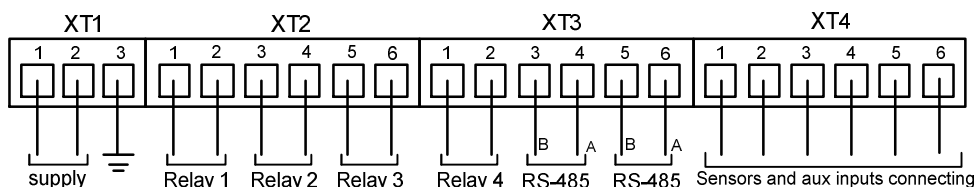
Modification	Sensor type	Range	RS-485	Voltage supply	Least digit
TE-6K-TK-1	contactless inductive switches	0,1...6500 rpm	1	220VAC	0,01; 0,1; 1 rpm
TE-6K-TK-1-24V			1	24VDC	
TE-6K-TK-1-U			-	220VAC	
TE-6K-TK-1-24V-U			-	24VDC	
TE-6K-TK-1-I*			2	220VAC	
TE-6K-TK-1-24V-I*			2	24VDC	
TE-6K-TK-2	magnetic inductive sensors; contactless inductive switches	0,1...6500 rpm	1	220VAC	0,01; 0,1; 1 rpm
TE-6K-TK-2-24V			1	24VDC	
TE-6K-TK-2-Y			-	220VAC	
TE-6K-TK-2-24V-U			-	24VDC	
TE-6K-TK-2-I*			2	220VAC	
TE-6K-TK-2-24V-I*			2	24VDC	
TE-6K-TK-3*	magnetic inductive sensors	0,1...250 thousand rpm	1	220VAC	0,01; 0,1 thousand rpm
TE-6K-TK-3-24V*			1	24VDC	

* - modification is not in State Register

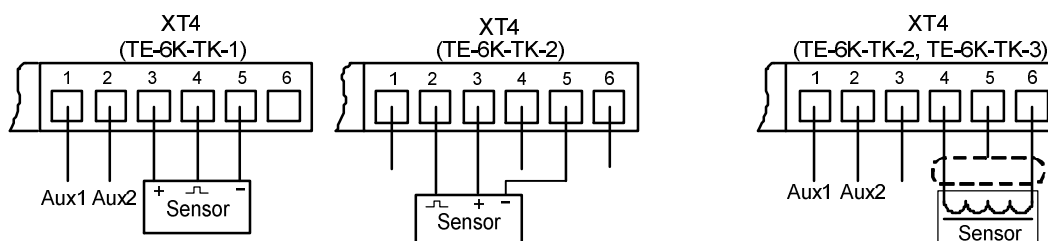
WIRING DIAGRAM



Tachometer modification TE-6K-TK-X-YYY wiring diagram



Tachometer modification TE-6K-TK-X-YYY-I wiring diagram



Wiring diagram for induction (left) u inductive (right) sensors

ADDITIONAL INFORMATION

- Operating temperature range:
 - device +5°C..+50°C
 - sensor -25°C..+70°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
- Built-in power source for sensor (15..28) VDC
- Power consumption, VA, up to 8
- Overall dimensions, (W×H×D), mm 144×74×120

ORDERING DESIGNATION

Electronic tachometer TE-6K-TK-X-YYY-Z.

Electronic tachometer model name fully complies with measuring device name.

Example. Electronic tachometer TE-6K-TK-2-24V – electronic tachometer with universal sensor input, 24 VDC supply voltage, single RS-485 interface, 4 relay outputs and DC-current output.