

Metran-620 Stand-alone Digital Indicator



- **Versions:**
 - Traditional;
 - Explosion-proof (explosion protection type: "intrinsically safe electrical circuit", explosion protection marking: ExiallCT5T);
- **Connection to 4-20 mA current loop of transmitter supply**
- **Indication of current temperature and pressure values in selected measurement units**
- **Selection of physical quantity for measured parameter**
- **Dust and water tightness: IP65 per GOST 14254**

Metran-620 Stand-alone Digital Indicator is designed to indicate (display) the pressure value measured by a pressure transmitter, or the temperature value measured by a temperature transmitter, installed in field conditions or hard-to-reach places. The indicator operates together with transmitters, having 4-20 mA output.

DESIGN AND OPERATING PRINCIPLE

The Indicator consists of the following parts (structural diagram is given in Fig.1):

- Supply stabilizer;
- Current signal meter;
- Reference-voltage source (RVS);
- FLASH-memory;
- Microcontroller;
- Input buffer;
- Keyboard;
- LCD.

The indicator is consequently connected to current loop of 4-20 mA. The stabilizer forms supply voltage for display circuit. The signal from the current meter comes

to the inverting input buffer. The reference-voltage source forms high-stable voltage for analog-digital converter (ADC) of the microcontroller, which is the main component of the display.

Microcontroller:

- controls the process of analog signal measurement,
- performs the digital signal processing,
- forms impulses for LCD control,
- processes signals from the buttons.

Nonvolatile FLASH-memory is used for settings and calibration factors keeping. Control buttons make display setup and calibration possible.

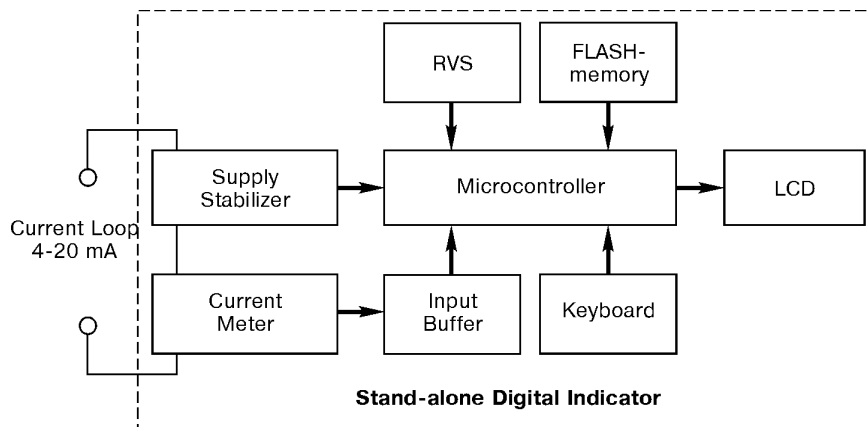


Fig.1. Indicator Diagram.

EXPLOSION PROTECTION

Explosion protection is provided by:

- limiting current and voltage in indicator's electrical circuits to intrinsically safe values due to current-limiting resistors in the circuit line as well as limiting stabilitron, protecting all external lines;
- metallized antistatic coating the housing.

The fuse disconnecting the current loop at maximum current is used for overcurrent protection of components.

INDICATION

LCD with 3.5 decimal places is used to indicate the information; it can indicate as follows:

- pressure or temperature: current value in selected measurement units;
- quantity dimension of a measured parameter: Pa, kPa, MPa, kgf/cm², kgf/m², °C;
- indication scale, showing turndown percentage with 5% increment.

The indicator has two push-button switches providing parameter setup and calibration:

- URL and LRL setup;
- Selection of measurement units;
- URL and LRL trim.

BASIC SPECIFICATIONS AND PARAMETERS

- Indicator supply: from transmitter current loop; supply voltage, max: 4 V
- Reference accuracy of current measured value indication: $\pm 0.5\%$
- Temperature effect of indication: max $\pm 0.2\%$ per 10°C within temperature range of 40 to 70°C
- Mounting:
 - bracket;
 - DIN-rail
- Overall dimensions: 115 x 85 x 50 mm
- Weight, max: 0.2 kg

OPERATION CONDITIONS

Indicator: version U, location category 2 per GOST 15150, for operation at -40 to 70°C of ambient temperature and 95% of relative humidity at 35°C.

The Indicator is resistant to external variable magnetic field of 400 A/m strength and 50 Hz frequency, and to constant magnetic field up to 400 A/m strength.

The housing is made of plastic (polycarbonate), dust and water tightness: IP65 per GOST 14254. Leads are connected to the indicator through gland lead-in with IP65 tightness code.

The housing of Ex-version has metallized coating, meeting GOST R 51330.0 requirements and not accumulating static electric discharge.

RELIABILITY

Average service life, min: 12 years.
 Mean time between failures, min: 150000 h.

WARRANTY

Warranty period: 18 months from the date of commissioning.

DELIVERY SET

- | | |
|------------------------|--------|
| 1. Indicator | 1 unit |
| 2. Mounting part set | 1 unit |
| 3. Product Data Sheet* | 1 copy |
| 4. Operation Manual* | 1 copy |

* 1 copy is delivered for every 10 indicators to the same address.

ORDERING INFORMATION

Metran-620 - Ex - M1 - TU4032-001-12580824-003			
1	2	3	4

- Indicator name and type.
- Explosion-proof version designation.
- Mounting set:
M1 bracket mounting;
M2 DIN-rail mounting.
- Specification.

INDICATOR WIRING DIAGRAMS

The indicator is connected to 4-20 mA circuit break of a pressure or temperature transmitter. Please, observe the polarity, when connecting the indicator.

Connection of the Indicator in explosive area should be performed with supply voltage OFF.

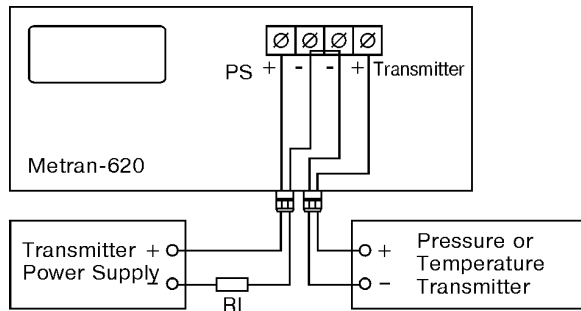


Fig.2. Indicator Connection.

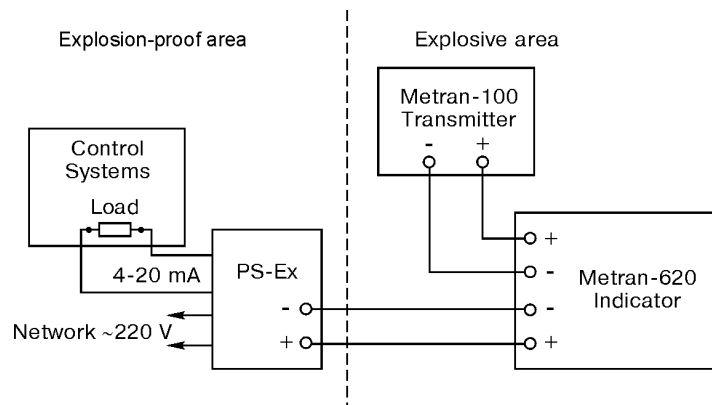


Fig.3. Indicator Connection in Explosive Area.