

## Metran-671 Configurator



- **Supply: PC serial port**
- **Configurator is not a measuring device**

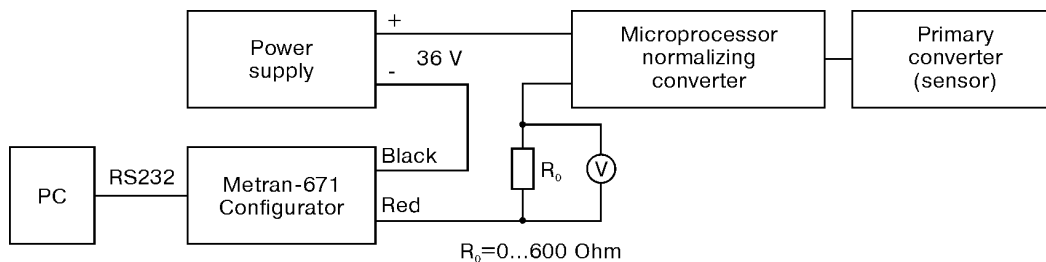
Metran-671 Configurator is designed for connection of normalizing microprocessor-based converter, being a part of Metran-270MP series temperature transmitter, to personal computer when adjusting and calibrating the transmitter. It is used with M-Master software.

### BASIC SPECIFICATIONS AND PARAMETERS

- Connection of a normalizing microprocessor-based converter to IBM PC via serial RS-232 interface.
- Climatic effects stability: UHL 3.1 version per GOST 15150, for operation at 0 to 50°C of ambient temperature and 80% of relative humidity, at 35°C.
- Configurator electrical parameters:  
Signal amplitude on RS-232: ( $\pm 7 \dots \pm 12$ ) V.  
Output active resistance of the Configurator, max: 300 Ohm.  
Insulation between input and output circuits of the Configurator withstands ac test pressure of 250 V.  
Electrical insulation resistance between input and output circuits of the Configurator under normal climatic conditions, min: 40 MOhm.
- Mechanical effects stability: vibration-proof version V1 per GOST 12997.
- Dust and water tightness: IP30 per GOST 14254.
- Weight, max: 0.15 kg.
- Overall dimensions (LxWxH): 100x50x24 mm.

### CONFIGURATOR DESIGN AND CONNECTION

Metran-671 Configurator is made in plastic housing.  
Configurator is connected to PC with the help of DB9-DB9 cable, included into the delivery set.



#### DELIVERY SET

1. Metran-671 Configurator	1 unit
2. Product Data Sheet 025.000PS	1 copy
3. Cable DB9-DB9 (for RS-232)*	1 unit
4. Set of 2 connecting wires	1 unit
5. Screwdriver	1 unit.
6. Software CD	1 unit

\* If needed, Metran-671 Configurator delivery set may include USB-RS232 adapter (correct configurator operation with adapter of this type is guaranteed).

#### RELIABILITY

Average service life: 12 years.

#### WARRANTY

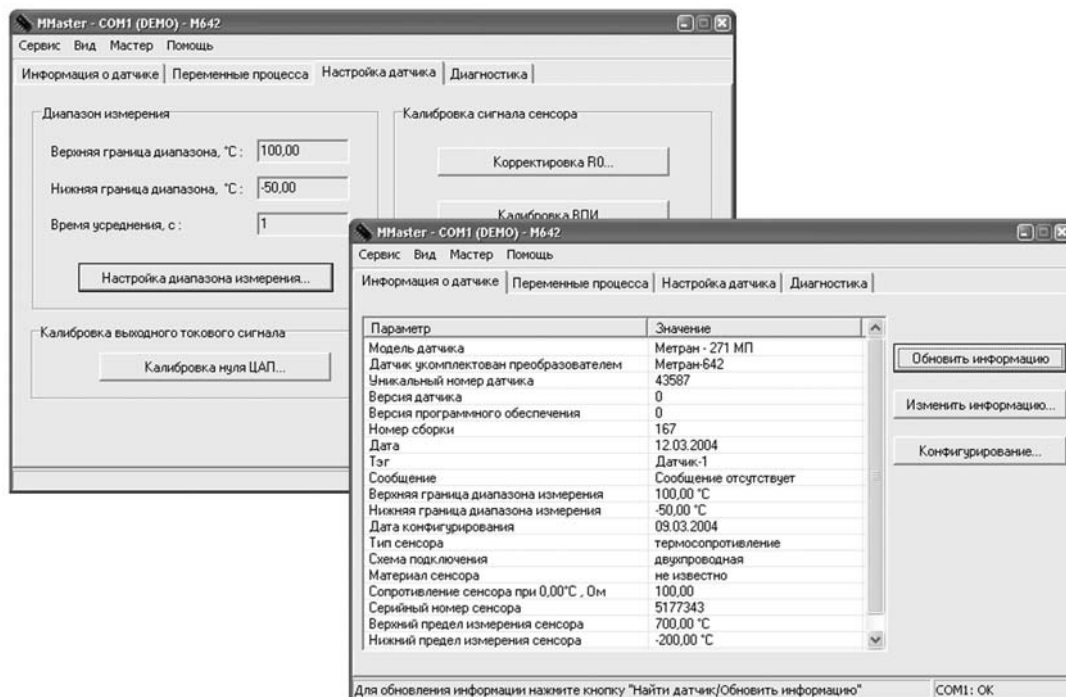
Warranty period: 18 months from the date of commissioning.

#### ORDERING INFORMATION

<b>Metran-671 - 01</b>	
1	2

1. Type.
2. USB-RS232 adapter (optional).

## M-Master Software



The program is designed for configuration and setup of Metran-270MP Smart Temperature Transmitter (further transmitter) complete with the normalizing converter.

The program performs the following operations:

- Reading and displaying the information about the transmitter; User's data change;
- Process variables readout (measured temperature, percent of range, output current value);
- Configuration and setup of the transmitter;
- Setup and calibration of primary converter parameters;
- Setup and calibration of output analog signal;
- Extra compensation ON/OFF, data obtaining for extra compensation;
- Transmitter diagnostics.

### Minimum Hardware Requirements

486 processor, 8 MB RAM.  
VGA 640x480 video display adapter, 16 colors.  
Free asynchronous communication port (COM-port);  
4 MB free space on HD.

### Software

OS Microsoft Windows 9x/ Windows NT.

### Operation Procedure

Before transmitter operation, the User connects the transmitter to Metran-671 Configurator, connected to free PC COM-port, and then starts M-Master configuration and setup program.

The User follows the "Find transmitter" command through "Service" menu, if necessary, performs the primary transmitter configuration.

After that the User can perform:

- Data reading from the normalizing converter;
- Readout of primary variable, percent of range, output current value;
- Setup of user parameters;
- Transmitter and sensor setup;
- Sensor signal calibration, using reference means assigning or registering primary variable value;
- Setup of transmitter measurement range;
- DAC calibration and testing;
- Extra compensation ON/OFF, data obtaining for extra compensation;
- Transmitter diagnostics.

When recording data into transmitter memory, the program sets the transmitter into 12mA fixed current mode for reliability of communication.

**Program operation: Process Variable Readout**

Provides readout of transmitter primary variable (temperature), percent of range, output signal, transmitter state (diagnostics), and transmitter control.

**Program operation: URL and LRL Trim**

Calibration is performed by the reference temperature source. This function may be required for acceptance of device or applications, that require combined converter and sensor calibration.

Measurement limits calibration for resistance temperature transmitters should be performed after R0 correction.

**Program operation: Extra Compensation**

Extra compensation operation is for improvement of temperature measurement accuracy in test points within measurement range. This operation is a supplementary action for measurement precision increase and is not obligatory.

For compensation usage it is required to calculate accuracy dependence of measured temperature. To do so, the indications are taken in several test points with the help of the reference device ( $T_d$ ) and the transmitter ( $T_i$ ). The value of reading deviation is determined as follows:

$$dT_k = T_{dk} - T_{ik},$$

where  $k$  is the number of test point.

Temperature correction  $dT$  between test points is calculated per linear dependence. The results are recorded into a file or entered into the program.

**Program operation: DAC Trim**

Due to long-term drift of DAC there is a function of zero trim and slope of DAC characteristic in the program.

M-Master software allows the user to learn basic program functions in Demo mode without connecting real devices.

**Delivery set**

Metran-671 Configurator is supplied with software CD.