

#### 4.17. PRECISION THERMOMETRY BRIDGE TR-3200 (TP-3200)



Precision thermometry bridge TR-3200 is intended for remote high-precision measurement of temperature at the control of parameters of technological processes, for carrying out scientific researches, for the development of precision thermal stabilization equipment, and also for the use when carrying out calibration, tests and metrological certification of the means for temperature measurement.

##### **Technical specifications:**

The measurement process - automatic.

Time of one measurement - no more than 1 s.

Output of the measurement results - on the thermometer display and on PC (with the time reference).

The range of resistance measurements: from  $10^{-5}$  to 340 Ohm.

Scale division -  $10^{-4}$  degrees.

Connection of the measurement object – four-clamping.

The limiting values of a relative multiplicative error and formulas for calculating the limiting values of a relative additive error are given in the table (for a time measurement of at least 5 s)

$R_x$ , Ohm	$\delta_{CRN}$ , %	$\delta_{ORN}$ , %	$C_{RN}$ , %	Distinction (threshold of sensitivity), Ohm
$1 \times 10^{-5} \dots 340$	$C_{RN}(140 / R_x)$	$2 \times 10^{-3}$	$4 \times 10^{-5}$	$10^{-5}$

$C_{RN}$  - a limiting value (interval limit) of the given additive error;

$R_x$  - a value of the measuring resistance, Ohm;

The device has a calibration mode for the external reference resistance.

Thermometry bridge is equipped with a software that enables an indication of the measurement results and storage of the information on PC connected to the thermometer through the serial interface RS232 or RS485.

Supply – from the built-in network supply.

Power consumption from the network – no more than 5 VA.

Device weight – no more than 1 kg.

Dimension - 310x120x270 mm.

Mean time between failures - not less than 10000 h.

Total average service life of the thermometer – not less than 6 years.

