

IV TEMPERATURE CONTROLLERS

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TEMPERATURE CONTROLLER
PT-0792 (TY Y3.48-04850451-028-96)

Designed for automatic control (or signaling) of temperature of various manufacturing processes or other values which were converted into current or voltage previously.

Operates together with thermocouples of resistance, thermoelectrical couples; double wire couples with output signal in the range 4 - 20 mA (for their power); 0 - 5 mA, 0 - 1 V.

PT-0792 is double or triple position type as far as the output signal is concerned.

Separate controller is single point, single channel, can operate with only one type of thermocouples.

The controller provides indication of actual temperature of controlled object, or temperature values for settings X1, X2 if requested by operator.

Indication of switching output devices.

The device has an option to connect of primary couples through spark protection units TΦ-3388.

Range of controlled temperatures, respectively:

for NSC, °C:

50M, 100M, Cu 50, Cu 100

from minus 50 to 200

50Π, 100Π, Pt 50, Pt 100

from minus 60 to 600

K

from 0 to 1200

L

from 0 to 400

S, R from 0 to 1200

Controller power supply, V

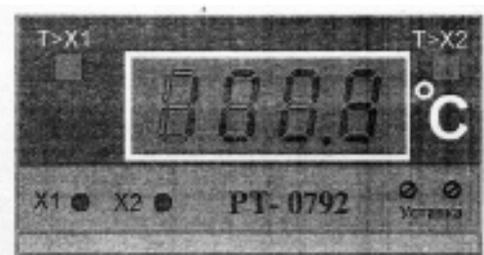
220

Weight, kg, not more than

0,5

Size of window for mounting on panel, mm

91x49



CONTROLLERS OF PT-0102 SERIES (TY Y 33.2-04850451-068-2003)

Designed for automatic control, indication, signaling and archiving of temperature, pressure and other physical values converted into unified signal (in different manufacturing processes).

Work together with thermocouples of resistance, thermoelectrical or primary couples of other physical values with output signal 4 - 20 mA, 0 - 5 mA, 0 - 0,1 V, 0 - 1 V, 0 - 10 V, pulse signal with frequency 0 - 1 kHz (0-10 kHz).

Performance characteristics:

- two-position, three-position or proportional integral differential control;
- control in timer mode;
- PID control by sliders;
- precise control;
- precise measurement and control;
- software control of manufacturing process which can be approximated by piecewise

linear dependency (up to 100 pieces for a single program or up to 50 pieces for each program of 4-program option) for PT-0102П;

- interface with PC via RS232 and RS485 and archiving of up to 10000 measured results in volatile memory with a set period from 1 to 180 min for PT-0102K;

- power supply +24 V for couples with unified output signal.

Range of controlled temperatures according to specific NSC, °C:

50M; 100M	from minus 50 to 150
50П; 100П; Pt100; Pt500; Pt1000	from minus 200 to 600
K	from minus 50 to 1200
L	from minus 50 to 800
S, R	from minus 50 to 1700
B	from 300 to 1800
J	from minus 200 to 900
T	from minus 200 to 400
A-1	from 0 to 2000

Absolute measurement errors
resistance

0,1 - 1 °C for thermocouples of

1 - 3 °C for thermoelectrical
couples

0,25 % for couples with unified
output signal

0,05 °C for high accuracy
controllers

0,1; 1

0,01 for high accuracy controllers

Low Order Unit, °C

Supply voltage, V

from DC source

from AC mains with 50 Hz

Outputs

24 (12)

220 (9 - 36)

Maximum three (may have different packaging options: contact relays for 220 V, 0,5 - 1 A of AC (can be up to 7 A if requested); low power optosymistor output for one or three phases to control by powerful thyristors (symistors); transistor key; analog output)

Weight of digital device, not more than, kg

with □1 housing

0,3

with □2 housing

0,5

Size, mm

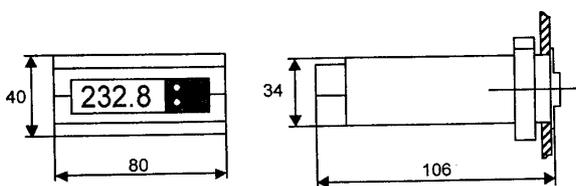
with □1 housing

106x80x40

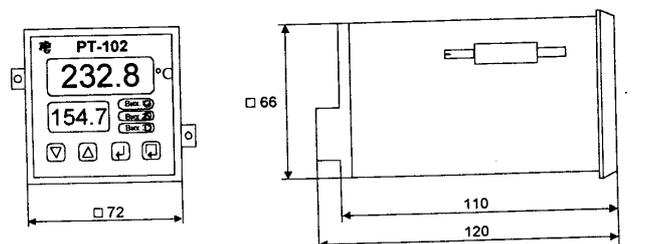
with □2 housing

72x72x120

Technical specifications (ranges, NSC, error, etc), thermocouple types may change.



Size of opening in a board - 76x35
Fig. 1 - Housing □1 (for PT-0102)



Size of opening in a board - □66
Fig. 1 - Housing □2

TEMPERATURE CONTROLLERS PT-0102-C2 (TY Y 33.2-04850451-068-2003)

Designed for measurement, automatic control, indication, signaling of temperature and measurement of time intervals with the help of two stopwatches. Can be mounted/ inserted into many devices (thermostats, cameras, etc.) Works together with resistance thermocouples or thermoelectrical couples.

Provide proportional integral differential control of temperature, an option to signal that temperature enters a set range.

Range of controlled temperatures,
according to specific NSC, °C:

50M; 100M

from minus 50 to 150

50П; 100П

from minus 200 to 600

Pt 100; Pt 500; Pt 1000

from minus 200 to 600

K

from minus 50 to 1200

L

from minus 50 to 800

S, R

from minus 50 to 1700

B

from 300 to 1800

Absolute measurement error, °C:

for thermocouples of resistance

0,1 - 1; 0,05 (in the range
from minus 19,99 to 99,99°C)

for thermoelectrical couples

1 - 3

LOU, °C

1; 0,1; 0,01 (in the range
from minus 19,99 to 99,99°C)

Range of displaying time intervals

00 min 00 s - 99 min 59 s

Supply voltage, B:

from DC source

24 (12)

from AC mains, 50 Hz

220(12)

Output

relay contacts, symistor, transistor key

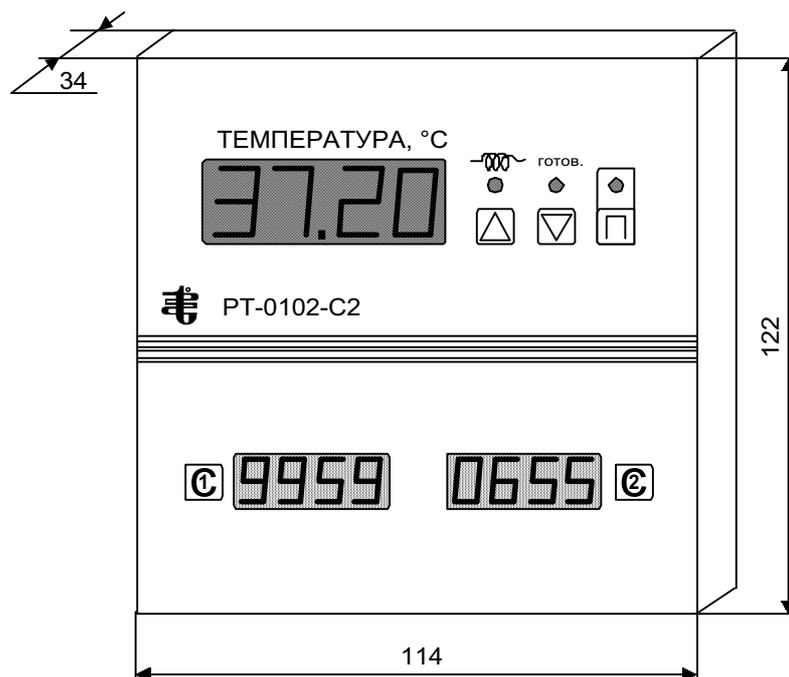
Weight, not more than, kg

0,5

Size, mm

114x122x34

Technical specifications (ranges, NSC, error, etc), thermocouple types may change.



DEVICE FOR TEMPERATURE CONTROL AND ADJUSTMENT

ПКРТ-0103

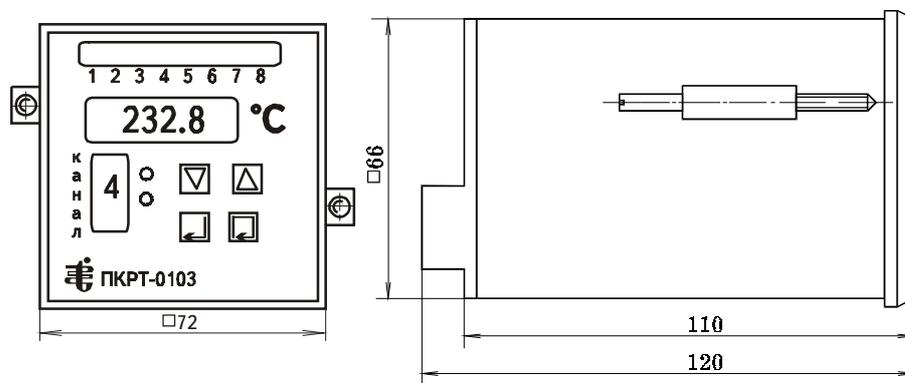
Designed for automatic and continuous signaling that a set level of temperature/ other physical value was achieved (independent level setting for each channel), and indication of the current value of measurements in the controlled channels. The device can operate in two, three position modes or PID control.. The outputs are vacant relay contacts, optosymistors or optotransistors (open collectors). 8 entry channels available.

The devices works in a set with primary thermocouples: thermocouples of resistance with nominal static characteristic of transduction (NSC) 50 M, 100M, 50Π, 100Π, or thermoelectrical couple with NSC K, L or primary thermocouples transducing other values with input signal 4 - 20 mA, 0 - 20 mA, 0 - 5 mA, 0 - 1 V, 0 - 5 V, 0 - 10 V etc.

The device can link with PC through RS232 or RS485 interface. The connection is provided with three wire line galvanically divided from input and powering circuits. The device may also generate measurement data archives and show them on PC screen later. The devices can be easily connected in a computer network.

Mounting – on board.

Range of measured temperature, °C	from minus 50 to 1800 (depending on the type of thermocouple used)
Resolution, °C	0,1 (1 – for thermoelectrical couples)
Number of decimal orders of indication	4
Threshold of main acceptable composite measurement, %	0,1.. - 0,5
Length of indication of the measured value of single channel, s	1
Number of points of archiving measured values for each channel, not less than	2000
Period of archiving, min	from 1 to 180
Powering voltage	220 ⁺²² ₋₃₃ V, 50 ± 1 Hz
Power of consumption, not more than, Wt	3



CPU-BASED DOUBLE CHANNEL TEMPERATURE CONTROLLER
RE-202 (TY Y3.48-04850451-028-96)

Designed for automatic control of temperature or other physical values which were previously converted into electrical signal: voltage 0 - 1 V or current 0 - 5 mA; 4 - 20 mA; 0 - 20 mA. PC interface RS485 (RS232). Works together with thermocouples TXA (K), TXK (L), ТПП (S, R), TCM (Cu 50, Cu 100), TCP (Pt 50, Pt 100)

Range of controlled temperatures according to specific NSC, °C:

50M, 100M

from minus 50 to 200

50П, 100П

from minus 200 to 600

K

from minus 180 to 1300

L

from minus 180 to 800

S from 0 to 1800

0 - 1 В, 0 - 5 mA, 4 - 20 mA, 0 - 20 mA

from minus 199,9 to 999,9

Mode of control

PID, two or three position

Load control

pulse-duration (for PID control)

Two control outputs (relay or optosymistors)

Relay 7A, 240 VAC

Load triggering when going over "zero"

Optosymistor 0,1 A, 240 B

Signaling about exceeding set temperature

Relay 7A, 240 VAC

Discreetness of temperature setting, °C

0,1

Range of changing proportionality factor, °C

0 - 200

Range of changing constant of integration time, s

1 - 3600

Range of changing constant of differentiation time, s

0 - 1000

Controller power supply

90 - 260 В, 50 Гц

Weight, kg, not more than

0,25

Size , mm

96x48x110

Size of footprint for panel mounting, mm

91x43



FOUR CHANNEL MICROPROCESSOR,
TEMPERATURE CONTROLLER RE-202-4 (TY Y3.48-04850451-028-96)

Designed for automatic control of temperature or other physical values which were previously converted into electrical signal: voltage 0 - 1 V, or current 0 - 5 mA, 4 - 20 mA, 0 - 20 mA. PC connection through RS485 (RS232). Operates together with thermocouples (with NSC) TXA (K), TXK (L), ТПП (S, R), TCM (Cu 50, Cu 100), ТСП (Pt 50, Pt 100).

Range of controlled temperatures, respectively
for HCX, °C

50M, 100M	from minus 50 to 200
50П, 100П	from minus 200 to 600
K	from minus 180 to 1300
L	from minus 180 to 800
S	from 0 to 1800
0 - 1V, 0 - 5 mA, 4 - 20 mA, 0 - 20 mA	from minus 199,9 to 999,9

Law of temperature control

three level

Load control

pulse duration

Four controlled outputs
(relays or optosymistors)

relay 7A, 240 VAC

Triggering the load when system goes over
"zero"

optosymistor 0,1 A, 240 V

Controller power supply

90 - 260 V, 50 Hz

Weight, kg, not more than

0,25

Size, mm

96x48x110

Size of window for mounting on panel, mm

91x43

