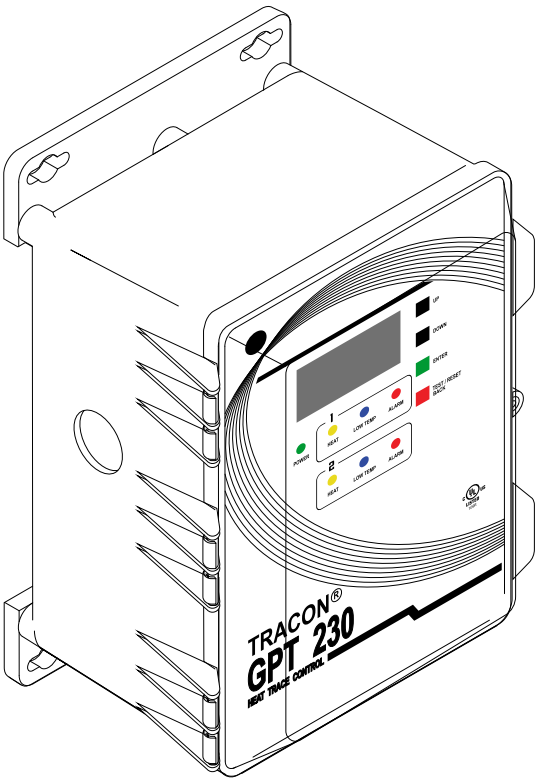
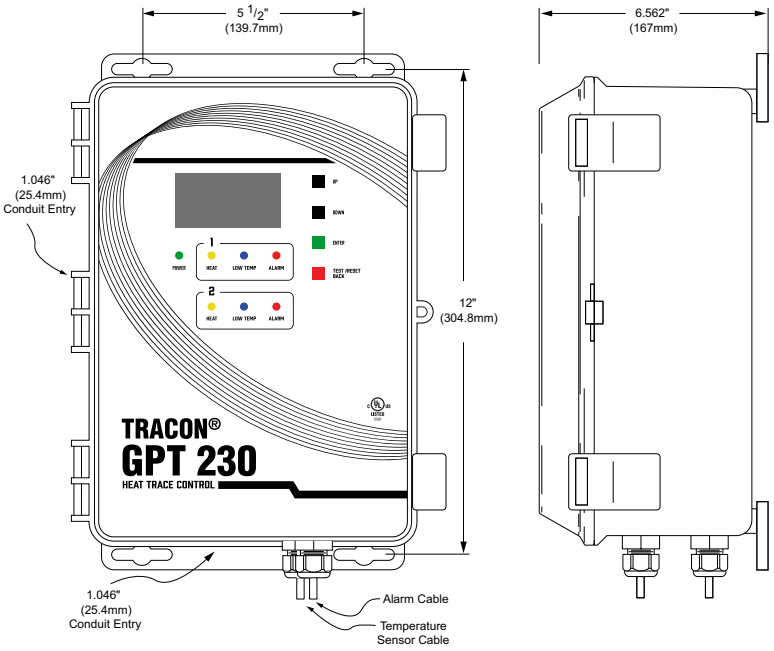
GPT 230 Dual-Point General Purpose Heat-Trace Control





The GPT 230 Dual Channel Heat–Trace Control is a dual–point microprocessor– based heat–trace control thermostat. It is ideal for applications which require two independent heater–control Channels with Ground–Fault Equipment Protection (GFEP). Ideal uses include freeze protection, hot water temperature maintenance, grease line trace, tank heating, and other temperature monitoring and control applications.

The GPT 230 Heat–Trace Control operates from the heater's power source. A universal power supply allows the GPT 230 to operate from 100 VAC to 277 VAC. It can independently or jointly control two resistive loads up to 30 amps each.

Adjustable Temperature Setpoint and Alarms

The temperature setpoints are adjustable from −99.9 °F to 999 °F (−73.3 °C to 537.7 °C) to a tenth degree resolution.

Sensor Inputs

The GPT 230 comes with a 100K ohm thermistor temperature sensor with a 20 ft. jacketed cable. The included sensor has an operating range of −40 °F to 230 °F (−40 °C to 110 °C). The GPT 230 can also use 2–, 3–, or 4–wire RTD sensors for systems requiring high–temperature sensing. Two temperature sensor inputs are provided, and the channels can operate independently or from one sensor.

Precision Monitoring and Control

The GPT 230 monitors temperature, load current, and ground leakage current. Alarms include high temperature, low temperature, high load current, low load current, ground fault, sensor fault, internal fault, and power fail. These alarms are easy to adjust and observe from the front panel. The GPT 230 can be set to energize or de-energize the heaters during a sensor fault.

Ground–Fault Equipment Protection

The GPT 230 Heat–Trace Control includes integral GFEP for each channel. This eliminates the extra expenses associated with having to provide separate GFEP components in the circuit panel. The GPT 230 normally disconnects power immediately to the affected zone when ground fault current exceeds the set value. But if it is set to Fire Protect mode, for critical fire protection systems, then it will generate the alarm but power will be maintained to prevent freezing.

Automatic GFEP Circuit Self–Test

To ensure continued safe operation, the GPT 230 performs a self–test of the GFEP circuits when power is first applied, along with a load ground fault test, and this repeats periodically thereafter at an adjustable interval.

Specifications

General

Certifications	UL 60730–1, UL 1053, CSA E60730–1:13

Environmental

Area of use	Nonhazardous locations
Operating temperature	−40°F to 131°F (−40°C to 55°C)

Enclosure

Dimensions	9" (W) x 12-13/16" (H) x 5-15/16" (D) 229 mm (W) x 325 mm (H) x 150 mm (D)
Ingress protection	NEMA 4X, IP66
Cover attachment	Polycarbonate cover, plastic screws
Cable entries	Two liquid-tight cable glands installed for sensor and alarm leads, cable diameter 0.08” to 0.24” (2 mm to 6 mm) Two 1.046" hole to accommodate ¾" conduit fittings for power wiring connection
Material	Polycarbonate
Weight	2.7 lb (1.22 kg)
Mounting	Wall mount with flanges

Wiring Connector Ratings

Power	Barrier Strip Terminals for Line, Neutral, and Ground; use 10AWG wires rated for at least 194 °F (90 °C)
Sensors	Terminal Block, rising cage clamp, 12–28 AWG leads
Alarm relay	Terminal Block, rising cage clamp, 12–28 AWG leads

Parameter Settings

Temperature setpoint heat ON	Adjustable -99.9 °F to 999 °F (-73.3 °C to 537.7 °C). Default 38 °F (3.3 °C)
Temperature setpoint heat OFF	Adjustable -99.9 °F to 999 °F (-73.3 °C to 537.7 °C). Default 40 °F (4.4 °C)
Low–temperature threshold	-99.9 °F to 999 °F (-73.3 °C to 537.7 °C). Default 35 °F (1.7 °C)
Low-temperature alarm delay	0 s to 3000 s Default 300 s
High-temperature alarm threshold	-99.9 °F to 999 °F (-73.3 °C to 537.7 °C). Default 140 °F (60 °C)
High-temperature alarm delay	0 s to 3000 s Default 300 s
Low–current alarm threshold	0.0 A to 10.0 A Default 0.1A Enabled
Low–current alarm delay	0 s to 300 s Default 5 s Enabled
High–current alarm threshold	0.0 A to 55.0 A Default 30.0 A Disabled
Low–current alarm delay	0 s to 300 s Default 300 s
Ground fault limit current	1.0 mA to 300.0 mA Default 30 mA
Self–test interval	1 h to 250 h Default 24 h Enabled
Temperature Units	°F or °C Default °F

User Interfaces

Pushbuttons	UP, DOWN, ENTER, TEST / RESET BACK
DIP switches	RTD wiring configuration, panel lockout

Indicators

Status indicator	Power (Green) Heater (Yellow) Low Temperature (Blue) Summary Alarm (Red)
Display	2.7” OLED graphic 128x64
Summary alarm relay reporting	Low temperature High temperature Low load current High load current High ground fault current Stuck relay Sensor fault Internal fault

Control Ratings

Temperature accuracy	+/− 2 °F (1 °C)

Temperature Sensors

Temperature input	(Included) Two Thermistor, 100k ohms at 25 °C, range −40 °F to 230 °F (−40 °C to 110 °C), 20 ft (6.1 m) Lead (25076) RTD Sensor: Platinum, Alpha = 0.00385, ITS-90, 100 ohms at 0 °C Input supports 2-wire, 3-wire or 4-wire connection Sensor operates at 1 mA

GFEP (Ground–Fault Equipment Protection)

Operation	Continuously tests ground fault current whenever the load is on; also manually and periodically tests equipment ground fault current with each self–test.
Range	Adjustable 1 mA to 300 mA Default 30 mA
Automatic self-test	Verifies GFEP functionality every 24 h and whenever the load is energized

Power

Supply voltage	100 – 277 VAC 50/60 Hz
Controller power consumption	7 W maximum, 2.2 W idle
Load rating, each channel	30 A 2-pole, 100 – 277 VAC resistive

Specifications are at 77 °F (25 °C) unless otherwise stated and are subject to change without notice.

LIMITED WARRANTY

Trasor’s one year limited warranty covering defects in workmanship and materials applies. Contact Customer Service for complete warranty information.