Puja Engineering
231,Grohitram Building, Plot No 14-B, Sector 19, New Mumbai 400705 India

panel & wall-mounted thermometers

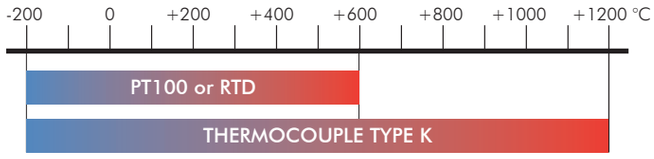
Panel and wall-mounted industrial thermometers are mains-powered instruments that are designed for permanent installation in industrial processing applications.

Selecting the correct thermometer for an application is by definition very important, to achieve the maximum accuracy and repeatability of the temperature reading.

The selection criteria for a thermometer should include:

- measurement range
- resolution of the reading 1°C or 0.1°C
- desired accuracy
- durability and type of sensor

ETI panel or wall-mounted thermometers utilise one of two types of temperature sensors, thermocouple and resistance temperature detectors (RTD or PT100). Thermocouple thermometers and probes are both durable and fast to respond to changes in temperature; they also have a wide measurement range. Resistance temperature detector thermometers and probes are slower to respond to changes in temperature, but generally more accurate but less durable.



resistance temperature detectors (PT100 or RTD)

Resistance temperature detector (PT100 or RTD) probes consist of flat film or wire wound platinum resistance sensor element. The measurement resistance value changes in line with the temperature being measured.

thermocouples

Thermocouple probes consist of two wires of dissimilar metals or metal alloys welded together. Thermocouples are based on the thermoelectric (Seebeck) effect. There are various types of thermocouple, types K, J and T being the most common, although type K is by far the most widely used. Therma D41 and D45 panel thermometers and Therma W41 and W45 wall-mounted thermometers are available in type K thermocouple as standard, but are also available in type J or T thermocouple. To specify a type J thermocouple thermometer the third number of the order code should be replaced with the number 9, for type T number 7.

optional mV output

Therma D41 and D45 panel thermometers and Therma W41 and W45 wall-mounted thermometers are available with a mV output, the Therma D41 has a 1mV per 0.1°C and the Therma D45 a 1mV per 1°C output. Contact the ETI sales office for further information.

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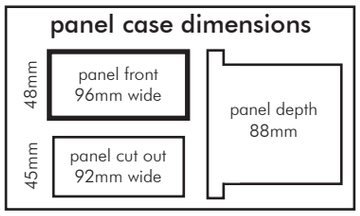
Therma D81 & D85
panel thermometers

- ✓ minimal behind panel space
- ✓ PT100/RTD high accuracy
- ✓ 230 or 115 volt AC or 12 to 30 volt AC/DC available

The Therma D81 and D85 panel thermometers offer high accuracy with excellent long term stability. The large, 3½-digit LED display offers a wide temperature measurement range with clear indication of readings and a choice of 0.1°C or 1°C resolution. The thermometers are housed in a 48 x 96mm DIN size, glass-filled plastic case with a minimal 88mm behind the panel space requirement.

Both models are available for 230 volt AC, 115 volt AC or 12 to 30 volt AC/DC supply. All connections are made via rear plug and socket screw terminals. ETI offers an extensive range of interchangeable PT100 platinum resistance probes, a small selection is featured on page 73.



order code	description
242-081	Therma D81 - 230V AC
242-181	Therma D81 - 115V AC
242-281	Therma D81 - 12 to 30V AC/DC
242-085	Therma D85 - 230V AC
242-185	Therma D85 - 115V AC
242-285	Therma D85 - 12 to 30V AC/DC

specification	Therma D81	Therma D85
range	-49.9 to +199.9°C	-150 to +650°C
resolution	0.1°C	1°C
accuracy	±0.4°C ±1 digit	±0.3% ±1 digit
power supply	230V AC, 115V AC or 12 to 30V AC/DC	
power rating	50/60 Hz, 3VA	
sensor type	PT100 (3-wire)	
display	13mm LED	
dimensions	case 48 x 96 x 88mm, cut out 45 x 92mm	
weight	310 grams	

a traceable certificate of calibration is included with each instrument

Therma SP4 & SP8
selector switches

- ✓ 4 or 8-way standard DIN selector switch
- ✓ PT100/RTD sensor input

The Therma SP selector switch units are housed in standard DIN cases (48 x 96mm). The selector switches may be used to extend the measurement capabilities of the Therma D81 and D85 thermometers, allowing either up to four or up to eight 2 or 3-wire PT100/RTD sensors to be coupled to a single instrument.

All connections are made via rear plug and socket screw terminals. Each selector switch is supplied with one metre of PVC cable.

order code	description
261-004	Therma SP4 switch
261-008	Therma SP8 switch

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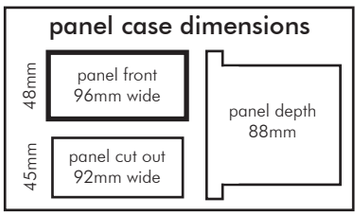
Therma D41 & D45
panel thermometers

- ✓ minimal behind panel space
- ✓ thermocouple type K sensor input
- ✓ 230 or 115 volt AC or 12 to 30 volt AC/DC available

The Therma D41 and D45 panel thermometers offer high accuracy with excellent long term stability. The large, 3½-digit LED display offers a wide temperature measurement range with clear indication of readings and a choice of 0.1°C or 1°C resolution. The thermometers are housed in a 48 x 96mm DIN size, glass-filled plastic case with a minimal 88mm behind the panel space requirement.

Both models are available for 230 volt AC, 115 volt AC or 12 to 30 volt DC/AC supply. All connections are made via rear plug and socket screw terminals. ETI offers an extensive range of interchangeable industrial thermocouple type K probes, a small selection is featured on pages 71 and 72.



order code	description
241-041	Therma D41 - 230V AC
241-141	Therma D41 - 115V AC
241-241	Therma D41 - 12 to 30V AC/DC
241-045	Therma D45 - 230V AC
241-145	Therma D45 - 115V AC
241-245	Therma D45 - 12 to 30V AC/DC

specification	Therma D41	Therma D45
range	-49.9 to +199.9°C	-50 to +1000°C
resolution	0.1°C	1°C
accuracy	±0.5°C ±1 digit	±0.5% ±1 digit
power supply	230V AC, 115V AC or 12 to 30V AC/DC	
power rating	50/60 Hz, 3VA	
sensor type	K thermocouple	
display	13mm LED	
dimensions	case 48 x 96 x 88mm, cut out 45 x 92mm	
weight	310 grams	

a traceable certificate of calibration is included with each instrument

Therma SP6 & SP12
selector switches

- ✓ 6 or 12-way standard DIN selector switch
- ✓ thermocouple type K sensor input

The Therma SP selector switch units are housed in standard DIN cases (48 x 96mm). The selector switches may be used to extend the measurement capabilities of the Therma D41 and D45 thermometers, allowing either up to 6 or up to 12 thermocouple sensors to be coupled to a single instrument.

All connections are made via rear plug and socket screw terminals. Each selector switch is supplied with one metre of PVC cable.

order code	description
261-006	Therma SP6 switch
261-012	Therma SP12 switch

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Therma W41 & W45

wall-mounted thermometers

- ✓ two models 0.1°C or 1°C resolution
- ✓ ideal for continuous monitoring
- ✓ housed in a high impact polystyrene box

These wall-mounted, mains-powered, thermometers are housed in high impact polystyrene boxes, measuring 115 x 130 x 180mm with a hinged transparent door/cover, offering IP54 protection. The Therma W41 has a range of -49.9 to +199.9°C with a resolution of 0.1°C. The Therma W45 has a range of -50 to +1000°C with a 1°C resolution. Both are suitable for use with hand held or industrial type K thermocouple sensors (probe not supplied).

The units feature a bright LED display suitable for continuously monitoring the temperature in process applications. The instruments are ideal for a number of permanent production line applications including the independent monitoring of storage areas and production equipment.

extensive range of probes

ETI offers an extensive range of probes covering most industrial applications. For full details of hand held thermocouple probes available, see pages 45 to 50 or for industrial probes for permanent installation, see pages 71 and 72.

order code	description
241-020	Therma W45 - 230V AC
241-120	Therma W45 - 115V AC
241-030	Therma W41 - 230V AC
241-131	Therma W41 - 115V AC

the Therma W41 & W45 are exclusive of probe

specification	Therma W41	Therma W45
range	-49.9 to +199.9°C	-50 to +1000°C
resolution	0.1°C	1°C
accuracy	±0.5°C ±1 digit	±0.5% ±1 digit
power supply	230 volt AC or 115 volt AC	
power rating	50/60 Hz, 3VA	
sensor type	K thermocouple	
display	13mm LED	
dimensions	115 x 130 x 180mm	
weight	1,030 grams	

a traceable certificate of calibration is included with each instrument

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Therma W86 & W88

wall-mounted thermometers

- ✓ two models 0.1°C or 1°C resolution
- ✓ ideal for continuous temperature monitoring
- ✓ 100mm large LED display
- ✓ internal or remote sensors

These large LED wall-mounted thermometers are housed in weather-resistant metal cases, measuring 40 x 133 x 356mm with a red transparent front cover offering IP54 protection. These thermometers are powered by a 230/12 volt DC adaptor (supplied). The units feature a bright, 100mm (4") LED display suitable for monitoring the temperature of a wide variety of applications, i.e. swimming pools (air or water), cold stores, offices etc.

The Therma W86 displays the temperature over the range of -9.9 to +99.9°C with a 0.1°C resolution. The Therma W88 displays the temperature over the range of -99 to +499°C with a 1°C resolution. All models utilise a PT100 3-wire sensor which can be integral (air sensor) or positioned remotely, up to 100 metres away. The remote models are supplied with a PT100 wall-mounted air probe with a two-metre PVC lead. Alternative lead lengths are available, contact the ETI sales office for further information. For alternative PT100 sensors/probes, please see 73.

specification	Therma W86	Therma W88
range	-9.9 to +99.9°C	-99 to +499°C
resolution	0.1°C	1°C
accuracy	±0.4°C ±1 digit	±1°C ±1 digit
power	230/12 volt DC power adaptor (0.5A)	
sensor type	PT100 (3-wire)	
display	100mm LED	
dimensions	40 x 133 x 356mm	
weight	2,040 grams	
a traceable certificate of calibration is included with each instrument		

order code	description
242-860	Therma W86 - internal probe
242-861	Therma W86 - remote probe
242-880	Therma W88 - internal probe
242-881	Therma W88 - remote probe

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solar-powered
process & panel thermometers

810-650
810-660
810-670

process thermometers

These microprocessor based, solar-powered thermometers provide an accurate, cost-effective alternative to conventional gas bulb or bi-metal thermometers. Housed in tough, water and dust-resistant, stainless steel (85mm diameter) cases, the solar-powered thermometers are suitable for a wide variety of applications in process industries.

The solar-powered thermometers incorporate built-in solar cells with a two-year battery back-up. The thermometers will operate continuously night or day, making them ideal for both portable and permanent installations. They have a bright, easy to read LCD display, indicating temperature over the range of -49.9 to +149.9°C with a resolution of 0.1°C or 0.1°F via the internal switch.

An unusual feature of these thermometers is that the head can be tilted through 90 degrees for ease of reading. Each thermometer has an integral 6.35mm diameter stainless steel immersion probe which is available in three lengths; 150, 200 or 250mm below a ½" BSP stainless steel boss.

A range of stainless steel mounted fittings and thermopockets is available, please contact the ETI sales office for further information.

panel thermometers

These three microprocessor based panel thermometers are solar-powered and incorporate a two-year battery back-up. Each solar-powered panel thermometer has a bright, easy to read LCD display, indicating temperature over the range of -49.9 to +149.9°C with a switchable resolution of 0.1°C or 0.1°F.

The solar-powered thermometers are housed in stainless steel cases. Three models are available, two panel-mounted models and a back-flanged model for surface mounting. These thermometers provide an accurate, cost-effective, alternative/replacement for conventional gas bulb or bi-metal thermometers. Each solar-powered panel thermometer is supplied complete with a stainless steel immersion probe, Ø5 x 30mm, with a one metre PVC lead.

The panel thermometers are suitable for a wide range of refrigeration, food and process equipment applications.

810-610

810-605

810-600

specification	810-650	810-660	810-670	810-600	810-605	810-610
mounting	n/a	n/a	n/a	front flange	back flange	U-clamp panel
range	-49.9 to +149.9°C					
resolution	0.1°C or 0.1°F (internal switch)					
accuracy	±1°C (0 to +50°C)					
	±2°C (-50 to 0°C & +50°C to +100°C)					
	±3°C (+100 to +150°C)					
power	solar-powered - battery back-up (2 years)					
sensor type	semi-conductor					
display	9mm LCD					
dimensions	Ø85 x 20mm	Ø85 x 20mm	Ø85 x 20mm	Ø75 x 30mm	Ø75 x 30mm	Ø55 x 55mm
probe length	Ø6.35 x 150mm	Ø6.35 x 200mm	Ø6.35 x 250mm	Ø5 x 30mm	Ø5 x 30mm	Ø5 x 30mm
weight	310 grams	315 grams	317 grams	80 grams	110 grams	100 grams

order code	description
810-650	probe length 150mm
810-660	probe length 200mm
810-670	probe length 250mm
810-600	front flange-mounted
810-605	back flange-mounted
810-610	U-clamp panel-mounted

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