![Chipsmall logo]

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

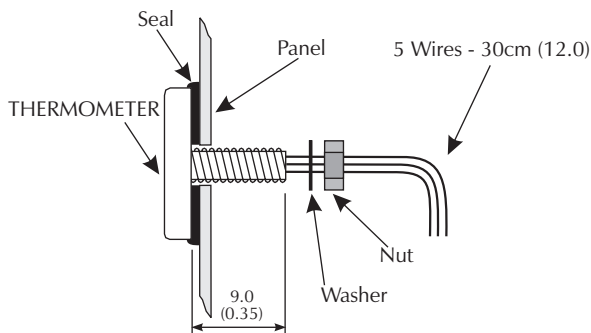# QM 110T

QM110T is an easy to mount LCD digital panel meter. The module can measure ambient temperature via a built-in sensor and outside temperature via an external sensor (not supplied). The module uses NTC temperature sensors to ensure high accuracy over a wide temperature range. To mount the module, the user need only drill a single 5.5mm / $^7/_{32}$" hole in the panel. The module is fitted to the panel by locating its screw threaded stud through the hole, fitting the washer and tightening the nut provided. The module's connecting wires pass through the hollow stud into the target application, where they can be easily plugged or soldered into place. A rubber seal is included, providing splashproof protection for the unit when fitted to the meter during installation.

- **Single Hole Mounting**
- **4 Measurement Ranges**
- **12.5mm / 0.5" LCD Digit Height**
- **Compatible with 10kΩ NTC Sensors**
- **5-Wire Connection**
- **Splashproof**

Shown Actual Size

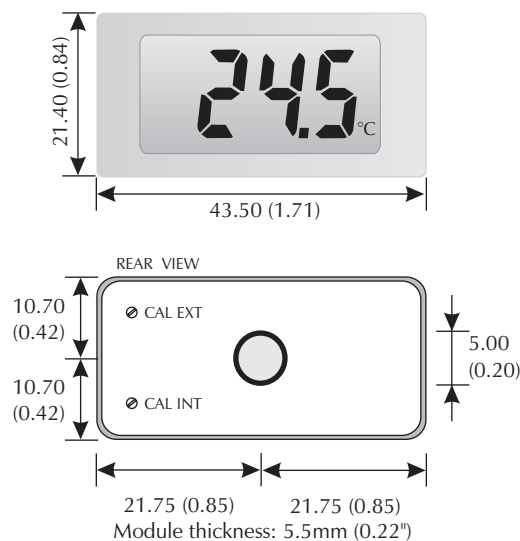| Easy Mounting Thermometer					Stock Number QM 110T	
Specification		**Min.**	**Typ.**	**Max.**	**Unit**	
Measurement ranges	°C range (Internal Sensor)	-10		+50	°C	
	°F range (Internal Sensor)	+14		+122	°F	
	°C range (External Sensor)	-20		+220	°C	
	°F range (External Sensor)	-4		+428	°F	
Resolution Internal Sensor			0.5 (1)		°C (°F)	
Resolution External Sensor	-20 to +140°C		1 (2)		°C (°F)	
	+140 to +170°C		2 (4)		°C (°F)	
	+170 to +220°C		5 (10)		°C (°F)	
Accuracy*	°C range (Both Sensors)		1		°C (±2 count)	
	°F range (Both Sensors)		2		°F (±4 count)	
Sample rate			3		sample/sec	
Operating temperature range		-10		+50	°C	
Supply voltage**		4		28	V d.c.	

* Using external NTC sensor with 10kΩ @ 25°C and a 25 to 85°C Beta value of 3977, for example: BC Components 2322-640-73103. The module may require recalibration. To ensure maximum accuracy, recalibrate periodically. Calibrate the module at top end of measurement range.

** Do not apply more than 28V, as this may damage the meter.

SAFETY

As the NTC temperature sensor is a passive device, no voltages should be applied to the input terminals. The user must ensure that the incorporation of the meter into the user s equipment conforms to the relevant sections of BS EN 61010 (Safety Requirements for Electrical Equipment for Measuring, Control and Laboratory Use).

DIMENSIONS All dimensions in mm (inches)

21.40 (0.84)

43.50 (1.71)

REAR VIEW

10.70 (0.42)
CAL EXT
5.00 (0.20)
10.70 (0.42)
CAL INT

21.75 (0.85)   21.75 (0.85)
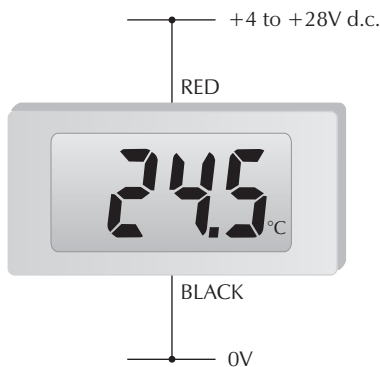Module thickness: 5.5mm (0.22")
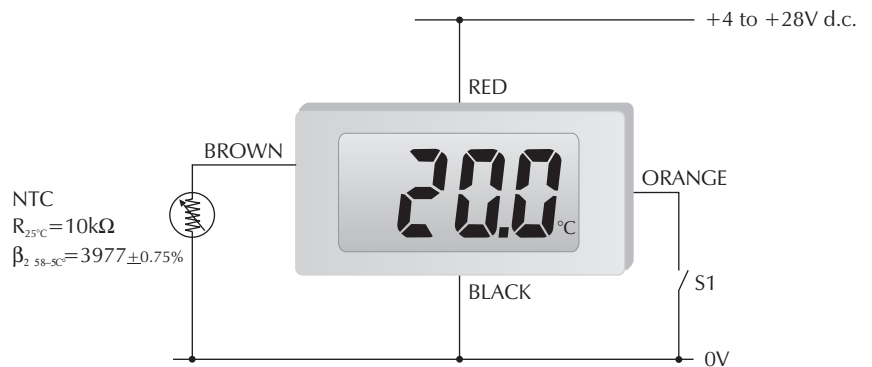
Underrange display

Overrange display

FITTING THE QM 110T

Drill a 5.5mm / $^7/_{32}$" hole in the panel. Fit seal to the rear of the module. Fit the module to the panel by passing its screw threaded stud and the wires through the hole, fitting the washer and tightening the nut provided. Take care not to trap any of the connecting wires. Do not overtighten the nut as this may damage the meter.

Seal
Panel
5 Wires - 30cm (12.0)
THERMOMETER
Nut
Washer
9.0 (0.35)

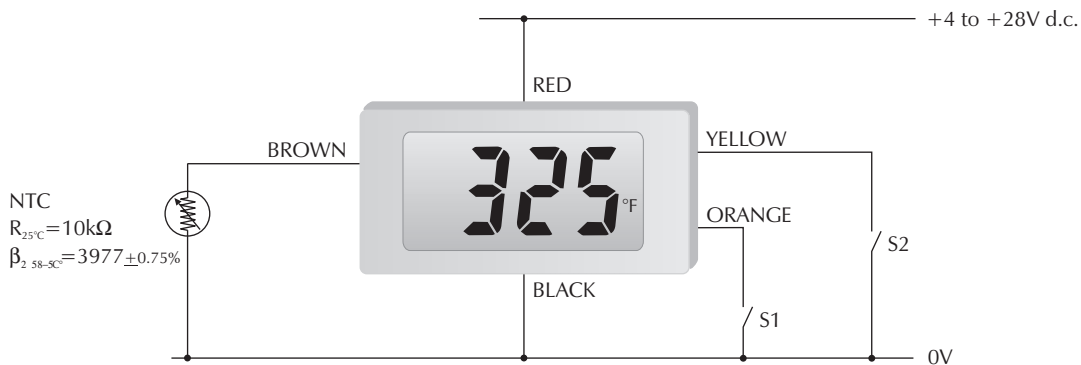| 0. | BLACK | 0V | Negative supply voltage to the module. |
1.	BROWN	NTC	Connection for external 10kΩ NTC sensor.
2.	RED	V+	Positive supply voltage to the module.
3.	ORANGE	INT/EXT	Leave floating to display internal sensor temperature.
			Connect to 0V to display external sensor temperature.
4.	YELLOW	°C/°F	Leave floating to select °C measurement range.
			Connect to 0V to select °F measurement range.

APPLICATIONS

+4 to +28V d.c.

RED

24.5 °C

BLACK

0V

Displaying ambient temperature in °C,
using the module's internal temperature sensor.

+4 to +28V d.c.

RED

BROWN

NTC
$R_{25°C}=10kΩ$
$β_{2\ 58-5C°}=3977\pm0.75\%$

20.0 °C

ORANGE

S1

BLACK

0V

Leave S1 open to display internal sensor temperature in °C.
Close S1 to display external Sensor temperature in °C.

+4 to +28V d.c.

RED

BROWN

NTC
$R_{25°C}=10kΩ$
$β_{2\ 58-5C°}=3977\pm0.75\%$

325 °F

YELLOW

ORANGE

S2

BLACK

S1

0V

Leave S1 open to display internal sensor temperature.
Close S1 to display external Sensor temperature.
Leave S2 open to display temperature in °C.
Close S2 to display temperature in °F.