

03 TEMPERATURE AND HUMIDITY

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AIR THERMOMETERS

There are three types of ambient air thermometer, Maximum, Minimum and Ordinary.

Maximum

A Maximum thermometer indicates the highest temperature reached since the last time the instrument was reset.

Minimum

A Minimum thermometer indicates the lowest temperature reached since the last time the instrument was reset.

The Maximum and Minimum thermometers are available in three different types:

- **Sheathed Pattern**
Made to BS 692 : 1990, each thermometer stem is marked with divisions and figures. It is then fused to an outer glass sheath, which seals it to prevent condensation occurring.
- **Mahogany Mount**
This stem divided thermometer is backed by a laminated plastic scale marked with indelible figures. The thermometer and scale are mounted on a polished mahogany frame with brass bulb guard and hanging plates.
- **Plastic Mount**
Made from a stem-divided thermometer mounted on a weather resistant plastic scale with indelible figures and two fixing holes.

Ordinary

An Ordinary thermometer indicates current ambient air temperature and is available in two types:

- **Sheathed Pattern**
Made to BS 692 : 1990, each thermometer stem is marked with divisions and figures. It is then fused to an outer glass sheath, which seals it to prevent condensation occurring.
- **Solid Stem Pattern**
This is made from a stem-divided thermometer mounted on a weather resistant plastic scale with indelible figures and two fixing holes.

Applicable Standards

BS 692 Meteorological thermometers

Specification	MAXIMUM THERMOMETERS		
	Mahogany Mount	Plastic Mount	Sheathed Pattern
Expected accuracy (-40 to <0°C)	-0.3°C	-0.3°C	-0.3, +0.2°C
Expected accuracy (0 to +65°C)	-0.2°C	-0.2°C	-0.2°C
Scale length (nominal)	200mm	190mm	195mm
Divisions	0.5°C	0.5°C	0.5°C
Scale range	See Ordering Information		
Dimensions (nominal)	340 x 90 x 25mm	285 x 35 x 16mm	340 x 13mm (dia)
Weight	340g	113g	70g
Ordering Information	MAXIMUM THERMOMETERS		
Range -10 to +65°C	C7209/18	B7592/7	M106202
Range -20 to +50°C	C7209/19	B7592/8	M106203
Range -10 to +65°C with calibration certificate	M105312	M105314	M105310
Range -20 to +55°C with calibration certificate	M105313	M105315	M105311
Specification	MINIMUM THERMOMETERS		
	Mahogany Mount	Plastic Mount	
Sheathed Pattern			
Expected accuracy (-40 to <0°C)	±0.25°C	±0.25°C	±0.25°C
Expected accuracy (0 to +55°C)	±0.25°C	±0.25°C	±0.25°C
Scale length (nominal)	200mm	190mm	195mm
Divisions	0.5°C	0.5°C	0.5°C
Scale range	See Ordering Information		
Dimensions (nominal)	340 x 90 x 25mm	285 x 35 x 16mm	340 x 13 x mm (dia)
Weight	340g	113g	70g

Ordering Information	MINIMUM THERMOMETERS		
Range -25 to +50°C	C7711/15	B7602/12	M106204
Range -35 to +40°C	C7711/16	B7602/13	M106205
Range -25 to +50°C with calibration certificate	M105306	M105308	M105304
Range -35 to +40°C with calibration certificate	M105307	M105309	M105305

Specification	ORDINARY THERMOMETERS	
	Sheathed Pattern	Solid Stem
Pattern		
Expected accuracy (-40 to <0°C)	-0.3, +0.2°C	-0.3°C
Expected accuracy (0 to +55°C)	-0.2°C	-0.2°C
Scale length (nominal)	195mm	190mm
Scale divisions	0.5°C	0.5°C
Scale range	See Ordering Information	
Dimensions (nominal)	330 x 13mm	285 x 35 x 16mm
Weight	70g	113g

Ordering Information	ORDINARY THERMOMETERS	
Sheathed Pattern, range -20 to +55°C	M106001	
Sheathed Pattern, range -30 to +45°C	M106002	
Sheathed Pattern, range -20 to +55°C with calibration certificate	M105301	
Sheathed Pattern, range -30 to +45°C with calibration certificate	M105303	
Solid Stem Pattern, range -20 to +55°C	B6886/11	
Solid Stem Pattern, range -30 to +45°C	B6886/12	
Solid Stem Pattern, range -20 to +55°C with calibration certificate	M105302	
Solid Stem Pattern, range -30 to +45°C with calibration certificate	M105300	

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EARTH THERMOMETERS

There are three types of earth thermometers, Sheathed Pattern, Insulated Pattern and Angle Pattern. All three types have depth ranges suitable for taking temperature measurements both on and below the surface of the earth.

SHEATHED PATTERN

This is used for depths up to 3 metres and consists of a solid stem thermometer fitted into a transparent glass sheath. Each depth is established by inserting a steel tube into the ground and lowering the thermometer by the chain down into the tube. The thermometer bulb is embedded in paraffin wax to give a slow response time enabling it to be withdrawn to take readings.



Specification	SHEATHED PATTERN
Thermometer range	-10 to +45°C
Expected accuracy	±0.5°C
Scale length	165mm
Divisions	0.5°C
Dimensions	355 x 20mm (dia)
Weight	170g
Tube dimensions	32mm internal diameter, 75mm top flange diameter
Tube depths	300mm, 600mm, 1.2m and 3m
Weight	0.5, 1, 2 and 5kg
Ordering information	
Thermometer (tube to be ordered separately)	M106105
Thermometer with calibration certificate	M105325
300mm tube	B6974/1
600mm tube	B6974/2
1.2m tube	B6974/4
3m tube	B6974/10

INSULATED PATTERN

This pattern is used by Meteorological Services throughout the world. Each thermometer is mounted on a black enamelled, mild steel support stand and is angled at 30° to enable it to be read in situ.

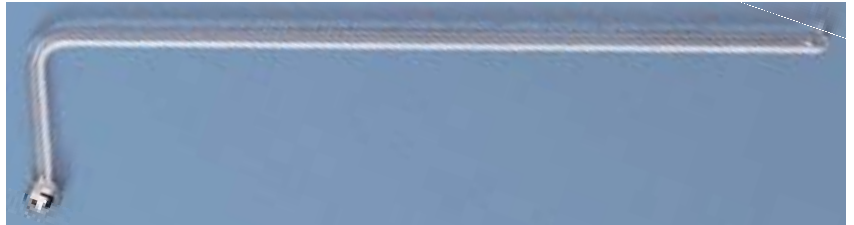


Specification	INSULATED PATTERN							
Range	-10 to +55°C							
Expected accuracy	±0.2°C							
Scale length	300mm							
Divisions	0.2°C							
Dimensions	340 x 20mm diameter (above ground)							
Weight	Surface	50mm	100mm	200mm	300mm	500mm	1m (depth)	
		65g	70g	75g	87g	100g	125g	190g
Tube Specification								
Dimensions	300 x 180 x 25mm (above ground)							
Weight	722g							
Ordering Information (stand to be ordered separately)								
Surface measurement	M106107							
50mm depth	M106108							
100mm depth	M106109							
200mm depth	M106110							
300mm depth	M106111							
500mm depth	M106112							
1m depth	M106113							
Mild steel stand	M106114							

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ANGLE PATTERN

The angle pattern is the simplest type of earth thermometer. Each thermometer lies flat along the ground with the bulb at right angles to the scale. The bulb is inserted directly into the ground and allows for in situ readings to be taken.



Specification	ANGLE PATTERN			
Thermometer range	-5 to +40°C			
Expected accuracy	±0.2°C			
Scale length	140mm			
Divisions	0.5°C			
Dimensions	340 x 20mm (dia)			
Weight	50mm	100mm	200mm	300mm (depth)
	26g	27g	26g	31g
Ordering Information				
50mm depth	M106101			
100mm depth	M106102			
200mm depth	M106103			
300mm depth	M106104			
50mm depth with calibration certificate	M105321			
100mm depth with calibration certificate	M105322			
200mm depth with calibration certificate	M105323			
300mm depth with calibration certificate	M105324			