

INFRARED THERMOMETER



CONTACTLESS TEMPERATURE MEASUREMENT

- 12:1 (-50...650 °C) or 30:1 optics (-50...1000 °C)
- Two-beam laser sight
- Automatic data hold
- Units can be switched between °C and °F
- Emission level adjustable between 0.1 and 1.0
- MAX temperature display
- Illuminated display
- Automatic range selection and display resolution of 0.1 °C or 0.1 °F
- Activatable trigger lock
- Freely selectable lower and upper alarm limits

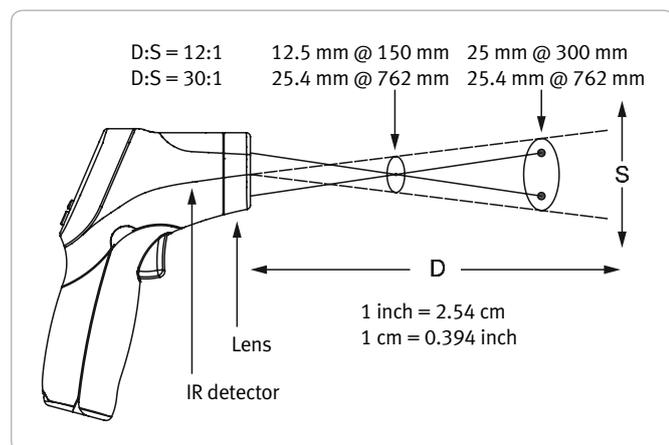


TECHNICAL INFORMATION

With the TP31-IR, surface temperatures can be determined quickly and contactless. Thanks to an adjustable emission level and a double laser, which serves as a target device, the surfaces of a wide range of materials can be precisely measured.

Optics

The focal point of the device lens is 150 mm (TP31-IR121) or 762 mm (TP31-IR301) from the beam exit opening. There the measuring spot has a diameter of 12.5 mm respectively 25.4 mm, resulting in a ratio of D:S of 12:1 or 30:1. The size of the measuring spot corresponds to 90 % of the measured energy. The TP31-IR301 therefore also allows accurate measurements of small surfaces from further distances.



Emissivity values

Substance	Thermal Emissivity	Substance	Thermal Emissivity
Asphalt	0.90 to 0.98	Fabric (black)	0.98
Concrete	0.94	Human skin	0.98
Cement	0.96	Foam	0.75 to 0.80
Sand	0.90	Charcoal (powder)	0.96
Earth	0.92 to 0.96	Lacquer	0.80 to 0.95
Water	0.92 to 0.96	Lacquer (matt)	0.80 to 0.95
Ice	0.96 to 0.98	Rubber (black)	0.94
Snow	0.83	Plastic	0.85 to 0.95
Glass	0.90 to 0.95	Construction timber	0.90
Ceramics	0.90 to 0.94	Paper	0.70 to 0.94
Marble	0.94	Chromium oxide	0.81
Plaster	0.80 to 0.90	Copper oxide	0.78
Mortar	0.89 to 0.91	Iron oxide	0.78 to 0.82
Brick	0.93 to 0.96	Textiles	0.90

Specification	TP31-IR121	TP31-IR301
Measurement range	-50...650 °C (-58...1202 °F)	-50...1000 °C (-58...1832 °F)
Ratio D:S	12:1	30:1
Display resolution	0.1 °C/°F @ T < 1000 °C/°F 1 °F @ T > 1000 °F	
Measurement accuracy @ 23 °C (73 °F)	-50...20 °C -58...68 °F	±2.5 °C ±4.5 °F
	20...300 °C 68...572 °F	±1.0 % of reading ±1.0 °C ±1.0 % of reading ±1.8 °F
	>300 °C >572 °F	±1.5 % of reading
	>20 °C >68 °F	±0.5 % of reading or ±0.5 °C ±0.5 % of reading or ±0.9 °F
Repeatability	-50...20 °C -58...68 °F	±1.3 °C ±2.3 °F
	>20 °C >68 °F	±0.5 % of reading or ±0.5 °C ±0.5 % of reading or ±0.9 °F
Response time	150 ms	
Sensor sensitivity	8...14 µm	
Emissivity	0.10...1.00 (0.01 steps)	
Diode laser	Output power <1 mW Wavelength 630 to 670 nm, Laser Product Class II	
Operating conditions	0...50 °C (32...122 °F) 10...90 %RH	
Storage conditions	-10...60 °C (14...140 °F) <80 %RH	
Power supply	9 V battery (NEDA 1604A or IEC 6LR61)	
Included	<ul style="list-style-type: none"> • Battery • Short instruction manual • Function and calibration certificate 	

Dimensions

