Authorized Distributor:
LOKATOR-K OOD
Residential Complex Gotse Delchev, Block 258, Entrance A
Sofia 1404, Tel.: + 359 2 9621881; + 359 2 9622138
Mobile: 0888 64 11 68 E-mail: office@lokatork.com www.lokatork.com

Infrared Thermometers

DIT-200 / 120

index: WMGBDIT200 / WMGBDIT120

LASER POINTER

IP54



The advanced laser pointer indicates the circular range of the measured area. The DIT-120 defines the range using two laser points. DIT-200 indicates its circumference with a multi-point laser.



DIT-200 **DIT-120**



The modern housing ensures high durability and access to a number of features that ensure ergonomic operation with one hand.



Special functions support the measurements. The pyrometers show the maximum, minimum, differential and average temperature. In addition, the user can set the high-temperature and low-temperature alarm thresholds.

Temperature measurements with laser precision

- **Precise non-contact temperature measurement.**
- Emissivity digitally adjustable from 0.10 to 1.00.
- Resolution from 0.1°C and 0.1°F.
- Laser pointer:
  - » circular (**DIT-200**),
  - » dual (**DIT-120**).
- Input for type K temperature probe (**DIT-200**).

- Displaying MAX, MIN, AVG, DIF temperatures.
- Automatic Data Hold
- Temperature unit selection: °C / °F.
- High and Low alarm.

- Backlit LCD display.
- Auto power off.
- Reinforced design for **IP54** ingress protection.



Description

DIT-120 and DIT-200 are pyrometers for professionals. Durable housing, ergonomic grip, buttons accessible with one finger - all this contributes to the comfort of the user. Technical parameters speak for themselves. The advanced laser pointer will precisely and unambiguously indicate the area of the performed measurement.

Applications

- Temperature measurement of transformers.
- Temperature control of busbars and connections.
- Monitoring the condition of heating and cooling devices.
- Temperature control of materials in metallurgical processes.
- Checking the heating of rollers and bearings in transport conveyors.
- ...and many others.



Special features

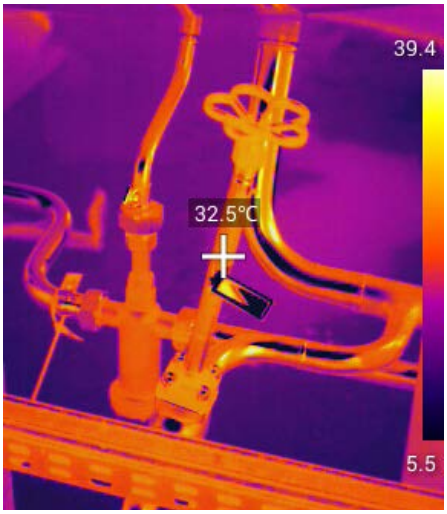
DIT-200

- Temperature measurements in the range of **-50°C...1000°C**.
- Operation with an external temperature probe - temperature measurement range **-50°C...1370°C.**
- D:S ratio of **20:1**.
- Circular laser pointer (marking the measurement area).

DIT-120

- Temperature measurements in the range of **-50°C...650°C**.
- D:S ratio of **12:1**.
- Double laser pointer (marking the measurement area).



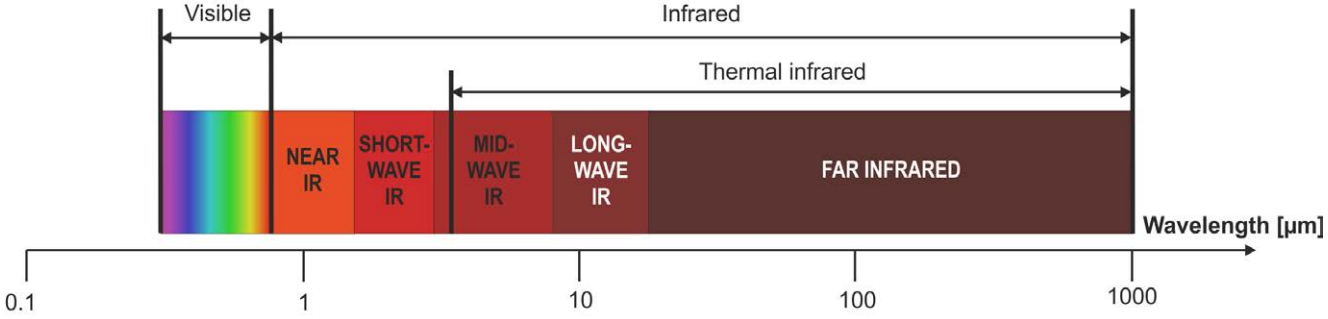


Infrared measurements

Infrared temperature meters are used to determine the surface temperature of the tested object. The optical system of the instrument detects the radiation that is emitted, reflected and transmitted, then gathers them and focuses it in the detector. The electronic system converts the optical data into a temperature value. To increase the precision of measurement and facilitate targeting, the device is equipped with a laser pointer.

Infrared radiation

Infrared radiation is generated by the movement of electrons inside the atoms of a given material. It is electromagnetic radiation with a wavelength in the range of 780 nm...1 mm. It is emitted by any material with temperature above 0°K (-273.15°C). The emission increases with increasing temperature, whereas the wavelength decreases.





Emissivity factor

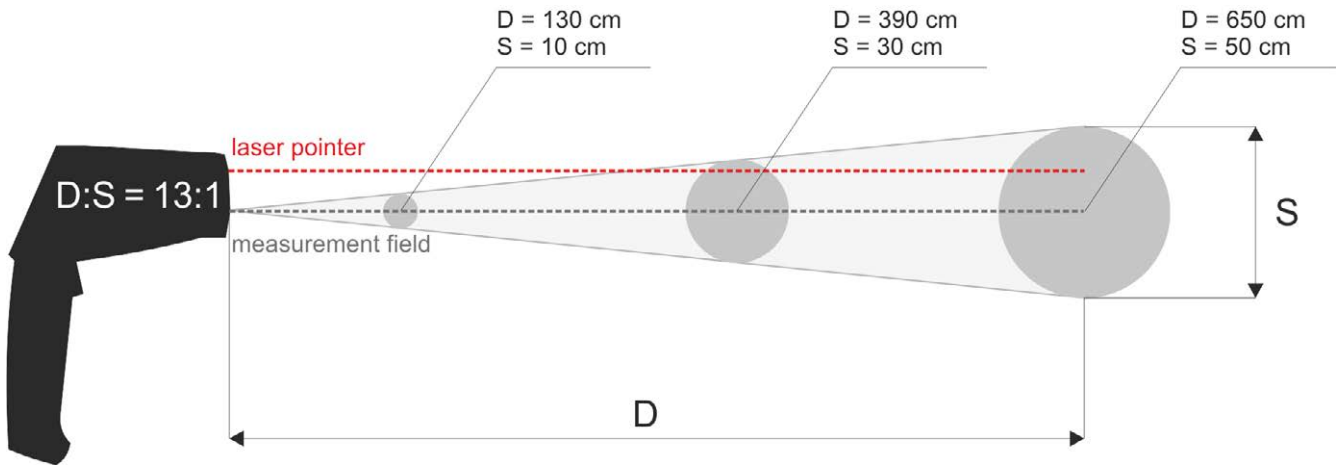
It is a parameter that determines the ability of a material to emit infrared radiation. Its values are in the range 0...1.

- A value equal to 1 is the emissivity of a black body that absorbs all radiation.
- A value equal to 0 is the emissivity of a white body (reflecting 100% of radiation).

Each object has its own emissivity factor, depending on the type of material, surface roughness, viewing angle, wavelength and temperature.

The D:S ratio

The D:S ratio (distance to spot) determines the relationship between **the distance of the pyrometer** from the tested object and t**he diameter of its circular field of view**, from where it collects the radiation. The tested area becomes larger as the meter moves away from it, i.e. the share of the tested object's area in this field decreases. Hence, the smaller is the measured target, the smaller should be the distance to it. Therefore, the D:S ratio has a significant influence on the accuracy and precision of the temperature reading.



DIT-200 | Infrared temperature range

Infrared temperature range	D:S	Resolution	Infrared temperature range	Accuracy ±(% m.v. + digits)
-50.0...999.9°C -58.0...999.9°F	20:1	0.1°C 0.1°F	-50...20°C -58...68°F	±3.5°C ±6.3°F
1000°C 1000...1832°F		1°C 1°F	20...300°C 68...572°F	±(1.0% m.v. + 1°C) ±(1.0% m.v. + 1,8°F)
			300...1000°C 572...1832°F	±1.5% m.v.

DIT-200 | Temperature range for K probe

Range	Resolution	Range	Accuracy ±(% m.v. + digits)
-50.0...999.9°C -58.0...999.9°F	0.1°C 0.1°F	-50...0°C -58...32°F	±2°C ±3.6°F
1000...1370°C 1000...2498°F	1°C 1°F	0...1370°C 320...2498°F	±(0.5% m.v. + 1.5°C) ±(0.5% m.v. + 3°F)

DIT-120 | Infrared temperature range

Infrared temperature range	D:S	Resolution	Infrared temperature range	Accuracy ±(% m.v. + digits)
-50.0...650.0°C -58.0...999.9°F	12:1	0.1°C 0.1°F	-50...+20°C -58...+68°F	±3.5°C ±6.3°F
1000...1202°F		1°F	20...300°C 68...572°F	±(1.0% m.v. + 1°C) ±(1.0% m.v. + 1.8°F)
			300...650°C 572...1202°F	±1.5% m.v.

Technical specification

		DIT-200	DIT-120
LCD display		segmented, with backlight	
Spectral sensitivity		8~14 µm	
Emissivity		digitally adjusted from 0.10 to 1.00	
Semi-conductor laser diode	**output power**	<1 mW	
	wavelength	630~670 nm	
	class	class 2 (II) laser	
Power supply		2x AAA 1.5 V battery	
Operating temperature range		0...50°C 32...122°F	
Storage temperature		-10...+60°C 14...+140°F	
Humidity		10...90%	
Indication of range overflow		symbol "----"	
Response time		150 ms	
Weight		242 g	231 g
Dimensions		170 x 50 x 95 mm	170 x 50 x 85 mm

Standard accessories



K-type temperature probe
only for DIT-200

WASONTEMK



2x LR03 AAA 1.5 V battery



Holster

Factory calibration certificate

Optional accessories



K-type temperature probe (bayonet)
only for DIT-200

WASONTEMP



K-type temperature probe (metal)
only for DIT-200

WASONTEMK2



S-1 carrying case

WAFUTS1

Calibration certificate with accreditation

Abbreviation „D:S" used in the specification of measurement means a distance-to-spot ratio.
Abbreviation „m.v." used in the specification of measurement means a measured value.