

# HIOKI

## TEMPERATURE HiTESTER 3415-01 · 3416-01 · 3418

Environmental Measuring Instruments



# *Non-contact temperature measurement*

# *Quick-response*

1.5 seconds (95%)

# *Wide-range*

-50 °C to 500 °C

# *Easy*

Single operation



### **Narrow field measurement** ( $\phi 72\text{mm}$ at 1m)

- 3415-01: Two-beam laser maker type
- 3418: Non-laser maker type

### **Fine surface measurement** ( $\phi 2.5\text{mm}$ at 3cm)

- 3416-01: LED spot maker type



ISO 9001  
JMI-0216



ISO 14001  
JQA-E-90091



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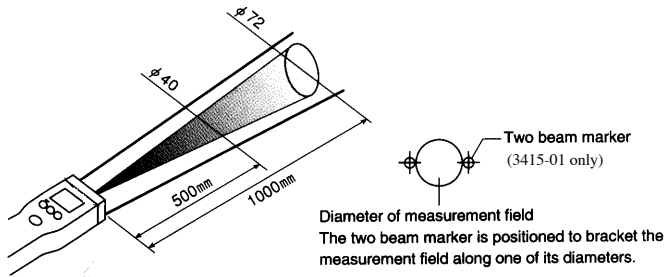
HIOKI company overview, new products, environmental considerations and other information are available on our website.

The photograph is an  
actual-size 3415-01.

# Three types available: for narrow field and fine surface measurement.

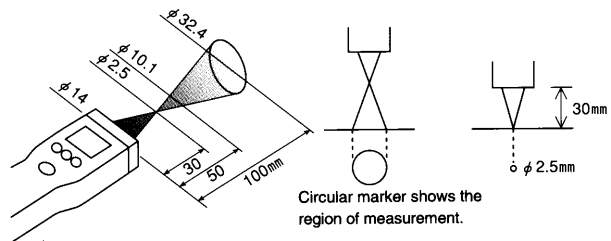
## ■ Narrow field measurement with the 3415-01 (Two-beam laser maker type) 3418 (Non-laser maker type)

The field of measurement is 40 mm wide at a measurement distance of 50 cm, and 72 mm wide at a 1 m distance. The outer periphery of the field of measurement (two ends of a diameter) is marked by a pair of laser beams (3415-01 only).



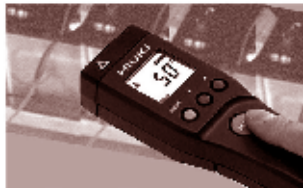
## ■ Fine surface measurement with the 3416-01 (LED spot maker type)

The region of measurement is marked with a red light spot (the LED spot marker). The diameter of this region varies according to the measurement distance, and is at its minimum of 2.5 mm at a distance of 3 cm, while at 5 cm temperature is measured over a region of diameter 10.1 mm.



## ■ The applications are endless !

- Checking storage conditions in supermarkets for frozen foodstuffs and cooled fresh foodstuffs.
- Checking for abnormal heating up of electronic devices such as ICs, motors, etc..
- Checking the temperature of batteries, engines, timing belts, tires, etc..



## Theory of measurement

Every body emits infrared radiation energy in accordance with its temperature. Therefore, by measuring the amount of this radiated infrared energy, it is possible to infer the temperature of the body which is emitting it. Because infrared rays pass easily through air which is relatively transparent to them, while they are easily absorbed by solid matter, therefore accurate temperature measurement is possible, irrespective of the air temperature or the measurement distance.

## ■ Specification (accuracy at 23 °C ± 3 °C, 55 % RH, with emissivity ε=1.0)

- Measurement range: -50 °C to 500 °C ● Display resolution: 1 °C ● Measurement accuracy: ±1%rdg. (200 to 500 °C), ±2 °C (0 to 199 °C), ±10%rdg. ±2 °C (-50 to -1 °C) ● Response time: 1.5 seconds (95% response) ● Repeatability: ±0.5 °C ● Measurement field diameter: 3415-01·3418; ±φ72 mm at 1000 mm, 3416-01; φ2.5 mm at 30 mm ● Detector element: thermopile ● Measurement wavelength: 8 to 16 μm ● Sampling rate: 2 samples/second ● Targeting: 3415-01; two-beam laser marker class 2, 3416-01; LED spot marker ● Emissivity correction: ε=0.10 to 1.00 (0.01 steps) ● Auto power save function: 15 seconds (can be canceled) ● Ancillary functions: alarm, data hold function, max./min. value display function, °C/°F selection ● EMC: EN61326 ● Power source: R03 manganese battery × 4 ● Continuous operating time: approx. 40 hours ● Dimensions and mass: Approx. 40 W × 170 H × 36 Dmm; 140 g (with battery) ● Supplied accessories: carrying case

## TEMPERATURE HiTESTER 3415-01 TEMPERATURE HiTESTER 3416-01 TEMPERATURE HiTESTER 3418

### Option

- BLACK BODY TAPE (50mm × 10m, 1roll) Withstands 180 °C
- BLACK BODY SPRAY (180ml) Withstands 550°C

\* Used for accurate determination of the temperature of a gloss metal object of low emissivity (ε), or for determining the emissivity.

The thermal emissivity is the ratio between the amount of energy (the theoretical maximum) which would be emitted by a black body(ε=1) at the same temperature.



### Warning on use of laser products

The 3415-01 is labeled as shown on the left. Follow the warnings on the label when operating.

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