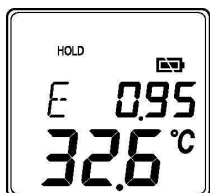


Microray NXT infrared thermometer – Operating instructions

With thermocouple socket

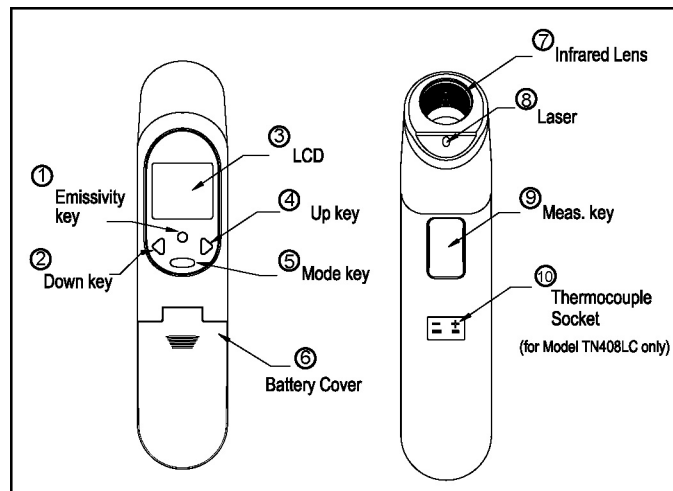
The thermometer is a non-contact infrared thermometer, with several additional functions. Please remember to keep away from children and don't use it for safety related applications.



DEFAULT SCREEN

Simply aim the thermometer at the target to be measured with Lens ⑦ and press Meas. key ⑨ to display the surface temperature.

The Distance:Spot is 12:1. Please make sure the target area is within the spot.



FUNCTION

Press Emissivity key ① to set the emissivity.



Press Emissivity key ①, then press Up key ④ or Down key ② to set the emissivity, then press Mode key ⑤ to confirm it. The emissivity can be adjusted from 0.10 (10E) to 1.00 (100E).

Press Mode key ⑤ to scroll more display functions as follows:

	This mode will display the emissivity data. (The default emissivity is 0.95.)
	Press Mode key ⑤ for the Maximum (MAX) , Minimum (MIN) , Difference between MAX and MIN (DIF) and Average (AVG) modes. During the measurement, these specific modes reading will be displayed beside the mode icon.
	Press Up key ④ or Down key ② to modify the High Alarm (HAL) or Lo Alarm (LAL) , then press Meas. Key ⑨ to confirm it. When the reading is beyond the set High Alarm (HAL) or Lo Alarm (LAL) limits, the High or Low icon will flash and you will hear a beep sound.
	Connect the thermocouple to the Thermocouple Socket ⑩, place the probe in/on the target and the thermometer will automatically display the temperature without pressing any button. Hold down the Up key ④ or Down key ② in order to display the minimum or maximum measurement value during measurement. ⚠ After measure high temperatures, the probe may remain HOT for a while.

The thermometer will automatically shut off if left idle for more than 60 s, except in PRB mode where the timer is at 12 minutes.

ADD VALUE

In MAX, MIN, DIF, AVG mode:	Press Up key ④ for LOCK mode ON/OFF. The lock mode is particularly useful for continuous monitoring of temperatures during up to 60 minutes.
	Press Down key ② to modify temperature unit in °C or °F.
In all modes: First hold on the Meas. key ⑨	Press Up key ④ for backlight function ON/OFF.
	Press Down key ② for laser function ON/OFF.

LCD ERROR MESSAGES – The thermometer incorporates visual diagnostic messages as follows:



'Hi' or 'Lo' are displayed when the temperature measured is beyond the HAL and LAL settings.



'Er2' is displayed when the thermometer is exposed to rapid changes of the ambient temperature. 'Er3' is displayed when the ambient temperature exceeds 0°C (32°F) or +50°C (122°F). The thermometer should be allowed enough time (minimum 30 minutes) to stabilize at the working/room temperature.



Error 5-9: For all other error messages, it is necessary to reset the thermometer. To reset it, turn the instrument off, remove the battery and wait for a minimum of one minute, reinsert the battery and turn it on. If the error message remains, please contact the Service Department for further assistance.

STORAGE & CLEANING – The thermometer should be stored at room temperature between -20 and +65°C (-4~149°F).

The sensor lens is the most sensitive part of the thermometer. The lens should be kept clean at all times. Care should be taken when cleaning the lens by using only a soft cloth or cotton swab with water or medical alcohol. Allow the lens to fully dry before using the thermometer again. Do not submerge any part of the thermometer.

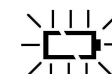
BATTERIES – The thermometer incorporates visual low battery indication as follows:



'Battery OK': Measurements are possible



'Battery Low': Battery needs to be replaced, measurements are still possible



'Battery Exhausted': Measurements are not possible

⚠ When the 'Low Battery' icon indicates the battery is low, the battery should be replaced immediately with AAA, 1.5 V batteries. Please note: It is important to turn the instrument off before replacing the battery otherwise the thermometer may malfunction.

⚠ Dispose of used battery promptly and keep away from children.

SPECIFICATIONS

Item	Non-contact Infrared Scan function	Thermocouple Probe Scan function for TN408LC only (K type; probe not included.)
Measurement Range	-60 to +500 °C (-76 to +932 °F)	-64 to +1400 °C (-83.2 to +1999 °F)
Operating Range	0 to +50 °C (32 to +122 °F)	
Accuracy (Tobj=15~35 °C, Tamb=25 °C)	±1.0 °C (1.8 °F)	+/-1% of reading or 1 °C (1.8 °F) whichever is greater (Test under Tamb=23±6 °C)
Accuracy (Tobj=-33~500 °C, Tamb=23±3 °C)	±2% of reading or 2 °C (4 °F) whichever is greater	
Emissivity Range	Preset at 0.95 – Adjustable from 0.1 to 1 by .01 steps	
Resolution (-9.9~199.9 °C)	0.1 °C/0.1 °F, otherwise 1 °C/1 °F	
Response Time (90%)	1 sec	
Distance:Spot	12:1	
Battery Life	Typ.180, min 140 hours continuous use (Alkaline, without laser and back light)	
Dimensions	175.2 x 39.0 x 71.9 mm (6.9 x 1.54 x 2.83 inch)	
Weight	179 g (6.31 oz) including batteries (2 x AAA)	
Note: Under an electromagnetic field of 3 V/m from 200 to 600 MHz, the maximum error is 10 °C (18 °F).		

CAUTION

1. WHEN DEVICE IS IN USE, DO NOT LOOK DIRECTLY INTO THE LASER BEAM, PERMANENT EYE DAMAGE MAY RESULT.
2. USE EXTREME CAUTION WHEN OPERATING THE LASER.
3. NEVER POINT THE DEVICE TOWARDS ANYONE'S EYES.
4. KEEP OUT OF REACH OF ALL CHILDREN.

⚠ **Caution:** The measure range is for the thermometer only. User should choose proper probe types for different kinds of application. Please make sure the target to be measured will not exceed the temperature range of the probe to avoid permanent damage of the thermocouple probe.

⚠ **Caution:** In order to avoid electric shocks and thermometer damages, do not measure live circuit where voltage is exceeding 24 V AC RMS or 60 V DC with the thermocouple probe.

⚠ **EMC/RFI:** Readings may be affected if the unit is operated within radio frequency electromagnetic field strength of approximately 3 volts per meter, but the performance of the instrument will not be permanently affected.



Ref.No. : 032011