TRIPLETT
Test Equipment & Tools

PROTEMP™ 12-A

INSTRUCTION MANUAL

PN: PT12A

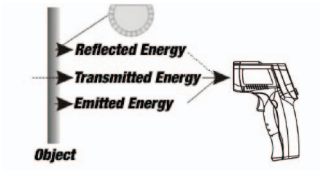
PN: 84-880 Rev B
2/13

Introduction

The Triplett ProTemp 12-A is a compact, rugged, easy to use non-contact thermometer. It uses state of the art infrared measurement technology to provide a convenient method of measuring from a distance, temperatures of hot, hazardous, or hard-to-reach objects or surfaces. With a quick press of the trigger, a built-in laser identifies the measurement area, and the backlit LCD display shows the temperature of the target. You will find the 12-A so convenient and easy to use that you will find numerous uses for this innovative thermometer.

How It Works

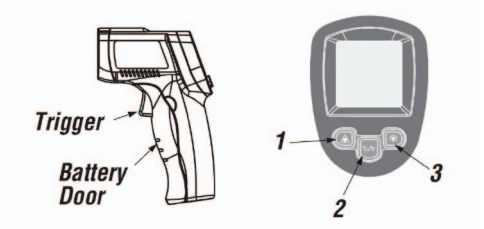
Infrared thermometers measure the surface temperature of an object. The unit's optics sense emitted, reflected, and transmitted energy, which is collected and focused onto a detector. The unit's electronics translate the information into a temperature reading which is displayed on the unit. The built in laser aids in pointing the thermometer by identifying the center of the measurement area.



Warning

Never point the laser directly into anyone's eyes, or at reflective surfaces that may reflect into someone's eyes.

How to Operate

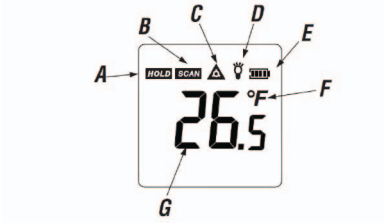


Open the battery cover and install a new 9 volt alkaline battery in the unit.

ProTemp 12-A Control Buttons
1) LASER
2) Switch from Celsius to Fahrenheit
3) Backlight Symbol

These buttons allow the user turn the Laser and Backlight on and off. The 12-A remembers the settings, so the next time the unit is operated, it will use the settings programmed by the previous user.

Pull and hold the 'trigger' while observing the LCD display. The 12-A will perform a self test and then display the measured temperature. If the 12-A was recently used, it may not perform the self test. Note the behavior of the unit, and if desired, use the buttons to change the settings. Symbols in the LCD display indicate what settings are selected.



A) DATA HOLD icon
B) SCAN Icon
C) LASER ON Icon
D) BACKLIGHT ON Icon
E) BATTERY Icon
F) Temperature Units
G) Measured Temperature

While the trigger is held in, the 12-A is in the 'live scan' mode and will display the temperature of objects as the 12-A is pointed at them. The SCAN icon in the LCD display indicates that the 12-A is in the Scan mode. If the laser is activated, it identifies the center of the area that the 12-A is measuring. The diameter of the measurement area changes with the distance from the 12-A. For details, see the section on Distance and Spot Size.

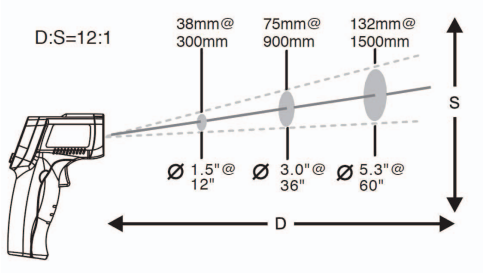
When the trigger is released, the 12-A will hold the last temperature reading for about 7 seconds. The DATA HOLD icon on the LCD display will light. The unit will turn off automatically.

If the battery is low, the BATTERY icon will light. Replace the battery to avoid inaccurate readings.

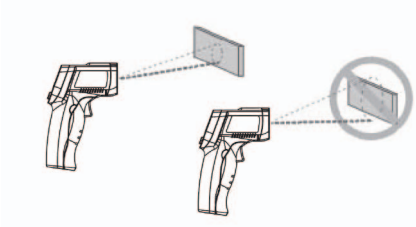
How to Accurately Measure Temperatures

1) Temperature Averaging:
The 12-A measures the temperature of an area, not a small spot. The laser is used to aim the 12-A . The spot produced by the laser is much smaller than the area that the 12-A is measuring. The 12-A cannot accurately measure the temperature of something less than 1" in diameter. When the 12-A is used to measure something that is too small, the reading obtained is an average of the temperature of the small object and the surrounding surfaces. To measure small objects, get as close as possible to the object to minimize the error.

2) Distance and Spot Size:
As the distance between the 12-A and the measured object or surface increases, the area that the 12-A measures increases also. For the 12-A, the Distance to Spot Size Ratio is approximately 12:1. This means that the Spot Size is approximately 1/12th of the distance between the PT-12-A and the measured object or surface. So at 36 inches, the spot is about 3 inches in diameter. At 12 feet, the spot is about 1 foot in diameter.

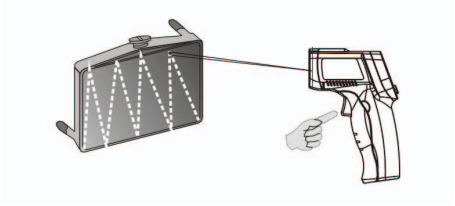


3) Field of View
To get the most accurate measurement, the object or surface being measured should completely fill the Spot Size of the PT12-A. Consider the Distance to Spot Size Ratio, and position the PT12-A accordingly.



4) Emissivity
The 12-A is calibrated for an Emissivity of 0.95. Most organic materials and painted or oxidized surfaces have an emissivity of 0.95. Inaccurate readings will result from measuring shiny or polished metal surfaces. To compensate, cover the surface to be measured with masking tape or flat black paint. Allow time for the tape to reach the same temperature as the material underneath it. Measure the temperature of the tape or painted surface.

5) Finding a Hot or Cold Spot
Holding the trigger of the 12-A, slowly move the laser back and forth across the object or surface of interest while observing the temperature reading on the LCD display. The hot or cold spot is identified by producing a maximum or minimum reading on the display.



6) Maintenance
Lens Cleaning: Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel's hair brush. Carefully wipe the surface with a moist cotton swab. The swab may be moistened with water.

NOTE: DO NOT use solvents to clean the plastic lens.

Case Cleaning: Use soap and water on a damp sponge or soft cloth.

NOTE: DO NOT submerge the unit in water.

Applications for the ProTemp

1. Industrial/Electrical
Check for hot spots in electrical panels and circuit breakers, generators and gearboxes.
2. Heating and Air Conditioning
Check and monitor supply and return registers, air stratification and duct leakage
3. Automotive
Check cylinder heads, heating & cooling systems, and scan radiators for blockage
4. Food Safety
Monitor temperatures during receiving, storage and preparation

Use the ProTemp to instantly measure the temperature of:

- Heating and Air Conditioning
- Hot and Cold food products
- Ballasts in Electric Lights
- Electrical Connections
- Windows and Doors
- Cooking Surfaces
- Hot Engine Parts
- Swimming Pools
- Hot Water Pipes
- Electric Motors
- Motor Bearings
- Wine Coolers
- Transformers
- Fuse Panels
- Hot Asphalt
- Fish Tanks
- Insulation
- Hot Tubs
- Ovens

Specifications

Temperature Range:	-58 to 1000F / -50 to 550C
Accuracy:	32F to 1000F (+/- 2.7F or 1.5%, whichever is greater) -58F to 32F (+/- 5F)
Resolution:	0.1F
Distance to Spot Size Ratio:	12:1
Repeatability:	1% of reading or 2F (whichever is greater)
Response Time:	500mS for 95% response
Spectral Response:	8-14um
Emissivity:	0.95 (fixed)
Ambient Operating Range:	32F to104F (0C to 40C)
Relative Humidity:	0 to 95% RH non-condensing up to 86F (30C)
Storage Temperature:	-4F to 140F (-20 to 60C) without battery
Battery:	1 - 9 Volt Alkaline battery
Battery Life:	12 hours with laser operating
Dimensions:	6" x 4" x 1.75" (153 x 102 x 45mm)
Weight (including battery):	5.8 oz (0.17 kg)

Triplett Three Year Limited Warranty

Triplett warrants instruments and test equipment manufactured by it to be free from defective material or workmanship and agrees to repair or replace such products which, under normal use and service, disclose the defect to be the fault of our manufacturing, with no charge within three years of the date of original purchase for parts and labor. If we are unable to repair or replace the product, we will make a refund of the purchase price. Consult the Instruction Manual for instructions regarding the proper use and servicing of instruments and test equipment. Our obligation under this warranty is limited to repairing, replacing, or making refund on any instrument or test equipment which proves to be defective within three years from the date of original purchase.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries and fuses, not of our manufacture used with this product are not covered by this warranty.

To register a claim under the provisions of this warranty, contact repair@triplett.com.

ALL WARRANTIES IMPLIED BY LAW ARE HEREBY LIMITED TO A PERIOD OF THREE YEARS FROM DATE OF PURCHASE, AND THE PROVISIONS OF THE WARRANTY ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES EXPRESSED OR IMPLIED.

The purchaser agrees to assume all liability for any damages and bodily injury which may result from the use or misuse of the product by the purchaser, his employees, or others, and the remedies provided for in this warranty are expressly in lieu of any other liability Triplett may have, including incidental or consequential damages.

Some states (USA ONLY) do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you No representative of Triplett or any other person is authorized to extend the liability of Triplett in connection with the sale of its products beyond the terms hereof.

Triplett reserves the right to discontinue models at any time, or change specifications, price or design,without notice and without incurring any obligation.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

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Test Equipment & Tool
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