



INFRARED THERMOMETER

15101 - IT12:1B INSTRUCTIONS FOR USE



1. Preface

These are the original product instructions. This document is part of the product; retain it for the life of the product, passing it on to subsequent holders. Read this manual in full before attempting to assemble, operate, or maintain this product.

This Draper Tools manual describes the purpose of the product and contains all the necessary information to ensure its correct and safe use. Following all the instructions and guidance in this manual will ensure the safety of both the product and the operator and increase the lifespan of the product.

All photographs and drawings within this manual are supplied by Draper Tools to help illustrate correct operation of the product.

Every effort has been made to ensure the information contained in this manual is accurate. However, Draper Tools reserves the right to amend this document without prior warning. Always use the latest version of the product manual.

1.2 Revisions

Version 1: March 2016
First release

Version 2: October 2019
General content updates

Version 3: April 2022
General content updates

Version 4: August 2022
General content and
formatting updates

Always use the latest version of this manual. Download the latest version from: drapertools.com/manuals

1.3 Understanding the Safety Content in This Manual

WARNING! – Situations or actions that may result in personal injury or death.

CAUTION! – Situations or actions that may result in damage to the product or surroundings.

Important: – Information or instructions of particular importance.

1.4 Copyright © Notice

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2. Warranty

Draper Tools products are carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, return the complete tool to your nearest distributor or contact Draper Tools directly. Contact information can be found at the back of this manual. Proof of purchase must be provided.

If, upon inspection, it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty period covers parts and labour for 12 months from the date of purchase. Where tools have been hired out, the warranty period covers 90 days from the date of purchase.

This warranty does not apply to any consumable parts, batteries or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper Tools repair agent.

In all cases, to make a claim for faulty workmanship or materials within the standard warranty period, contact or return the product to the place of purchase. Proof of purchase may be required.

If the place of purchase is no longer trading or if you experience any difficulties with your warranty, please contact Customer Services with the product details and your proof of purchase. Contact details can be found at the back of this manual.

If the tool is not covered by the terms of this warranty, repairs and carriage charges will be quoted and charged accordingly.

This warranty supersedes any other guarantees expressed or implied and variations of its terms are not authorised.

Your Draper Tools guarantee is not effective until you can produce, upon request, a dated receipt or invoice to verify your purchase within the guarantee period.

Please note that this warranty is an additional benefit and does not affect your statutory rights.

Draper Tools Limited

3. Scope

This product is designed to measure the temperature of industrial equipment and surfaces without making contact.

WARNING! This product is NOT suitable for measuring the temperature of humans or animals. NEVER point this product directly at yourself or any other person.

Important: This product is **NOT** designed for continual temperature monitoring.

Any other application beyond the conditions established for use will be considered misuse. Draper Tools accepts no responsibility for improper use of this product.

Part of our core range, this product is suitable for regular use by enthusiasts and tradespersons alike.

WARNING! This product is not a toy and must be respected.

Read this manual in full before attempting to use this product and retain it for later use. Always use the latest version of the manual.

4. Health and Safety Information

Important: Read all the Health and Safety instructions before attempting to operate or maintain this product. Non-compliance with these instructions may result in injury.

Important: This product is intended for use as a guide and screening tool **ONLY**. For precise readings, a specially engineered tool should be used.

WARNING! This product is not suitable for use on humans or animals.

This product utilises a Class 2 laser. **DO NOT** stare into the beam or expose users of telescopic elements.

Viewing the laser pointer output with certain optical instruments (e.g. eye loupes, magnifiers and microscopes) with a distance of 100mm may pose a hazard to the eyes.

Viewing the laser pointer output with certain optical instruments designed for use at a distance (e.g. telescopes and binoculars) may pose a hazard to the eyes.

CAUTION! DO NOT touch the thermometer lens as this may damage it and cause inaccurate readings.

Use of controls or adjustments or the performance of procedures outside the scope of these instructions may result in radiation exposure.

- Observe all standard safety precautions and good practices when working with electrical equipment and batteries.
- Inspect the product before every use for evidence of battery leakage and corroded parts.

WARNING! DO NOT use this product if any part has corroded or the battery has leaked. Contact Draper Tools for repair and replacement options.

- **DO NOT** allow battery acid to come into contact with your eyes or skin.
 - If contact occurs, flush with plenty of water for at least 15 minutes and seek immediate medical attention.
- **NEVER** burn, piece or mutilate batteries as this may cause toxic or corrosive materials to be released.
- **DO NOT** attempt to modify this product or amplify its output in any way.
- **DO NOT** stare into the laser.
- **DO NOT** direct the laser beam towards yourself, another person or animals; take additional care to avoid their eyes.
- **DO NOT** direct the laser in a way that may lead to unintentional eye exposure for passing pedestrians or traffic.
- **DO NOT** direct the beam onto reflective surfaces.
- **DO NOT** expose this product to water or wet environments.

- **DO NOT** use this product in environments that exhibit a strong electrostatic or magnetic field.
- **DO NOT** use the product in the vicinity of children.
- **DO NOT** leave this product unattended.
- **ALWAYS** remove the battery when not in use.
- **DO NOT** charge non-rechargeable batteries.

5. Specification

Stock No.	15101
Part No.	IT12:1B
Distance to spot size	12:1
Accuracy	
0~550°C (32~1,022°F)	±1.5°C (±2.7°F)
-55~0°C (-58~32°F)	±3.0°C (±5.0°F)
Power supply	9V battery (supplied)
Operating temp.	0°C ~ 40°C (32°F ~ 104°F)
Storage temp.	-20°C ~ 60°C (-4°F ~ 140°F)
Typical battery life (Alkaline)	
Laser pointer inactive	22h
Laser pointer active	12h
Dimensions	W 101 × H 153 × D 43mm
Weight (inc. batteries)	0.148kg
Laser classification	Class 2

6. Product Overview



6.1 Packaging

Keep the product packaging for the duration of the warranty period for reference should the product need to be returned for repair.

WARNING! Keep packaging materials out of reach of children. Dispose of packaging correctly and responsibly and in accordance with local regulations.

7. Operation

Important: Read and understand all the safety instructions listed in this manual before using this product.

Install a 9V PP3 battery (supplied) before use; see **8.2 Replacing the Battery**.

DO NOT use this product in environments with abnormally high or low ambient temperatures as this may deliver inaccurate readings. If the product has been stored for an extended period in a location with an elevated or starkly different temperature, allow it to rest at an ambient temperature of 20~50°C for approximately 30 minutes before use.

WARNING! This product is not suitable for use on humans or animals.

7.1 Distance and Spot Size

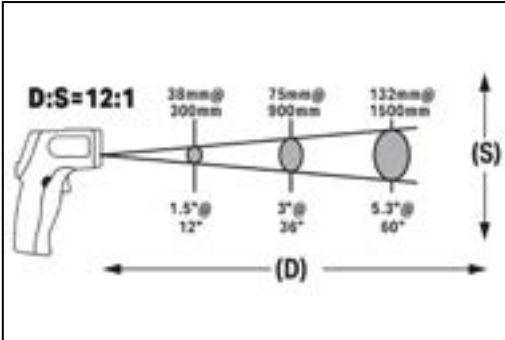


Fig. 1

This product operates by measuring the overall temperature of a specific area of the target surface (the "spot"). The diameter of the spot ("spot size") equates to roughly one-twelfth of the distance from the thermometer to the target surface. As the distance **D** increases, the spot size **S** also increases.

For more precise measurements of specific areas, position the thermometer closer to the surface. For more general measurements, position the thermometer further from the target surface.

Important: The target surface must **ALWAYS** be larger than the spot size. For greater accuracy, ensure that the target surface is at least twice the size of the spot area.

The product is equipped with a laser pointer that can be enabled to guide your aim.

7.2 Emissivity

This device is configured to calculate temperature assuming an emissivity value of 0.95, a general value suitable for most organic materials and painted or oxidised surfaces. Because of this, readings from reflective or polished surfaces may be inaccurate. To improve accuracy, cover an area of the target surface measuring twice the spot size (see **7.1 Distance and Spot Size**) in masking tape or black paint. Allow it to reach the same temperature as the material underneath before taking a measurement.

Important: **DO NOT** place glass, Perspex or other transparent materials between the thermometer and the target surface when attempting to take a measurement.

7.3 The Control Panel



Fig. 2

- (11) Backlight enabled symbol
- (12) Laser enabled symbol
- (13) Temperature unit
- (14) Temperature reading
- (15) Scanning active symbol
- (16) Last measurement symbol

The LCD display activates when the trigger is depressed. Symbols are displayed when the corresponding setting is enabled. To toggle each setting, press the appropriate button. Press again to return to the original state.

When enabled, the laser beam is only active while the thermometer is switched on and the trigger is depressed.

The scanning active symbol (15) is displayed while the trigger is depressed and indicates that the device is reading temperature in real-time. The last measurement symbol (16) is displayed when the trigger is released and indicates that the temperature reading shown is the last recorded value.

The thermometer and LCD display switch off automatically after approximately 15 seconds of inactivity.

7.4 Taking a Measurement

- WARNING! DO NOT direct the laser beam towards yourself, another person or animals.**
- Squeeze the trigger to switch on the device.
 - Configure the control panel as required; see **7.3 The Control Panel**.
 - Aim the thermometer at the target surface, taking the distance and spot size into consideration; see **7.1 Distance and Spot Size**.
 - The laser can be used to guide your aim, if activated.
 - Holding the thermometer steady, squeeze the trigger; the temperature reading is shown on the LCD display.
- Important:** The thermometer continues to record the temperature of the target surface until the trigger is released and updates in real-time if the temperature of the target changes while the trigger is depressed. The scanning active symbol (15) is displayed while the thermometer is measuring the temperature.

7.5 Locating a Hot Spot

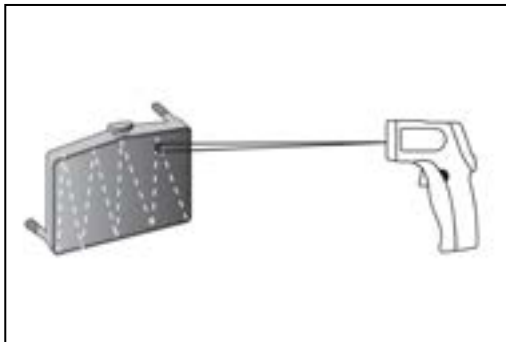


Fig. 3

To locate points with abnormally high or low temperatures, keep the trigger depressed while scanning the target surface with a zig-zag motion until the problem area is identified.

8. Maintenance and Disposal

8.1 Cleaning and Storage

- Clean the product regularly using a dry cloth or cotton bud **ONLY**.
CAUTION! NEVER use aggressive chemicals to clean the product as they may damage plastic or insulated parts.
- Take particular care when cleaning the thermometer lens.
- Remove the battery before storing the product for extended periods.
- Store the product in a lean and dry location, out of direct sunlight and out of reach of children.
- Store the product at an ambient temperature of 15~50°C (-4~122°F).

8.2 Replacing the Battery

Important: ALWAYS allow the thermometer to switch itself off before removing the battery.

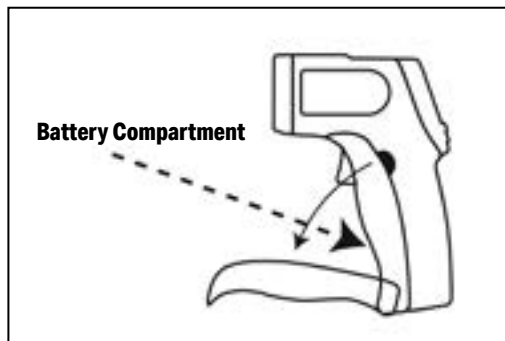


Fig. 4

The thermometer is powered by a 9V PP3 type battery (supplied).

To install or replace battery:

1. Using the cover release indents (5), pull outwards on the battery compartment cover (4) to open it.
2. Remove the installed battery from the compartment and disconnect it from the contacts.
3. Connect a new battery to the contacts, observing the correct polarity.
4. Insert the battery into the compartment and close the cover securely.

Important: Dispose of old batteries responsibly and in accordance with local regulations.

8.3 Returns and Disposal














For servicing, and repair and replacement options, please contact the Draper Tools Product Helpline for details of your nearest authorised agent.

Any servicing or repairs carried out by unauthorised personnel or installation of spare parts not supplied by Draper Tools will invalidate your warranty.

At the end of its working life, dispose of the product responsibly and in line with local regulations. Recycle where possible.

- **DO NOT** dispose of this product with domestic waste; most local authorities provide appropriate recycling facilities.
- **DO NOT** incinerate.
- **DO NOT** burn or mutilate batteries; this may release toxic or corrosive substances.
- Dispose of the battery in accordance with local regulations or return it to your warranty agent or stockist for recycling.

9. Explanation of Symbols

	Read the instruction manual		Do not incinerate or throw onto fire
	Warning!		UK Conformity Assessed
	Do not abandon in the environment		European conformity
	CAUTION: Class 2 laser product – Laser active		WEEE – Waste Electrical & Electronic Equipment Do not dispose of Waste Electrical & Electronic Equipment in with domestic rubbish
	CAUTION: Class 2 laser product – Do not stare into beam		
	CAUTION! Class 2 laser product		
	Operating temperature range		
	Distance to spot size ratio		
	Variable unit display		

Contact Details

Draper Tools

Draper Tools Limited
Hursley Road
Chandler's Ford
Eastleigh
Hampshire
SO53 1YF
UK

Website: drapertools.com

Email: sales@drapertools.com

Product Helpline: +44 (0) 23 8049 4344

Telephone Sales Desk: +44 (0) 23 8049 4333

General Enquiries: +44 (0) 23 8026 6355

General Fax: +44 (0) 23 8026 0784

Delta International

Delta International BV
Oude Graaf 8
6002 NL
Weert
Netherlands

Please contact the Draper Tools Product Helpline for repair and servicing enquiries.