

**DRAPER**<sup>®</sup>  
*Expert*

COMBINED

# LIVE WIRE, METAL & STUD DETECTOR

22230



UK  
CA CE

These instructions accompanying the product are the original instructions. This document is part of the product, keep it for the life of the product passing it on to any subsequent holder of the product. Read all these instructions before assembling, operating or maintaining this product.

This manual has been compiled by Draper Tools describing the purpose for which the product has been designed, and contains all the necessary information to ensure its correct and safe use. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

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

Whilst every effort has been made to ensure the accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

# 1. TITLE PAGE

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## 1.1 INTRODUCTION:

**USER MANUAL FOR: Combined Live Wire, Metal and Stud Detector**

**Stock No: 22230**

**Part No: D389**

## 1.2 REVISIONS:

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**Date first published June 2019.**

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As our user manuals are continually updated, users should make sure that they use the very latest version.

**Downloads are available from:** <http://drapertools.com/manuals>

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## 1.3 UNDERSTANDING THIS MANUALS SAFETY CONTENT:

**WARNING!** – Information that draws attention to the risk of injury or death.

**CAUTION!** – Information that draws attention to the risk of damage to the product or surroundings.

## 1.4 COPYRIGHT © NOTICE:

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## 3. WARRANTY

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### 3.1 WARRANTY

Draper tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, please return the complete tool to your nearest distributor or contact

**Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England.**

**Telephone Sales Desk: (023) 8049 4333 or Product Help Line (023) 8049 4344.**

A proof of purchase **must** be provided with the tool.

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 covering labour is 12 months from the date of purchase except where tools are hired out when the warranty period is 90 days from the date of purchase. The warranty is extended to 24 months for parts only. This warranty does not apply to any consumable parts, any type of battery 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 warranty repair agent.

**Note:** If the tool is found not to be within the terms of warranty, repairs and carriage charges will be quoted and made accordingly.

This warranty applies in lieu of any other warranty expressed or implied and variations of its terms are not authorised.

Your Draper warranty is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the warranty period.

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

**Draper Tools Limited.**

## 4. INTRODUCTION

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### 4.1 SCOPE

This detector is designed for indoor and outdoor use in most areas of construction:

- Finding hidden live AC wires, metal, studs and wood through drywall and other common wall materials.
- Preventing electrocution caused by drilling through live wires.

### 4.2 FEATURES

Electronic sensors

Traces live wires

Easy to read backlit screen marks exact position

Differentiates between wood, metal and live wires

Detection buzzer

Automatic scan

**NOTE:** Keep this user manual in a safe place for future reference.

Read this user manual thoroughly before using your stud finder. Always operate the stud finder according to the procedures and warnings in this manual.

### 4.3 SPECIFICATION

Stock no. ....22230  
Part no ..... D389

Detection distance:	
Stud .....	19mm
Metal.....	60mm
AC voltage.....	51mm
Power supply .....	9V (1xPP3)
Weight .....	0.196kg
Dimensions .....	69 x 160 x 31mm

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## 5.1 IDENTIFICATION



- ① LCD screen
- ② Mode switch
- ③ On/off switch

## 6. UNPACKING & CHECKING

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### 6.1 PACKAGING

Carefully remove the detector from the packaging and examine it for any sign of damage that may have happened during shipping. Lay the contents out and check them against the parts shown below. If any part is damaged or missing; please contact the Draper Helpline (the telephone number appears on the title page) and do not attempt to use the detector.

The packaging material should be retained at least during the guarantee period: in case the machine needs to be returned for repair.

**Warning!** Some of the packaging materials used may be harmful to children. Do not leave any of these materials in the reach of children.

If any of the packaging is to be thrown away, make sure they are disposed of correctly; according to local regulations.

## 7. PREPARING THE DETECTOR

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### 7.1 BATTERY INSTALLATION - FIG. 1

- Remove the battery compartment cover at the back of the unit.
- Insert a 9V battery and replace cover.



FIG. 1

## 8. OPERATING INSTRUCTIONS

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### 8.1 SCANNING IN STUD MODE

Use Stud mode for depths of up to 19mm.

- Position the sensor flat against the wall. Select "STUD" Mode. Press and hold ON/OFF button.
- Slowly slide the unit horizontally across the wall, to the left or right. Keep the unit base in contact with the wall. When full bars appear on the LCD and a steady tone is emitted, you have located the edge of the stud. Mark this spot.
- Continue holding the ON/OFF button and scan beyond the marked spot until the bars disappear, and then slide in reverse direction to locate the other edge of the stud. Mark this spot. The stud position is between these two marks.
- To confirm the stud position, turn off the unit and place on the wall as close as possible to the presumed position of the stud. Press and hold ON/OFF button and repeat the process.

**CAUTION:** Depending on the proximity of electrical wiring or pipes to the wall surface, the sensor may detect them in the same manner as studs. Caution should always be used when nailing, cutting or drilling in walls, floors and ceilings that may contain these items.

To avoid surprises, remember that studs or joists are normally spaced 406mm (16") or 610mm (24") apart and are 38mm (1½") in width. Anything closer together or different in width may not be a stud, joist or firebreak. Always turn off the power when working near electrical wires.

### 8.2 SCANNING IN METAL MODE

Metal pipes can be detected at a depth of up to 60mm

- Select "METAL" mode.
- Press and hold ON/OFF button. Calibrate the unit away from metal objects. Position the unit flat against the wall.
- Continue holding the ON/OFF button and slowly slide the unit horizontally across the wall, to the left or right. Keep the unit base in contact with the wall. The centre bar on the LCD screen indicates closest proximity to metal. When the centre bar appears, mark this spot.
- Continue holding the ON/OFF button and scan beyond the marked spot until the bars disappear, and then slide in reverse direction to locate the other edge of the metal object. Mark this spot. The position of the metal object is located between these two marks.
- To confirm the metal position, turn off the unit and place on the wall as close as possible to the presumed position of the metal object. Press and hold ON/OFF button and repeat the process.

### 8.3 SCANNING IN AC MODE

Continuous AC voltage detection: The unit detects from 90 to 250V at 50 to 60Hz AC in a LIVE unshielded electrical wire that is at a depth of up to 51mm of the wall surface. The voltage detection feature works continuously in all modes for safety.

- Select AC mode.
- Press and hold ON/OFF button. Calibrate the unit away from any hot wiring. Position the unit flat against the wall.
- Continue holding the ON/OFF button and slowly slide the unit across the wall. Keep the unit base in contact with the wall. The “AC” indicator will appear on the LCD if a hot wire is nearby. All bars indicates the closest proximity, mark this point.

**CAUTION:** The unit will not detect live wires inside metal pipe or metal conduit, behind metallic wall coverings, or behind some plywood or other dense materials. Use extra caution in these construction situations. Always turn the power off when nailing, cutting or drilling near electrical wiring.

**CAUTION:** The unit will not detect items that are shielded in some way or are in excess of 38mm from the surface.

## 8.4 AUTOMATIC SCAN MODE

When the unit is in Auto Scan mode, it will search for studs, metal and live wire simultaneously. The LCD display will indicate which material has been detected.

- Select “AUTO” mode.
- Position the sensor flat against the wall. Press and hold ON/OFF button.
- Slowly slide the unit horizontally across the wall, to the left or right. Keep the unit base in contact with the wall. If more than one object is detected, they will each be indicated. The material with the strongest signal will display, and the other icons will flash.

# 9. MAINTENANCE

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## 9.1 MAINTENANCE AND REPAIRS

Remove batteries from the unit during lengthy periods of non-use, and store in a clean dry place. Do not take the unit apart or permit any unqualified person to take the unit apart. Unauthorized servicing may irreparably damage the unit, and invalidate the warranty.

# 10. EXPLANATION OF SYMBOLS

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## 10.1 EXPLANATION OF SYMBOLS



WEEE  
Do not dispose of Waste Electrical & Electronic  
Equipment in with domestic rubbish

# 11. DISPOSAL

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## 11.1 DISPOSAL

- At the end of the machine’s working life, or when it can no longer be repaired, ensure that it is disposed of according to national regulations.
- Contact your local authority for details of collection schemes in your area.
- Do not dispose of power tools with domestic waste.
- Do not incinerate.
- Do not abandon in the environment.
- Do not dispose of WEEE\* as unsorted municipal waste.

In all circumstances:

\* Waste Electrical & Electronic Equipment.

## CONTACTS

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General Enquiries: (023) 8026 6355

Service/Warranty Repair Agent:

For aftersales servicing or warranty repairs, please contact the  
Draper Tools Helpline for details of an agent in your local area.

YOUR DRAPER STOCKIST

BPFW1021

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