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Operating Instructions for Tri-laser Angle Meter

Instruction Manual for DL7301 (v1.1)

Please read this manual before switching the meter on. Important safety information included.

Contents **Page**

I. Certificate of conformity

As the manufacturer of the instrument listed below, we declare under our sole responsibility that the product:

Di-LOG DL7301

To which this declaration relates is in conformity with the relevant clauses of the following standards:

EMC & RoHS
EN 61326-1:2013
EN 60825-1:2014

The instrument has been factory-calibrated during its manufacturing process, ensuring it fully conforms to our rigorous quality assurance procedures. This guarantees exceptional accuracy and reliability for all your measurement needs.

The safety and performance of this instrument is assured when operated within the specifications in this instruction manual.

The product identified above conforms to the requirements of the UK and EU directives for the Electromagnetic Compatibility Regulations 2016 (EMC Directive 2014/30/EU).

II. Safety

⚠ International Safety Symbol

This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.

Safety Notices

⚠ To prevent eye damage or personal injury, read the following safety guidelines before using the angle meter:

- Never point the laser directly or indirectly at people or animals.
- Do not look at the laser beam directly or through optical instruments such as telescopes or microscopes.

CAUTION

- Avoid looking directly at the laser emitter.
- Do not disassemble or modify the tri-laser angle meter or its laser components.
- For safety and accuracy, repairs should only be performed by qualified professionals using original replacement parts.
- If the battery icon on the LCD flashes, recharge the battery immediately to prevent inaccurate measurements.
- Inspect the instrument casing before use. Do not operate the device if it appears damaged (e.g., cracks or missing parts).
- Do not use the instrument near flammable or explosive substances.
- Operating in environments with steam, dust, or rapid temperature changes may result in inaccurate measurements.
- For best accuracy, allow the angle meter to acclimate to the measurement environment for at least 30 minutes before use
- Avoid prolonged exposure of the instrument to high-temperature environments.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

It is important to check the charge state of the battery before use and to recharge it if necessary.

III. Instrument & Manual Symbols

Symbols displayed on the instrument and in the instruction manual:

 Warning! Warns of potential danger, and to comply with the instruction manual.

 Do not look at the laser beam directly or through optical instruments such as telescopes or microscopes

 Equipment protected throughout by double or reinforced insulation. Complies with IEC 536, class II

 CE Symbol of conformity confirms conformity with relevant EU directives. The meter complies with EMC directives (2004/08/ EC).

 UKCA Symbol of conformity confirms conformity with relevant UK regulations. The meter complies with EMC regulations (SI 2016 No. 1091).

 The DL7301 meets the standard (2012/19/EU) WEEE Directive in the UK & EU. This marking indicates that this product should not be disposed with other household wastes throughout the EC. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use your local authority return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

 The instruction manual contains information and references, necessary for safe operation and maintenance of the instrument. Prior to using the instrument, the user is kindly requested to thoroughly read the instruction manual and comply with it in all sections.

 Failure to read the instruction manual or to follow the warnings and references contained herein can result in serious bodily injury or instrument damage. The respective accident prevention regulations established by the professional associations are to be strictly enforced at all times.

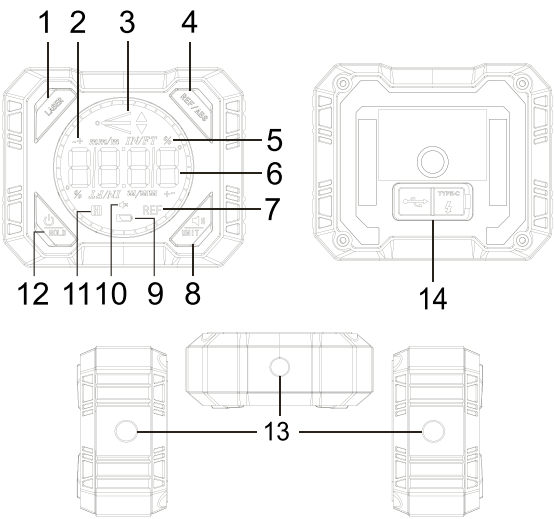
IV. Description & Key Features

The Di-LOG DL7301 Tri-Laser Angle Meter is a precision measuring tool designed for fast, accurate angle and alignment checks across a wide range of professional applications. Featuring three integrated laser beams, the DL7301 projects clear reference lines to simplify levelling, squaring, and angle measurement tasks with confidence.

Key Features

- Tri-laser projection for accurate alignment and angle referencing
- Digital angle measurement with clear, easy-to-read display
- Fast and precise readings for professional use
- Compact and durable design for site and workshop use Ideal for installation, construction, electrical, and DIY tasks

V. DL7301 Layout



V. DL7301 Layout (continued)

1. Laser On/Off Button
2. +/- Display Icon
3. Angle Direction Icon
4. Absolute/Relative Button
5. Unit Buttin (in/ft, mm/m, %, °)
6. Angel Display
7. Absolute/Relative Display Value
8. Measurement Unit & Sound On/Off
9. Battery Level
10. Mute Icon
11. Data Hold Icon
12. Power On/Off & Data Hold Button
13. Laser Output Lense
14. USB-C Charge Port

VI. Detailed Specifications: Range & Accuracy

DL7301 Specification	
Measurement range	4 x 90°
Resolution	±0.05°
Angle Accuracy	±0.2°
Repeatability	±0.2°
Unit	Angle, Percentage, Metric (mm/m, Imperial (in/ft)
Laser Lines	3-lines
Laser Accuracy	±3mm/5m
Magnetic Base	4-sided magnetic
Relative Absolute Angle Measurement	Yes
Angle Hold	Yes
Screen Rotation	Yes
Auto Power Off	5 minutes
Materiala	Ak-alloy frame + ABS
Power Supply	3.7V 1000mAh lithium battery
Opperating Temperature	0°C to +50°C
Laser	Class II
Laser Life	630-670n m, <1mW
Battery Life	6-hours
Dimensions	83.5mm x 70mm x 35.5mm
Weight (net)	210g

1. DL7301Operating Instructions

1.1. Power On/Off

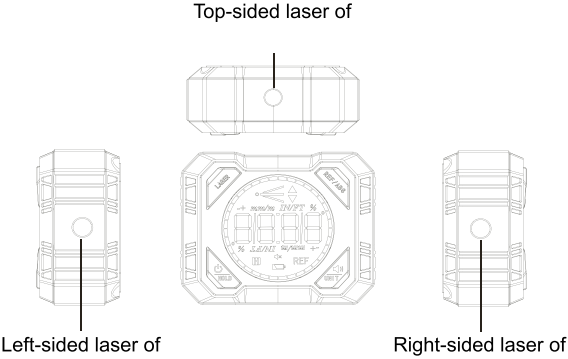
Power On

When the device is switched off, **press and hold** the **[Power]** button to turn it on.

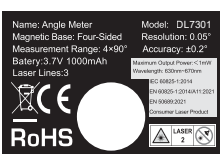
Power Off

When the device is switched on, **press and hold** the **[Power]** button to turn it off.

1.2. Tri-Laser Control



⚠ LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 CONSUMER LASER PRODUCT
Compliance with IEC/EN 60825-1, EN 50689.



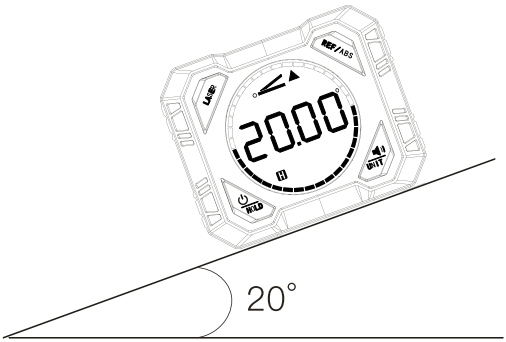
When powered on:

- **Press** the [Laser] button briefly to activate all laser.
- **Press** the button again to switch off the top-side laser.
- **Press** the button once more to switch off the left-side laser.
- **Press** the button again to switch off the right-side laser.
- **Press** the button once more to turn off all lasers.

1.3. Auto Power Off

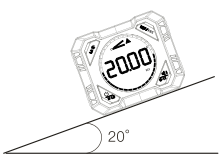
- If no operation is performed for **5 minutes**, the DL7301 will automatically power off.

1.4. Angle Measurement



When the device is powered on, place it on the inclined surface. The value displayed on the screen represents the angle between the inclined plane and the horizontal plane.

1.5. REF (Relative Value Mode)



Enter the Relative Value mode

Relative Value mode

Absolute Value mode

While in measurement mode:

- **Press** the 

[REF] button briefly to enter Relative Value Mode. This sets the current reading to zero.
- **Press the button again** to exit Relative Value Mode and return to standard measurement.

1. DL7301 Operating Instructions (continued)

1.6. Calibration Mode

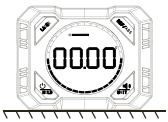


Figure 1

Figure 2

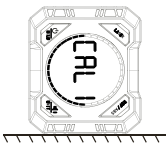


Figure 3

Figure 4

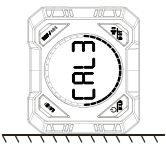


Figure 5

Please follow the below stages for calibration:

- Place the device on a perfectly level surface. **Press and hold** the 

[REF/ABS] button three times in succession to enter Self-Calibration Mode (see Figure 1).
- The screen will display CAL0 flashing. **Press the [REF/ABS] button briefly** to confirm and start auto zero calibration (see Figure 2). Calibration is confirmed when CAL0 stops flashing.
- Rotate the device 90° and **press the same button again**. CAL1 will flash on the screen.
- **Press the same button** briefly to confirm and perform auto zero calibration (see Figure 3). Side 1 calibration is confirmed when CAL1 stops flashing.
- Rotate the device another 90° and **press the same button again.** CAL2 will flash.
- **Press the button** briefly to confirm (see Figure 4). Side 2 calibration is confirmed when CAL2 stops flashing.
- Rotate the device a further 90° and **press the button**. CAL3 will flash.
- Finally **Press the button** briefly to confirm (see Figure 5). Side 3 calibration is confirmed when CAL3 stops flashing.

After completing calibration, the device will power down. Press the power button to resume normal operation.

1.7. Unit Selection and Sound Settings

Unit Switching

Press and hold the **[UNIT] button** to cycle through the available measurement units:

- **Degrees (°) – default unit**
- **mm/m**
- **%**
- **in/ft**

In/ft Display Notes:

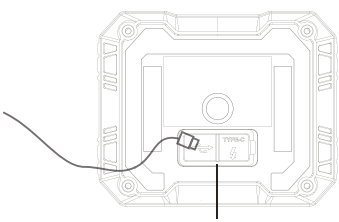
When the "–" symbol appears, the measurement range is:
- measured value − 1/8 to measured value

When the "+" symbol appears, the measurement range is:
- measured value to measured value + 1/8

Examples:

- 11.7/8 → 11 and 7/8
- 9-3/8 → 9 and 3/8

2. Charging the Device



Type-C Charging Interface

When the low-battery icon appears on the screen, re-charge the device using the supplied charging cable. When the device is powered off, charging will continue until the battery icon stops flashing and disappears from the display. This indicates that the battery is fully charged.

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3. Maintenance & Cleaning

The maintenance and other services of this instrument must be carried out by the manufacturer or an approved service centre so not to invalidate the warranty. Please contact product support for more information. The outer casing should be regularly cleaned with either a dry or slightly damp cloth. Do not use detergents, especially if they contain abrasives or solvents.

4. Warranty & Calibration

Di-LOG instruments are subject to stringent quality controls. If in the course of normal daily use a fault occurs we provide a 24 month warranty (only valid with proof of purchase). Faults in manufacture and material defects will be rectified by us free of charge, provided the instrument has not been tampered with and returned to us unopened. Damage due to dropping, abuse or misuse are not covered by the warranty.

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