

HDL 20


Hultafor



Operating instructions

EN

INCLUDED IN DELIVERY WITH THE HDL 20

Laser distance meter

Hand strap

2 x 1,5V (AAA) batteries

Quick start guide



Operating manual

Laser distance meter HDL 20

About this manual

Congratulations on the purchase of your new HDL 20! You have acquired a Hultafors measuring instrument, which can make your work easier, faster and more precise. To utilize the complete functionality range of this measuring instrument, and to ensure safe operation, please observe the following instructions:

- Please read this operating manual before starting to use the device.
- Always keep the operating manual near the device.
- Only hand over the device to other users together with the operating manual.
- Never render the attached warning signs

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1. General information

1.1 Signal words and their meaning

DANGER

For an imminent danger that could lead to serious injury or death.

WARNING

For a possibly dangerous situation that could lead to serious injury or death.

CAUTION

For a possibly dangerous situation that could lead to slight injury or property damage.

NOTE

For application notes and other useful information

1.2 Pictograms and other information

1.2.1 WARNING SIGNS



Warning of dangers in general.

1.2.2 SYMBOLS



Read instructions before use.



Batteries and devices must not be disposed of with household waste.



Do not throw batteries into a fire.



Warning signs on battery: Do not heat the battery above 60 °C.



Class 2 laser device.



Do not look into the laser beam!

2. Description

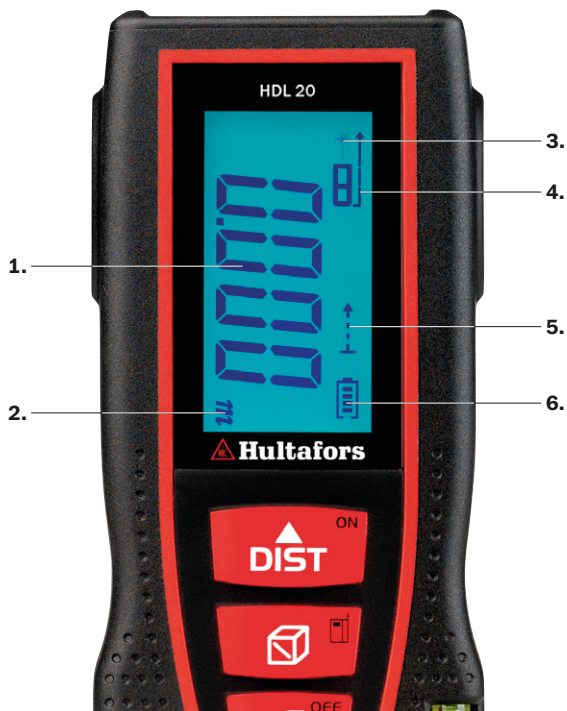
2.1 Function Buttons

1. Display
2. ON/Measure
3. Functions/Measuring edge
4. OFF/Delete
5. Vertical vial
6. Laser diode
7. Laser sensor
8. Battery compartment cover
9. Eyelet for strap



2.2 Display

1. Measurement
2. Unit
3. Laser point display
4. Measuring edge
5. Function display
6. Battery status



3. Technical data

3.1 General

Usage area	0.05 - 20 m*
Measuring tolerance	±2.0 mm**
Protection class	IP42
Laser class	2
Laser type	635 nm < 1 mW
Automatic power off, laser	20 s
Automatic power off, device	150 s
Operating time	up to 5,000 measurements***
Power supply	2 x 1.5 V (AAA) batteries
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +60°C
Tripod connection	-
Dimensions	105 x 47 x 27 mm
Weight with batteries	103 g

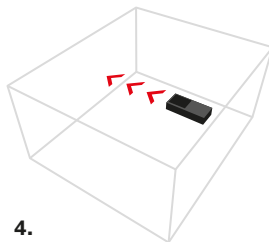
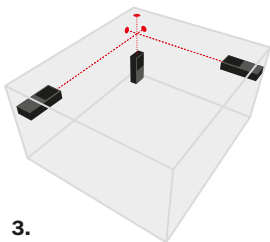
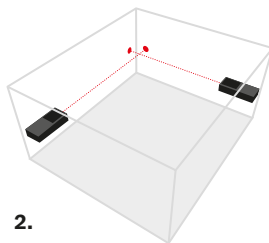
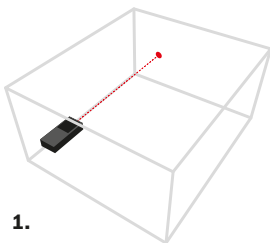
* For measurements with 100% reflectivity of the target (e.g. a wall painted white), low background lighting, and 25°C operating temperature. Measurements may become less accurate in adverse conditions, such as direct sunlight, a poorly reflective surface, or measurement on glass or glossy surfaces, leading to measurement errors. The visibility range of the laser point depends on the ambient conditions.

** Accurate from 0.05–10 m. The maximum tolerance of 0.1 mm/m may deteriorate at distances between 10 m and 20 m.

*** Use at room temperature.

3.2 Functions

1. Length measurement
2. Area measurement
3. Volume measurement
4. Continuous measurement



4. Safety instructions

4.1 AREA OF RESPONSIBILITY

4.1.1 MANUFACTURER

Hultafors is responsible for the safe delivery condition of the product, including the operating instructions and the original accessories.

4.1.2 OPERATOR

The operator is responsible for using the product as intended, the deployment of personnel, their training, and the operational safety of the product.

- The operator understands the safety information which is stated on the product and the instructions in the operating instructions.
- The operator shall comply with the standard local regulations relating to safety and accident prevention regulations as well as worker protection laws and regulations.
- The operator shall immediately notify Hultafors if safety-related issues should arise relating to the product or during its utilization.
- The operator shall ensure that the product is not utilized any further if defects become evident, and they will have the product repaired professionally.



4.2 Improper Use

- Use of the device and the accessories without instruction.
- Use of third-party accessories or additional equipment.
- Use outside of the intended limits (see Chapter 3 / Technical Data).
- Use under extreme temperature fluctuations without adequate acclimatization.
- Disabling of safety devices and removal of hazard notices and labels.
- Unauthorized opening of the device.
- Performance of modifications or alterations to the device or the accessories.
- Deliberate blinding of third parties.
- Inadequate safeguarding at the installation site.

4.3 Utilization limitations

The HDL 20 is suitable for continuous use in an atmosphere which can be inhabited by humans.

- Do not operate the product in explosion-prone or corrosive environments.
- Inform the local safety authorities and safety experts before working in hazardous environments, in close proximity to electrical installations or similar surroundings.

4.4 Usage Hazards

4.4.1 GENERAL



WARNING

Missing or incomplete instructions may result in improper or incorrect use. This can cause accidents with serious damages to persons, property, assets and the environment.

- Follow the manufacturer's and operator's safety instructions.
- Protect equipment and accessories from access by children.



WARNING

Blinding by laser radiation can indirectly lead to serious accidents, especially for people who are driving a vehicle or operating machinery. Do not look into the laser beam.

- Do not set up the laser beam and the laser plane at eye level or aim at people.



CAUTION

A fall, longer storage, transportation or other mechanical effects can lead to erroneous measurement results. Check the unit for damage before use. Do not use damaged equipment.

- Repairs have to be exclusively performed by Hultafors.

4.4.2 CHARGER/BATTERIES/RECHARGEABLE BATTERIES



DANGER

Strong mechanical influences, can lead to a leakage, fire or explosion of the batteries or trigger the release of toxic substances.

- Batteries and rechargeable batteries may not be opened or exposed to mechanical loads.
- Repairs have to be exclusively performed by Hultafors.



WARNING

High ambient temperatures and immersion into liquids can cause a leakage, fire or explosion of the batteries or trigger the release of toxic substances.

- Protect batteries and rechargeable batteries from mechanical influences during transport.
- Do not overheat batteries and rechargeable batteries or expose them to fire.
- Avoid the ingress of moisture into batteries and rechargeable batteries.
- Do not use damaged batteries or rechargeable batteries. Perform a proper disposal (see Chapter 11 Disposal).

**WARNING**

A short-circuiting or unintended use can cause batteries to overheat and create an injury or fire hazard.

- Do not transport or store batteries in the pockets of garments.
- Do not bring the battery contacts in contact with jewelry, keys, or other electrically conductive objects.
- Do not charge non-rechargeable batteries.
- Do not discharge the batteries through short-circuiting.
- Do not solder the batteries within the device.
- Do not mix old and new batteries, and do not mix batteries from different manufacturers or with a differing type designation.

**WARNING**

If disposed of improperly third parties can possibly be seriously injured and the environment polluted. The burning of plastic components generates toxic fumes which may impair the health of people. Batteries/rechargeable batteries may explode if they are damaged or heated excessively, and thereby cause poisoning, burning, corrosion or environmental contamination.
If disposed of negligently unauthorized persons are able to use the product improperly.

- The product must not be disposed of together with household waste. Dispose of the device and accessories properly (see Chapter 11 Disposal).
- Protect the product at all times from access through unauthorized persons, especially children.

4.5 Electromagnetic compatibility (EMC)

The electromagnetic compatibility is the ability of the product to function in an environment where electromagnetic radiation and electrostatic discharges are present, without causing electromagnetic interference to other devices.

4.5.1 INTERFERENCE OF OTHER DEVICES BY HDL 20

Although the product meets the strict requirements of the relevant directives and standards, Hultafor can not completely exclude the possibility of interference with other devices (for example, when using the product in combination with third-party devices, such as field computers, personal computers, wireless devices, mobile phones, certain cables or external batteries).

- When using computers and radio equipment make sure to observe the vendor-specific information about electromagnetic compatibility.
- Only use original Hultafor equipment and accessories.

4.5.2 INTERFERENCE OF THE HDL 20 BY OTHER DEVICES

Although the product meets the strict requirements of the relevant directives and standards, Hultafor can not entirely exclude the possibility that intense electromagnetic radiation in the immediate vicinity of radio transmitters, two-way radios, diesel generators, etc. can distort the measurement results.

- When performing measurements under these conditions check the plausibility of the results.

5. Laser safety/Classification

The HDL 20 emits a visible laser point.
The product corresponds to Laser Class 2 according to DIN EN 60825-1:2007-03.

Laser Class 2:

When using Class 2 laser devices, the eye is protected by the blink reflex or aversion reaction in the case of random and short-term exposure.



WARNING

Looking directly into the beam with optical aids (e.g. binoculars, telescopes) can be dangerous.



CAUTION

Looking into the laser beam may be hazardous to the eye.

- Do not look into the laser beam.
- Do not aim the laser beam at other people.

Labelling on the device:



- Do not remove the type plate!

6. Getting Started

6.1 Batteries

1. Open the battery compartment cover on the rear of the device.
2. Insert the batteries in the device with the correct polarity.
3. Close the battery compartment cover (audible click of the cover).

Only use 1.5 V Micro (AAA) batteries! Remove the batteries if the device is not used for an extended period (see Chapter 8 / Maintenance, Storage, and Transportation).

6.2 Belt Case

The laser device can be stowed in a belt case for transport. The laser device must be removed from the case for measurement.



7. Operation

7.1 Switching On and Off

7.1.1 SWITCHING ON AND OFF

Press the “ON/Measure” button to turn the laser device on. Press and hold the “OFF/Delete” button for 1 second to turn the laser device off.

7.1.2 BACK

Press the “OFF/Delete” button once to undo the most recent action.

Press the “OFF/Delete” button twice to exit the current function and return to single measurement mode.

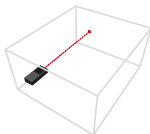
7.1.3 SETTING THE MEASURING EDGE

Press and hold the “Functions/Measuring edge” button for 1 second to switch between the front and rear. This is shown by an arrow on the display. Each time the device is restarted, the back of the device is set as the measuring edge.

7.2 Applications

7.2.1 LENGTH MEASUREMENT

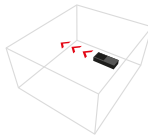
1. Turn on the laser device.
2. Direct the laser point at the target.
3. Press the “ON/Measure” button.



When the signal sounds, the measurement is complete. The distance can be read on the display. To measure additional distances, press the “ON/Measure” button again.

7.2.2 CONTINUOUS MEASUREMENT

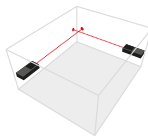
1. Turn on the laser device.
2. Direct the laser point at the target.
3. Press and hold the “ON/Measure” button for 1 second.



The laser device measures the current distance and shows this on the display.

7.2.3 AREA MEASUREMENT

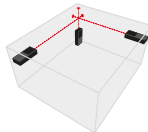
1. Turn on the laser device.
2. Press the “Functions/Measuring edge” button until the area measurement icon is shown on the display.
3. Measure the length and width in succession, just like for a single measurement. The laser beam remains switched on between the two measurements.



After completing the second measurement, the area is automatically calculated and shown on the display.

7.2.4 VOLUME MEASUREMENT

1. Turn on the laser device.
2. Press the “Functions/Measuring edge” button until the volume measurement icon is shown in the display.



3. Measure the length, width, and height, just like for a single measurement. The laser beam remains switched on between the three measurements.

After completing the third measurement, the volume is automatically calculated and shown on the display.

7.3 Selecting a Unit of Measure

Press the “ON/Measure” button for 1 second to activate the continuous measurement and then the “Functions/Measuring edge” button to change between m (0.000), m (0.00), in (0.0), and ft (0.00). Press the “ON/Measure” button to select the desired unit. The device starts with the most recently set unit.

7.4 Working Instructions

The laser device must not be moved during measurement. A use of a fixed support with end stop is recommended. Do not cover the laser emission field and the receiving area during measurement. Incorrect measurements are possible depending on the measuring surface. Textured, mirrored, transparent, or porous surfaces should be avoided.

8. Maintenance, storage and transportation

8.1 Cleaning

- Wipe off the dirt with a soft damp cloth.
- Check the outlet openings of the laser distance meter regularly, and thoroughly clean them if necessary. Do not touch the glass with your fingers.
- Do not use aggressive cleaning agents or solvents.
- Do not immerse the device in water!
- Clean and dry wet equipment, accessories, and transport containers prior to packaging them. Only pack equipment again when it is completely dry.
- Keep plug connections clean and protected from moisture.

8.2 Storage

- The equipment may only be stored within the specified temperature limits (see Chapter 3 / Technical Data).
- After prolonged storage, check the accuracy of the measuring device before using it.

8.3 Transport

- The device may be damaged if it falls or is subjected to strong vibrations.
- Never transport the product loose. Always use the original packaging or an equivalent transport container.
- Switch off the measuring device before transporting it.
- Check the unit for damage before use.

9. Troubleshooting

Error	Possible Cause	Remedy
301	Distance out of measuring range.	Stay within the measuring range.
302	The reflected signal is too weak.	Measure on a more reflective surface.
303	Range outside of display.	Use the “OFF/Delete” button to reset to zero.
304	Calculation error in Pythagoras.	Perform measurement again.
305	Low battery charge.	Charge the rechargeable battery.
306	Temperature too low.	Heat the device.
307	Temperature too high.	Cool the device.
308	Ambient light too bright.	Measure in a darker environment.

10. Disposal

If disposed of improperly third parties can possibly be seriously injured and the environment polluted.

The burning of plastic components generates toxic fumes which may impair the health of people.

Batteries/rechargeable batteries may explode if they are damaged or heated excessively, and thereby cause poisoning, burning, corrosion or environmental contamination.

If disposed of negligently unauthorized persons are able to use the product improperly.

Measuring tools, accessories and packaging must be recycled in an environmentally-friendly manner.



The product as well as the accessories – especially the batteries and rechargeable batteries – may not be disposed of with household waste.

- Ensure proper disposal of the device and the accessories.
- Observe the country-specific disposal requirements.

Your Hultafors dealership will accept returned batteries as well as old equipment, and will ensure proper disposal.

Only for EU countries



Electric tools may not be disposed of with household waste!

According to the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation in national law, no longer usable electrical and electronic equipment must be collected separately and recycled in an environmentally friendly manner.

11. Manufacturer's Guarantee

The manufacturer warrants to the original purchaser stated on the guarantee card, freedom from defects of the device for a period of two years, with the exception of batteries, as of the point in time the device is handed over. The guarantee is limited to repairs and/or replacements at the manufacturer's discretion. Defects which are caused through improper handling by the purchaser or third parties, natural wear and optical flaws that do not affect the usability of the equipment, are not covered by this guarantee. Claims under this guarantee can only be invoked if the device is submitted along with the guarantee card, completely filled out by the dealer, dated and provided with the company stamp.

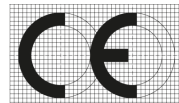
If the guarantee claim is justified, the manufacturer shall bear the transport costs. The duration of the guarantee will not be extended through repair or spare parts work which is carried out within the scope of the guarantee.

Further claims are excluded, unless these are stipulated by the respective by the respective national legislation. In particular the manufacturer shall not be liable for any direct, indirect, incidental or consequential damages, losses or expenses in connection with the use or because of the inability to use the tool for any purpose whatsoever. Implied warranties for the usage or suitability for a particular purpose are expressly excluded.

12. EC conformity declaration



Declaration of Conformity



We **Hultafors Group AB, Hultaforsvägen 21, Hultafors**

declare under our sole responsibility that the Product(s)

HDL 20

to which this declarations relates is in conformity with the following standards.

HDL 20:

- EN IEC 61326-1: 2021
- EN IEC 61326-2-2: 2021
- ETSI EN 301 489-1 V2.2.3: 2019
- ETSI EN 301 489-17 V3.2.4: 2020
- ETSI EN 300 328 V2.2.2: 2019
- EN 62479: 2010
- EN 50663: 2017
- EN 61010-1: 2010+A1: 2019

Following the provisions of Directive(s)

Electromagnetic compatibility 2014 /53 / EU RED


Hultafors