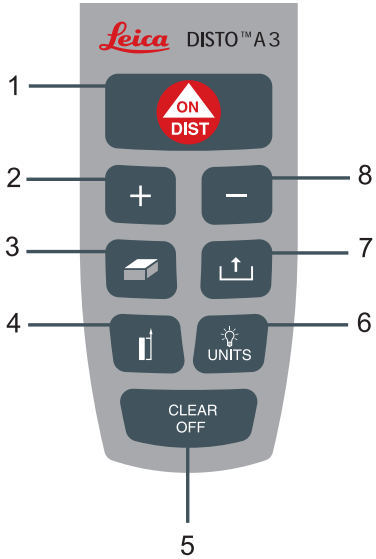
Leica DISTO™ A3

The original laser distance meter

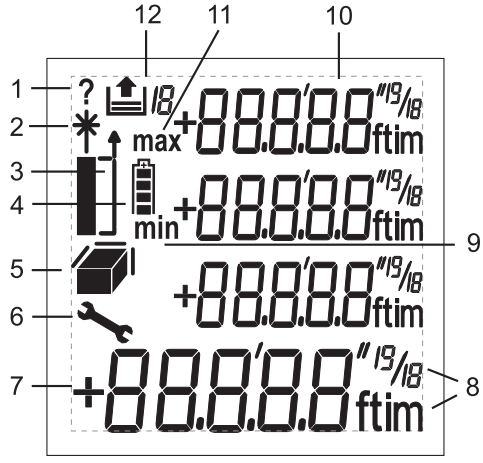
- when it has to be **right**

Leica Geosystems

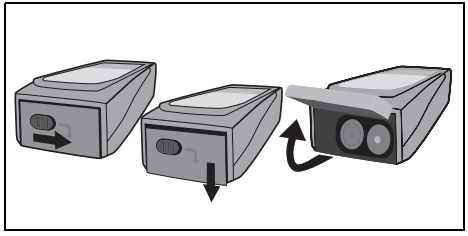
A


Leica DISTO™ A3
ON
DIST
+
−
UNITS
CLEAR
OFF
1
2
3
4
5
6
7
8

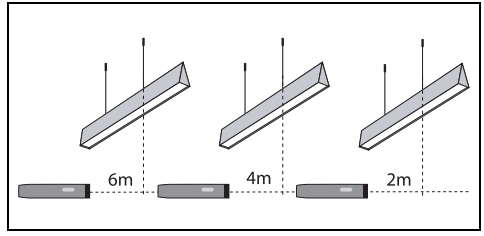
B


12
11
10
1
2
3
4
5
6
7
8
9
max
min
ftim

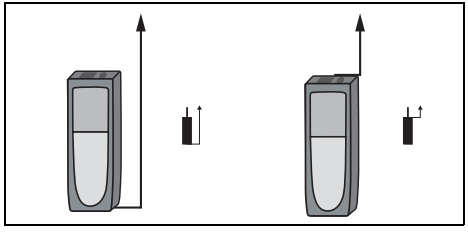
C



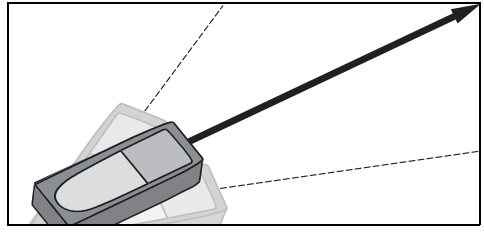
E



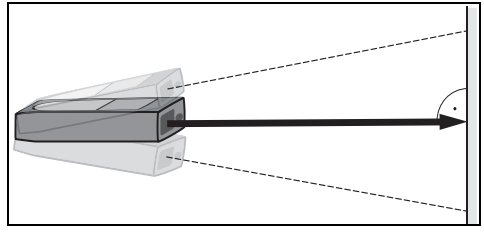
D



F



G



User Manual

Version 1.1

English

Congratulations on your purchase of a Leica DISTO™.

The safety instructions can be found in a separate booklet, which accompanies this user manual. The safety instructions along with the user manual should be read carefully before initial operation.

Helpful Hint: The first and last page including the pictures should be folded out and left open, whilst reading through the manual. Letters and Numbers in braces **{}** refer to the illustrations.

Content

Start-up

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Inserting / Replacing Batteries

See figure {**C**} - Push locking mechanism to the right and push the cover of the battery compartment downwards and open it. Place the batteries in the compartment making sure they are correctly inserted. Push the cover of the compartment back and let it lock in place.

The battery symbol {**B, *4***} appears permanently blinking in the display when the battery voltage is too low. The batteries should be replaced as soon as possible.

- Pay attention to correct polarity.
- Use alkaline batteries.
- Batteries should be removed if the device will not be used for a long time (danger of corrosion).

When changing the batteries the settings and stack content remain unchanged.

Level

The integrated bubble level allows simple horizontal leveling of the instrument.

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Keypad

See figure {**A**}:

1 **ON/MEASURING** key
2 **PLUS +** key
3 **AREA/VOLUME** key
4 **MEASUREMENT REFERENCE** key
5 **CLEAR/OFF** key
6 **UNITS/** ☼ **(ILLUMINATION)** key
7 **STORAGE** key
8 **MINUS -** key

Display

See figure {**B**}

1 Information on faulty measurements
2 Laser "ON"
3 Measurement reference (front / rear)
4 Battery indication
5 Area / Volume
6 Hardware error
7 Main line
8 Units with exponents ($^2/_3$)
9 Minimum value of continuous measurement
10 Three auxiliary lines (e.g. previous values)
11 Maximum value of continuous measurement
12 Historical storage recall

Selecting Units

Press **UNITS** - key {**A, 6**} until desired unit appears.

Possible units:

Distance	Area	Volume
0.000 m	0.000 m²	0.000 m³
0.00 m	0.00 m²	0.00 m³
0.00 ft	0.00 ft²	0.00 ft³
0.00 $^1/_{16}$ ft in	0.00 ft²	0.00 ft³
0' 0'' $^1/_{16}$	0.00 ft²	0.00 ft³
0.0 in	0.00 ft²	0.00 ft³
0 $^1/_{16}$ in	0.00 ft²	0.00 ft³

Operation

Switching On/Off

ON: Press **ON** - key {**A, 1**} briefly. Battery indication is displayed until the next keystroke.

OFF: Press and hold **OFF** - key {**A, 5**}. To maximize battery life the device will automatically turn off after 3 minutes of inactivity.

CLEAR Key

Pushing the **CLEAR** - key {**A, 5**} clears the last entry or measurement. Within a function (area, volume, etc.) single measurements can be deleted step by step and re-measured.

Illumination

Pressing the **ILLUMINATION** - key {**A, 6**} turns on the display backlight. Another press turns it off again. Switching off the device (or automatic switch off) also turns off the light.

Reference Setting

The default reference setting is from the rear of the instrument. By pressing the **REFERENCE** - key {**A, *4***}, the setting can be changed, so that the next measurement taken will be from the "front" of the instrument. Afterwards the reference setting automatically defaults back to rear. See picture {**D**}.

Measuring

Single Distance Measuring

Pressing **DIST** - key {**A, 1**} turns the laser on. Aim at the desired target and press DIST - key {**A, 1**} again. The measured distance is displayed immediately in the chosen unit.

Minimum/Maximum Measuring

This function allows the user to measure the minimum or maximum distance from a fixed measuring point as well as to determine spacing - see figure {**E**}. It is commonly used to measure diagonal distances (maximum values) or horizontal distances (minimum values).

Press and hold **DIST** - key {**A, 1**} until you hear a beep, indicating the device is in a continuous measuring mode. Then slowly sweep the laser back and forth respectively up and down over the desired target point - see figure {**F, G**} - (e.g. a corner in the room).

Press **DIST** - key {**A, 1**} again and the continuous measurement will be stopped. The current values for maximum and minimum distances are shown in the display as well as the last measured value in the main line.

Functions

Addition / Subtraction

Take the first measurement, addition is executed by pressing the **PLUS** - key {**A, 2**} and subtraction by pressing the **MINUS** - key {**A, 8**}, then take the next measurement. This process can be repeated as many times as is required. The result is displayed in the main line, whilst the last measurement taken is also displayed. Pushing the **CLEAR** - key {**A, 5**} undoes the last step.

Areas and volumes can be added / subtracted in exactly the same manner.

Area

Press **AREA/VOLUME** - key {**A, 3**}. The corresponding symbol {**B, 5**} appears in the display. The first side to be measured flashes on the display. Take the two measurements, the result will be displayed in the main line.

Volume

Press **AREA/VOLUME** - key {**A, 3**} twice. The corresponding symbol {**B, 5**} appears in the display. The first distance to be measured flashes on the display. When 3 measurements have been taken the result will be displayed in the main line.

Historical storage

Pressing the **STORAGE** - key {**A, 7**} shows the last 19 displays in reverse order. Using the **PLUS** - key {**A, 2**} and the **MINUS** - key {**A, 8**} allows to navigate in the storage.
In order to leave the storage press either **CLEAR** - key {**A, 5**}, **DIST** - key {**A, 1**} or the **AREA/VOLUME** - key {**A, 3**}. Press and hold the **STORAGE** - key {**A, 7**} until a beep, allows the user to take the selected result to carry on with calculations.

Appendix

Message Codes

All message codes will be displayed with either "InFo" or "Error".
The following mistakes can be corrected:

InFo	Cause	Remedy
204	Calculation error	Repeat procedure
252	Temperature too high	Cool down instrument
253	Temperatur too low	Warm up instrument
255	Receiver signal too weak, measurement time too long,	Use target plate
256	Received signal too powerful	Use target plate (grey side)
257	Wrong measurement, ambient brightness too high	Use target plate (brown side)
260	Laser beam interrupted	Repeat measurement

Error	Cause	Remedy
	Hardware error	Switch on/off the device several times and check if the symbol still appears. If so please call your dealer for assistance.

Technical Data

Range (use target plate for longer distances)	0.05 m to 100 m 0.2 ft to 328 ft
Measuring accuracy up to 30 m (2 σ standard deviation)	typ.: ± 3 mm*
Smallest unit displayed	1 mm
Laser class	II
Laser type	635 nm, < 1 mW
Ø laser spot (at distance)	6 / 30 / 60 mm (10 / 50 / 100 m)
Automatic switch off	after 180 s
Illumination of display	✓
Minimum, Maximum, Continuous Measuring	✓
Addition/Subtraction	✓
Historical storage	✓ (19)
Battery life, Type AAA, 2 x 1.5 V	up to 5000 measurements
IP rating	IP 54 splash proof, dust proof
Dimension and weight	135x45x31 mm, 145 g
Temperature range: Storage Operating	 -25°C to +70°C (-13°F to +158°F) -10°C to +50°C (-14°F to +122°F)

* maximum deviation occurs under unfavourable conditions such as bright sunlight or when measuring to poorly reflecting or very rough surfaces.

For distances over 30 m - without using a target plate - the maximum deviation may increase to a maximum of ± 10 mm.

Measuring Conditions

Measuring Range

The measuring range is limited to 100 m.

At night, at dusk and when the target is shadowed the measuring range without target plate is increased.

Use a target plate to increase the measurement range during daylight or if the target has a bad reflection.

Measuring Surfaces

Measuring errors can occur when measuring toward colourless liquids (e.g. water) or dust free glass, styrofoam or similar semi-permeable surfaces.

Aiming at high gloss surfaces deflects the laser beam and measurement errors can occur.

Against non-reflective and dark surfaces the measuring time can be increased.

Care

Do not immerse the unit in water. Wipe off dirt with a damp, soft cloth. Do not use aggressive cleaning agents or solutions. Treat the optical surfaces with the same care that you would apply to eyeglasses and cameras.

Warranty

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The Leica DISTO™ A3 comes with a two (2) year warranty from Leica Geosystems AG.
More detailed information can be found at:
www.disto.com

All illustrations, descriptions and technical specifications are subject to change without prior notice.

Leica Geosystems AG, Heerbrugg, Switzerland has been certified as being equipped with a quality system which meets the International Standards of Quality Management and Quality Systems (ISO standard 9001) and Environmental Management Systems (ISO standard 14001).

Total Quality Management - Our commitment to total customer satisfaction. Ask your local Leica Geosystems agent for more information about our TQM program.

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