# **OPERATING MANUAL**



# **Digital Level**Limit LDD 400 / Limit LDD 600



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## **OVERVIEW**

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Limit LDD is a digital level in aluminum housing with magnets in the base which can be attached to any steel object and a big LCD screen with backlight. 360° measurement both in absolute and relative value. 4 different measuring units and hold function.

## **FEATURES**

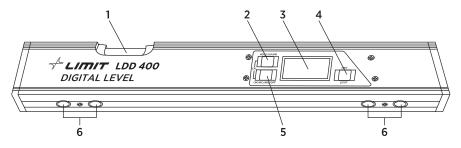
- LCD with 12,7 mm digits and backlight
- Selectable units: °, mm/m, %, in/ft
- Hold data function
- · Absolut or relative measuring
- Horizontal vial (400)
- Horizontal and vertical vial (600)
- Machined surface with magnetic base
- 0° ang 90° sound assistance

# **SPECIFICATIONS**

Moscuring resolution	0°and 90°: 0.05°;
Measuring resolution	Remaining range: 0.1°
Accuracy	0° and 90°: ±0.05°
Accuracy	Remaining range: ±0,2°
Bubble level accuracy	±0.25°
Measuring range	4×90°, 1000 mm/m, 100%, 12 in/ft
Measuring units	°, mm/m, %, in/ft
Working temperature	0°C~50°C (32°F~122°F)
Working humidity	≤ 85% (non-condensing)
Operating time	~50 hours (continuous with backlight)
Power supply	2×AAA alkaline batteries
Product size	400/600 mm×60 mm×25 mm

# **POSITIONS**

- 1. Horizontal bubble level
- 2. HOLD/SOUND key
- 3. LCD screen
- 4. Units (°, mm/m, %, in/ft) and light key
- 5. ON/REF/OFF key
- 6. Magnets



# **DISPLAY SYMBOLS**

<b></b> :	Replace batteries when flashing. Voltage below 2.2 V.
(() <b>ju</b>	Summer function is activated.
REF	Relative measuring mode.
н	HOLD function is activated.
	During absolute mode a digital vial will appear when within $\pm 1^\circ$ of $0^\circ$ as a visual help.
-1-	Calibrating for first direction
-2-	Calibrating for opposite direction



#### **OPERATIONS**

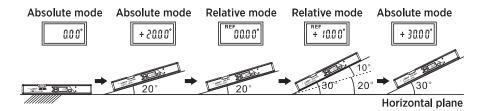
#### 1. Power On and Off

- 1.1 Press the ON/REF/OFF key (5) to turn the unit on.
- 1,2 Press the ON/REF/OFF key for >2 seconds to turn off the unit,

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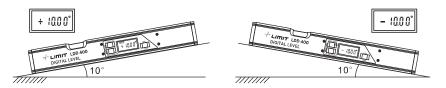
#### 2. Absolut and relative measurements

- 2.1 When no "REF" symbol is shown in the display (3), the device will show the absolute value.
- 2.2 Push ON/REF/OFF key to set relative zero point. "REF" icon will appear in the display and the device will show the relative value.
- 2.3 To return to absolute function, press the ON/REF/OFF key.



#### 3. +/- Symbol

3.1 The +/- symbol indicates the direction on how to adjust the surface to reach horizontal plane.



#### 4. Measuring units

4.1 Press the mm/m,%,in/ft-LIGHT key (4) to select desired measuring unit. Note: Selectable units are  $^{\circ}$  - mm/m - % - in/ft.

#### 5. Backlight

5.1 Press and hold the mm/m, %, in/ft-LIGHT key to turn on or off the backlight.

# 6. Hold function

- 6.1 Press HOLD/SOUND key (2) to activate hold function, "H" symbol will appear in the display.
- 6.2 Press HOLD/SOUND key to turn off hold function.

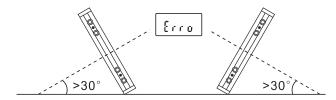
#### 7. Sound assistance

- 7.1 Press and hold the HOLD/SOUND key for about 3 seconds to activate function. Display will show ( symbol.
- 7.2 To turn off, press and hold HOLD/SOUND key for about 3 seconds.

Note: When active the unit will start beeping ±1,4° for 0° and 90°. The closer it gets to these values the quicker it will beep until it gives solid tone when in 0,00° and 90,00°.

#### 8. ERRO

8.1 ERRO show in the display if vertical angel is  $>30^{\circ}$ .



#### 9. Slope

The product measures the slope of a surface in percent. This is useful when laying pipe for proper drainage. When the conversion button is in the slope mode, it will show "%". If the sound mode has been activated, the level will beep at 0.0%.

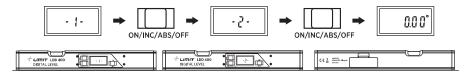


#### 10. Calibration

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Note: The level is pre-calibrated from the factory and the unit should only be recalibrated if it has been dropped.

- 10.1 Place the unit on a flat and smooth surface and turn it on.
- 10.2 Press ON/REF/OFF key and HOLD/SOUND key at the same time, the display will show "-1-".
- 10.3 Press ON/REF/OFF key again, "-1-" will start flashing.
- 10.4 Do not move until "-2-" shows on the display.
- 10.5 Rotate the unit 180° in the same location and press ON/REF/OFF key, "-2-" will flashing.
- 10.6 Do not move until the unit has completed the calibration.
- 10.7 Calibration is finished, and the display will display angle between the calibrated plane and the horizontal plane.



#### 11. Battery installation or replacement

11.1 Replace batteries when the symbol in below (1) appears, follow (2) and (3).

