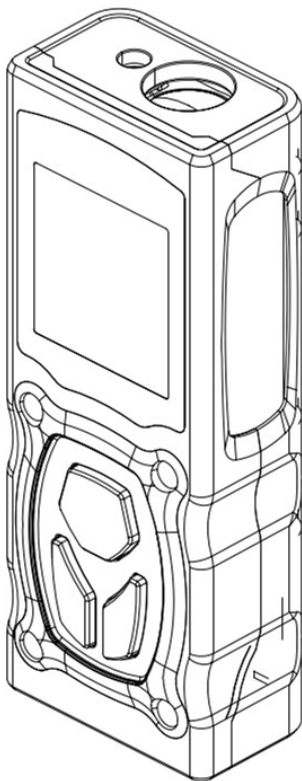


# PRO TECH

INSTRUCTION MANUAL

## 20 METER RANGE FINDER

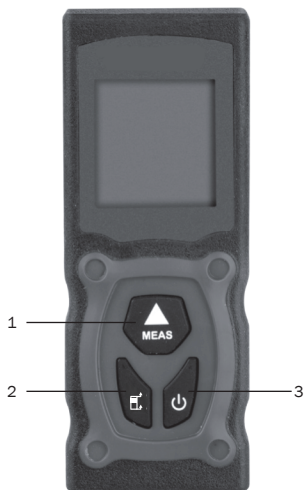
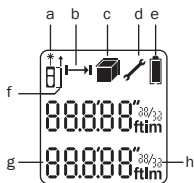


**English** (ORIGINAL INSTRUCCIONS)

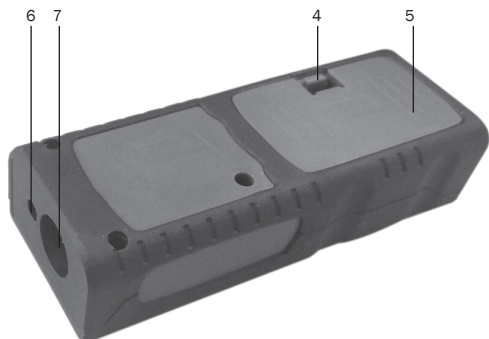
**IMPORTANT**

Read before us

Modell-Nr. 3241PTL03






2



## COMPONENT LIST

### Display Elements

- a Laser "ON"
- b Length measurement 
- c Display length/area/volume
  -  Area measurement
  -  Volume measurement
- d Malfunction / service required
- e Battery symbol
- f Measurement point (reference)  
rear/front
- g Measurement values
- h Unit m/ft/inch/' ''

The numbering of the product features shown refers to the illustration of the measuring tool on the graphic page

1. Measuring and on button
2. Function button
3. On and Off button
4. Latch of the battery lid
5. Battery lid
6. Laser beam outlet
7. Reception lens

## TECHNICAL DATA

Measuring range	0.2 -40m
Measuring accuracy(standard deviation)	±3.0mm
Operating temperature	- 10 °C ... +40 °C
Laser class	2
Laser type	650nm, <1mW
Batteries	2 x 1.5 V LR03 (AAA)
Battery live, approximately - Individual measurements	5000
Weight	75g
Dimensions	110 x 42 x 26.5mm

Note: The measuring accuracy is  $\pm 2$  mm when measuring within 10 m.

The measuring accuracy when measuring over 10 m can be calculated as follows:

$\pm 3\text{mm} \pm 0.1 \cdot (\text{D}-10)$  (D: Measuring distance, Unit: m)

## GENERAL SAFETY WARNINGS FOR YOUR LASER MEASURING TOOL



**WARNING:** Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in serious injury.

Save all warnings and instructions for future reference.

These lasers do not normally present an optical hazard although staring at the beam may cause flash blindness.

Do not stare directly at the laser beam. A hazard may exist if you deliberately stare into the beam, please observe all safety rules as follows:

1. Laser radiation, do not stare into beam.
2. The laser shall be used and maintained in accordance with the manufacturer's instructions.
3. Never aim the beam at any person or an object other than the work piece.
4. The laser beam shall not be deliberately aimed at another person and shall be prevented from being directed towards the eye of a person for longer than 0.25 seconds area.
5. Always ensure the laser beam is aimed at a sturdy work piece without reflective surfaces, e.g. wood or rough-coated surfaces are acceptable. Bright shiny reflective sheet steel or similar is not suitable for laser applications as the reflective surface may direct the laser beam back at the operator.
6. Do not change the laser device with a different type. The manufacturer or an authorized agent must carry out repairs.
7. **CAUTION:** Use of controls or adjustments other than those specified herein may result in hazardous radiation exposure.
8. Do not use this product in flammable, explosive, corrosive environments or near medical equipment or aircraft.

## BATTERY WARNINGS WARNING

1. Use the recommended type of dry battery, different type of batteries may cause damage.
2. Do not expose the battery to an overheating environment, such as sunlight or fire, which may explode, cause fire or personal injury.
3. Do not short-circuit or disassemble the battery, which may explode, cause fire or personal injury.
4. The battery may leak if the device is not used properly. In case of battery leakage, carefully remove the liquid with a cloth. Once contact battery liquid, wash with running water immediately, and seek medical help immediately if liquid splashes into eyes.
5. Do not charge for batteries that are not suitable for recharging.
6. Keep the battery away from children because of the risk of swallowing.
7. Children are not allowed to use the tool, which is not a toy.
8. Remove the batteries to prevent battery leakage if you do not intend to use the tool for a long time.

## SYMBOL



To reduce the risk of injury, user must read instruction manual



DO NOT STARE INTO BEAM



LASER RADIATION

## ASSEMBLY

### INSERTING/REPLACING THE BATTERIES

Using alkali-manganese or rechargeable batteries is recommended for operation of the measuring tool.

To open the battery lid 5, press the latch 4 in the direction of the arrow and remove the battery lid. Insert the batteries/rechargeable batteries. When inserting, pay attention to the correct polarity according to the representation on the inside of the battery compartment.

Always replace all batteries/rechargeable batteries at the same time. Do not use different brands or types of batteries/rechargeable batteries together.

- Remove the batteries/rechargeable batteries from the measuring tool when not using it for longer periods. When storing for longer periods, the batteries/rechargeable batteries can corrode and self-discharge.

### OPERATION

#### INITIAL OPERATION

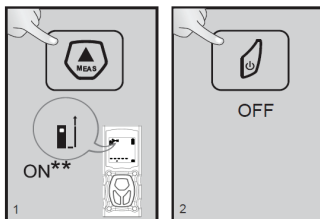
- Do not leave the switched-on measuring tool unattended and switch the measuring tool off after use. Other persons could be blinded by the laser beam.



- Protect the measuring tool against moisture and direct sun light.

- Do not subject the measuring tool to extreme temperatures or variations in temperature. As an example, do not leave it in vehicles for longer periods. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation.

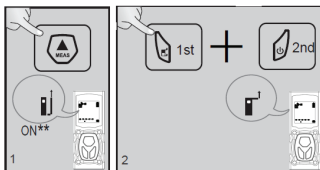
- Avoid heavy impact to or falling down of the measuring tool. After severe exterior effects to the measuring tool, it is recommended to carry out an accuracy check each time before continuing to work.




### SWITCHING ON AND OFF



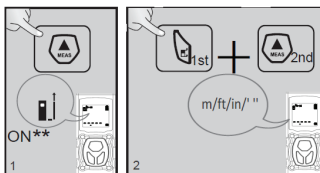
1. Start the laser distance measurer by pressing the button .
2. Switch it off by pressing and holding down the button .




#### Reference



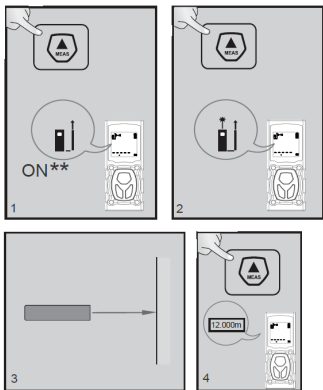
1. Start the laser distance measurer by pressing the button .
2. press and hold the button  and then press button .




#### Unit selected




1. Start the laser distance measurer by pressing the button .
2. Press and hold the button  and then press button , the unit will change. Repeat the operation to select the unit you need.

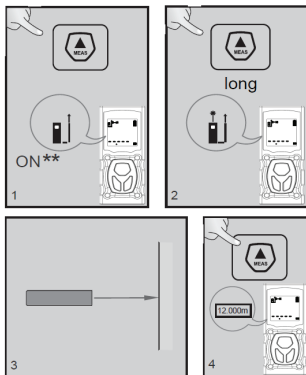
#### Measuring single distance








1. Start the laser distance measurer by pressing the button .
2. Press the button  again to activate the laser.
3. Direct the laser beam towards the surface you want to measure and press the button  again. The measurement result will be shown on the display.

Note: If you want to clear the last measurement, press the button .

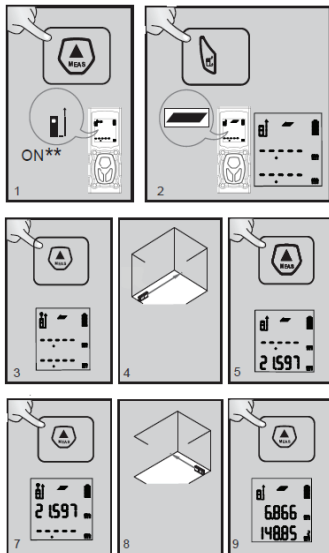
#### Continuous measurement










1. Start the laser distance measurer by pressing the button .
2. Long press the button  until the laser is activated.
3. Direct the laser beam towards the surface you want to measure. The laser distance measurer will keep during continuous measurement.
4. Press the button  again to stop continuous measurement.

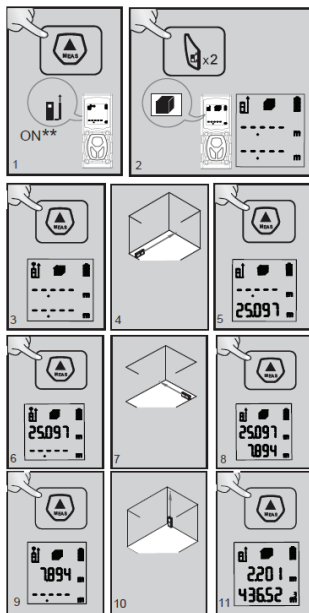
Note: If you want to clear the measurement, press the button  or . And it will go back to the function of measuring single distance.






## How to Calculate Area







1. Start the laser distance measurer by pressing the button .
2. Press button  one time until the indicator for areameasurement appears on the display.
3. Press the button  again to activate the laser.
4. Direct the laser beam towards the first target.
5. Press the button  again. The first measurement will be shown on the display.
6. Press the button  again to activate the laser.
7. Direct the laser beam towards the second target.
8. Press the button  again. The second measurement and area result will be shown on the display. If you want to continue to measure under this function, press the button  again.

## How to Calculate Volume



1. Start the laser distance measurer by pressing the button .
2. Press button  two times until the indicator for Volume measurement appears on the display.
3. Press the button  again to activate the laser.
4. Direct the laser beam towards the first target.
5. Press the button  again. The first measurement will be shown on the display.
6. Press the button  again to activate the laser.

7. Direct the laser beam towards the second target.
8. Press the button  again. The second measurement will be shown on the display.
9. Press the button  again to activate the laser.
10. Direct the laser beam towards the second target.
11. Press the button  again. The third measurement and volume result will be shown on the display. If you want to continue to measure under this function, press the button  again.

One button back to single measuring

Press button  to back to single measuring.

## WORKING ADVICE

### General Information

The reception lens 7 and the laser beam outlet 6 must not be covered when taking a measurement.

The measuring tool must not be moved while taking a measurement (with the exception of the continuous measurement function). Therefore, place the measuring tool, as far as this is possible, against or on the measuring points. Measurement takes place at the centre of the laser beam, even when target surfaces are sighted at an incline.

### INFLUENCE EFFECTS ON THE

#### MEASURING RANGE

The measuring range depends upon the light conditions and the reflection properties of the target surface. For improved visibility of the laser beam when working outdoors and when the sunlight is intense, use the laser viewing glasses (not supplied) and the laser target plate (not supplied), or shade off the target surface.

### INFLUENCE EFFECTS ON THE

#### MEASURING RESULT

Due to physical effects, faulty measurements cannot be excluded when measuring on different surfaces. Included here are:

- transparent surfaces (e.g., glass, water),
- reflecting surfaces (e.g., polished metal, glass),
- porous surfaces (e.g. insulation materials),

- structured surfaces (e.g., roughcast, natural stone).

If required, use the laser target plate (not supplied) on these surfaces. Also, air layers with varying temperatures or indirectly received reflections can affect the measured value.

### MESSAGE CODE

Message code	Possible Cause	Remedy
Err10	Battery too low	Change batteries
Err15	Out of range	Measure target within the range
Err16	Received signal too weak	Use light color target; Hold Quick Measure more steady
Err18	Background brightness too high	Use dark colored target
Err26	Out of display	

## MAINTENANCE AND SERVICE

### MAINTENANCE AND CLEANING

Store and transport the measuring tool only in the supplied package.

Keep the measuring tool clean at all times.

Do not immerse the measuring tool in water or other fluids.

Wipe off debris using a moist and soft cloth.

Do not use any cleaning agents or solvents.

Maintain the reception lens 7 in particular, with the same care as required for eye glasses or the lens of a camera.



If the measuring tool should fail despite the care taken in manufacturing and testing procedures, repair should be carried out by an authorized after-sales service centre . Do not open the measuring tool yourself.

In case of repairs, send in the measuring tool packed in its package.

#### AFTER-SALES SERVICE AND APPLICATION SERVICE

Our after-sales service responds to your questions concerning maintenance and repair of your product as well as spare parts.

#### DISPOSAL

Measuring tools, accessories and packaging should be sorted for environmental- friendly recycling.

Do not dispose of measuring tools and batteries/ rechargeable batteries into household waste!