

Nova

# Leica MS50/TS50/TM50 Quick Guide

Version 1.0  
English

- when it has to be **right**

*Leica*  
Geosystems

# 1 Important Information about your Instrument



Read and follow the User Manual on the accompanying USB card before using the product.



Keep for future reference!

## Intended use

- Measuring horizontal and vertical angles.
- Measuring distances.
- Visualising the aiming direction and vertical axis.
- Measuring raw data and computing coordinates using carrier phase and code signal from GNSS satellites.

## Laser products

The MS50/TS50/TM50 instrument contains the following laser products:

Laser product	Laser class
EDM (Electronic Distance Measurement) module	
<ul style="list-style-type: none"> <li>• measurements with reflectors</li> <li>• measurements without reflectors</li> </ul>	Class 1 Class 3R
Autofocus (in certain focussing modes)**	Class 1
ATR (Automatic Target Aiming)	Class 1

Laser product	Laser class
PS (PowerSearch)*	Class 1
EGL (Electronic Guide Light)*	Exempt Group
Laser plummet	Class 2

\* For MS50 and TS50 I only

\*\* For MS50, TS50 and TM50 I

- The classification for the EDM, Autofocus, ATR, PS and Laser plummet is in accordance with IEC 60825-1 (2007-03).
- The classification for the EGL is in accordance with IEC 62471 (2006-07).



## CAUTION

From a safety perspective, class 3R laser products should be treated as potentially hazardous.

### Precautions:

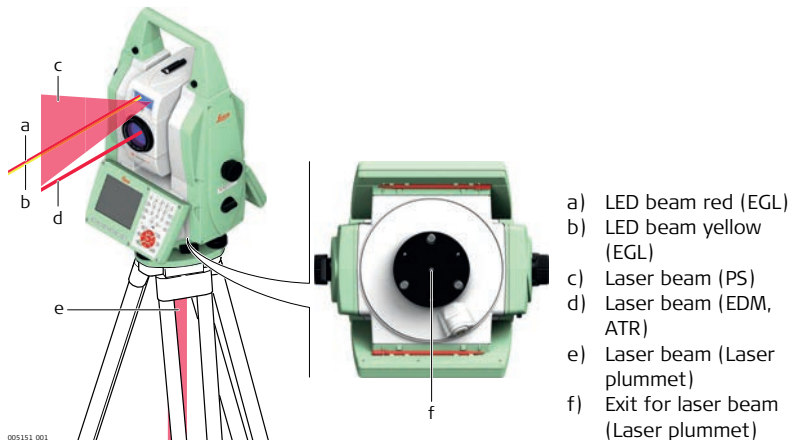
- 1) Prevent direct eye exposure to the beam.
- 2) Do not direct the beam at other people.

**CAUTION**

From a safety perspective, class 2 laser products are not inherently safe for the eyes.

**Precautions:**

- 1) Avoid staring into the beam.
- 2) Avoid pointing the beam at other people.

**Locations of laser apertures**



### Conformity to national regulations

The product must not be disposed with household waste.

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- FCC Part 15 (applicable in US).
- Hereby, Leica Geosystems AG, declares that the instrument with Communication side cover is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC and other applicable European Directives. The declaration of conformity may be consulted at <http://www.leica-geosystems.com/ce>.



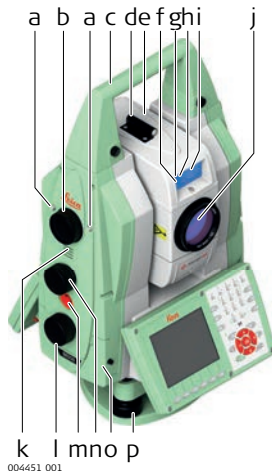
Class 1 equipment according European Directive 1999/5/EC (R&TTE) can be placed on the market and be put into service without restrictions in any EEA Member state.

- The conformity for countries with other national regulations not covered by the FCC part 15 or European directive 1999/5/EC has to be approved prior to use and operation.
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## 2 Instrument Components

### Instrument components part 1 of 2

A MS50/TS50 instrument is shown.



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- a) Autofocus button
- b) Servofocus drive
- c) Carry handle
- d) Optical sight
- e) Telescope with EDM, ATR and, if available, camera sensors. For MS50/TS50 also EGL and PS.
- f) EGL, for MS50/TS50
- g) Overview camera, for MS50/TS50/TM50 I
- h) PowerSearch, transmitter, for MS50/TS50
- i) PowerSearch, receiver, for MS50/TS50
- j) Coaxial optics for angle and distance measurements, telescope camera and exit port for visible laser beam for distance measurement
- k) Loud speaker
- l) Horizontal drive
- m) User defined SmartKey
- n) Vertical drive
- o) SD card and USB stick compartment
- p) Tribrach footscrew

## Instrument components part 2 of 2



- q) Interchangeable eyepiece
- r) Circular level
- s) Stylus for touch screen
- t) Battery compartment
- u) Vertical drive
- v) Tribrach securing screw
- w) Screen
- x) Keyboard; for TM50 second keyboard optional





- a) Function keys **F1 - F6**
  - b) Function keys **F7 - F12**
  - c)  $\pm$  key
  - d) Alphanumeric keys
  - e) Backspace
  - f) Favourites
  - g) ESC
  - h) ENTER
  - i) Arrow keys
  - j) **OK**
  - k) **Fn**
  - l) ON/OFF
  - m) Home
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## 3 Technical Data

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### Environmental specifications

#### Temperature

Operating temperature [°C]	Storage temperature [°C]
-20 to +50	-40 to +70

#### Protection against water, dust and sand

IP65 (IEC 60529)

#### Humidity

Max 95 % non condensing.

The effects of condensation are to be effectively counteracted by periodically drying out the instrument.

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## 4 Care and Transport

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### Care and transport

- Carry the product in its original container or carry the tripod with its legs splayed across your shoulder, to protect the product against shock and vibration.
  - Periodically carry out test measurements and perform the field adjustments indicated in the User Manual, particularly after the product has been dropped, stored for long periods or transported.
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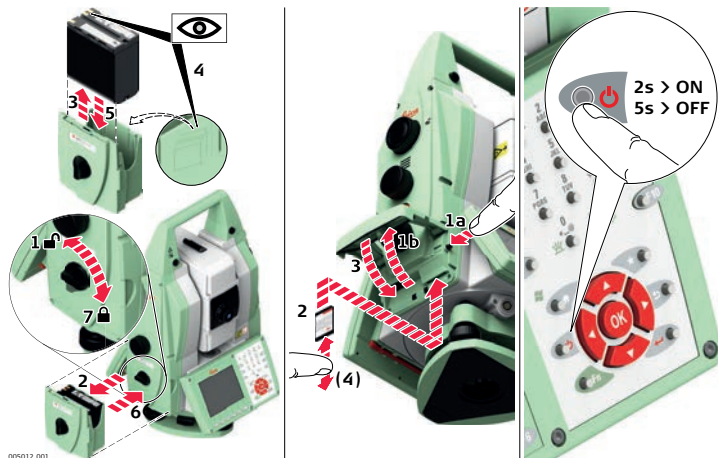
# 5

## Operation



Turning on and off the instrument

The battery must be charged before using it for the first time.



**Total Quality Management: Our commitment to total customer satisfaction.**



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).

**Ask your local Leica Geosystems dealer/sales representative for more information about our TQM program.**

**Leica Geosystems AG**

Heinrich-Wild-Strasse  
CH-9435 Heerbrugg  
Switzerland  
Phone +41 71 727 31 31

[www.leica-geosystems.com](http://www.leica-geosystems.com)

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**Geosystems**

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