

# Leica FlexLine TS02/TS06/TS09 Quick Guide

Version 1.0  
English

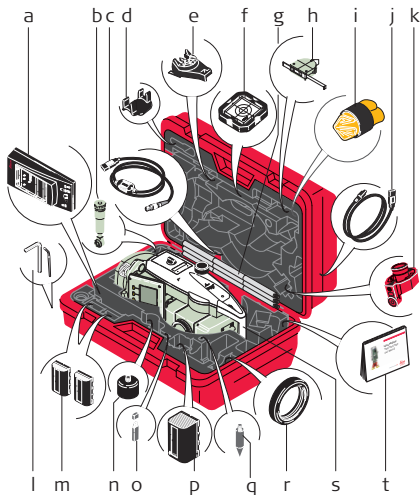
- when it has to be **right**

*Leica*  
Geosystems



To use the product in a permitted manner, please refer to the detailed safety instructions in the User Manual.

## Container Contents



- a) GKL211 battery charger\*
- b) GFZ3 diagonal eyepiece\*
- c) GEV189 data cable (USB-RS232)\*
- d) GLI115 clip-on bubble\*
- e) GHT196 holder for height meter\*
- f) CPR105 flat prism\*
- g) GLS115 mini prism pole\*
- h) GHM007 height meter\*
- i) Protective cover / Lens hood
- j) GEV223 data cable (USB-mini USB)
- k) GMP111 mini prism\*
- l) Adjustment tools
- m) GEB211 batteries\*
- n) GAD105 flat or mini prism adapter\*
- o) MS1 Leica industrial grade USB memory stick
- p) GEB221 battery\*
- q) Tip for mini prism pole\*
- r) Counterweight for diagonal eyepiece\*
- s) Instrument with supplied tribrach
- t) User manual and quick guide

\* Optional

The GEV223 data cable (USB-mini USB) and MS1 Leica industrial grade USB memory stick are for instruments with a Communication side cover.

# User Interface

## Keys



Page key. Displays the next screen when several screens are available.

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**FNC** key. Quick-access to measurement supporting functions.

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User key 1. Programmable with a function from the FNC menu.

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User key 2. Programmable with a function from the FNC menu.

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**ENTER** key. Confirms an entry and continues to the next field.

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Navigation key. Controls the focus bar.

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**ESC** key. Quits a screen or edit mode without saving changes. Returns to next higher level.

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Function keys that are assigned the variable functions displayed at the bottom of the screen.

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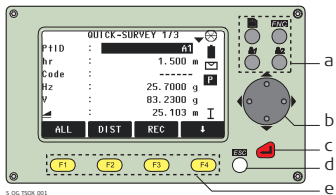


Alphanumeric keypad for entry of text and numerical values.

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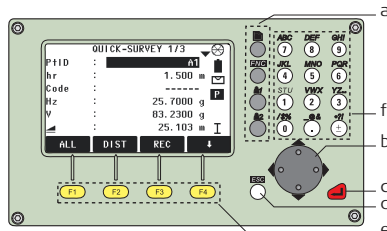
## Keyboard

### Standard keyboard



5\_QG\_750X\_001

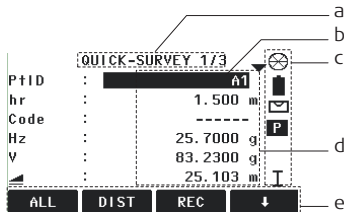
### Alphanumeric keyboard



5\_QG\_750X\_002

- a) Fixed keys
- b) Navigation key
- c) **ENTER** key
- d) **ESC** key
- e) Function keys **F1** to **F4**
- f) Alphanumeric keypad













## Screen













5\_750X\_001

- a) Title of screen
- b) Fields
- c) Status icons
- d) Focus in screen. Active field
- e) Softkeys

## Status Icons

Icon	Description
	The battery symbol indicates the level of the remaining battery capacity.
	Compensator is on.
	Compensator is off.
	Prism EDM mode.
	Non-Prism EDM mode.
	Offset is active.
	Keypad is set to numeric mode.
	Keypad is set to alphanumeric mode.
	Anticlockwise horizontal angle measurement.
	Selectable field.
	Up and down arrows indicate that several screens are available, which are accessed using  .

Icon	Description
	Telescope position face I.
	Telescope position face II.
	Leica standard prism.
	Leica mini prism.
	Leica 360° prism.
	Leica 360° mini prism.
	Leica reflector tape.
	User defined prism.
	USB communication port is selected.
	Bluetooth is connected. If the icon has a small cross beside it, the Bluetooth communication port is selected, but the status is inactive.

# Data Storage and Transfer

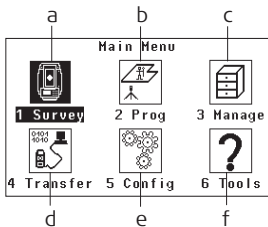
## Description

An internal memory is included in all instruments. The FlexField firmware stores all data in jobs in a database in the internal memory. Data can then be transferred to a computer or other device for post processing via a LEMO cable connected to the serial interface RS232 port.

For instruments fitted with a Communication side cover, data can also be transferred from the internal memory to a computer or other device via:

- a USB memory stick inserted into the USB host port,
- a USB cable connected to the USB device port, or
- via a Bluetooth connection.

## Main Menu



- a) Quick Survey program to begin measuring immediately.
- b) To select and start applications.
- c) To manage jobs, data, codelists, formats, system memory and USB memory stick files
- d) To export and import data.
- e) To change EDM configurations, communication parameters and general instrument settings.
- f) To access instrument related tools such as check and adjust calibrations, personal start up settings, PIN code settings, licence keys and system information.

# Menu Tree



## Q-Survey



## Programs

- Surveying
- Stakeout
- Free Station
- Reference Element
- Tie Distance
- Area & Volume
- Remote Height
- Construction
- Cogo
- Road 2D
- Roadworks 3D
- TraversePRO
- Reference Plane



## Manage

- Jobs
- Fixpoints
- Measurements
- Codes
- Formats
- Delete Job Memory
- Memory Statistics
- USB-File Manager



## Transfer

- Export Data
- Import Data



## Setting

### --- General

- Contrast, Trigger Key 1, Trigger Key 2, USER Key 1, USER Key 2, Tilt Correction, Hz Correction, Beep, Sector Beep, HZ Increment, V-Setting, Face I Definition, Language, Language Choice, Angle Unit, Minimum Reading, Distance Unit, Distance Decimal, Temperature Unit, Pressure Unit, Grade Unit, Data Output, GSI Format, GSI Mask, Code record, Code, Display Illumination, Reticle Illumination, Display Heater, Pre-/Suffix, Identifier, Sort Type, Sort Order, Double Point ID, Auto-Off.

### --- EDM Settings

- EDM Setting, Atmospheric Data, Individual PPM, Projection Scale, EDM Signal Reflection, EDM Frequency

### --- Communication Parameters

- Communication Settings, Bluetooth PIN



## Tools

### --- Adjust

- Hz-Collimation
- V-Index
- Tilt Axis
- View Adjustment Reminder
- Adjustment Reminder

### --- Start Up

### --- System Information

- Instrument Information, Software Information, Set Date, Set Time

### --- Licence Key

### --- PIN

### --- Load Firmware

# Q-Survey Application

## Description

After switching on and setting up correctly, the instrument is immediately ready for measuring.

## Access

Select **Q-Survey** from the **MAIN MENU**.

## QUICK-SURVEY

The screenshot shows the 'QUICK-SURVEY 1/3' screen with the following data and controls:

PtID	:	A1	
hr	:	1.500 m	
Code	:	-----	
Hz	:	25.7000 g	
V	:	83.2300 g	
	:	25.103 m	

At the bottom, there are four buttons: **ALL**, **DIST**, **REC**, and a downward arrow **↓**.

### ALL

To start measurements and save the measured values.

### DIST

To start measurements and display the measured values.

### REC

To save the displayed values.

### ↓ CODE

To find/enter codes.

### ↓ STATION

To enter station data and set the station.

### ↓ Hz=0

To set the orientation to horizontal direction = 0.

### ↓ Hz← / Hz→

To set the horizontal angle reading to the left (anticlockwise) or to the right (clockwise).

## Next step

Measure and record the point by pressing **DIST** and **REC**, or **ALL**.

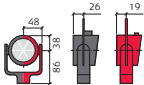






# EDM Settings

## EDM mode

<b>Prism-Standard</b>	Fine measuring mode for high precision measurements with prisms.
<b>Non-Prism-Std.</b>	For distance measurements without prisms.
<b>Non-Prism-Track.</b>	For continuous distance measurements without prisms.
<b>Prism (&gt;3.5km)</b>	For long range distance measurements with prisms.
<b>Prism-Fast</b>	Quick measuring mode with prisms with higher measuring speed and reduced accuracy.
<b>Prism-Tracking</b>	For continuous distance measurements with prisms.
<b>Tape</b>	For distance measurements using Retro reflective targets.
<b>FlexPoint</b>	For distance measurements without prisms, up to ~30 m.

## Prism type

<b>Round</b>		Standard prism GPR121/111 Leica Constant: 0.0 mm
<b>Mini</b>		GMP111 Leica Constant: +17.5 mm GMP111-0 Leica Constant: 0.0 mm
<b>JpMini</b>	Miniprism.	Leica Constant: +34.4 mm
<b>360°</b>		GRZ4/122 Leica Constant: +23.1 mm
<b>360° Mini</b>		GRZ101 Leica Constant: +30.0 mm
<b>User1 / User2</b>	The user can define two of their own prisms. Constants can be entered in mm.	
<b>Tape</b>		Leica Constant: +34.4 mm
<b>None</b>	Without prism.	Leica Constant: +34.4 mm

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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 dealer for more information about our TQM program.**

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