Leica FlexLine
Equipment List

- when it has to be **right**

Leica
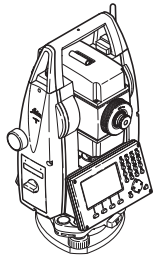**Geosystems**

Table of Contents

Total Station

1 Total Station

1.1 Models

	Total Stations for Prism Measurements	Total Stations for Non-Prism Measurements	Total Stations for ext. Non-Prism Measurements
TS02		**Power**	**Ultra**
3" (1mgon)	765 268	765 276	765 279
5" (1.5mgon)	765 265	765 274	765 278
7" (2mgon)	765 263	765 271	765 277
TS06		**Power**	**Ultra**
2" (0.6mgon)	765 284	765 287	765 290
3" (1mgon)	765 285	765 288	765 291
5" (1.5mgon)	765 286	765 289	765 292
TS09		**Power**	**Ultra**
1" (0.3mgon)	765 299	765 302	765 305
2" (0.6mgon)	765 300	765 303	765 306
3" (1mgon)	765 301	765 304	765 307

TS02 Instruments

Total Stations for Prism Measurements
Total station, laser plummet, 1 standard keyboard, user manual and container.
Total Stations for Non-Prism Measurements (Power)
Total station with reflectorless EDM, laser plummet, 1 standard keyboard, user manual and container.
Total Stations for extended Non-Prism Measurements (Ultra)
Total station, extended-range reflectorless EDM, laser plummet, 1 standard keyboard, user manual and container.

TS06 Instruments

Total Stations for Prism Measurements
Total station, laser plummet, 1 full numeric keyboard, user manual and container.
Total Stations for Non-Prism Measurements (Power)
Total station, reflectorless EDM, laser plummet, 1 full numeric keyboard, user manual and container.
Total Stations for extended Non-Prism Measurements (Ultra)
Total station, extended-range reflectorless EDM, laser plummet, 1 full numeric keyboard, user manual and container.

TS09 Instruments

Total Stations for Prism Measurements
Total station, laser plummet, 2 full numeric keyboards, Electronic Guide Light (EGL5), Communication Sidecover Set (GSD04), user manual and container.
Total Stations for Non-Prism Measurements (Power)
Total station, reflectorless EDM, laser plummet, 2 full numeric keyboards, Electronic Guide Light (EGL5), Communication Sidecover Set (GSD04), user manual and container.
Total Stations for extended Non-Prism Measurements (Ultra)
Total station, extended-range reflectorless EDM, laser plummet, 2 full numeric keyboards, Electronic Guide Light (EGL5), Communication Sidecover Set (GSD04), user manual and container.

2 Additional Options

2.1 Hardware Options

|			TS02	TS06	TS09
765 308		2nd Standard Keyboard for TS02 instruments, for telescope position 2, fitted.	○	-	-
765 309		1st Full Numeric Keyboard for telescope position 1, fitted.	○	●	●
765 310		2nd Full Numeric Keyboard for telescope position 2, fitted.	○	○	●
765 311		FlexPoint (Laserpointer & short range reflectorless option) for non RL TS02 instruments.	○	●	●
762 692	**EGL5**	Electronic guide light.	○	○	●
6002321	**GSD04**	Communication Side Cover Set, with USB host-, USB device plug, internal Bluetooth, MS1 USB Memory Stick, GEV 223 Data Cable. ☞ Can only be ordered together with a new instrument.	○	○	●
766 274		Arctic Option for FlexLine, modified & tested at -35°C.	○	○	○

● Standard
○ Optional
- Not available

2.2 Producer Certificates
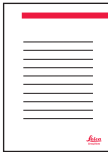
366 358	**GDI33**	Producer Certificate O.
559 655	**GDI35**	Producer Inspection Certificate M, angle.
663 177	**GDI46**	Producer Inspection Certificate M, distance with reflector EDM.
366 359	**GDI34**	Producer Inspection Certificate M, angle and distance with reflector EDM.
723 945	**GDI51**	Producer Inspection Certificate M, distances with both reflector and refrectorless EDM.
723 946	**GDI52**	Producer Inspection Certificate M, angle and distances with both reflector and reflectorless EDM.

2.3 Calibration Certificates
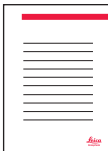
757 424	**GDI58**	Calibration Certificate - nat. accredited calibration laboratory, total stations, angle, TPS400/800/FlexLine/TPS1200+/TS30/TM30.
757 425	**GDI59**	Calibration Certificate - nat. accredited calibration laboratory, total stations, angle and distance to reflectors, TPS400/800/FlexLine/TPS1200+/TS30/TM30.

3 Software

3.1 FlexField Standard Application Software

- **Standard Software for all Instruments**:
- Station Setup
  - Resection
  - Orientation with Angle
  - Orientation with Coordinates
  - Height Transfer
- Survey
- Stake Out
- Reference Line/Grid/Segment
- Tie Distance
- Area & DTM Volume
- Remote Height
- Offset
- Hidden Point
- Height Transfer
- Construction
- Backsight Check

3.2 FlexField additional Application Software

		TS02	TS06	TS09
765 312	Cogo	O	●	●
765 313	Reference Plane	O	●	●
765 315	Reference Arc	O	●	●
765 314	Road 2D	O	●	●
765 318	Roadworks 3D	-	O	●
765 319	Traverse PRO	-	O	●
766 275	Mining	O	O	O

● Standard
O Optional
- Not available

3.3 FlexOffice Software

769 608	FlexOffice Standard Software, includes License key and CD
769 609	FlexOffice Advanced Software, includes License key and CD

Options for FlexOffice Advanced Software

| 734 726	GIS/CAD EXPORT
756 941	Surface & Volumes
734 725	Design & Adjustments
734 713	USB dongle

Accessories for Total Station

4 Accessory Sets

| 6002322	**FlexLine Standard accessory Set consisting of:** • GDF111-1 tribrach, • GEB211 battery, • GKL211 charger, • GEV189 Data transfer cable Lemo 0/USB, • GMP111 Minisprism set, • GHM007 instruments height meter, • GHT196 distance holder.
6002323	**FlexLine Advanced accessory Set consisting of:** • GDF121 tribrach, • GEB221 battery, • GKL221 charger with two GDI221 charging adapters, • GEV189 Data transfer cable Lemo 0/USB, • GMP111 Minisprism set, • GHM007 instruments height meter, • GHT196 distance holder.

5 Power Supply

5.1 Internal Batteries
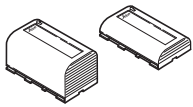
733 269	**GEB211**	Lithium-Ion battery, 7.4V/2.2Ah, rechargeable.
733 270	**GEB221**	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable.

5.2 External Batteries
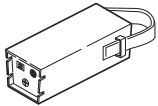
727 367	**GEB171**	External universal battery, NiMH, 12V/9Ah, rechargeable.

5.3 Battery Cables

439 038	**GEV71**	Car battery cable 4m, to connect 12V car battery.
409 678	**GEV52**	Cable, connects FlexLine to external battery.

5.4 Battery Chargers

733 271	**GKL221**	Charger, to be used with up to two charging adapters GDI221 or GDI222, charger cable and net adapter included.
733 323	**GDI221**	Adapter for GKL221 for charging 2 Li-Ion batteries GEB241, GEB221, GEB211 or GEB212.
734 389	**GDC221**	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter.
734 752	**GKL211**	Charger, for Li-Ion batteries GEB221, GEB211 and GEB212, car adapter cable and net adapter included.

6 Data Storage and Data Transfer

6.1 Memory Devices

	765 199	**MS1**	USB memory stick, 1GB, industrial grade.

6.2 Data Transfer Devices

|	563 625	**GEV102**	Data transfer cable, connects FlexLine to PC (9-pin RS232 serial), 2m.
	734 700	**GEV189**	Data transfer cable, Lemo to USB connector (incl. USB electronics), 2m. Connects FlexLine to PC for data transfer. PC driver and user manual included on CD.
	764 700	**GEV223**	Data transfer cable for connecting FlexLine to PC (USB A to USB mini connector).
	667 398	**GEV147**	Lemo 0/HR10, for connecting electronic field book etc.

7 Optical Accessories

7.1 Eyepiece

	734 514	**GFZ3**	Diagonal eyepiece for telescope.

7.2 Objective

	743 504	**GVO13**	Objective solar filter.

8 Instrument Height Meter
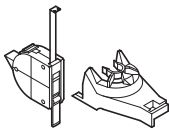
	667 718	**GHM007**	Instrument height meter.
	722 045	**GHT196**	Distance holder for height meter.

9 Tribrachs
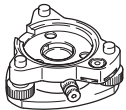
	667 304	**GDF121**	Tribrach, without optical plummet, pale green.
	667 307	**GDF122**	Tribrach, with optical plummet, pale green.
	748 888	**GDF111-1**	Tribrach, without optical plummet, pale green.
	726 839	**GDF101**	Tribrach, without optical plummet, black

10 Tripods
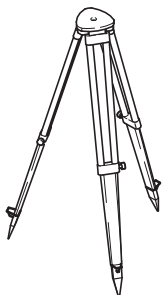
	296 632	**GST20**	Tripod, telescopic, with accessories (plumb bob, carrying strap and side clamp screws), with pouch.
	667 301	**GST120-9**	Tripod, telescopic, selfclosing, with accessories.
	399 244	**GST05**	Wooden tripod with polymer coating, with accessories.
	726 831	**GST101**	Wooden tripod.
	332 200	**GST4**	Tripod-star, for setting up tripods on hard and slippery surfaces.

11 Reflector Poles

11.1 Standard Poles
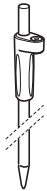
|			
385 500	**GLS11**	Reflector pole, telescopic, with circular bubble, cm and ft graduation, extends to 2.15m.	
754 391	**GLS12**	Reflector pole, telescopic to 2m with circular bubble, cm graduations.	
667 309	**GLS111**	Reflector pole, with bull's-eye bubble, cm/ft graduation, extends to 2.60m, with red/white 0.20m graduations.	
667 310	**GLS112**	Reflector pole, with bull's-eye bubble, cm/ft graduation, extends to 3.65m, with red/white 0.20m graduations.	
748 967	**GLS105**	Reflector pole, with circular bubble, snap locks at 1.50m and 2m, for flat-/mini-prism.	
555 720	**GSR2**	Dual-strut support for GLS11/GLS11K plumbing pole.	
667 319	**GSR111**	Dual-strut support for all GLS.	
403 428	**GZW12**	Extension 1m long, for reflector pole GLS11 and carriers.	

11.2 Hidden Point Pole

742 329	**GMP112**	Hidden Point pole extension for GMP111 (mini prism pole set). Includes mini prism with holder and 30cm adapter pole.

11.3 Mini Pole
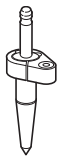
403 427	**GLS14**	Mini reflector pole, (prism/target 20cm over point), with circular bubble.

12 Reflector Carriers
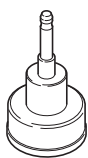
667 313	**GRT144**	Carrier with stub, pale green.
667 316	**SNLL121**	Precision carrier, with plate level and zenith-nadir laser plummet.
725 566	**GZR103**	Carrier, with plate level and optical plummet, for reflectors and GPS antenna, pale green.

13 Reflector Tapes

763 532	**GZM29**	Reflective tape, 20x20mm for short range, pack of 20 pieces.
763 533	**GZM30**	Reflective tape, 40x40mm for medium range, pack of 20 pieces.
763 534	**GZM31**	Reflective tape, 60x60mm for long range, pack of 20 pieces.

14 Reflectors

14.1 Circular Reflectors

362 830	GPR1	Circular prism, in black housing.
641 617	GPR121	Circular prism, with metal holder and target plate.
641 618	GPR111	Circular prism, with holder and target plate.
753 492	GPR113	Circular prism, with red holder.
362 820	GPH1	Single-prism holder.
362 823	GZT4	Target plate, for GPH1.

## 14.2 360° Reflectors

639 985	GRZ4	360° reflector.
754 384	GRZ112	360° reflector with 5/8" thread adapter for mounting of GPS antenna.

14.3 Mini Reflectors
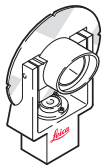
641 662	GMP101	Mini prism, incl. bubble, target plate and spike, in bag, also suitable for GLS11 and GRT44 (same height as GPH1, additive constant +17.5mm).
641 615	GMP111	Mini prism, incl. bubble, with GLS115 pole set.
642 534	GMP111-0	Mini prism 0-constant, incl. bubble, with GLS115 pole set.
644 327	GRZ101	360° mini prism.
731 346	GPR105	Flat prism with double sided reflector.
743 503	GAD105	Adapter for GMP111 to all poles with Leica Geosystems stub.

15 Additional Containers
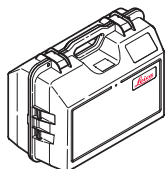
744 501	GDZ66	Backstraps (2) for container.
667 451	GVP609	Container for 2 circular prisms GPR111/121, 2 carriers/laser plummets and 2 tribrachs.
727 589	GVP102	Soft bag with shoulder strap, for prism station, consist of tribrach, prism carrier or laser plummet and prism.
762 781		Flexline Instrument container

Care Packages

16 Customer Care Packages

A wide selection of comprehensive Customer Care Packages (CCPs) is available bundling Hardware Maintenance, Software Maintenance, Customer Support and Extended Warranty.

For more information about the CCP offering in your country please contact your local Leica Geosystems organization or distribution partner.

After Sales Upgrades

17 After Sales Upgrades

For instruments already in the market various upgrades are available

17.1 Software Upgrades

		TS02	TS06	TS09
765 312	Cogo	O	●	●
765 313	Reference Plane	O	●	●
765 315	Reference Arc	O	●	●
765 314	Road 2D	O	●	●
765 318	Roadworks 3D	-	O	●
765 319	TraversePRO	-	O	●
766 275	Mining	O	O	O

● Standard
O Optional
- Not available

17.2 Hardware Upgrades

			TS02	TS06	TS09
EDM Upgrades					
765 311		TC to R30 & Laserpointer	O	O	O
771 676		TC/R30 to R400 (power)	O	O	O
763 840	**EGL5**	Electronic guide light.	O	O	●
Keyboard Upgrades					
765 308	**GST24**	2nd Standard Keyboard for TS02 instruments, for telescope position 2, fitted.	O	-	-
765 309	**GST25**	1st Full Numeric Keyboard for telescope position 1, fitted.	O	●	●
765 310	**GST26**	2nd Full Numeric Keyboard for telescope position 2, fitted.	O	O	●
Other Upgrades					
771 487	**GSD04**	Communication Side Cover	O	O	●

● Standard
O Optional
- Not available

Suggested Equipment Setups

EGL5
762692

TS02/TS06/TS09

GEB221
733270

MS1
765199

765309
465310

GSD04
6002321

GDF121
667304

GHT196
722045

GHM007
667718

GPR121
641617

GST120-9
667301

GLS11
385500
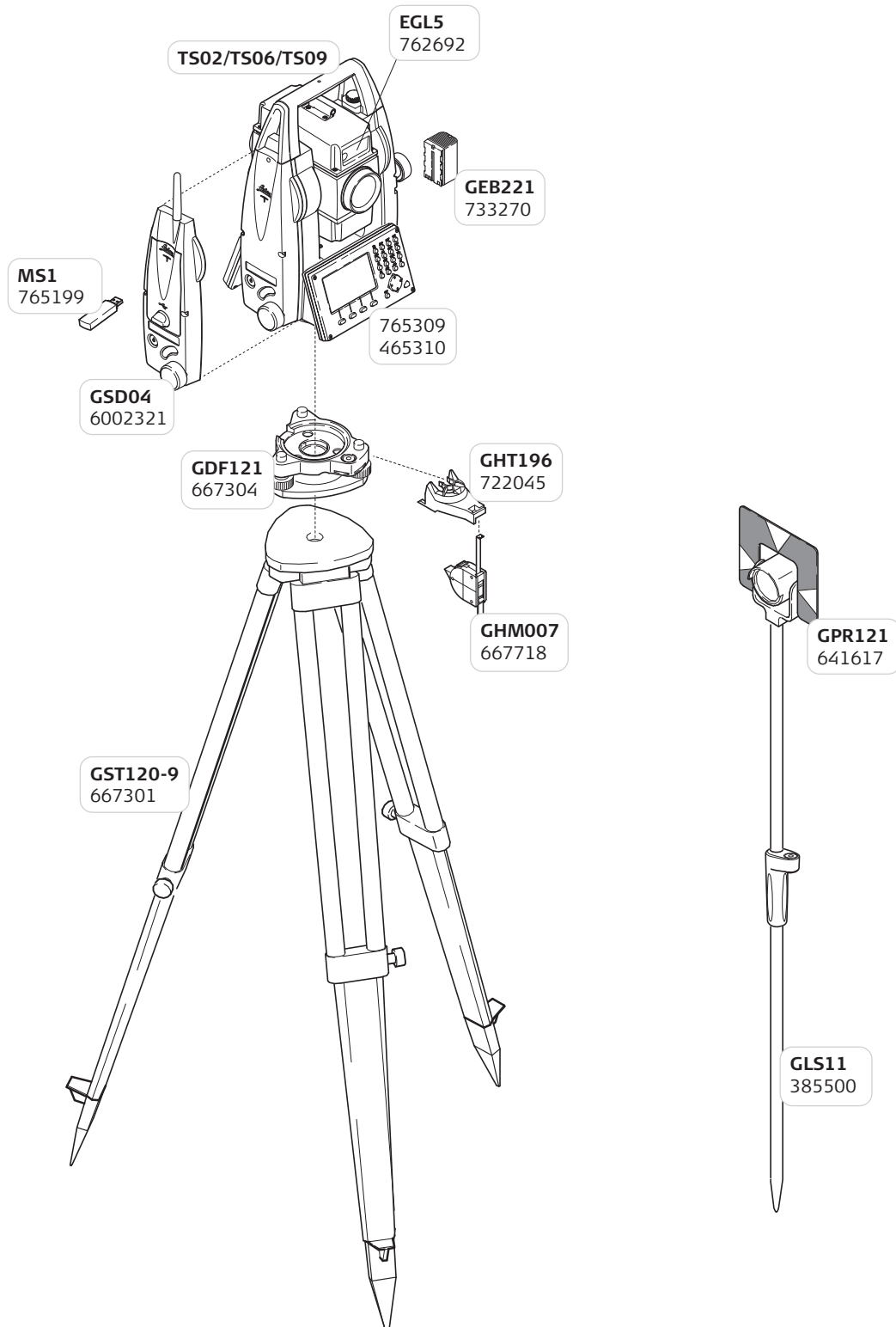
Whether you want to determine the area of a parcel of land or you need to stake out objects on a construction site; whether you want to capture data for infrastructure documentation or you need to carry out indoor surveys - Leica Geosystems' surveying instruments provide the right solution for every application.

Leica Geosystems' products and solutions combine user-friendly operation and reliable results. They are designed to meet your specific requirements. Modern technology enables you to work fast and productively, thanks to the clearly structured range of functions and intuitively usable onboard applications.

When it has to be right.

TQM
ISO 9001 / ISO 14001

Total Quality Management - our commitment to total customer satisfaction.

Ask your local Leica Geosystems dealer for more information about our TQM program.

Distance meter (Prism), ATR and PowerSearch:
Laser class 1 in accordance with IEC 60825-1 resp. EN 60825-1

Laser plummet:
Laser class 2 in accordance with IEC 60825-1 resp. EN 60825-1

Distance meter (Non-Prism):
Laser class 3R in accordance with IEC 60825-1 resp. EN 60825-1

3R

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- when it has to be **right**

Leica
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