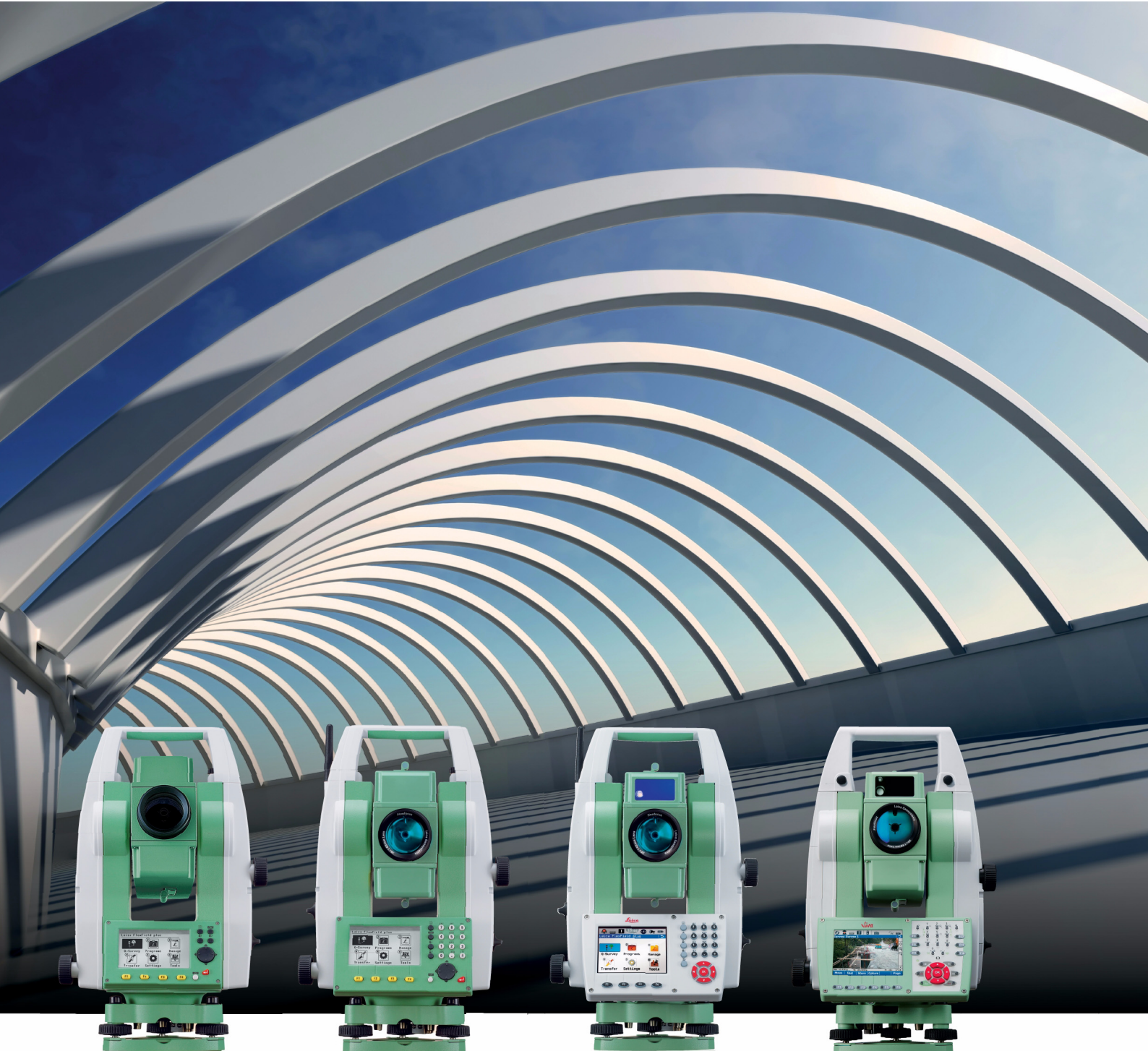


Leica Manual TS Equipment List



- when it has to be **right**

Leica
Geosystems

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FlexLine plus Totalstation series

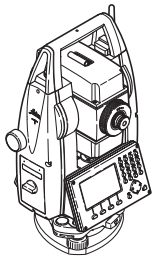
1 FlexLine plus

1.1 Overview

	TS02	TS06 plus	TS09 plus
Hardware			
Angle measurement	●	●	●
Distance measurement to prism	●	●	●
Serial Interface (RS232)	●	●	●
Simple numeric keyboard with black&white display	●	-	-
Full numeric keyboard with black&white display	-	●	-
Full numeric keyboard with Color & Touch display	-	-	●
2nd Keyboard	○	○	○
Communication Sidecover (USB Host, USB Device, Bluetooth)	-	●	●
Electronic Guide Light	-	○	●
Arctic Option	○	○	○
Software			
Road 2D, Reference Plane, Reference Arc, COGO	○	●	●
Road 3D, Traverse	-	○	●

● Standard
 ○ Optional
 - Not available

1.2 Models



	TS for Prism Measurements	TS for Prism & Non-Prism Measurements	TS for Prism & ext. Non-Prism Measurements
TS02		Power - R400	
3" (1mgon)	765 268	765 276	
5" (1.5mgon)	765 265	765 274	
7" (2mgon)	765 263	765 271	
TS06 plus		Power - R500	Ultra - R1000
1" (0.3mgon)		785 782	796 969
2" (0.6mgon)		785 780	785 786
3" (1mgon)		785 779	785 785
5" (1.5mgon)		785 778	785 784
7" (2mgon)		796 967	796 968
TS09 plus		Power - R500	Ultra - R1000
1" (0.3mgon)		785 795	785 798
2" (0.6mgon)		785 794	785 797
3" (1mgon)		785 793	785 796
5" (1.5mgon)		796 970	796 971

TS02

TS02 total station, simple numeric keyboard with black&white display, RS-232 interface, laser plummet, Quick Guide and container with protective cover, lens hood and cleaning cloth.

TS06 plus

TS06 plus total station, with reflectorless R500/R1000 EDM, full numeric keyboard with black&white display, RS-232 interface, Communication Sidecover (USB Host, USB Device, Bluetooth) laser plummet, Quick Guide and container with protective cover, lens hood and cleaning cloth.

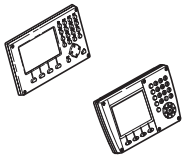
TS09 plus

TS09 plus total station, with reflectorless R500/R1000 EDM, 1 full numeric keyboard with Color- & Touch display, RS-232 interface, Communication Side-cover (USB Host, USB Device, Bluetooth) laser plummet, Quick Guide and container with protective cover, lens hood and cleaning cloth.

FlexLine plus Options, Software & Specific Accessories

2 Additional Options

2.1 Keyboard Options




			TS02	TS06 plus	TS09 plus
765 308	GTS24	2nd simple numeric keyboard with black&white display.	○	-	-
765 310	GTS26	2nd full numeric keyboard with black&white display.	-	○	-
779 618	GTS31	2nd full numeric keyboard with Color & Touch display.	-	-	○


○ Optional
- Not available

2.2 EDM Option



762 692	EGL5	Electronic Guide Light mounted on TS06plus total stations with "Finefocus" telescope.  Can only be ordered with new instrument!
---------	-------------	--


TS02	TS06 plus	TS09 plus
-	○	●

 For EDM-upgrades during product lifecycle, please see chapter 5.

● Standard
○ Optional
- Not available

2.3 Arctic Option



766 274	GDI60	Arctic Option for FlexLine (plus) total stations. Instrument modified and tested at -35°C. Includes operating temperature verification statement (-35°C).  Can be ordered only with new instrument!
---------	--------------	---

3 FlexField plus Application Programs & Software Options

3.1 Applications for FlexField plus



			TS02	TS06 plus	TS09 plus
		Station Setup	●	●	●
		• Resection (Standard, Local Resection, Helmert Resection)	●	●	●
		• Orientation with Angle	●	●	●
		• Orientation with Coordinates	●	●	●
		• Height Transfer	●	●	●
		Survey & Coding	●	●	●
		Stake Out	●	●	●
		Reference Line/Grid/Segment	●	●	●
		Tie Distance	●	●	●
		Area & DTM Volume	●	●	●
		Remote Height	●	●	●
		Offset (Standard & Cylindrical)	●	●	●
		Backsight Check	●	●	●
765 312	GSW665	Cogo	○	●	●
765 313	GSW666	Reference Plane	○	●	●
765 315	GSW668	Reference Arc	○	●	●
765 314	GSW667	Road 2D	○	●	●
765 318	GSW669	Road 3D	-	○	●
765 319	GSW670	Traverse	-	○	●
766 275	GSW674	Mining	○	○	○

● Standard
 ○ Optional
 - Not available

3.2 FlexOffice PC Software

778 063	FlexOffice Standard Software, includes Entitlement ID and DVD. Contents: <ul style="list-style-type: none"> • Data & project management • Raw data import • ASCII Im- & Export • View & Edit • Codelist manager • Additional Tools (Format manager, SW Upload, ...)
778 064	FlexOffice Advanced Software, includes Entitlement ID and DVD. Contents: <ul style="list-style-type: none"> • Data & project management • Raw data import • ASCII Im- & Export • View & Edit • Codelist manager • Additional Tools (Format manager, SW Upload, ...) • COGO • TPS Processing
Options for FlexOffice Advanced Software	
778 080	GIS/CAD EXPORT
778 087	Surface & Volumes
778 084	Design & Adjustment 3D

3.3 GeoOffice PC Software

GeoOffice PC Software

778 071	<p>Leica GeoOffice Software Licence (Node locked).</p> <p>Contents:</p> <ul style="list-style-type: none"> • Data & project management • Raw data import • ASCII Im- & Export • View & Edit • Codelist manager • Additional Tools (Format manager, SW Upload, ...)
778 066	<p>Leica GeoOffice TPS Bundle (Node locked).</p> <p>Contents:</p> <ul style="list-style-type: none"> • Data & project management • Raw data import • ASCII Im- & Export • View & Edit • Codelist manager • Additional Tools (Format manager, SW Upload, ...) • Land XML Import/Export • COGO calculations • TPS data processing

Options for GeoOffice Software

778 084	LGO Design & Adjustment 3D
778 082	LGO COGO Calculations
778 087	LGO Surfaces & Volumes calculations
778 081	LGO LandXML Import / Export
778 080	LGO GIS/CAD Export
778 077	LGO TPS data processing

4 Accessory Sets

6002322	<p>FlexLine plus Standard accessory Set consisting of:</p> <ul style="list-style-type: none"> • 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	<p>FlexLine plus Advanced accessory Set consisting of:</p> <ul style="list-style-type: none"> • GDF121 tribrach, • GEB222 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 After Sales Upgrades

For instruments already in the market various upgrades are available.

5.1 Software Upgrades



			TS02	TS06 plus	TS09 plus
765 312	GSW665	Cogo	○	●	●
765 313	GSW666	Reference Plane	○	●	●
765 315	GSW668	Reference Arc	○	●	●
765 314	GSW667	Road 2D	○	●	●
765 318	GSW669	Road 3D	-	○	●
765 319	GSW670	Traverse	-	○	●
766 275	GSW674	Mining	○	○	○

- Standard
- Optional
- Not available

5.2 Hardware Upgrades



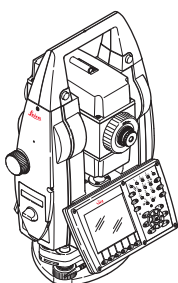
			TS02	TS06 plus	TS09 plus
EDM Upgrades					
763 840	EGL5	Electronic Guide Light upgrade (Service Article)	-	○	●
771 676		EDM Upgrade to R400 (Service Article). ☞ For "non-plus" units only	○	○	○
790 023		EDM Upgrade to R500 (Service Article). ☞ For FlexLine plus units only.	-	●	●
785 376		EDM Upgrade to R1000 (Service Article).	-	○	○
Keyboard Upgrades					
765 308	GTS24	2nd simple numeric keyboard with black&white display.	○	-	-
765 310	GTS26	2nd full numeric keyboard with black&white display.	-	○	-
779 618	GTS31	2nd full numeric keyboard with Color & Touch display. ☞ For FlexLine plus units only.	-	-	○

- Standard
- Optional
- Not available

Leica Viva Totalstation Series

6 TS11

6.1 Overview



	TS11	
	TS11	TS11 I
Angle measurement	●	●
Distance measurement to prism	●	●
Distance measurement to any surface (reflectorless)	●	●
Wide Angle Camera	-	●
RS232, USB and SD card interface	●	●
Bluetooth	●	●
Internal Flash Memory (1GB)	●	●
Guide Light (EGL)	●	●
Arctic Option	○	○
SmartStation GS15 GNSS receiver	○	○
SmartStation GS12 GNSS receiver	○	○
CS10/CS15 radio field controller	○	○
SmartWorX Viva	●	●

- Standard
- Optional
- Not available



For more information about SmartWorX Viva see chapter 8.

6.2 Models

		1" Accuracy	2" Accuracy	3" Accuracy	5" Accuracy
TS11	PinPoint R500	796 540	796 539	796 538	796 537
	PinPoint R1000	796 544	796 543	796 542	796 541
TS11 I	PinPoint R1000	796 548	796 547	796 546	796 545

TS11

TS11 Total Station, 1 keyboard with full VGA colour touch screen, reflectorless R500/1000 EDM, Electronic Guide Light (EGL5), 1GB internal Flash Memory, laser plummet, Bluetooth/ RS232/ USB/ SD-Card interface, SmartWorX Viva application package and DVD (Art. No. 767 908), Quick Guide and container with protective cover, lens hood and cleaning cloth.

TS11 I

TS11 I Total Station with 5MP wide angle camera, 1 keyboard with full VGA colour touch screen, reflectorless R1000 EDM, Electronic Guide Light (EGL5), 1GB internal Flash Memory, laser plummet, Bluetooth/ RS232/ USB/ SD-Card interface, SmartWorX Viva application package and DVD (Art. No. 767 908), Quick Guide and container with protective cover, lens hood and cleaning cloth.

Viva TS11 Options, Software & Specific Accessories

7 Additional Options

7.1 Touch Screen, Second Keyboard



779 481	GTS34	2nd keyboard with full VGA colour touch screen, for TS11 instruments, for telescope position 2, fitted.
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7.2 Arctic Option



781 290		Arctic Option for TS11 instruments, modified and tested at -35° C. Includes an extended operating temperature verification statement.
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8 SmartWorx Viva Application Programs & Software Options

8.1 Applications in SmartWorx Viva for TS11

	TS Smart- Worx Viva
Survey includes: <ul style="list-style-type: none"> • Survey • Code points • Auto points recording • Remote Heights • Target Offset calculations 	<ul style="list-style-type: none"> ● ● ● ● ●
Setup includes: <ul style="list-style-type: none"> • Get station coordinates from GPS, from Job or enter manually • Orientation by known Azimuth • Orientation by known Backsight • Orientation & Height transfer to up to 10 target points • Resection up to 10 target points • Resection Helmert • Orientation to Line 	<ul style="list-style-type: none"> ● ● ● ● ● ● ●
Stakeout includes: <ul style="list-style-type: none"> • Navigate to point using various methods: North, point, to and from total station • Quality control - checking of coordinate differences before storing • Automatic selection of next closest point to stake • Graphical selection of point from map • Edit heights and offset heights of points • Acoustic "reversing beep" when getting closer to point 	<ul style="list-style-type: none"> ● ● ● ● ● ●
COGO includes: <ul style="list-style-type: none"> • Inverse • Traverse • Intersections • Line calculations • Arc calculations • Angle and curve calculator • Shift, Rotate & Scale (manual) • Shift, Rotate & Scale (match Points) 	<ul style="list-style-type: none"> ● ● ● ● ● ● ● ●
Determine coordinate system: <ul style="list-style-type: none"> • 1 step, 2 step, 3D Transformation • All common projections 	<ul style="list-style-type: none"> ● ●
Alignment Tool Kit: <ul style="list-style-type: none"> • Horizontal alignments • Vertical alignments • Cross sections • Chainage equations 	<ul style="list-style-type: none"> ● ● ● ●
TS Reference Line	●
TS Sets of Angles	●
TS Surface and Volumes	●
TS Hidden Point	●
TS Traverse	●
DTM Stakeout	●
Data import: ASCII, DXF	●
Data export: Custom ASCII, DXF, LandXML, FBK, RW5, RAW	●
781 331 TS Athletics	○
781 324 TS COGO Area Division	○
781 323 TS Reference Plane	○
781 328 TS RoadRunner	○
781 330 TS RoadRunner Rail	○
781 329 TS RoadRunner Tunnel	○
781 343 TS RoadRunner Importer	○
781 325 TS Cross Section	○

- All options and functionality available
- Purchasable options and functionality

8.2 Optional Licences for Smartworx Viva for TS11

781 346		TS Imaging Licence.  Licence key enables extended imaging functionality on TS11 I instruments.
 Additional TS11 software options for GS12 SmartStation setups can be found in the GS12 chapter 9.3.		

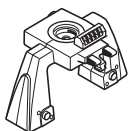
9 SmartStation Setup using a GS12 GNSS Receiver

9.1 GS12 GNSS Receiver



782 288	GS12	GS12 GNSS receiver, Geodetic 120 channels GNSS receiver, includes: GPS L1+L2, 1 Hz position rate, easily upgradeable with TS/GS12 or CS/GS12 options (e.g. GLONASS, Galileo, GPS L5, Network Licence, Raw data logging).
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9.2 SmartAntenna Adapter



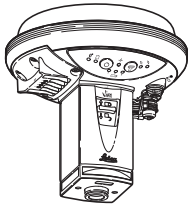
741 965	GAD104	GS12 SmartAntenna Adapter. Required to attach a GS12 GNSS Antenna onto a TS11 Instrument.
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9.3 Additional TS Options for GS12 SmartStation Setup

782 615	GSW964	TS/GS12 GLONASS License. License key for the TS11 total stations which enables use of GLONASS with a GS12 receiver.
782 617	GSW965	TS/GS12 GPS L5 License. License key for the TS11 total stations which enables use of GPS L5 with a GS12 receiver.
782 618	GSW966	TS/GS12 GPS Galileo License. License key for the TS11 total stations which enables use of Galileo with a GS12 receiver.
782 620	GSW968	TS/GS12 Raw Data Logging License. License key for the TS11 total stations which enables logging of Leica MDB raw data with a GS12 receiver.
782 621	GSW969	TS/GS12 RINEX Logging License. License key for the TS11 total stations which enables logging of RINEX raw data with a GS12 receiver.
782 622	GSW970	TS/GS12 Network RTK Network License. License key for the TS11 total stations which enables the GS12 receiver to work within an RTK network.
782 623	GSW971	TS/GS12 Leica Lite RTK License. License key for the TS11 total stations which enables the GS12 antenna to receive Leica Lite RTK messages.

10 SmartStation Setup using GS15 GNSS Receiver

10.1 GS15 GNSS Receiver



767 789	GS15	Leica GS15 Basic SmartAntenna
771 502	GS15	Leica GS15 Limited SmartAntenna
771 503	GS15	Leica GS15 Performance SmartAntenna
771 504	GS15	Leica GS15 Professional SmartAntenna

	Leica GS15 Basic	Leica GS15 Limited	Leica GS15 Performance	Leica GS15 Professional
Supported GNSS Systems				
GPS L2	●	●	●	●
GPS L5 (767 804)	○	○	○	●
GLONASS (767 805)	○	○	○	●
Galileo (767 806)	○	○	○	●
RTK performance				
DGPS/RTCM (771 497)	○	●	●	●
RTK up to 5km (767 812)	○	●	●	●
RTK unlimited (767 813)	○	○	●	●
Network RTK (767 815)	○	○	●	●
Leica Lite RTK (771 971)	○	○	○	●
Position update & data recording				
5 Hz positioning (767 807)	○	●	●	●
20 Hz positioning (767 808)	○	○	●	●
Raw data logging (767 810)	○	●	●	●
RINEX logging (767 811)	○	○	○	●
NMEA out (767 818)	○	○	○	●
Additional features				
RTK Reference Station functionality (767 816)	○	○	●	●

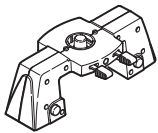
● Standard

○ Optional



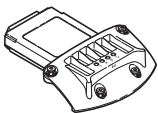
For details and available packages see GNSS equipment list.

10.2 SmartAntenna Adapter






767 802	GAD110	SmartAntenna adapter to mount GS15 SmartAntenna.
		BT module to connect the TS to the GS15 GNSS receiver is standard on all TS11 instruments.

10.3 RTK Modems



Satellite radio modules		
767 819	SLR1	Satellite M3 T1 403-470MHz TXO radio. RTK transmitting only UHF radio module to be easily plugged into the GS15 GNSS receiver.
767 820	SLR2	Satellite M3 R1 403-470MHz RXO radio. RTK receive only UHF radio module to be easily plugged into the GS15 GNSS receiver.
781 646	SLR5	Satellite M3 TR1 403-470MHz RX/TX radio. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
Pacific Crest radio modules		
767 821	SLR3-1	Pacific Crest ADL RX/TX radio 390-430Mhz. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
767 822	SLR3-2	Pacific Crest ADL RX/TX radio 430-470Mhz. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.

6002544		Configuration tool kit for programming Sateline and Pacific Crest SLR RTK radio modules; includes programming cable GEV231 and configuration software CD ROM.  SLR radios will be delivered pre-configured according to country-specific radio regulations. In countries where radios need to be configured locally, the configuration tool kit is to be used.
 External high power radios such as Sateline Epic Pro (10, 35W), Pacific Crest (2, 35W) or GFU radios can be used for RTK communication instead of the slot-in RTK modems.		
Mobile phone modules		
767 823	SLG1	5-Band (850/900/1800/1900/2100MHz) Telit GSM/GPRS/UMTS module. Provides full flexibility due to 5-band technology and is globally compatible to all GSM, GPRS, EDGE and UMTS network providers. Can be easily plugged into the GS15 GNSS receiver.
774 689	SLG2	4-Band (850/900/1800/1900MHz) Siemens MC75i GSM/GPRS module. Universal 4-band technology supports GSM, GPRS, and EDGE network providers. Can be easily plugged into the GS15 GNSS receiver.
767 824	SLC1	Dual band Telit CDMA 1xRTT module for US. Supports Sprint (US) network provider and can be easily plugged into the GS15 GNSS receiver.
767 825	SLC2	Dual band Telit CDMA 1xRTT module for US. Supports Verizon (US) network provider and can be easily plugged into the GS15 GNSS receiver.
 For more GS15 accessories see GNSS Equipment list.		

11 Office Software for TS11

11.1 GeoOffice PC Software

778 071	Leica GeoOffice Software Licence (Node locked). Contents: <ul style="list-style-type: none"> • Data & project management • Raw data import • ASCII Im- & Export • View & Edit • Codelist manager • Additional Tools (Format manager, SW Upload, ...)
778 066	Leica GeoOffice TPS Bundle (Node locked). Contents: <ul style="list-style-type: none"> • Data & project management • Raw data import • ASCII Im- & Export • View & Edit • Codelist manager • Additional Tools (Format manager, SW Upload, ...) • Land XML Import/Export • COGO calculations • TPS data processing
Options for GeoOffice Software	
778 072	LGO L1 data processing for GNSS
778 073	LGO L1/L2 data processing for GNSS
778 075	LGO GLONASS data processing option
778 084	LGO Design & Adjustment 3D
778 082	LGO COGO Calculations
778 086	LGO Datum & Map transformation
778 087	LGO Surfaces & Volumes calculations
778 079	LGO RINEX Import
778 081	LGO LandXML Import / Export
778 080	LGO GIS/CAD Export
778 077	LGO TPS data processing

11.2 SmartWorx Viva PC Software

773 894	SmartWorx Viva PC Software. Licence Key to run the SmartWorx Viva software on a PC.
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12 Accessories for TS11

12.1 Accessory Set

6006467	TS11 Accessory Set, consisting of: GDF121 tribrach, 2 GEB221 batteries, GKL221 charger with 2 GDI221 charging adapters, MSD1000 SD memory card 1 GB, GEV223 data transfer cable USB host to USB Mini 1.8 m.
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12.2 Memory Devices



767 856	MSD1000	SD memory card 1GB for TS11 instruments and CS10/CS15 field controller.
789 139	MSD08	SD memory card 8GB for TS11 instruments and CS10/CS15 field controller.

12.3 Card Reader



767 895	MCR7	Card reader for SD/CF cards.
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13 After Sales Upgrades

For instruments already in the market various upgrades are available.

13.1 Software Upgrades

781 323	Reference plane
781 325	Cross section
781 324	TS COGO area division
781 328	TS Road Runner
781 330	TS Road Runner Rail
781 329	TS Road Runner Tunnel
781 343	TS Road Runner Importer
781 331	TS Athletics

13.2 Hardware Upgrades

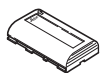


EDM Upgrades	
771 676	EDM Upgrade from R30 to R400 (Service Article).
790 023	EDM Upgrade from R30 to R500 (Service Article).
785 376	EDM Upgrade from R30 to R1000 (Service Article).
Keyboard Upgrades	
779 481	2nd keyboard

Common TPS Accessories

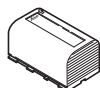
14 Power Supply

14.1 Internal Batteries



733 269	GEB211	Lithium-Ion battery, 7.4V/2.2Ah, rechargeable. To be used with CS10/CS15 field controller and GS09, GS12 or GS15 receivers.
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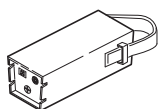
772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller and GS09, GS12 or GS15 receivers.
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733 270	GEB221	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable. To be used with FlexLine (plus)/TS11/TS12/TS15.
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793 973	GEB222	Lithium-Ion battery, 7.4V/6.0Ah, rechargeable. To be used with FlexLine (plus)/TS11/TS12/TS15.
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14.2 External Batteries



727 367	GEB171	External universal battery, NiMH, 12V/9Ah, rechargeable.
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749 279	GEV208	External power supply unit. To connect FlexLine (plus)/TS11/TS12/TS15 instruments to mains power (220V to 12V).
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Requires a GEV52 or GEV187 cable.

14.3 Battery Cables



439 038	GEV71	Car battery cable 4m, to connect 12V car battery.
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409 678	GEV52	Cable, connects FlexLine (plus)/TS11/TS12/TS15 or DNA to external battery.
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734 697	GEV186	Y-cable, connects FlexLine (plus)/TS11/TS12/TS15 to TCPS28/TCPS29 and external battery.
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734 698	GEV187	Y-cable, connects FlexLine (plus)/TS11/TS12/TS15 to PC (9-pin RS232 serial) and external battery, 2m.
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707 525	GK1	Lemo Canon converter 30°, for PC (Lemo to RS232) to be used with GEV186 cable.
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14.4 Battery Chargers



733 271	GKL221	Charger, to be used with up to two charging adapters GDI221 or GDI222, charger cable and net adapter included.
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733 323	GDI221	Adapter for GKL221 for charging 2 Li-Ion batteries GEB241, GEB221, GEB222, GEB211 or GEB212.
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734 389	GDC221	Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.
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734 752	GKL211	Charger, for Li-Ion batteries GEB221, GEB222, GEB211 and GEB212, car adapter cable and net adapter included.
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15 Data Storage and Data Transfer

15.1 Memory Devices



765 199	MS1	USB memory stick, 1GB, for TS11 instruments and CS10/CS15 field controller, industrial grade.
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15.2 Data Transfer Cables





563 625	GEV102	Data transfer cable, connects FlexLine (plus)/TS11/TS12/TS15 to PC (9-pin RS232 serial), 2m.
734 697	GEV186	Y-cable, connects FlexLine (plus)/TS11/TS12/TS15 to TCPS28 and external battery.
734 698	GEV187	Y-cable, connects FlexLine (plus)/TS11/TS12/TS15 to PC (9-pin RS232 serial) and external battery, 2m.
734 700	GEV189	Data transfer cable, Lemo to USB connector (incl. USB electronics), 2.0m. Connects FlexLine (plus)/TS11/TS12/TS15/DNA to PC for data transfer. PC driver and user manual included on CD.
756 367	GEV217	Data transfer cable, connects CS10/CS15 field controller with CBC01 Lemo connector to FlexLine (plus)/TS11/TS12/TS15, 1.8m.
764 700	GEV223	Data transfer cable for connecting CS10/CS15 or TS11 to PC (USB A to USB mini connector).
707 525	GK1	Lemo Canon converter 30°, for PC (Lemo to RS232) to be used with GEV186 cable.

16 Optical Accessories

16.1 Eyepiece



377 802	FOK53	Magnification eyepiece, additional eyepiece for increasing telescope magnification to 42x.  Modification in a workshop necessary.
308 838	FOK53	Magnification eyepiece, additional eyepiece for increasing telescope magnification to 42x.  Modification ex factory. Can only be ordered with a new instrument.
734 514	GFZ3	Diagonal eyepiece for telescope.
376 236	GOK6	Eyepiece for steep sights, with joint allowing variable sighting angle.

16.2 Autocollimation Set



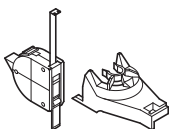
199 899	GOA2	Autocollimation eyepiece.
394 787	GEB62	Plug-in lamp, with cable for autocollimation eyepiece.
394 792	GEB63	Battery box for autocollimation eyepiece and eyepiece lamp.

16.3 Objective



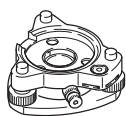
743 504	GVO13	Objective solar filter for TPS instruments.
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17 Instrument Height Meter



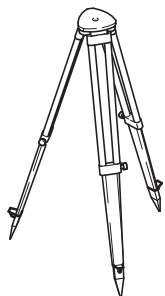
667 718	GHM007	Instrument height meter.
722 045	GHT196	Distance holder for height meter.

18 Tribrachs



667 304	GDF121	Precision Tribrach, without optical plummet, pale green.
667 307	GDF122	Precision Tribrach, with optical plummet, pale green.
748 888	GDF111-1	Tribrach, without optical plummet, pale green.
667 308	GDF112	Tribrach, with optical plummet, pale green/red.

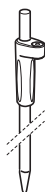
19 Tripods



296 632	GST20	Tripod, telescopic, with accessories (plumb bob, carrying strap and side clamp screws), with pouch.
394 752	GST20-9	Tripod, telescopic, with accessories.
667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories.
332 200	GST4	Tripod-star, for setting up tripods on hard and slippery surfaces.

20 Reflector Poles

20.1 Standard Poles

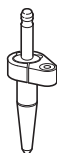


385 500	GLS11	Reflector pole, telescopic, with circular bubble, cm and ft graduation, extends to 2.15m.
754 391	GLS12	Reflector pole, telescopic to 2.00m with circular bubble, cm graduations.
754 389	GLS12F	Reflector pole, telescopic to 2.00m with circular bubble, ft graduations.
766 359	GLS31	Reflector carbon-fibre pole with circular bubble and twist lock. Snap-locks at 2.00m for GPS (GNSS) antennas with GAD31 adapter or GRZ122 reflector (SmartPole setup).
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.
555 720	GSR2	Dual-strut support for GLS11 plumbing pole.
667 319	GSR111	Dual-strut support for all GLS.
403 428	GZW12	Extension 1m long, for reflector pole GLS11 and carriers.

20.2 Hidden Point Pole

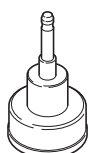
742 329	GMP112	Hidden Point pole extension for GMP111 (mini prism pole set). Includes mini prism with holder and 30cm adapter pole.
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20.3 Mini Pole



403 427	GLS14	Mini reflector pole, (prism/target 20cm over point), with circular bubble.
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21 Reflector Carriers



667 313	GRT144	Carrier with stub, pale green.
667 316	SNLL121	Precision carrier, with plate level and zenith-nadir laser plummet.
428 340	GZR3	Precision carrier, with plate level and optical plummet.
725 566	GZR103	Carrier, with plate level and optical plummet, for reflectors and GPS antenna, pale green.

22 Reflectors

22.1 Circular Reflectors



362 830	GPR1	Circular prism, in black housing.
641 618	GPR111	Circular prism, with holder and target plate.
753 492	GPR113	Circular prism, with red holder.
641 617	GPR121	Circular prism, with metal holder and target plate.
362 820	GPH1	Single-prism holder.
400 080	GPH3	Three-prism holder.
362 823	GZT4	Target plate, for GPH1.

22.2 360° Reflectors



639 985	GRZ4	360° reflector.
644 327	GRZ101	360° mini prism with 1/4" thread fitting. Not supported by PowerSearch.
754 384	GRZ122	360° reflector with 5/8" thread adapter for mounting of GPS antenna.
742 006	GAD103	Adapter for attaching GRZ101 to all poles with Leica Geosystems stub.

22.3 Precision Reflectors



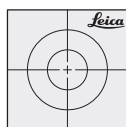
555 631	GPH1P	Single-prism precision reflector.
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22.4 Mini Reflectors



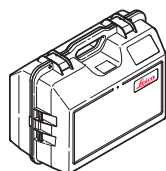
641 662	GMP101	Mini prism, incl. bubble, target plate and spike, in bag, also suitable for GLS11/GLS12 and GRT144 (same height as GPH1, additive constant +17.5mm).
641 762	GMP104	Mini prism, with L-bar, for fixed installations.
641 615	GMP111	Mini prism, incl. bubble, with GLS115 pole set.
642 534	GMP111-0	Mini prism 0-constant, incl. bubble, with GLS115 pole set.
743 503	GAD105	Adapter for GMP111 to all poles with Leica Geosystems stub.

22.5 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.



23 Additional Containers



767 828	GVP642	Hard container for CS10/CS15 field controller, GS15 SmartAntenna and corresponding SmartStation SmartPole accessories.
744 501	GDZ66	Backstraps (2) for GVP640 and GVP642 hard container.
782 384	GVP656	Viva hard container for GS12 SmartAntenna, CS10/CS15 field controller, SmartPole and SmartStation accessories.
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.

Cable Overview

Manual TS Connectivity

Connector 1 (TS Side)	Connector 2	Exemplary Use Case	Suitable cable
Lemo0 5-pin (Male)	9 pin D-SUB (Female)	Connecting a FlexLine (plus) or TS11 with PC; or Leica CS10/15 Controller equipped with CBC02 connector module. 👉 RS232 Serial connection	GEV102 563 625
	9 pin D-SUB (Female)	Connecting a FlexLine (plus) or TS11 with PC. 👉 RS232 Serial connection	GEV187 734 698
	Lemo1 5-pin (Male)	...and powering the FlexLine (plus) or TS11 from an external battery (e.g. GEB171)	
	Lemo1 5-pin (Male)	Connecting FlexLine (plus) or TS11 with external battery (e.g. GEB171)	
	Lemo1 8pin-(Male)	Connecting a FlexLine (plus) or TS11 with a Leica CS10/15 Controller equipped with CBC01 connector module 👉 RS232 Serial connection	
	USB Host	Connecting a FlexLine (plus) or TS11 with PC. 👉 RS232 Serial connection via USB Electronics	GEV189 734 700
	Lemo1 8-pin (Male)	Connecting a FlexLine (plus) or TS11 with TCPS28/TCPS29. 👉 RS232 Serial connection	GEV186 734 697
	Lemo1 5-pin (Male)	...and powering the FlexLine (plus) or TS11 from an external battery (e.g. GEB171)	
	USB Host	Connecting a FlexLine (plus) or TS11 with a PC/Handheld using Leica Flex-Office/LGO for data transfer (requires Communication Sidecover on TS) 👉 USB Connection	GEV223 764 700

Certificates

24 Producer Certificates



794 056	GDI67	Producer Inspection Certificate M for theodolites and total stations: Angle.
794 060	GDI68	Producer Inspection Certificate M for total stations: Distance measurement to prisms.
794 062	GDI69	Producer Inspection Certificate M for total stations: Angle and Distance measurement to prisms.
794 063	GDI70	Producer Inspection Certificate M for total stations: Distance measurement to prisms and to any surfaces (reflectorless).
794 064	GDI71	Producer Inspection Certificate M for total stations: Angle and Distance measurement to prisms and to any surfaces (reflectorless).

25 Calibration Certificates



757 424	GDI58	Calibration Certificate for electronic total stations - Swiss accredited Calibration Laboratory: Angle Hz and V.
757 425	GDI59	Calibration Certificate for electronic total stations - Swiss accredited Calibration Laboratory: Angle Hz, V and Distance measurement to prisms.
777 783	GDI61	Calibration Certificate for electronic total stations - Swiss accredited Calibration Laboratory: Angle Hz, V, Distance measurement to prisms and to any surfaces (reflectorless).
789 639	GDI66	Calibration Certificate for electronic total stations - Swiss accredited Calibration Laboratory: Distance measurement to prisms and to any surfaces (reflectorless).
780 153	GDI62	Calibration Certificate, distance, IR.

Care Packages

26 Customer Care Packages

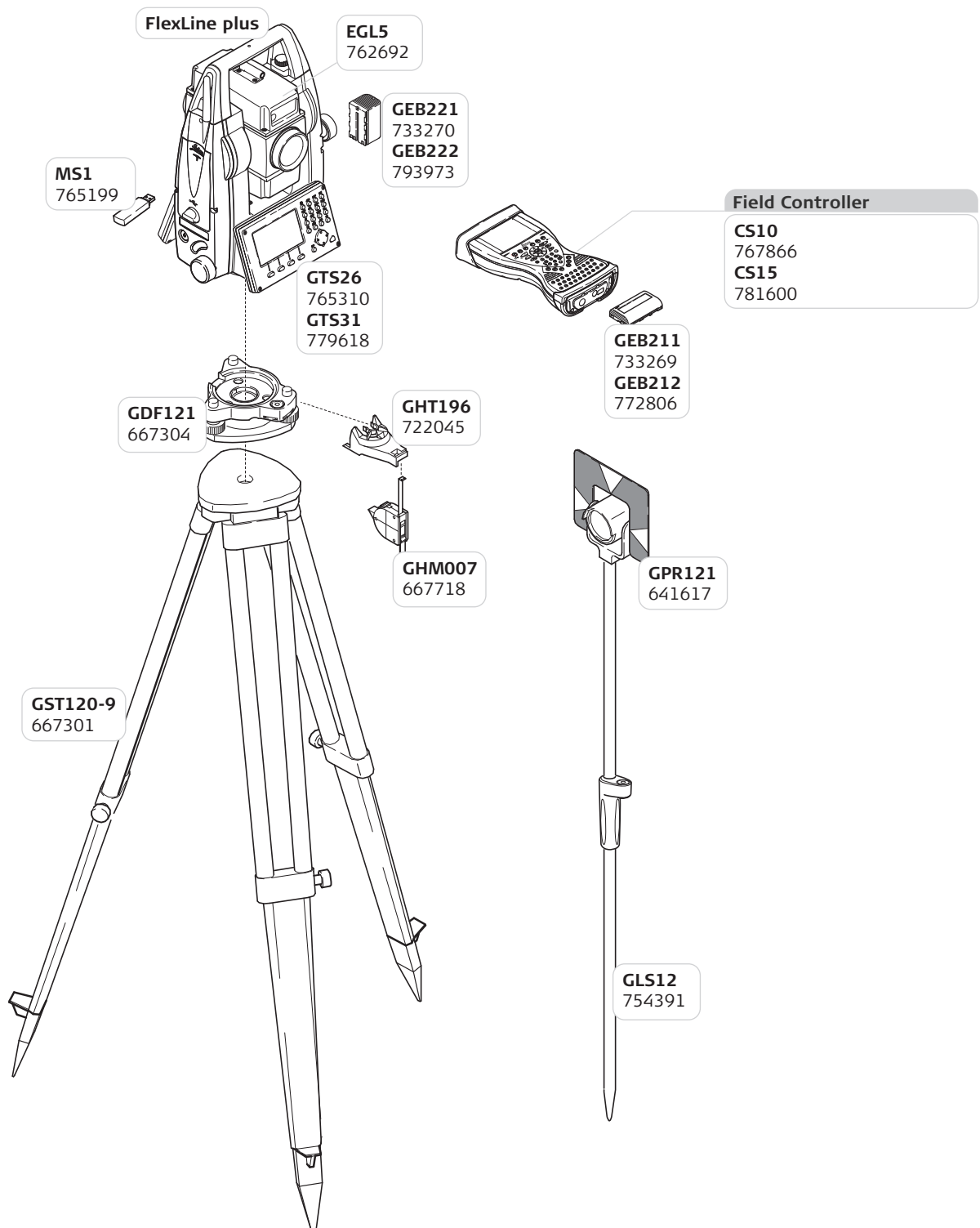


A wide selection of comprehensive Customer Care Packages (CCPs) is available bundling Hardware Maintenance, Software Maintenance, Customer Support and Extended Warranty.

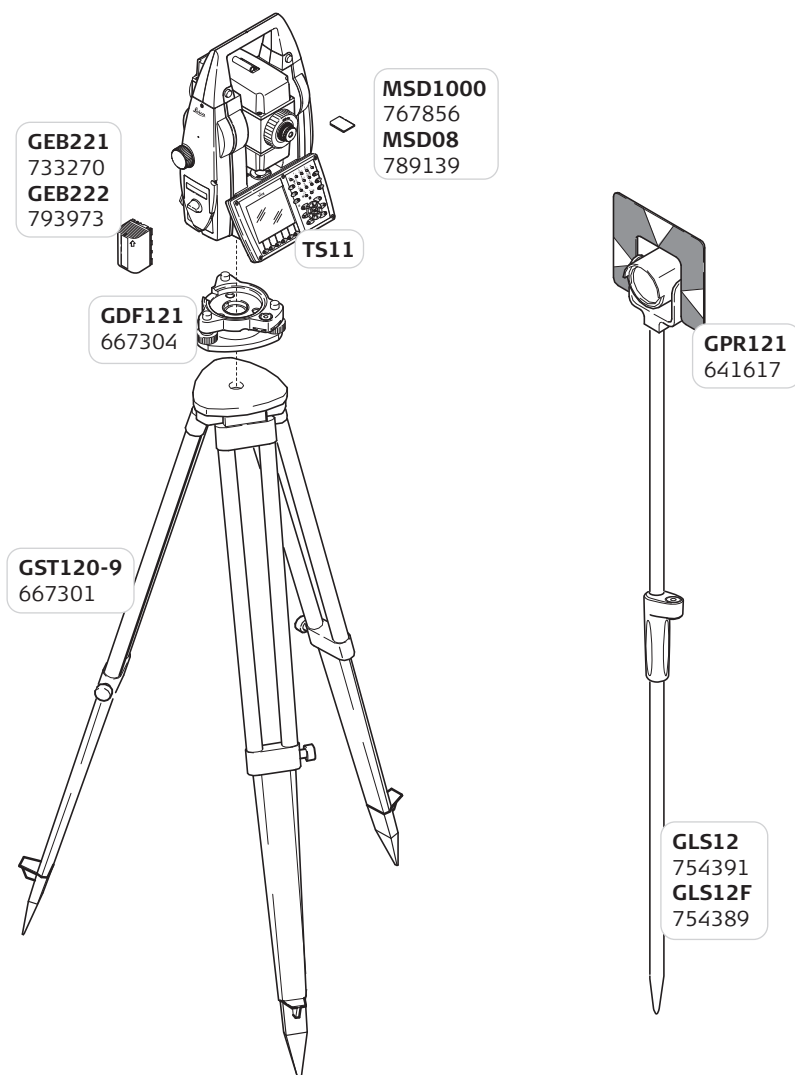
For more information about the CCP offering in your country please contact your local Leica Geosystems organization or distribution partner.

Suggested Equipment Setups

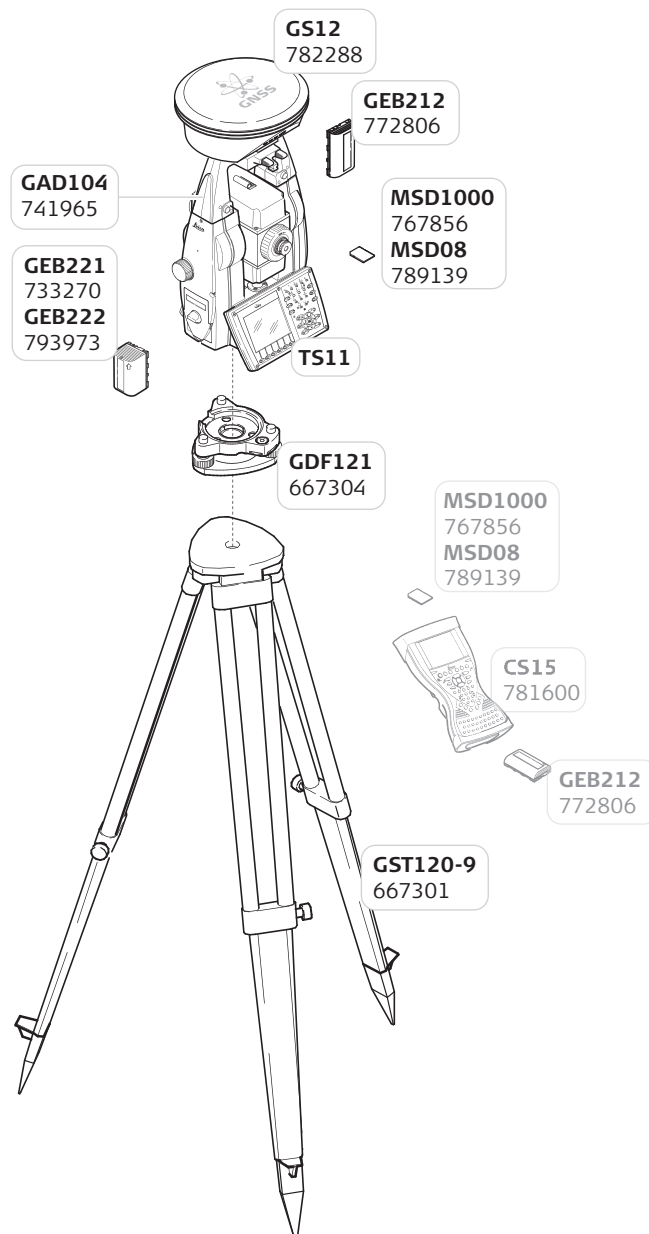
27 Setup with FlexLine plus



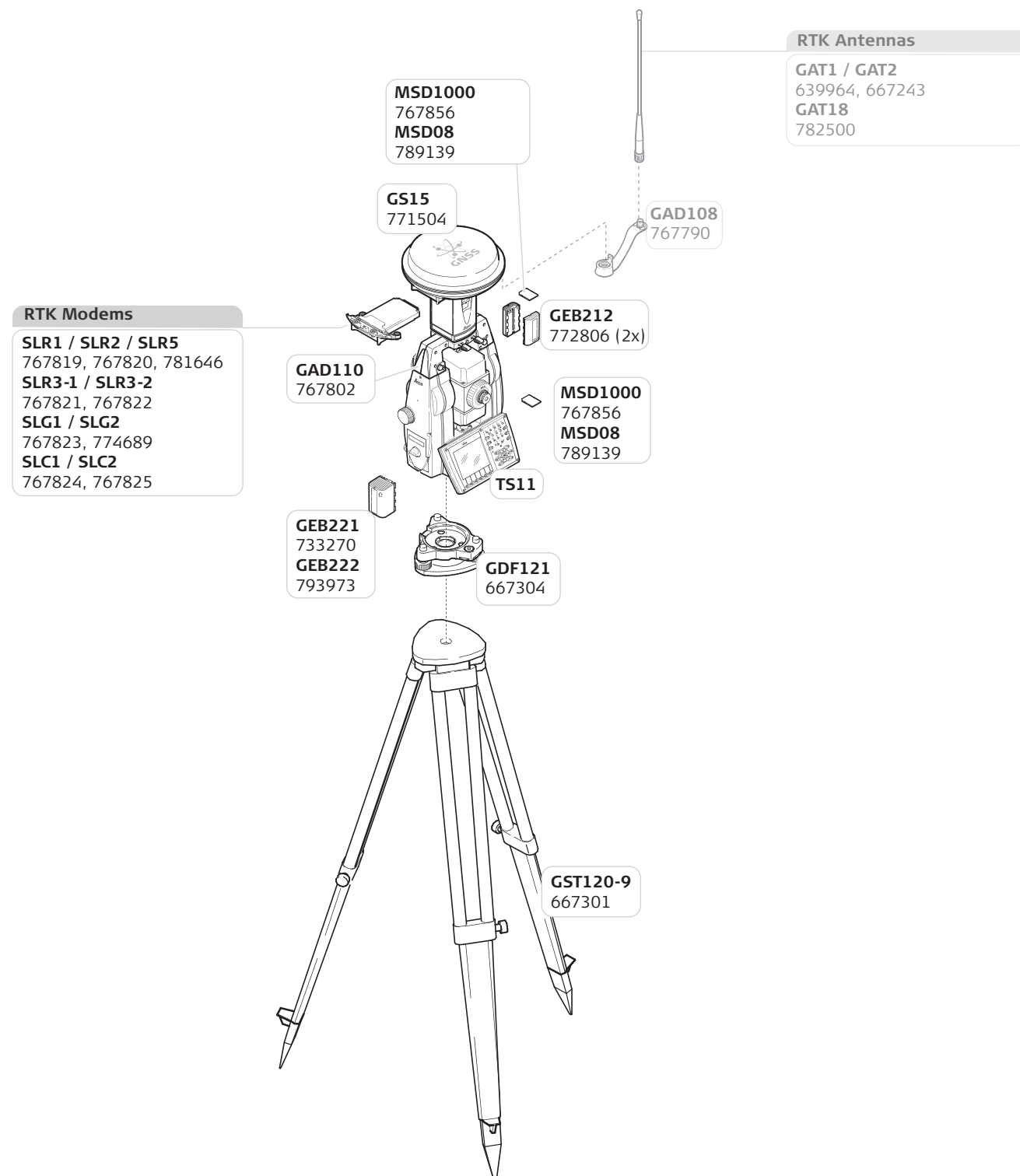
28 Setup with TS11



29 Setup with TS11 and GS12



30 Setup with TS11 and GS15



Whether you want to survey a parcel of land or objects on a construction site, determine measured points on facades or in rooms, gather the coordinates of a bridge or a tunnel – Leica Geosystems' total stations provide the right solution for every application.

They unite reliable results with easy operation and user-friendly applications. Our total stations are designed to meet your specific requirements. Modern technology enables you to work fast and productively, thanks to the straightforward and clearly structured range of functions.

When it has to be right.

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our commitment to total
customer satisfaction.**

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

Distance meter (Prism):
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



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