Leica iCON gps Equipment List





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iCG60 GNSS Receiver

1 iCG60 GNSS Receiver



781 991	iCG60	Leica iCON gps 60 Demo
781 992	iCG60	Leica iCON gps 60 Vehicle
781 993	iCG60	Leica iCON gps 60 Base
781 994	iCG60	Leica iCON gps 60 Network
781 995	iCG60	Leica iCON gps 60 Performance
781 996	iCG60	Leica iCON gps 60 Advanced

	Leica iCON gps 60 Demo	Leica iCON gps 60 Vehicle	Leica iCON gps 60 Base	Leica iCON gps 60 Network	Leica iCON gps 60 Perform- ance	Leica iCON gps 60 Advanced
Supported GNSS Systems						
GPS L2	0	•	•	•	•	•
GLPS L5	0	0	0	0	0	•
GLONASS	0	•	0	0	•	•
Galileo	0	0	0	0	0	•
RTK Performance						
Low Accuracy RTK (50/2)	0	•	0	0	0	0
High Accuracy RTK	0	0	0	•	•	•
RTK up to 2.5km	0	•	0	•	•	•
RTK unlimited	0	•	0	•	•	•
Network RTK	0	•	0	•	•	•
Position Update & Data Recording						
2 Hz positioning	0	•	0	•	•	•
10 Hz positioning	0	•	0	0	•	•
20 Hz positioning	0	0	0	0	0	•
Raw Data RINEX logging	0	0	•	0	•	•
Additional features						
RTK Reference Station functionality	0	0	•	0	•	•

Standard

O Optional

2 Additional iCG60 Receiver Options

iCG60 software upgrades				
782 028	CSW524	Upgrade Vehicle to Performance package for iCG60		
782 029	CSW525	Upgrade Base to Performance package for iCG60		
782 030	CSW526	Upgrade Network to Performance package for iCG60		
782 031	CSW527	Upgrade Performance to Advanced package for iCG60		
782 032	CSW528	Upgrade Demo to Vehicle package for iCG60		
782 033	CSW529	Upgrade Demo to Base Station package for iCG60		
782 034	CSW530	Upgrade Demo to Network package for iCG60		
782 035	CSW531	Upgrade Demo to Performance package for iCG60		
782 036	CSW532	Upgrade Demo to Advanced package for iCG60		
iCG60 tim	e limited opti	ons		
782 037	CSW540	1 week Advanced Package for iCG60		
782 038	CSW541	2 weeks Advanced Package for iCG60		
782 039	CSW542	1 month Advanced Package for iCG60		
782 040	CSW543	2 months Advanced Package for iCG60		
782 041	CSW544	3 months Advanced Package for iCG60		
782 042	CSW545	4 months Advanced Package for iCG60		
782 043	CSW546	5 months Advanced Package for iCG60		
782 045	CSW547	6 months Advanced Package for iCG60		
782 046	CSW548	7 months Advanced Package for iCG60		
782 047	CSW549	8 months Advanced Package for iCG60		
782 048	CSW550	9 months Advanced Package for iCG60		
782 049	CSW551	10 months Advanced Package for iCG60		
782 050	CSW552	11 months Advanced Package for iCG60		
782 051	CSW553	1 year Advanced Package for iCG60		

3 Radio



The iCG60 receiver is equipped with a built-in GSM/GPRS/UMTS/HSPA modem as standard. A separate slot in radio can be added.

3.1 Slot in Radios



Satelline radio module

781 998 CCD7	Internal Satel Radio for iCG60 SmartAntenna. Frequency range 403-470 Mhz, TXO and RXO module. RTK transmit and receive UHF radio module incl. Radio Cover.
Intuicom radio module	2
781 999 CCD8	Internal Intuicom Radio for iCG60 SmartAntenna. Freuency 900 Mhz, TXO and RXO radio. RTK transmit and receive ISM / SpreadSpectrum radio module incl. Radio cover.
Configuration Toolkit	
6002544	Configuration tool kit for programming Satelline 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

3.2 External Radios



Satelline modems			
767 859	GFU27	Satelline M3 TR1 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.	
789 636	HPR2	Satelline-EASY Pro 35W high power radio, 403-473 Mhz RX/TX radio. Includes power cable for connecting to 12V battery.	

Pacific Crest Radio Modems

Pacific Crest radio modems must be ordered directly from your local Pacific Crest office or representative.

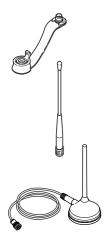
PDL receive only modems built into the Leica GFU radio housing with 12.5 or 25kHz channel spacing within the following frequency bands are available:

- 410 430 MHz
- 430 450 MHz
- 450 470 MHz

Cables for Satelline modems			
733 297	GEV171	1.8m Y-cable to program the Satelline radio modem inside the GFU27 housing.	
762 026	GEV221	Y-cable, connects Satelline 3AS Epic Pro (10W) to iCG60 and 12V car battery.	
639 968	GEV125	Cable for Satelline radios without GFU housing to be connected to iCG60.	
767 897	GEV232	Radio cable, 2.8m, connects iCG60 receiver to GFU devices.	
767 898	GEV233	Radio cable, 0.8m, connects iCG60 receiver to GFU devices.	

4 External RTK Antennas

4.1 External RTK Antennas



The iCG60 receiver is equipped with an built-in GSM/GPRS/UMTS/HSPA antenna as standard.

DTV	antonna	arm

Adapter 767 791

GAD109

767 790	GAD108	Arm to mount external UHF/GSM antenna to iCG60 SmartAntenna, useful in areas of poor radio or GSM network receiption.
Gainflex	radio antennas	
639 964	GAT1	Gainflex radio antenna (frequence range 400-435 MHz).
667 243	GAT2	Gainflex radio antenna (frequence range 435-470 MHz).
ISM radio	antenna	
793 283	CA6	Radio Antenna for CCD8 Intuicom Radio Module.
Vehicle a	ntenna	
793 284	CA7	Radio UHF Antenna for Satel CCD7. With Magnetic Mount, 6m antenna cable and TNC connector. Use the radio antenna to be mounted on the roof of a vehicle or machine.

4.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)











		antenna via gainflex cable to the iCG60 SmartAntenna using the receiver as a Reference Station.
RTK ante	nna cables	
636 959	GEV120	2.8m antenna cable.
667 201	GEV142	1.6m extension antenna cable.
Telescopi	ic rod, antenn	a arm and base for telescopic rod
667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base GHT36 (667 236).
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	GHT36	Base with 5/8" screw, for setting up telescopic rod on tripod.

Transition adapter from external UHF/GSM antenna connector of a iCG60 Smart-Antenna to standard TNC connector. Allows to connect an external GSM/UHF

5 Accessories for Using External Radios with iCG60 Receiver



Radio cables to GFU radios				
767 897	GEV232	Radio cable, 2.8m, connects iCG60 receiver to GFU devices.		
767 898	GEV233	Radio cable, 0.8m, connects iCG60 receiver to GFU devices.		
Brackets a	and holders fo	or GFU radios		
748 417	GHT58	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.		
767 896	GHT64	Holder for GFU radios. Attaches to all GPS poles.		
Cables for	r external radi	os		
762 026	GEV221	Y-cable, connects Satelline 3AS Epic Pro (10W) to iCG60 receiver and 12V car battery.		
733 297	GEV171	1.8m Y-cable to program the Satelline radio modem inside the GFU27 housing.		
639 968	GEV125	Cable for Satelline radios without GFU housing to be connected to iCG60 receivers.		
748 418	GEV205	Y-cable for RTK reference setup, connects iCG60 receiver to a GEB171 external battery and a Leica GFU radio.		

6 Additional Accessories for iCG60 Pole Setups - GNSS Rover

6.1 Survey Poles



794 336	CRP1	Construction Pole, telescopic, cm-graduation, for MPR122 or GNSS antenna, upside-down use incl. plate. Carbon and aluminium, 2x 5/8" screws, 2x circular bubble, extendable.
795 054	CRP2	Construction Pole, telescopic, ft-graduation, for MPR122 or GNSS antenna, upside-down use incl. plate. Carbon and aluminium, 2x 5/8" screws, 2x circular bubble, extendable.
796 130	CRP3	Construction Pole, telescopic, ft-decimal graduation, for MPR122 or GNSS antenna, upside-down use incl. plate. Carbon and aluminium, 2x 5/8" screws, 2x circular bubble, extendable.
768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

6.2 Holder and Clamp for Poles

Holder for CC60/CC61 Controller

793 165	CMB2	C-shape Pole/Vehicle Mount for CC60/61 with ball double socket arm and ball mount.
795 492	CMB5	Pole Clamp for CMB2 bracket for CC60/61.

6.3 QuickStand



560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

6.4 Minipack Setup



667 137	GVP603	Minipack, holds iCG60 GNSS Receiver.		
Telescopi	Telescopic rod and RTK antenna arm			
667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base 667 236.		
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.		
734 388	GAD46	Double arm adapter, screws on telescopic rod. Allows to connect up to 2 mobile phone/radio antennas and up to 2 antenna cables on arm.		

7 Additional Accessories for iCG60 Tripod Setups - GNSS Base

7.1 Tribrachs



726 840	GDF102	Tribrach, black with optical plummet
726 839	GDF101	Tribrach, black without optical plummet

7.2 Tripods



399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.
667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories, without pouch.

7.3 Carriers



762 322	GRT246	Carrier with 5/8 inch screw.

7.4 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.	

8 Containers for iCG60 Receiver



All iCG60 need to be ordered with at least one container.		
782 003	CTC1	Carry Case for iCG60 Base Station Setup or as Pole Rover with CC60, Yellow 7" Tablet PC.
782 004	CTC2	Carry Case for iCG60 Pole Rover.

9 GNSS Antennas and Cables

9.1 GNSS Antenna



753 221 MNA1202GG MNA1202 GG, robust GPS/GLONASS Antenna.

9.2 GNSS Antenna Cables



Medium cables				
636 959	GEV120	2.8m antenna cable.		
632 372	GEV119	10m antenna cable.		
Machine	Machine antenna cables and brackets			
762 368	MCC1250	6m GNSS antenna cable.		
762 346	MMB1252	Bracket for MCC1250 Antenna Cable.		

10 Power Supply

10.1 Internal Batteries



733 269	GEB211	Lithium-Ion battery, 7.4V/2.2Ah, rechargeable. To be used with iCG60 receiver.
772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with iCG60 receiver.
733 270	GEB221	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable. To be used with iCG60 receiver.

10.2 External Power Supply



Battery		
727 367	GEB171	External universal battery, NiMH, 12V/9Ah, rechargeable.
Power cal	bles	
748 418	GEV205	Y-Cable for RTK Reference setup. Connects a iCG60 with a GEB171 battery and a radio in a Leica GFU housing.
758 469	GEV219	Power cable, 1.8m, connects iCG60 receiver to external GEB171 battery.
439 038	GEV71	4m car battery cable, connects all battery cables to 12V car battery.
733 298	GEV172	Power cable, 2.8m, connects iCG60 receiver to 2 external GEB171 batteries.
Permaner	nt Power Supply	
749 279	GEV208	Power supply unit, TPS/GPS/DNA.

10.3 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. Can also be used to power controller directly from a cigarette lighter.
734 752	GKL211	Charger, for Li-Ion batteries GEB221, GEB211 and GEB212, car adapter cable and net adapter included.

11 Data Storage and Data Transfer

11.1 Memory Devices



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

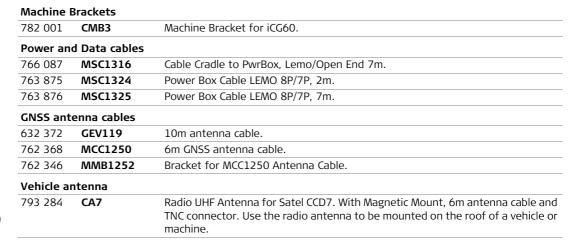
11.2 Data Transfer Cables



Serial cables			
733 280	GEV160	Serial data transfer cable, 2.8m, connects iCG60 receiver (port 2) to PC. (Lemo to 9pin RS232)	
733 282	GEV162	Serial data transfer cable, 2.8m, connects iCG60 receiver (port 1) to PC. (Lemo to 9pin RS232)	
734 755	GEV195	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects iCG60 receiver (port 2) to PC. PC driver included on CD.	
758 468	GEV218	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects iCG60 receiver (port 1) to PC. PC driver included on CD.	

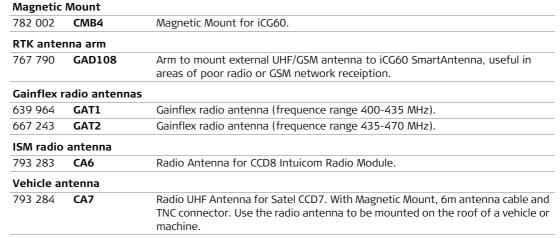
12 Additional Accessories for iCG60 Machine Setups - GNSS Rover













Remote Control

14 CC60/61 iCON Controller and Accessories

14.1 CC60/61 iCON Controller



790 048	CC60	Ruggedized Win7 (Ultimate Edition) Tablet Computer with 7" touch-widescreen, 64 GB SSD hard drive, 2 GB SDRAM, WLAN 802.11 b/g/n, Bluetooth v2.0, Stylus, Integrated Mediatek GPS, 2x Batteries (each 2.6Ah), AC/DC adaptor and 2MP camera with flash.
790 049	CC61	Ruggedized Win7 (Ultimate Edition) Tablet Computer with 7" touch-widescreen, 64 GB SSD hard drive, 2 GB SDRAM, WLAN 802.11 b/g/n, integrated EDGE/ HSPDA/GSM/ UMTS/CDMA module, integrated long-range Bluetooth, Stylus, Integrated Mediatek GPS, 2x Batteries (each 5.2Ah), AC/DC adaptor and 2MP camera with flash.

14.2 HW Options for CC60 iCON Controller

793 158	CCD4	Long-range Bluetooth Upgrade Kit for CC60.	
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14.3 Accessories for CC60/CC61 iCON Controller



785 413	ALG7-08B	Lithium Polymer battery for tablet computer e.g. CC60/61, 5.2 Ah, chargeable.
785 414	HH-12V	DC-12V Car charger for tablet computer e.g. CC60/61. Can be used to power and charge the CC60/61 directly from a cigarette lighter.
785 415	GDZ70	Pen with screw-driver and string for CC60/61.
785 416	ALG7-10A	Charger for Li-Polymer batteries ALG7-08B, net adapter included.
785 417	ALG7-13A	AC/DC-adapter EU, AUS, US and UK, for power supply CC60/61 and charging the plugged-in batteries ALG7-08B.
785 418	SPF07	Anti-glare display foils for CC60/61.

14.4 Pole Mounts for CC60/CC61 iCON Controller

793 165	CMB2	C-shape Pole/Vehicle Mount for CC60/61 with ball double socket arm and bamount.	
795 492	CMB5	Pole Clamp for CMB2 bracket for CC60/61.	
784 918	GHT72	Pole holder and arrangement for attaching tablet computer, incl. hook for tripod mounting.	

iCONstruct Field Software

15 iCONstruct Field Software and Applications

15.1 iCON build

For CC60/CC61 iCON Controller

793 853	CSW201	iCON build		
Applications for iCON build on CC60/CC61 iCON Controller				
793 855	CSW204	iCON app "Volumes"		
793 850	CSW207	iCON app "Points & Lines"		
793 849	CSW209	iCON app "Cut & Fill"		
793 841	CSW216	Extension iCON build plus		

15.2 iCON site

For CC60/CC61 iCON Controller

793 852	CSW202	iCON site			
Applicatio	Applications for iCON build on CC60/CC61 iCON Controller				
793 857	CSW203	iCON app "Sketch"			
793 859	CSW205	iCON app "Control Line"			
793 851	CSW208	iCON app "Lines"			
793 842	CSW215	Extension iCON site plus			

15.3 Applications included in iCONstruct Field Software

	iCON build	iCON site
General: • Graphical selection of point from map • Graphical navigation to point • StatusBar+ with shortcuts • MaxMap with button transparency • Map OPS with intelligent map controls • IntuiNav with traffic light quality checks		
Sketching includes: Point Pilot quick point creation Close figure Radius Point & long/short radius Point Projection Point & Line calculations Arc calculations Offset calculations Point Computation (intersections,) Patterns Trace		- - - - - - - -
As-Built / Measure includes: Data Collection Coding Auto points logging Target Shift calculations Auto line drawing Auto arc creation Layout Points includes: Graphical layout guidance In-map line/offset data Two tape layout Layout based on reference line Guiding telescope line		• • • • •

	iCON build	iCON site
Layout Lines includes:		
Start/end line flag	•	-
Flip line	•	-
 Parallels & perpendiculars 	•	-
 Create lines with 2 points 	•	-
 Create arc (3 points or 2 points + radius) 	•	-
 Line/arc offsets 	•	-
Graphical infinite line support	•	-
Stakeout includes:		
 Graphical navigation to point 	-	•
 Create & edit points 	-	•
 Create polylines & arcs 	-	•
• 3D offset	-	•
 Define chainage 	-	•
 Create points & lines with bearing and 		
distance	-	•
Devide lines	-	•
Cut & Fill includes:		
 Define vertical offset 	-	•
 Colour indication of Cut vs. Fill, same as 		
Machine Control	-	•
 Graphical coloured visualisation of cut/fill 		_
areas	-	•
Several terrain models usable in parallel	-	•
Select reference line as visual guidance	-	•
Volumes includes:		
 Create surfaces in the field 	-	•
Edit surfaces in the field	-	•
Stockpile calculation	-	•
Various volume calculations (to point, to		_
elevation, to 2nd surface)	-	•
Apply compaction factor	-	•
Setup inlcudes:	_	
Control line setup	•	-
Setup anywhere	•	•
Setup over known point Set a pietation	•	•
Set orientation Height Transfor		•
Height TransferOver height benchmark		_
Get station coordinates from map, from	•	•
GPS or enter manually		•
, , , , , , , , , , , , , , , , , , ,		
Coordinate system:		
 Small area, large area, 3D transformation All common projections 		
All common projections	•	
Others:		_
User LevelsMultiview	•	
Multiview Auto bulls-eye view		_
Custom measure bar		-
Custom info panel	_	_
Custom into paner Favourites		
Setup within applications		-
· · · · · · · · · · · · · · · · · · ·		_
Data import: ASCII, DXF	•	•
Data export: Custom ASCII (e.g. CSV, TXT),		_
DXF, GSI, GEO	•	•
All 12 15 17 19 19 19 19 19 19 19 19 19 19 19 19 19		
 All options and functionality available 		
Not available		

- Not available

Care Packages

16 Customer Care Packages



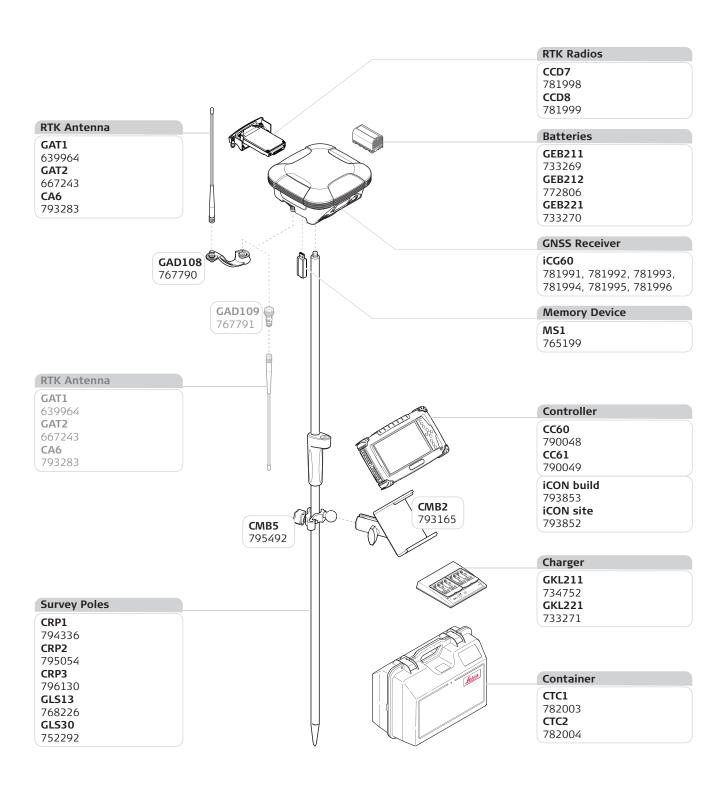
A wide selection of comprehensive Customer Care Packages (CCPs) is available bundling Hardware Maintenance, Software Maintenance, Customer Support and Extended Warranty.

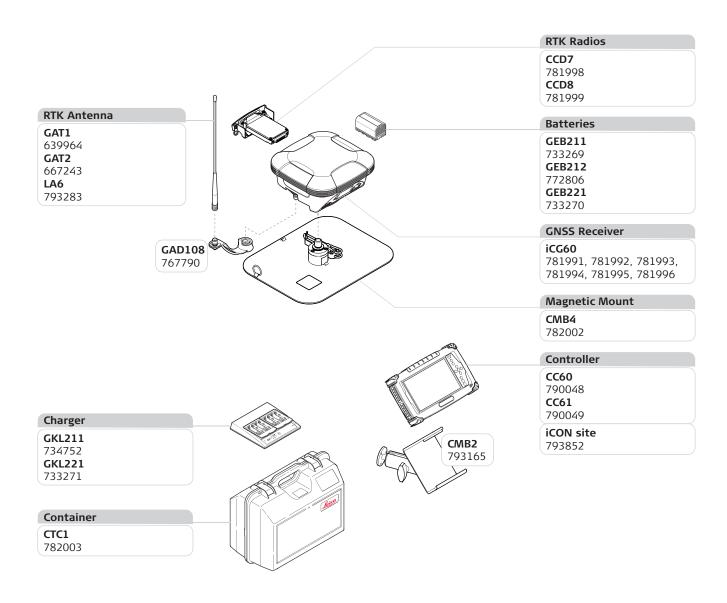
For more information about the CCP offering in your country please contact your local Leica Geosystems organization or distribution partner.

iCON gps Setups

17 iCG60 Construction Rover

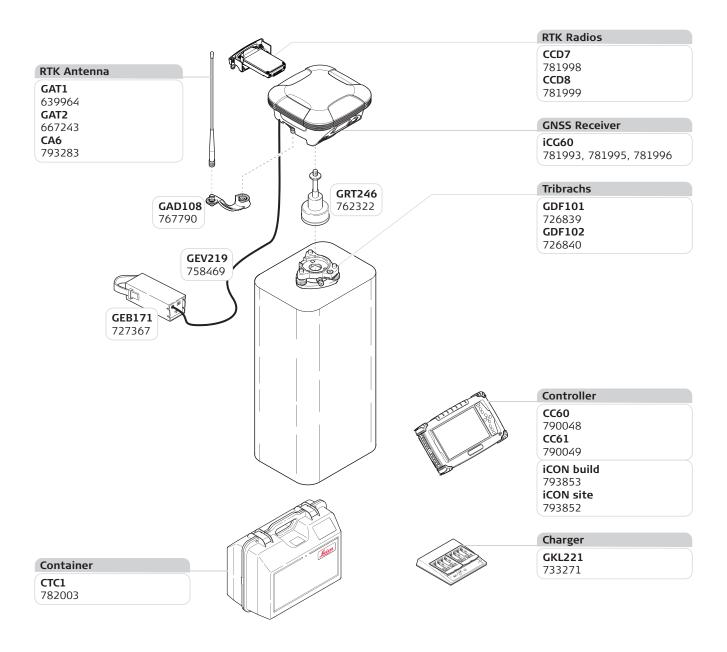
17.1 With CC60/CC61 Controller



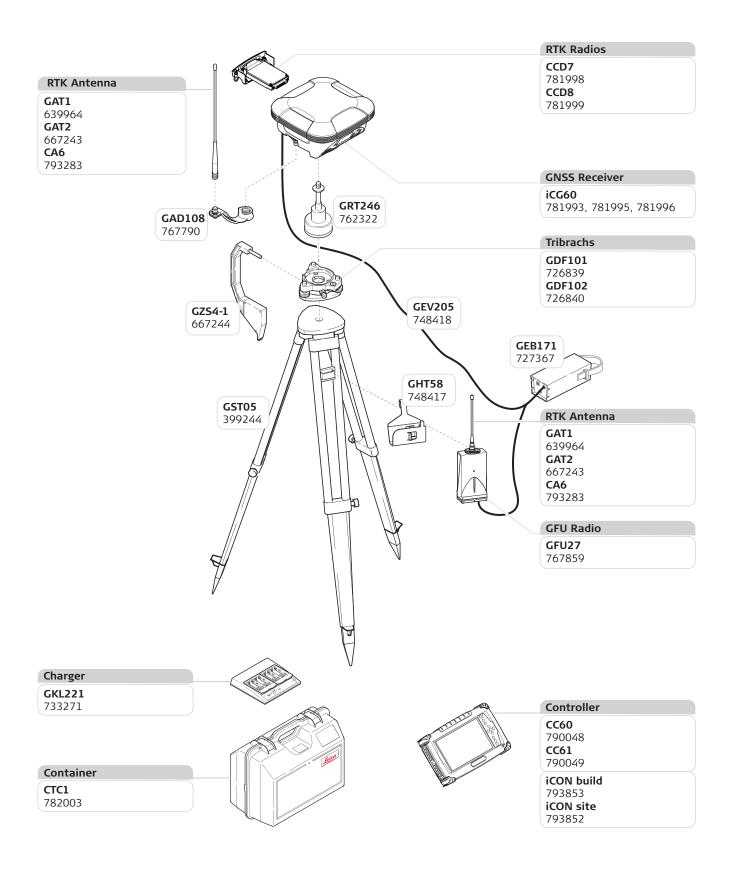


19 ICG60 Construction BaseStation

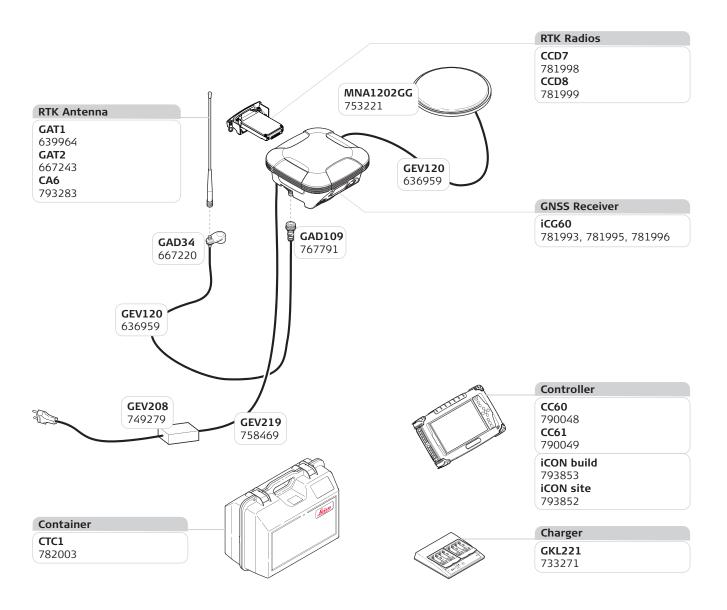
19.1 On Pillar

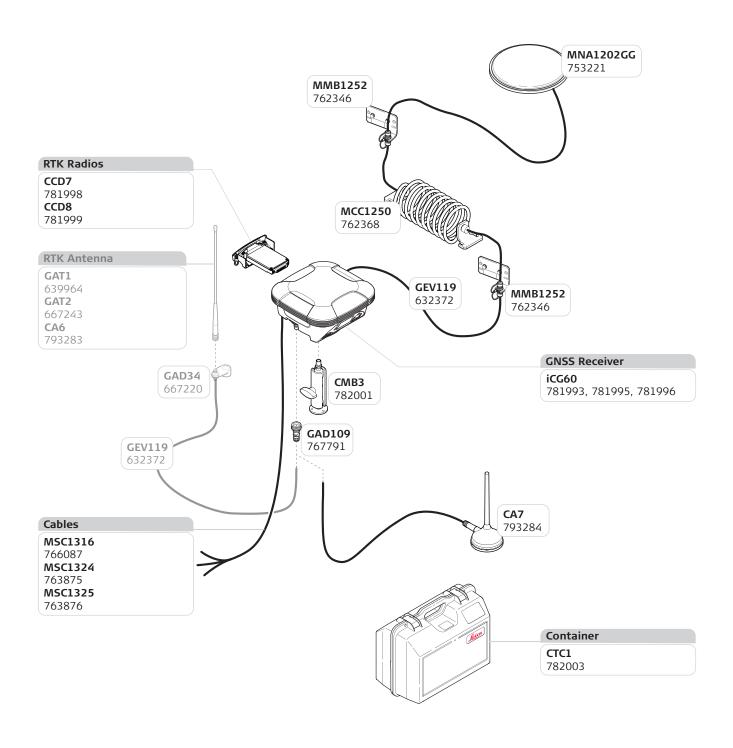


19.2 On Tripod and 2nd GFU



19.3 Permanent





Leica Geosystems intelligent CONstruction.

Whether you construct buildings, roads, bridges or tunnels, you benefit from intelligent CONstruction. Leica iCON is more than a new product line or software package, it enables you to enhance your performance and increase your profitability through perfecting your construction workflow.

Understanding construction demands outstanding solutions:

- Custom-built
- Complete
- Straightforward
- High performance

When it has to be right.

Swiss Technology by Leica Geosystems



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