

# Leica Geosystems Original Accessories Material matters



Catalogue 2019



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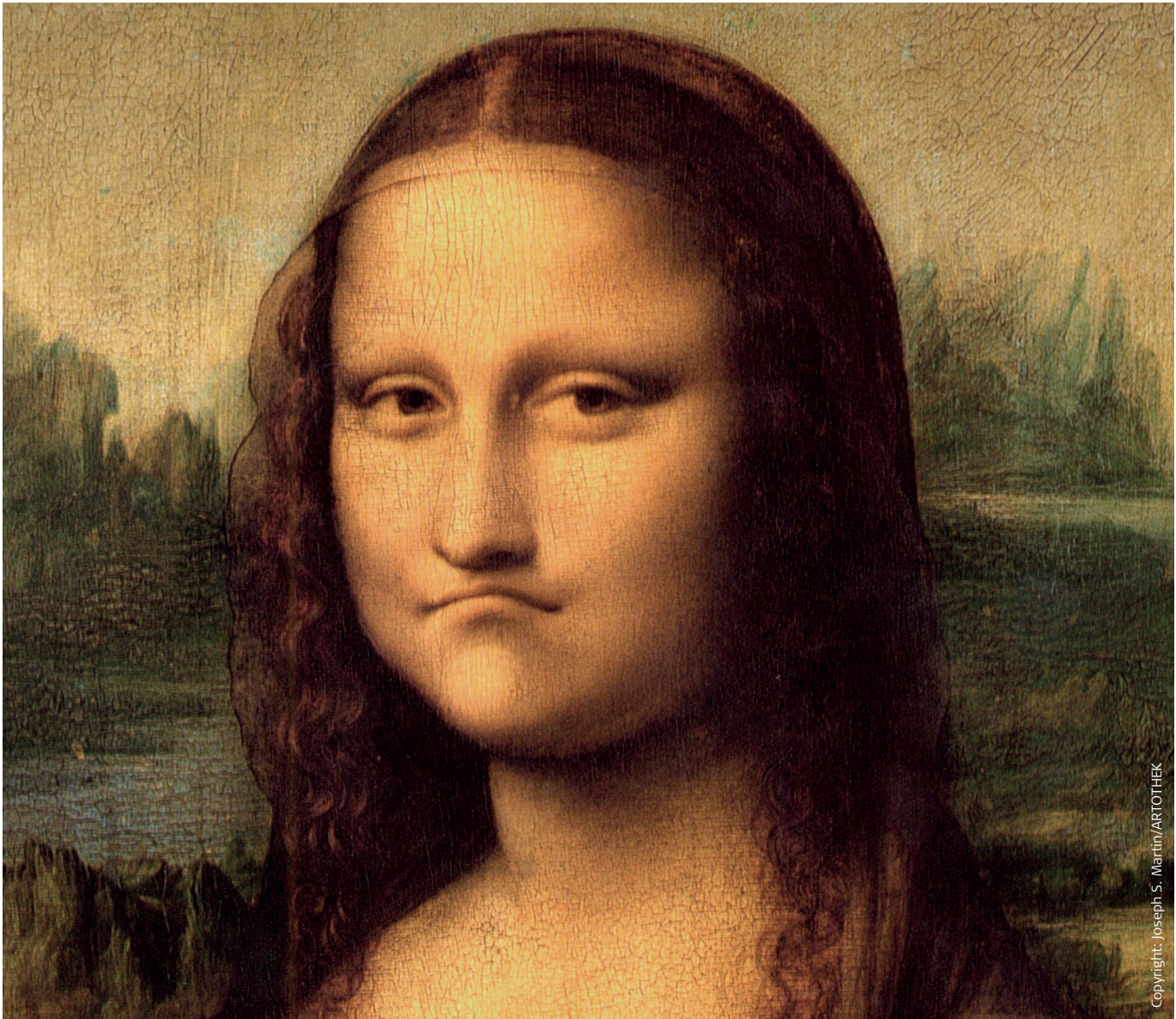
- when it has to be **right**

**Leica**  
Geosystems



# Unhappy with copies?

## There is only one original!

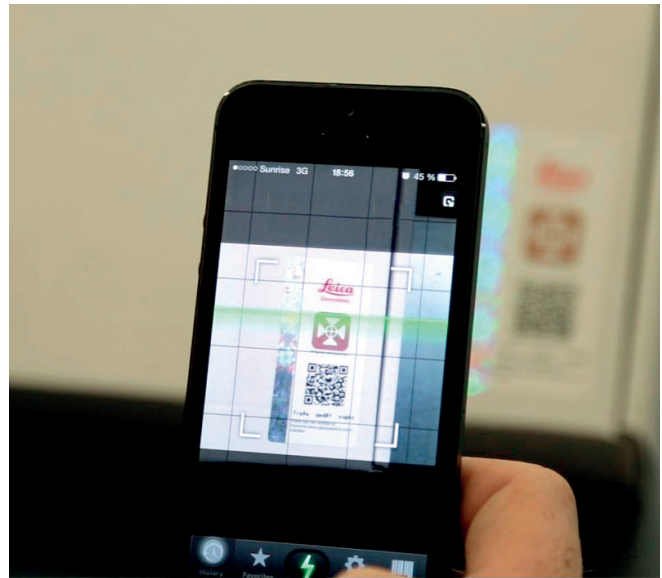


Benefit from the quality, precision and reliability of Leica Geosystems Original Accessories – perfectly suited for Leica Geosystems measuring equipment. You'll recognise Original Leica Geosystems Accessories by the security label with its unique code and colour-shifting logo, found on either the packaging or additional leaflet.

The genuineness of your accessory can be verified by entering the security code at [www.myworld.leica-geosystems.com/validate](http://www.myworld.leica-geosystems.com/validate) or by scanning the QR code.



# Verify the genuineness for your safety and benefit



Leica Geosystems Original Accessories now come with unique security codes that guarantee that what you bought is truly a part of the Leica Geosystems complete solution. No other accessories compare to those developed and produced by Leica Geosystems. Experience the optimal performance of your Leica Geosystems measuring equipment using

truly integrated accessories for optimised performance. If you place great importance on the accurate results and quality of your deliverables, make sure you know you are using the original. By validating your accessory security code, you will be 100% sure you bought Leica Geosystems Original Accessories. And the excellent results you receive will convince you there is no substitution for the very best.



## To be precise: Every detail counts

As far as the eye could see, there was nothing. Then came the survey professionals. Today an entire city district stands where earlier fields and meadows were. Measurement experts work as pioneers for the realisation of the visions and plans of others. The results of their work are essential. Their meaning lies in the truth upon which the others trust. It is with this consciousness that Leica Geosystems designs its instruments. It is from this standpoint that Leica Geosystems builds accessories that have been meticulously aligned to the instruments. Every detail counts, when visions are to become reality.



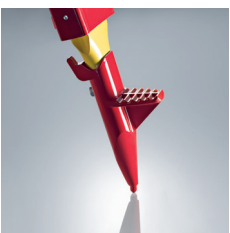
COMSA EMTE offers comprehensive services in railway infrastructures and has gained worldwide reputation. Jesús Gimeno Samperiz, survey project manager of the technical department at COMSA EMTE:

"In our working environment we use high-end surveying equipment. We would never compromise on quality. In order to achieve maximum performance of our measurement equipment, we are absolutely convinced that only the quality of original accessories can provide the required accuracy and reliability."

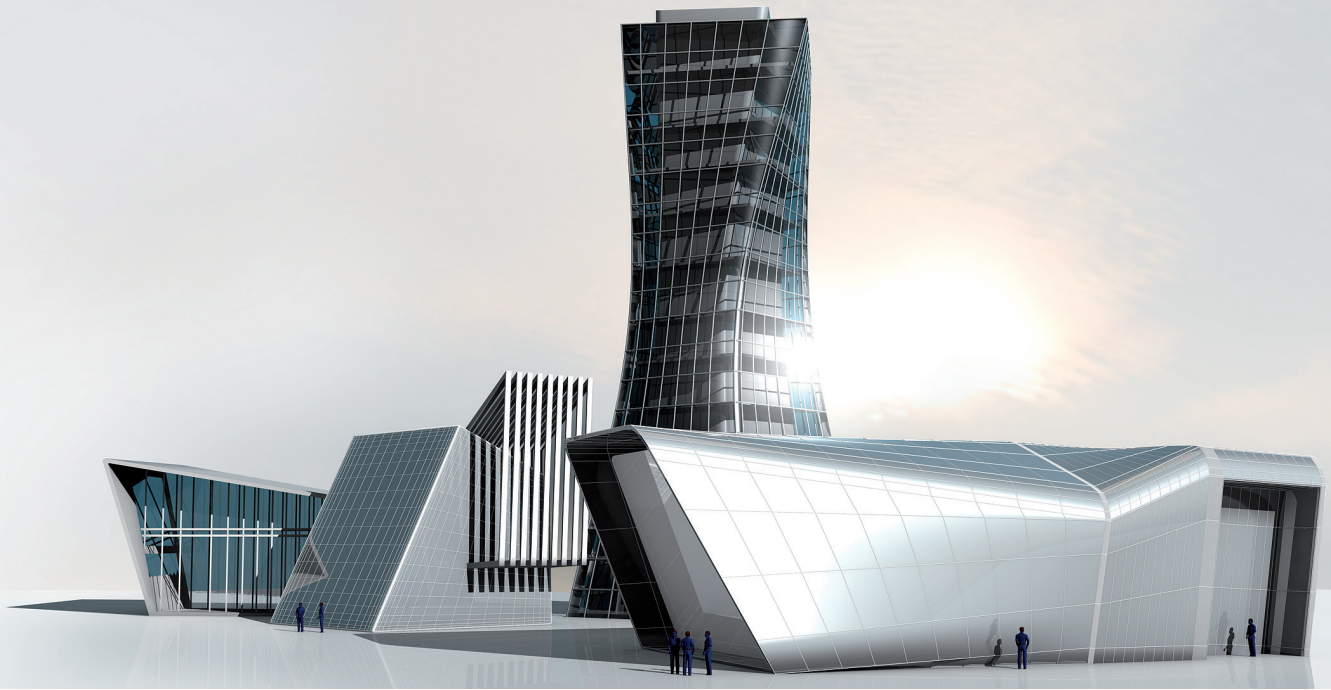


Mario Studer is manager of engineering surveying at BSF Swissphoto, a company of the internationally active Swissphoto Group. The thirty experts work in large projects such as airport, railway and tunnel measurements, deformation measurements

and naturally construction measurements. Mario Studer is convinced: "A very good measurement quality with precision instruments can only be achieved when the accessories fulfil the same quality criteria."







## Valuable accessories for valuable results

The term “quality” is quickly and easily said, as long as one is not talking about concrete results. But it is only results that count: for the professional user, the measurement result. For Leica Geosystems, the satisfied customer. And that is over years and decades.

### **The quality of the original**

For about 90 years, Leica Geosystems has given the term “quality” concrete substance. It covers not only the mechanical and optical quality of the accessories, but also, in the last decade increasingly important, the electronic quality with the criteria data integrity and data security. This comprehensive quality is the result of a unique process with clear guidelines and meticulous controls: starting with the qualifications of the supplier, to the testing, processing and refining of the materials, from the assembly of the components up to the tuning of the accessories to the instruments, and the accompanying tests for compliance to all specifications.

### **The precision of the original**

Precision can only be defined as the accuracy of the instrument and accessory system as a whole. Speaking with the experience of the professional: “The best instrument is worth less when the accessory is not perfectly aligned to that instrument.” The value of the original can be recognised when accessories with descriptions such as “Leica-like” are offered. This honours us, but does not help our customers further,

because these products neither match the quality the customer expects from original Leica Geosystems accessories, nor are they as perfectly aligned to the Leica Geosystems instruments.

### **The reliability of the original**

Just as the expert sometimes has to perform tasks in minus temperatures, so must his equipment always function smoothly, even in extreme conditions. And just as the technician works for many years, so should his equipment give him many long years of service, like the original accessories from Leica Geosystems.

### **The guarantee of the original**

1. The exchange guarantee during the warranty period of one year means that you promptly receive a new, identical product or a repaired product, should your accessory exhibit manufacturing defects.
2. The replacement parts guarantee means that during the product’s lifetime, and according to the accessory series (see pages 6/7), even after the discontinuation of a product, Leica Geosystems will have replacement parts available for you.



# Transparent choice for your individual requirements



All our customers are experts in their fields. All have the need for professional accessories of outstanding quality. Many of them quite simply want "the best", and therefore the accessories of the "Professional 5000 Series". Based on their daily work and requirements, some make the products of the "Professional 3000 or 1000 Series" their choice. Whatever the case may be, it is a decision for quality.



# Three Original Accessory series for your benefit

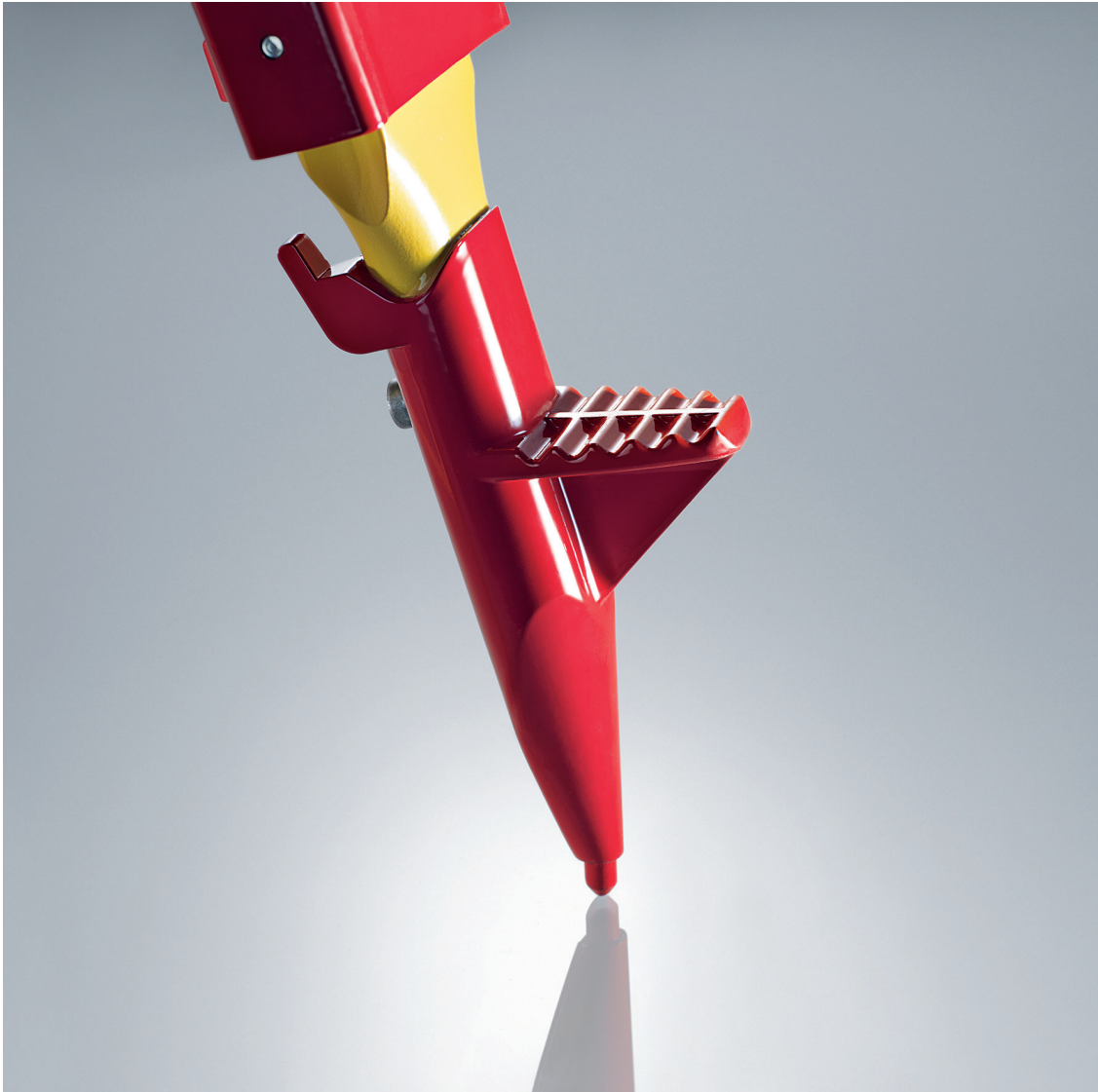


Quality always remains quality. But not every user needs extremely low measurement tolerances or works under extraordinary climatic conditions. That is why Leica Geosystems offers its original accessories in three series for differing requirements. There is a lower limit, through which quality is defined. There is, however, no upper limit, because our customers' demand for maximum performance rises continually.

	PROFESSIONAL 5000	PROFESSIONAL 3000	PROFESSIONAL 1000
Price/performance	The Professional 5000 Series meets the highest demands for precision, reliability, longevity and service.	The Professional 3000 Series meets high standards in exactness, function, consistency and service.	The Professional 1000 Series reliably fulfils all requirements of the most common surveying tasks.
Accuracy	You achieve the best possible measurement accuracy with these products. We recommend them for highest accuracy class instruments. <b>*****</b>	The Professional 3000 Series is conceived for all applications where a positioning accuracy of 3 mm and more is sufficient. <b>***</b>	For applications with required position accuracy in 10mm range. <b>*</b>
Environmental specifications	For use even in extreme conditions of -20 to +50°C. <b>*****</b>	For use even in extreme conditions of -20 to +50°C. <b>***</b>	For use only in normal to demanding conditions of -10 to +40°C. <b>*</b>
Spare parts	All working parts remain available years after product is discontinued. <b>*****</b>	The most important working parts remain available years after product is discontinued. <b>***</b>	Spare parts available only for selected products. <b>*</b>
Lifetime	The chosen materials guarantee a maximum lifetime, even under the most extreme conditions. <b>*****</b>	The materials used provide a long lifetime, even under difficult conditions. <b>***</b>	The material selection ensures a long lifetime under normal conditions. <b>*</b>



## Original tripods for stability



The most important criterion for a good tripod is its stability, quite explicitly, the torsional rigidity. With that, a very valuable, but not the only, argument for the original tripod from Leica Geosystems has been named. Other substantial benefits are the height stability under load and the minimal horizontal drift. Also not to be underestimated are advantages such as long life, optimal vibration dampening, water resistance, outstanding behaviour in solar radiation and their weight in relation to load-bearing capacity.

# Transparent choice

## The best tripod for your requirements

Leica Geosystems offers you a large selection of high-value tripods for all survey instruments and applications. The right tripod choice is decisive if the indicated accuracy of an instrument is to be reached. The classification "heavy duty" and "light duty" is widely based on ISO Norm 12858-2. They differ through the stability requirements and instrument weight.

### PROFESSIONAL 5000



TRIPOD  
HEAVY DUTY

- The Professional 5000 Series consists solely of heavy duty wooden tripods providing highest stability.
- Best height stability, maximum torsional rigidity and minimal horizontal drift over long time periods.
- Suitable for instruments up to 15 kg.
- Recommended for the highest angle accuracy of 3" and less.
- Due to vibration dampening characteristics of the carefully selected beech wood, this series is highly recommended for use with motorised TPS instruments.
- With its height stability, this series perfectly complements the LS15 digital level.

### PROFESSIONAL 3000



TRIPOD  
LIGHT DUTY

- The Professional 3000 Series consists of high value, light duty tripods.
- Suitable for instruments with weights of under 5 kg.
- Optimised for maximum lifetime in most difficult of operating conditions.
- Available in either wood or aluminium, according to application.
- GST05 wooden tripod suitable for non-motorised TPS instruments with angle accuracy from 5" to 7". Ideal tripod for mobile GNSS reference stations as well as static observations.
- GST05L aluminium tripod. Suitable for short-term prism stations on control points or as a light tripod for GNSS measurement campaigns.

### PROFESSIONAL 1000



TRIPOD  
UNIVERSAL

- The Professional 1000 Series consists of heavy and light tripods for demanding application conditions.
- The GST101 heavy wooden tripod is made from birch and proves itself for precise backsights and control points.
- The GST103 aluminium tripod is particularly suitable for automatic levelling as well as for prism stations with reduced accuracy requirements.

#### The stability of the original

Leica Geosystems tripods are manufactured solely from wood or aluminium. Wood, especially the beech and birch used by Leica Geosystems, offers the best stability values, measured on vertical movement and horizontal drift over time. Wood also exhibits optimal vibration characteristics and therefore delivers

substantial benefits, especially in the use of motorised TPS. The surfaces of the wooden tripods are sealed several times to prevent moisture absorption and to maximum longevity. Aluminium tripods are robust and save weight, their range of application is however limited.



# Original tribrachs

## Accuracy through torsional rigidity



Similarly to the stability of the tripod, that of the tribrach is a significant factor in measurement accuracy. The torsional rigidity, the most important criterion of a tribrach, is constantly controlled and tested during its production. The maintenance-free foot screws of the Leica Geosystems tribrach provide movement that is always smooth and free of play, even after years of use. The precise alignment of the support area to the base plate of the instrument assures extremely accurate forced centring. The optical plummet is so robust that the need for adjustment during the entire lifetime of the tribrach is practically unnecessary. Its construction predestines the tribrach for all applications, including extreme temperatures and high dust and humidity.

# Transparent choice

## The ideal tribrach for your application

All original tribrachs comply with the strict specifications and quality standards of Leica Geosystems. Your choice should ideally be made according to your individual accuracy requirements.

### PROFESSIONAL 5000



GDF321  
GDF322

- The hysteresis of the Professional 5000 Series tribrachs is guaranteed to a maximum of 1" (0.3 mgon) or better.
- The foot screws are maintenance-free and ensure a movement that is smooth and free of play, even in the most severe environmental conditions.
- The tribrachs in this series are recommended for all tasks that require angle measurements of under 3".
- Due to the minimal hysteresis, we recommend use of the Professional 5000 Series for all motorised instruments.

### PROFESSIONAL 3000



GDF311  
GDF312

- The hysteresis of the Professional 3000 Series tribrachs amounts to a maximum of 3" (1.0 mgon).
- The foot screws are maintenance-free and have a larger diameter. This allows for fine adjustments, even when wearing work gloves under difficult environmental conditions.
- These tribrachs are suitable for non-motorised TPS instruments with angle accuracy from 5" to 7" and GNSS antenna stations as well as backsights and control points.

### PROFESSIONAL 1000



GDF301  
GDF302

- The hysteresis of the Professional 1000 Series tribrachs amounts to a maximum of 5" (1.5 mgon).
- The GDF101 and GDF102 are cost effective tribrachs which prove themselves in use under normal environmental conditions.
- These tribrachs are suitable for non-motorised TPS instruments with angle accuracy of 7" and single frequency GNSS antenna stations.



#### The torsional rigidity of the original

The accuracy with which a tribrach returns to its starting position once the instrument has stopped, is called torsional rigidity or hysteresis. This hysteresis is the relative movement between the top plate and the base plate of a tribrach that occurs through the rotation of a TPS instrument. The hysteresis has direct influence on the angular accuracy of the instrument – and that speaks for the original. To optimise the hysteresis as Leica Geosystems has done is complex and calls for the highest precision: a movement of the top plate to the base plate of 0.3 µm corresponds to an angle error of 1". Especially motorised instruments with their high acceleration and brake power require tribrachs with very high torsional rigidity.



## Original prisms

### Maximum accuracy and range



The range of a prism results from, among other things, its coating and the glass geometry. A number of original prisms from Leica Geosystems have a special coating on the reflective surfaces – the anti-reflex coating, and a copper coating on the reverse side. Without the copper coating, the range of distance measuring, ATR and PowerSearch would be reduced by up to 30%. The workmanship and the durability of the copper coating are decisive for a long life. The glass dimensions, the position in the holder and with it the spatial orientation, are important for measuring accuracy.

Leica Geosystems prisms are manufactured from glass of the highest quality and furnished with optical coatings so that even under the most extreme environmental conditions, a long lifetime and maximum range of the highest accuracy can be achieved.

# Transparent choice

## The optimal prism for your application

Leica Geosystems offers a transparent selection of prisms in various sizes for different areas of application.

### PROFESSIONAL 5000



HIGHEST ACCURACY

The prisms distinguish themselves through a centring accuracy of under 1 mm and the best possible beam deviation of <math>\lt; 2''</math> to achieve the maximum range.

■ **Standard reflectors**

For the most common applications. All prisms have an anti-reflex coating to provide highest longevity as well as to minimise measurement errors in close ranges.

■ **Special reflectors**

For highest precision with ingenious technology such as a precision metal housing, or those with carbon fibre strengthened prism axis.

■ **Mini reflectors**

High value, small format prisms for highest accuracy at close to medium range.

**Centring accuracy**

Measurement errors occur if original prism holders are not used. Substitutes are not configured according to Leica Geosystems criterion and often exhibit displacement between prism, holder and mounting stub.

**Range**

The beam deviation of a prism defines the maximum range. The smaller the beam deviation (measured in angular seconds), the greater the directly reflected signal strength to the sender optic.

### PROFESSIONAL 3000



MAXIMUM LIFETIME

Optimised for common operating distances, these prisms exhibit a beam deviation of up to 8". The special working of the optical coating, unique on the market, provides an above average lifetime.

■ **Standard reflectors**

All-rounder prism with integrated target plate for standard applications.

■ **Special reflectors**

Optimised for long-term monitoring applications. The special anti-condensation construction with a patented filter guarantees reliable measurement ranges in difficult weather conditions. Choice of high-precision reflective tapes.

■ **Mini reflectors**

Easy to handle and light to transport mini prisms.

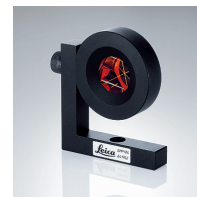
**Lifetime**

In contrast to many conventional prisms, the reflective copper coating on the reverse side of original prisms consists of an adhesive coating, a copper coating, a protective coating and an overlying coat of lacquer. Working together, the copper coating and the lacquer increase the life of the prism significantly. An additional anti-reflex coating on the sensitive front surface provides a tough resistance to scratches.

**Measurement accuracy**

Measurement errors occur frequently at close ranges when prisms without anti-reflex coating are used, as the front of a prism always directly reflects a certain percentage of a signal.

### PROFESSIONAL 1000



COST EFFECTIVE MEASURING

Despite its attractive cost-performance ratio, the Professional 1000 Series fulfils the strict Leica Geosystems process controls as well as users' high demands regarding lifetime.

■ **Standard reflectors**

Round prism with optional target plate.

■ **Special reflectors**

Optimised for monitoring applications with high demands on the relative measurement accuracy. Robust metal bracket for simple and flexible assembly.



# Original data communication

## Secure data storage and transfer



Losing data after a work-filled day is frustrating and expensive. The electronic accessories from Leica Geosystems comply with a higher standard than the commercially available accessories that meet consumer or even industry standards. The storage media and other data transfer products from Leica Geosystems are qualitatively of extremely high value and reliability.



### Storage media

Leica Geosystems storage media are perfectly matched to Leica Geosystems instruments and sensors. Compared to conventional devices on the market, that read or write single data, these instruments have a different functional principle. The TPS or GNSS instruments create a database on the memory card and switch constantly between different open files. Standard memory cards are unable to manage this required multi-tasking function. This leads to problems in data communication and is one of the main causes of data loss. Furthermore, the original storage media also function with highest reliability in extreme temperatures, handling shock and high humidity.

### Cable

The Leica Geosystems accessory program includes data transfer cables, power tension cables and antenna cables of the highest quality. For data transfer, Leica Geosystems offers serial and USB data cables. The data transfer over the cable from and to the instrument is therefore extremely reliable and secure, even in extreme heat, cold, snow and rain.

All Leica Geosystems cables are equipped with LEMO® plugs for outdoor use. The precision connections of recognised market leaders are found not only at Leica Geosystems, but also in other applications where similar quality demands are made, such as aviation, aerospace and medical technologies. A further significant quality component of the Leica Geosystems cable is its casing. It is constructed so that the cable can be stored at temperatures from  $-40$  to  $+70^{\circ}\text{C}$  and functions reliably at operating temperatures from  $-20$  to  $+55^{\circ}\text{C}$  while remaining elastic in handling. Last but not least, although not visible from the exterior, it is the cable material that determines the security of data transfer. The original cable contains only high-value cable casing, tested shielding and highly conductive copper litz wires. In other cables, such as "Leica-like" replicas, quite inferior value cable material, sometimes even with aluminium litz wires, is used. This aspect alone can lead to strong disturbances and transfer errors.





# Original batteries and chargers

## For reliable instrument function



At first glance, chargers and batteries do not seem to be important accessories. Perhaps they do not seem worth paying attention to for quality or origin. Experience shows the opposite. Instruments and their electronics react sensitively and need a reliable power supply in all environmental conditions. Batteries and chargers are also exposed to these conditions – some will function, others might and some not for long or not at all, under certain conditions. That is why the quality and efficiency of the originals also counts for batteries and chargers.

# Transparent choice

## Perfect batteries and chargers

Leica Geosystems offers you a wide range of high-value chargers and batteries. For chargers, you have the choice between the Professional 5000 Series with high functionality and intelligence and the Professional 3000 and 1000 Series, the cost-effective alternatives with less function, but outstanding quality and security.

### PROFESSIONAL 5000



**INTELLIGENT CHARGER**

- High-end charger, optimally designed for batteries used by Leica Geosystems.
- Intelligent battery recognition and controlled charging for longest battery service life.
- Charging and discharging cycles to refresh old cells.
- Intelligent trickle charging ensures that fully charged batteries are always ready for use.
- Through intelligent charging bay concept all Li-Ion batteries are fully backwards compatible.
- Charge up to 4 batteries overnight.

### PROFESSIONAL 3000



**MULTI-FUNCTIONAL CHARGER**

- Cost effective mains power supply to charge one battery at a time.
- Built-in battery recognition for optimal charging.
- Includes car adapter cable.

### PROFESSIONAL 1000



**SIMPLE CHARGER**

- Can be directly plugged into CS field controller or docking station in order to charge batteries without removal.

#### The benefits of the originals

Chargers and batteries from Leica Geosystems are perfectly matched to each other and to the instruments, and reliably secure the power supply in the field. They achieve best values in regard to temperature tolerance, re-charging capability, operating time and cycle behaviour. Carefully and correctly handled, Leica Geosystems batteries achieve a maximum service life and are a guarantee that in decisive moments enough energy is available in the instrument, so that a measurement can be exactly and correctly completed.

#### Quality and safety requirements

- Only brand battery cells
- Integrated microchip for intelligent charging
- Integrated temperature sensor as protection against over-heating
- Integrated protection against short circuits
- Gold-coated contacts
- IP54 tested against rain and splash water
- Resilience against high mechanical influences
- Electronics protect against deep discharge and current peaks on charging, that could damage the batteries





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# Tripods

## PROFESSIONAL 5000



### **GST20, Wooden tripod**

Heavy duty tripod with plumb bob, carrying strap and side clamp screws. Proven long-life, twist-proof and excellent vibration characteristics. Packaged length 110 cm (3.61 ft), extendible to 180 cm (5.91 ft), weight 6.4 kg (14.1 lb).

**Order No: 296632**



### **GST120-9, Wooden tripod**

Heavy duty self-closing tripod with carrying strap and side clamp screws. Proven long-life, twist-proof and excellent vibration characteristics. Packaged length 110 cm (3.61 ft), extendible to 180 cm (5.91 ft), weight 6.4 kg (14.1 lb).

**Order No: 667301**



### **GST20-9, Wooden tripod**

Heavy duty tripod with carrying strap and side clamp screws. Proven long-life, twist-proof and excellent vibration characteristics. Packaged length 110 cm (3.61 ft), extendible to 180 cm (5.91 ft), weight 6.4 kg (14.1 lb).

**Order No: 394752**



### **GST40, Wooden tripod**

Heavy duty tripod with rigid legs, suitable for precision levelling. Proven long-life, twist-proof and excellent vibration characteristics. Length 170 cm (5.58 ft), weight 6.0 kg (13.2 lb).

**Order No: 328422**

## PROFESSIONAL 3000



### **GST05, Wooden tripod**

Light duty tripod with water-tight plastic wrap for complete protection. Suitable for TPS instruments with angular measurement accuracy starting from 5", reflectors and GNSS antennas. Packaged length 107 cm (3.51 ft), extendible to 176 cm (5.77 ft), weight 5.6 kg (12.3 lb).

**Order No: 399244**

## PROFESSIONAL 1000



### **GST101, Wooden tripod**

Heavy duty tripod with carrying straps and side clamp screws. A cost effective alternative for TPS instruments with angular measurement accuracy starting from 5" and reflectors. Packaged length 104 cm (3.41 ft), extendible to 166 cm (5.45 ft), weight 5.7 kg (12.6 lb).

**Order No: 726831**

## ACCESSORIES FOR TRIPODS



### **GST4, Tripod star**

For the secure set-up of tripods on slippery surfaces.

**Order No: 332200**



### **GHT43, Tripod bracket**

Adapter for mounting the TCPS radios on all tripods.

**Order No: 734163**



### **GST05L, Aluminium tripod**

Light duty tripod with shoulder strap. Light-weight and long lasting making it suitable for GNSS antennas, prisms and levels. Packaged length 107 cm (3.51 ft), extendible to 176 cm (5.77 ft), weight 4.6 kg (10.1 lb).

**Order No: 563630**



### **GST103, Aluminium tripod**

Light tripod with carrying straps and side clamp screws. A cost effective alternative for levels, lasers and reflectors. Packaged length 105 cm (3.44 ft), extendible to 167 cm (5.48 ft), weight 4.5 kg (9.9 lb).

**Order No: 726833**



### **GHT58, Tripod bracket**

Adapter for mounting the GFU radios on all tripods.

**Order No: 748417**

# Tribrachs

## PROFESSIONAL 5000



### GDF321, Tribrach without plummet

High accuracy, maintenance free tribrach. Individually tested. Suitable for all high angular accuracy requirements.

Torsional stiffness < 1", weight 760 grams (1.72lb).

Order No: 777508

## PROFESSIONAL 3000



### GDF311, Tribrach without plummet

Suitable for TPS instruments with an angular accuracy of greater than 3". The footscrews have a large diameter which permits fine adjustment even when wearing work gloves.

Torsional stiffness < 3", weight 800 grams (1.76lb).

Order No: 842061

## PROFESSIONAL 1000



### GDF301, Tribrach without plummet

A cost effective tribrach suitable for use in normal environments. Suitable for all light-weight instruments of low angular accuracy. Black colour.

Torsional stiffness < 5", weight 800 grams (1.76lb).

Order No: 842063



### GDF322, Tribrach with optical plummet

High accuracy, maintenance free tribrach. Individually tested. The optical plummet is of robust construction, virtually eliminating the need for adjustment during the lifetime of the tribrach. Torsional stiffness < 1",

weight 850 grams (1.90lb).

Order No: 777509



### GDF312, Tribrach with optical plummet

The tribrach and optical plummet are of robust construction and suitable for long period exposure in all environments. This makes the GDF312 ideal for GNSS and backsights and control points.

Torsional stiffness < 3", weight 885 grams (1.95lb).

Order No: 842062



### GDF302, Tribrach with optical plummet

A cost effective tribrach with optical plummet for use in normal environments. Suitable for GNSS antennas.

Torsional stiffness < 5", weight 885 grams (1.95lb).

Order No: 842064

## ACCESSORIES FOR TRIBRACHS



### GHM007, Height meter

For quick and easy instrument height measurement. The specially scaled tape, accurately displays the height to the centre of the TPS telescope or prism centre. The GHT196 holder is additionally required.

Order No: 667718



### GHT196, Holder for height meter

For attachment of the GHM007 height meter to any Leica Geosystems tribrach.

Order No: 722045



# Carriers

## PROFESSIONAL 5000



### SNLL121, Precision carrier with laser plummet

The laser provides convenient setting up even in conditions of poor visibility. Supplied with 4x AA-size alkaline batteries.

Reflector centring accuracy 0.3 mm, plummet accuracy 1.0 mm at 1.5 m.

**Order No: 667316**

## PROFESSIONAL 3000



### GRT144, Carrier with stub

Simple carrier for use in tribrachs with optical plummet. Suitable for reflectors with stub fitting.

Reflector centring accuracy 1.0 mm.

**Order No: 667313**



### GRT146, Carrier with 5/8" thread

Simple carrier for use in tribrachs with optical plummet. For direct fitting of GNSS antennas.

Reflector centring accuracy 1.0 mm.

**Order No: 667216**



### GZR3, Precision carrier with optical plummet

With high accuracy optical plummet and longitudinal bubble for exact positioning over measurement points.

Reflector centring accuracy 0.3 mm, plummet accuracy 0.5 mm at 1.5 m.

**Order No: 428340**

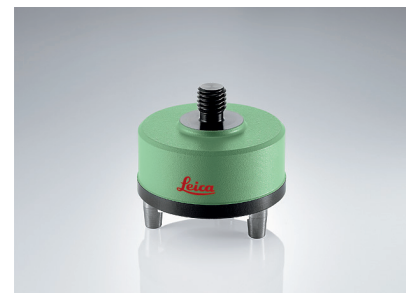


### GZR103, Carrier with optical plummet

Rotatable carrier with longitudinal bubble for use in tribrachs without plummet.

Reflector centring accuracy 1.0 mm, plummet accuracy 0.5 mm at 1.5 m.

**Order No: 725566**



### GRT247, Carrier with 5/8" thread for GS15

Simple carrier for use in tribrachs with optical plummet. For direct fitting of GS15 GNSS receiver.

Reflector centring accuracy 1.0 mm.

**Order No: 770715**

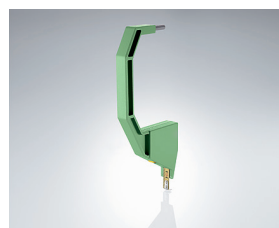
## ACCESSORIES FOR CARRIERS



### GAD31, Screw-to-stub adapter

For mounting of GNSS antennas to poles and carriers with stub.

**Order No: 667217**



### GZS4, Height hook

Hook to precisely measure the height of GNSS antennas and reflectors. Connects to all Leica Geosystems carriers. With integrated tape measure in mm and inches.

**Order No: 667244**

# Standard reflectors

## PROFESSIONAL 5000



**GPR121, Circular prism with holder**  
Precision circular prism with anti-reflex coating, mounted in metal holder. Supplied with removable target plate. Centring accuracy 1.0 mm, range 3,500 m (11,500ft).  
**Order No: 641617**

## PROFESSIONAL 3000



**GPR111, Circular prism with holder**  
Circular prism, sealed in red polymer holder. Large integrated target plate provides good visibility. Centring accuracy 2.0 mm, range 2,500 m (8,200ft).  
**Order No: 641618**

## PROFESSIONAL 1000



**GPR113, Circular prism with holder**  
Circular prism mounted in red polymer holder. Suitable for fitting of the 362823 GZT4 target plate. Centring accuracy 2.0 mm, range 2,500 m (8,200ft).  
**Order No: 753492**



**GPR1, Circular prism**  
Precision circular prism with anti-reflex coating. Suitable for mounting in GPH1 and GPH3 holders. Centring accuracy 1.0 mm, range 3,500 m (11,500ft).  
**Order No: 362830**



**GRZ4, 360° prism**  
Suitable for all robotic TPS work performed with a survey pole. Overall 3D pointing accuracy of 5.0 mm. When aiming on a side marked by a yellow arrow, an accuracy of better than 2.0 mm can be achieved. ATR range of 600 m (2,000ft).  
**Order No: 639985**

## ACCESSORIES FOR STANDARD REFLECTORS



**GPH1, Prism holder**  
Holder for one GPR1 circular prism. The 362823 GZT4 target plate can be attached to this holder.  
**Order No: 362820**



**GPH3, Prism holder**  
Holder for three GPR1 circular prisms. Provides extremely long distance measuring range, up to 5,400 m (17,700 ft) with prism mode.  
**Order No: 400080**



**GZT4, Target plate for GPH1**  
Target plate, mountable on the GPH1 and GPR113 prism holder.  
**Order No: 362823**

# Special reflectors

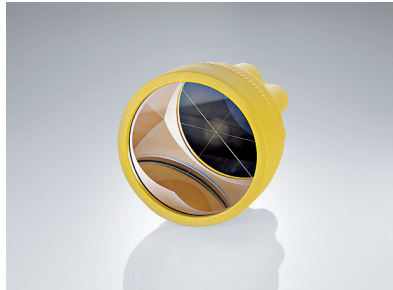
## PROFESSIONAL 5000



### GPH1P, Precision prism

Precisely machined reflector, for high accuracy requirements. The prism diopter is slightly tilted to prevent any EDM reflection from the front surface, thereby increasing measurement accuracy. Centring accuracy 0.3mm, range 3,500m (11,500ft). **Order No: 555631**

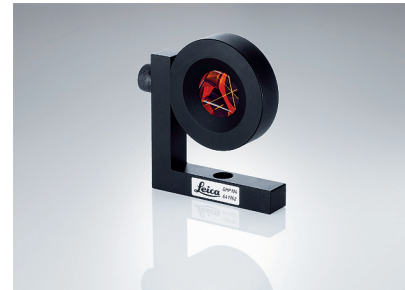
## PROFESSIONAL 3000



### GPR112, Monitoring prism

Large diameter monitoring prism for long range measurements. For installation on M8 or 5/8" threaded bolts. Built-in filter prevents condensation on the backside of the prism. Rain/snow cover available separately, range 2,500m (8,200ft). **Order No: 726295**

## PROFESSIONAL 1000



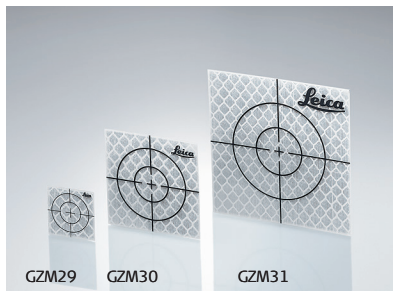
### GMP104, Monitoring mini prism

Mini monitoring prism with anti-reflex coating mounted in metal holder. Supplied with L-bar for fixed installations. The prism offset is dependant on the mounting position, range 2,000m (6,600ft). **Order No: 641762**



### GRZ122, 360° prism

The high performance GRZ122 allows connectivity to the Leica SmartAntenna. The built-in point allows the reflector to be positioned directly on a survey mark, at a height of 78mm. Overall 3D pointing accuracy is 2.0mm. ATR range of 600m (2,000ft). **Order No: 754384**



### GZM29/30/31, Reflective tapes

Self-adhesive, reflective tapes supplied in pack of 20 pieces.

**GZM29**, 20x20mm, for measurements up to 100m (330ft). **Order No: 763532**

**GZM30**, 40x40mm, for measurements up to 200m (650ft). **Order No: 763533**

**GZM31**, 60x60mm, for measurements up to 250m (820ft). **Order No: 763534**



### GPR105, Double sided reflector

This unique reflector provides two back-to-back prisms, both with 0-constant. With 1/4" fitting, suitable for mounting on GLS105/115 reflector poles or GAD105, range 250m (820ft).

**Order No: 731346**

## ACCESSORIES FOR GPR112



### GHT112, Mounting set for GPR112

Mounting set for GPR112 with M8 and 5/8" internal thread adapters, suitable for direct fixing systems on nearly every surface, prism is adjustable and fixable in two axes. **Order No: 726296**



### GDZ112, Rain shelter for GPR112

Rain shelter for monitoring prism GPR112. Full availability of the prism even in rainy and snowy conditions. The rain shelter protects the prism front against rain drops, snow and dust.

**Order No: 727406**



# Mini reflectors

## PROFESSIONAL 5000



### GMP101, Mini prism set

Mini prism mounted in metal holder. Includes a circular bubble, removable target plate, spike and padded bag. Prism constant of +17.5mm, centring accuracy 1.0mm, range 2,000m (6,600ft). **Order No: 641662**

## PROFESSIONAL 3000



### GMP111, Mini prism with holder

Mini prism mounted in polymer holder with 1/4" thread fittings. Includes circular bubble, GLS115 four-section pole and point. Prism constant of +17.5mm, range 2,000m (6,600ft). **Order No: 641615**

## ACCESSORIES FOR MINI REFLECTORS



### GAD103, Mini prism adaptor

Adapter for attaching the GRZ101 to poles and carriers with stub. Provides the same height offset as for standard reflectors. **Order No: 742006**



### GAD105, Mini prism adapter

Adapter for attaching the GMP111, GMP111-0 to poles and carriers with stub. Provides the same height offset as for standard reflectors. **Order No: 743503**



### GRZ101, 360° mini prism

Suitable for short range prism applications. Due to its small size, the GRZ101 provides the greatest pointing accuracy of 1.5mm. With the GAD103 adapter, this reflector can be mounted on all poles with stub fitting. ATR range of 350m (1,150ft). **Order No: 644327**



### GMP111-0, Mini prism with holder

Mini prism mounted in polymer holder with 1/4" thread fittings. Includes circular bubble, GLS115 four-section pole and point. Leica 0-prism constant, max. IR range of 2,000m (6,600ft). **Order No: 642534**



### GMP112, Hidden point pole

Hidden point pole extension for GMP111. Includes mini reflector and 30cm adapter pole. Provides prism separation of 40, 70 and 100cm. **Order No: 742329**



### GVP608, Soft bag

Bag for GMP111, GMP111-0, GRZ101 mini prisms and the GLS115 pole set. **Order No: 642344**

# Containers & bags

## HARD-TOP CASES



### **GVP609, Container for accessory**

For 2 reflectors (GPR121, GPR111, GPH1 with GPR1, GRZ4 or GPH1P), 2 carriers (GZR3, SNLL121, GZR103 or GRT144), 2 tribrachs (all types), GZT4 target plate and GHM007 height meter.

**Order No: 667451**

### **GVP722, Container for SmartPole and SmartStation**

Hard container for SmartAntenna, CS field controller/tablet and accessories for a SmartPole and SmartStation setup.

**Order No: 817055**

### **GVP734, GNSS Rover Container**

Small-sized hard container for SmartAntenna, CS10, CS15, CS20 field controller and accessories for a rover setup.

**Order No: 855306**

### **GVP723, Container for GS10/25 base**

Hard container for GS10/GS25 receiver, CS field controller/tablet and accessories for a base or rover setup.

**Order No: 817056**

### **GVP724, Container for TS robotic setups**

Small-sized hard container for 360° prism and CS field controller for TS robotic setup.

**Order No: 817057**

### **GVP735 GNSS Base+Rover Container**

Hard container for 2 SmartAntennas, CS field controller and accessories for a base and rover setup.

**Order No: 855307**

# Containers & bags

## BACKPACKS, BAGS



### **GVP643, Soft bag for CS10 field controller**

Soft bag for CS10 field controller for transportation and protection against dirt. Including belt loop.

**Order No: 767904**



### **GVP703, Soft bag**

Padded bag for accessories, controller, radios or CS25 tablet.

**Order No: 790314**



### **GVP102, Soft bag for prism station**

Soft bag with shoulder strap, for prism station, consist of tribrach, prism carrier or laser plummet and prism.

**Order No: 727589**



### **GVP644, Soft bag for CS15 field controller**

Soft bag for CS15 field controller for transportation and protection against dirt. Including belt loop.

**Order No: 767905**



### **GVP647, Minipack for GNSS receiver**

Minipack, for GS10 receiver, allows carrying GNSS Receiver and RTK Devices in a most ergonomic way on the back.

**Order No: 770707**



## ACCESSORIES FOR CONTAINERS



### **GVP716, Backpack carrying system**

Easy-to-mount backpack system for carrying all large TPS and GNSS container including TS/MS60 containers.

**Order No: 833516**



### **GVP717, Sidebag for containers**

Can be mounted to GVP721/722/723/725 containers. To hold additional accessories, CS35 tablet, laptop or documents.

**Order No: 833517**



### **GVP719, Shoulder strap**

For carrying short distances. Fits to GVP721/722/723/725 containers.

**Order No: 833519**



### **GVP718, Basic carrying system**

Fits to GVP721/722/723/725 containers.

**Order No: 833518**



### **GDZ66, Back strap**

Set of two back straps, for all containers with suitable mountings. The container can still be opened while the straps are attached.

**Order No: 744501**

# TPS poles

## PROFESSIONAL 5000



GLS12 GLS12F

### GLS12, Telescopic pole

Pole with snap locks to prevent any pole slip. Suitable for the GRZ122 reflector together with GNSS antenna. Graduated in cm, min. length 1.39m, extendible to 2.0m, weight 950grams.

**Order No: 754391**

### GLS12F, Telescopic pole

Pole with snap locks to prevent any pole slip. Suitable for the GRZ122 reflector together with GNSS antenna. Graduated in ft, min. length 4.56ft, extendible to 6.56ft, weight 2.09lb.

**Order No: 754389**



### GLS14, Mini pole

Mini reflector pole for exact positioning of the reflector over a survey mark. Provides a prism height of 20cm (0.66ft). **Order No: 403427**

## PROFESSIONAL 3000



GLS11 GLS111 GLS112

### GLS11, Telescopic pole

Reflector pole with quick release clamp for easy and rapid height adjustment. Graduated in cm and ft, min. length 1.24m (4.07ft), extendible to 2.15m (7.05ft), weight 940g (2.07lb).

**Order No: 385500**

### GLS111, Telescopic pole

Heavy duty reflector pole with red/white markings for high visibility. Twist lock provides easy and secure tightening. Graduated in cm and ft, min. length 1.40m (4.59ft), extendible to 2.60m (8.53ft), weight 1.48kg (3.26lb).

**Order No: 667309**

### GLS112, Telescopic pole

Heavy duty reflector pole with red/white markings for high visibility. Twist lock provides easy and secure tightening. Graduated in cm and ft, min. length 1.47m (4.82ft), extendible to 3.60m (11.81ft), weight 1.88kg (4.14lb).

**Order No: 667310**

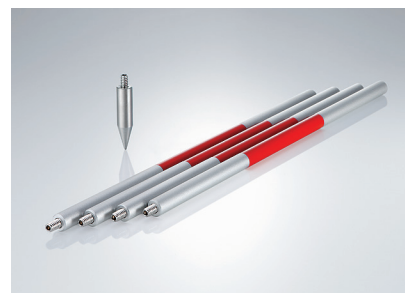
## PROFESSIONAL 1000



### GLS101, Telescopic pole

Carbon / aluminium reflector pole with twist lock and pin lock to prevent any pole slip. Graduated in cm and ft. min length 1.31m, extendible to 2.3m, weight 1.230 g.

**Order No: 865472**



### GLS115, Mini pole

Set of four screw-together sections and point with 1/4" threads. Suitable for GMP111, GRZ101 and GPR105 reflectors. Provides prism heights of 10, 40, 70, 100 or 130cm. For prisms without bubble a additional clip on bubble is available (GLI115, 747895).

**Order No: 642106**

# GNSS poles

## PROFESSIONAL 5000



**GLS30, Telescopic carbon fibre GNSS pole**  
Carbon fibre pole with snap lock at 2.00m (6.56ft) and 1.80m (5.91ft) for rapid setup. Min. length 1.36m (4.46ft), light weight at 700g (1.55lb).  
**Order No: 752292**

**GLS31, Telescopic carbon fibre SmartPole**  
Carbon fibre pole with snap lock at 2.00m, 1.80m and 1.50m for GRZ122 360° prism and GNSS antenna. Min. length 1.36m (4.46ft), light weight at 700g (1.55lb). **Order No: 766359**

## PROFESSIONAL 3000



**GLS12, Telescopic aluminium SmartPole**  
Pole with snap locks to prevent any pole slip. Suitable for the GRZ122 360° prism and GNSS antenna. Graduated in cm, min. length 1.39m, extendible to 2.0m, weight 950g.  
**Order No: 754391**

**GLS13, Telescopic aluminium GNSS pole**  
Aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble. Min. length, 1.39m. weight 950g.  
**Order No: 768226**

## PROFESSIONAL 1000



**GLS102, Telescopic GNSS pole**  
Carbon / aluminium reflector pole with twist lock and pin lock to prevent any pole slip. Graduated in cm and ft. min length 1.39m, extendible to 2.3m, weight 1.290 g.  
**Order No: 865473**

## ACCESSORIES FOR GNSS POLES



**GAD32, Telescopic rod**  
Telescopic rod with 5/8" screw. Fits in 667137 GVP603 backpack, for radio and GNSS antenna mounting. Can be secured on a tripod using the 667236 GHT36 adapter.  
**Order No: 667228**



# Accessories for TPS poles

## ACCESSORIES FOR TPS POLES AND GNSS POLES



**GHT63, Poleclamp for field controller holder**

Poleclamp to attach a holder GHT62, GHT66 or GHT78 to every telescopic pole.

**Order No: 767880**



**GHT36, Base for telescopic rod on tripod**

Base with 5/8" screw, for setting up telescopic rod on tripod.

**Order No: 667236**



**GHT64, Holder for GFU or GSM modems**

Holds GFU or GSM modems with strong hook and loop fastener. Mountable on all GNSS poles.

**Order No: 767896**



**GHT62, Holder for CS10/15 field controller**

Adjustable holder for CS10/CS15 field controller.

**Order No: 767879**



**GHT66, Holder for CS20 field controller**

Adjustable holder for CS20 field controller.

**Order No: 807157**



**GHT78, Holder for CS35 tablet**

Adjustable holder for CS35 tablet.

**Order No: 832127**



**GHT70, Tripod holder for CS field controllers**

For attaching a CS10, CS15, CS20 or CS35 field controller with its designated holder to a tripod.

**Order No: 845832**



**GAD124 Topo Shoe for GLS30/31**

Pin with screwable plate for attaching to a GLS30/31 for using on soft ground.

**Order No: 876271**

## ACCESSORIES FOR TPS POLES AND GNSS POLES



### **GSR2, Dual strut support**

With 2 telescopic legs, for rapid set-up of  $\varnothing$  25 mm poles.

**Order No: 555720**



### **GSR111, Dual strut support**

With 2 telescopic legs, for rapid set-up. Suitable for poles of all diameters.

**Order No: 667319**



### **GZW12, TPS pole extension**

Extends all poles with stub fitting, by 1.00 m (3.28 ft).

**Order No: 403428**



### **GST6, Quickstand**

With 3 telescopic legs, provides an extremely stable support for  $\varnothing$  25 mm poles.

**Order No: 560138**

### **GLS18, GNSS pole extension**

Extends all poles with 5/8" thread by 1.00 m (3.28 ft).

**Order No: 667222**

## ACCESSORIES FOR EXT. ANTENNAS



### **GAD108, Arm for UHF/GSM antenna to GS15**

Arm to mount external UHF/GSM antenna to GS15 SmartAntenna, useful in areas of poor radio or cellphone network reception. Gainflex UHF/GSM antenna fits on arm.

**Order No: 767790**



### **GAD33, Arm 15 cm for UHF/GSM antenna**

Arm 15 cm long, attaches to GNSS antenna. Gainflex UHF/GSM antenna fits on arm. Antenna cable connects to arm.

**Order No: 667219**



### **GAD34, Arm 3 cm for UHF/GSM antenna**

Arm 3 cm long, screws on telescopic rod with 5/8" screw. UHF/GSM antenna fits on arm. Antenna cable connects to arm.

**Order No: 667220**



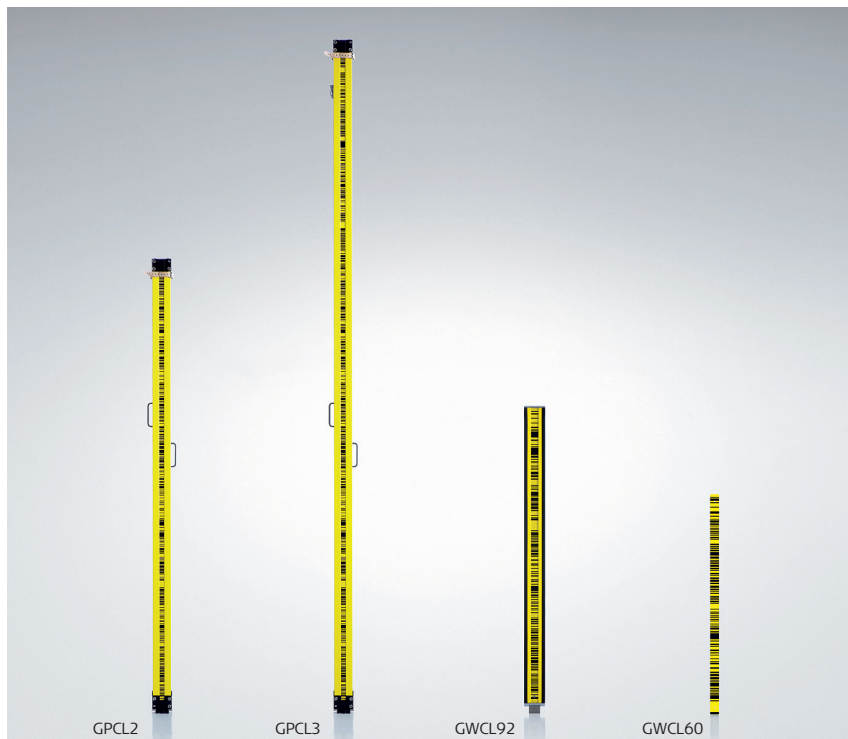
### **GAD46, Double arm for UHF/GSM antennas**

Double arm adapter, screws on telescopic rod. Allows to connect up to 2 UHF/GSM antennas and up to 2 antenna cables on arm.

**Order No: 734388**

# LS/DNA levelling staffs

## PROFESSIONAL 5000



### GPCL2, Invar staff with bar code

Precision levelling staff with 2 circular bubbles. The two attached handles provide steady positioning. Length 2.0m (5.56ft), weight 4.2kg (9.3lb).  
**Order No: 563659**

### GPCL3, Invar staff with bar code

Precision levelling staff with 2 circular bubbles. The two attached handles provide steady positioning. Length 3.0m (9.84ft), weight 4.9kg (10.8lb).  
**Order No: 560271**

### GPCL3, Invar staff with certificate

Precision staff, individually measured for accuracy. Supplied with expansion co-efficient and length calibration certificate. Length 3.0m (9.84ft), weight 4.9kg (10.8lb).  
**Order No: 560274**

### GWCL92, Invar staff with bar code for industrial applications

Light-weight staff with circular bubble. Interchangeable edge or pin base, suitable for industrial applications. Length 92cm (3.02ft), weight 1.7kg (3.7lb).  
**Order No: 632313**

### GWCL60, Invar scale with bar code

Invar scale with screw holes allow for attachment directly to structures. Ideal for long-term height monitoring applications. Dimensions of 600x25x1.5mm, for measuring range of 1.8 - 20m (6 - 65ft).  
**Order No: 563733**

## PROFESSIONAL 3000



### GTL4M, Telescopic fiberglass staff

Four-section telescopic staff. Dual measuring faces with bar code and mm graduations. Incl. transport bag. Length 1.2m (3.94ft) to 4.0m (13.12ft), weight 2,2kg (4.9lb), coefficient of expansion 10ppm/°C. **Order No: 757761**

### GTL4C, Telescopic aluminium staff

Four-section telescopic staff. Dual measuring faces with bar code and mm graduations. Incl. transport bag. Length 1.2m (3.94ft) to 4.0m (13.12ft), weight 1.8kg (4.0lb), coefficient of expansion 24ppm/°C. **Order No: 667113**

### GKNL4M, Sectioned fiberglass staff

3 connectable sections. Dual measuring faces with bar code and cm graduations. With 2 handles and transport bag. Length 1.6m to 4.0m, weight 4.4kg, coefficient of expansion 10ppm/°C. **Order No: 522794**

### GKNL4F, Sectioned fiberglass staff

Levelling staff in 3 connectable sections. Dual measuring faces with bar code and ft graduations. Incl. transport bag and 2 handles. Length 5.18ft to 13.12ft, weight 9.7lb, coefficient of expansion 10ppm/°C. **Order No: 522793**



# Data storage

## MEMORY CARDS AND CARD READERS



### MSD1000, Industrial grade SD memory card 1 GB

Secure digital memory card. capacity 1 GB. These rugged industrial grade cards protect data even when dropped and in extreme environmental conditions.

Order No: 767856



### MSD08, Industrial grade SD memory card 8 GB

Secure digital memory card. Capacity 8 GB. These rugged industrial grade cards protect data even when dropped and in extreme environmental conditions.

Order No: 789139



### MSD, Industrial grade Micro SD memory card 1 GB

Micro secure digital card. Capacity 1 GB. These rugged industrial grade cards protect data even when dropped and in extreme environmental conditions.

Order No: 795993



### MCF256, Industrial grade CompactFlash card 256 MB

CompactFlash memory card. Capacity 256 MB. These rugged industrial grade cards protect data even when dropped and in extreme environmental conditions.

Order No: 733257



### MCF1000, Industrial grade CompactFlash card 1 GB

CompactFlash memory card. Capacity 1 GB. These rugged industrial grade cards protect data even when dropped and in extreme environmental conditions.

Order No: 745995



### MCFAD1, CompactFlash card adapter

Adapts a CompactFlash card to PCMCIA size. Allows use of the 32 MB CompactFlash card in DNA, GPS500 and TPS1100 instruments.

Order No: 733258



### MS1, Industrial grade USB memory stick 1 GB

Rugged USB stick in metal housing. industrial grade with highest data security and reliability at extreme environmental conditions.

Order No: 765199



### MCR8, USB card reader for SD, CF and SRAM cards

Omnidrive card reader for SD, CF and SRAM cards. Secure data transfers with USB connection to all PC operating systems. CF cards only with MCFAD1 useable.

Order No: 776240



### MCR7, USB card reader for SD and CF

Omnidrive card reader for SD and CF cards. Guaranteed secure data transfers with USB connection to all PC operating systems.

Order No: 767895

# Radio accessories

## ACCESSORIES FOR HPR RADIOS



### **GST74, Antenna mast including tripod**

Aluminium tripod with a telescopic mast to extend the antenna height up to 5 m (16.5 ft). Includes a bag and suspension ropes with hooks.

**Order No: 806098**



### **GVP712, Container for HPR high power radio**

Small black waterproof container. Holds a HPR radio and cables.

**Order No: 806097**



### **GVP711, Soft bag for battery**

Soft bag which can hold a battery. Includes a cable kit with 2 SAE connectors to connect to GEV272 or GEV274 power cable.

**Order No: 806096**



### **GAD117, Adapter antenna to mast**

Adapter for mounting the GAT23 or GAT24 antenna to the top of GST74. Includes 5 m (16.5 ft) cable.

**Order No: 806101**



### **GAT23, UHF antenna 430-450Mhz**

UHF whip antenna for 430-450MHz frequency range, 5 db gain.

**Order No: 806099**



### **GAT24, UHF antenna 450-470Mhz**

UHF whip antenna for 450-470MHz frequency range, 5 db gain.

**Order No: 806100**

ACCESSORIES FOR LEICA FIELD CONTROLLER AND TOTALSTATION



**GDZ71, Stylus**  
Stylus for CS20 field controller.  
**Order No: 813914**  
**GHT76, Tether**  
Tether to clip on a GDZ71.  
**Order No: 813582**



**GHT68, Utility hook for CS20 field controller**  
Utility hook for attaching CS20 field controller to a tripod.  
**Order No: 807245**



**GHT67, Hand strap for CS20 field controller**  
Hand strap for CS20 field controller.  
**Order No: 807158**



**GDZ76, Digitiser pen**  
Digitiser pen for CS35 tablet.  
**Order No: 851539**



**GHT77, Tether**  
Tether for a GDZ76.  
**Order No: 832122**



**GHT79, Hand strap**  
Hand strap for CS35 tablet.  
**Order No: 833343**



**CCS01, Docking station for CS10/CS15 field controller**  
For easy charging and data transfer to PC. CS10/CS15 field controller with attached holder can be placed into the docking station. Includes USB data transfer cable.  
**Order No: 767906**



**GHT61, Hand strap for CS10/CS15 field controller**  
Hand strap for field controller with utility hook for attaching to a belt or tripod.  
**Order No: 767877**



**SPF01, Screen protection foil** for CS10/CS15  
**Order No: 767907**  
**SPF03, Screen protection foil** for TPS1200, TS12, TS30, TM30  
**Order No: 799658**  
**SPF04, Screen protection foil** TS03, TS07, TS09+, TS11, TS12L, TS15, CS10, CS15, LS10/15, ICR60, ICB60, Builder 100-500  
**Order No: 799660**

**SPF05, Screen protection foil** for CS20, TS10, TS13, TS16, TS60, MS60, ICR80, ICB 50/70  
**Order No: 813781**  
**SPF06, Screen protection foil** for CS35  
**Order No: 832126**  
Each set contains 2 foils and a micro fibre cleaning cloth (except SPF06).



# Eyepieces

## DIAGONAL EYEPIECES AND ANCILLARY LENSES



### **GFZ4T, Diagonal eyepiece**

For comfortable observations of steep sights, up to the zenith. With thread connection. Fits only for Flexline plus TS02+. No counterweight needed.

**Order No: 793978**



### **GFZ3, Diagonal eyepiece**

For comfortable observations of steep sights, up to the zenith. Fits all TPS instruments except TS02+. Includes objective counterweight.

**Order No: 793979**



### **GOK6, Diagonal eyepiece**

For comfortable observations of steep sights, up to 66°. Has a variable joint for the adjusting the sighting angle. Fits all TPS instruments except TS02+. Includes objective counterweight.

**Order No: 376236**



### **GVO13, Solar filter**

Attaches to the objective of all TPS instruments. Protects eyesight and EDM electronics when sighting bright objects.

**Order No: 743504**



### **GOA2, Autocollimation eyepiece**

To perform autocollimation with any TPS instrument except TS02+. The 394787 GEB62 plug-in lamp and 394792 GEB63 battery box are additionally required.

**Order No: 199899**



### **FOK53, Magnification eyepiece**

Exchangable eyepiece for increasing telescope magnification to 42x (Requires fitting by a Leica Geosystems Service Centre).

**Order No: 377802**



### **GSK1, Set cover for eyepiece and lens**

Fits all TPS instruments.

**Order No: 799220**

# Chargers

## PROFESSIONAL 5000



### GKL341, Charging station

Intelligent charging ensures long battery life. Possible to charge up to 4 batteries simultaneously. GEB211/212/221/222/241/242/331. Includes country specific mains connection.

Order No: 799187



### GDC221, Car adapter cable

For connecting the GKL341 to a 12V – 24V power source, at the cigarette lighter socket. Built-in electronics protect the charger from power surges.

Order No: 734389

## PROFESSIONAL 3000



### GKL311, Battery charger

Easy-to-use, low cost charger for GEB211/212/221/222/241/242/331 Li-Ion batteries. Includes car adapter cable.

Order No: 799185



### GKL112, Battery charger

Simple, low-cost charger for GEB121 and GEB111 NiMh batteries. Includes car adapter cable.

Order No: 734753



### GKL32, Battery charger

Charges one GEB171 or batteries with 5-pin charging socket.

Order No: 785703



### GEV242, Battery charger

Charges one GEB371 battery.

Order No: 774437

### GKL235, Charger

Charger for CS35 battery GEB235/236.

Order No: 832118

## PROFESSIONAL 1000



### AC/DC adapters for field controller

AC/DC-adapter, power supply for Field Controller.

**GEV235, AC/DC adapter EU for CS10/CS15 field controller**  
Order No: 767900

**GEV235-1, AC/DC adapter US for CS10/CS15 field controller**  
Order No: 773753

**GEV235-2, AC/DC adapter JP for CS10/CS15 field controller**  
Order No: 773754

**GEV235-3, AC/DC adapter UK for CS10/CS15 field controller**  
Order No: 773755

**GEV235-4, AC/DC adapter AUS for CS10/CS15 field controller**  
Order No: 773756

**GEV276, AC/DC adapter for CS20 field controller**  
Order No: 822787

**GEV280-1, AC/DC adapter EU for CS35 tablet**  
Order No: 832113

**GEV280-2, AC/DC adapter UK for CS35 tablet**  
Order No: 832114

**GEV280-3, AC/DC adapter US for CS35 tablet**  
Order No: 832115

**GEV280-4, AC/DC adapter AUS for CS35 tablet**  
Order No: 832116

**GEV280-5, AC/DC adapter CH for CS35 tablet**  
Order No: 832117

# Batteries

## INTERNAL BATTERIES



### GEB242, Li-Ion battery

High output battery for TS60/MS60 and TM50 instruments, 14.8V/5.8Ah.  
Order No: 793975



### GEB222, Li-Ion battery

High output battery with extended capacity for all TS11/12/15/16 and Flexline instruments, GS10 GNSS receiver and Piper 100/200, 7.4V/6.0Ah.  
Order No: 793973



### GEB221, Li-Ion battery

High output battery for all TS02/06/09/11/12/15/16, GS10 GNSS receiver and Piper 100/200, 7.4V/4.4Ah.  
Order No: 733270



### GEB212, Li-Ion battery

High output battery with extended capacity for CS10/CS15 field controllers and GNSS receivers, 7.4V/2.6Ah.  
Order No: 772806



### GEB361, Li-Ion battery

High output battery for RTC and TS03/07/10 Flexline instruments, 11.1V/5.6Ah,  
Order No: 799191



### GEB331, Li-Ion battery

High output battery for CS20 field controller, 11.1V/2.8Ah.  
Order No: 799190



### GEB235, Li-Ion battery

Battery for CS35 tablet, 10.8V/4.4Ah.  
Order No: 832119



### GEB236, Li-Ion battery

High output battery for CS35 tablet, 10.8V/9.3Ah.  
Order No: 832120



### GEB121, NiMH battery

Low maintenance battery for TPS400/800 and DNA instruments, 6.0V/4.2Ah.  
Order No: 667123



### GEB111, NiMH battery

Low maintenance battery for TPS400/800 and DNA instruments, 6.0V/2.1Ah.  
Order No: 667318



## EXTERNAL POWER SUPPLY



### **GEB371, External Li-Ion battery**

High output battery for set-ups over long periods, 13V/250Wh. Requires GEV242 for charging. With a GEV277 cable the battery can be used as UPS (uninterruptible power supply).

Weight 2.3kg.

**Order No: 818916**



### **GEV270, Power supply**

Mains adapter for uninterruptible power supply. Connects to all Leica Geosystems power cables.

Country specific mains cable included.

AC input 100V–240V.

**Order No: 807696**

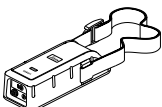
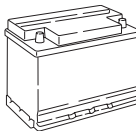
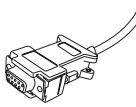
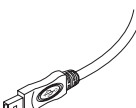




### **GEV71, Power cable**

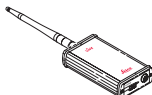
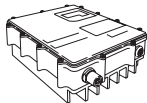
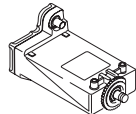

4m cable for 12V battery power supply. Protects the instrument from damage due to pole reversal and voltage peaks.

**Order No: 439038**

# Cables

DEVICE	INSTRUMENT	ART.	SIGN	DESCRIPTION
<b>GEB371 or GEV270</b> 	TS02/06/09/11/12/15/16, LS	409678	GEV52	Power cable, 1.8m, connects instrument to external battery
	GS10/25	560130	GEV97	Power cable, 1.8m, connects instrument to external battery
	TM50/TS/MS60, Any GS, CS10*/15*/20	758469	GEV219	Power cable, 1.8m, connects instrument to external battery
	GS10/25, GR10/25	733298	GEV172	Y-cable, 2.8 m, connects instrument with two external power supplies
	CS10/15/20, GS08plus/12/14/15	756365	GEV215	Y-cable, 2.0m, connects instrument to external battery
	GS08plus/12/15	748418	GEV205	Y-cable, 1.8 m, connects instrument to external battery
	GS14	796492	GEV264	Y-cable, 1.8 m, connects instrument to GFU and battery
	TM50/TS/MS60	793364	GEV261	Y-cable, 1.8 m, connects instrument to PC and battery
<b>12V car battery</b> 	All instruments	439038	GEV71	Car battery cable, 4m, connects all power cables to 12V car battery
<b>PC-RS232 port</b> 	TS02/06/09/11/12/15/16, LS	563625	GEV102	Data cable, 2m, connects instrument to PC (RS232)
	TS02/06/09/11/12/15/16, DNA	734698	GEV187	Y-cable, 2 m, connects instrument to PC and battery
	GS10/15/25, GR10/25	733280	GEV160	Data cable, 2.8 m, connects instrument port 2 to PC (RS232)
	TM50/TS/MS60, GS10/15, CS10*/15*/20	733282	GEV162	Data cable, 2.8 m, connects instrument to PC (RS232)
	GFU	733297	GEV171	Y-program cable, 1.8 m, for the Sateline radio modem inside the GFU housing
	SLR	767803	GEV231	Program adapter cable, 1.8 m, for SLR radios
	TM50/TS/MS60, GS10/15	759257	GEV220	Y-cable, 1.8 m, connects instrument to RS232 and battery
	TM50/TS/MS60, Any GS	793364	GEV261	Y-cable, 1.8 m, connects instrument to PC and battery
<b>PC-USB port</b> 	TS02/06/09/11/12/15/16, LS	806093	GEV267	Serial data transfer cable, 2 m, TS/TPS/LS LEMO® to USB
	GS10/15/25, GR10/25	806094	GEV268	Serial data transfer cable, 2 m, connects instrument port 2 to PC
	TM50/TS/MS60, GS10/14/15, CS10/15/20/25	806095	GEV269	Serial data transfer cable, 2 m, connects instrument to USB
	Any GS, CS10/15/20	767899	GEV234	USB data cable, 1.65 m, connects CS to GS or CS to PC (USB)
	TS02/06/09, CS10**/15**, GS25	764700	GEV223	USB data cable, 1.8 m, connects instrument with Mini-USB to USB
	TM50/TS/MS60, GS10/14/15	793364	GEV261	Y-cable, 1.8 m, connects instrument to PC and battery
<b>CS10/15/20</b> 	TS12/15/16	756367	GEV217	Data transfer cable, 1.8m, connects CS10/15/20 to TS12/15/16
	Any GS	767899	GEV234	USB data cable, 1.65 m, connects CS to GS or CS to PC (USB)
	TM50/TS/MS60, Any GS	772807	GEV237	USB data cable, 1.65 m, connects instrument to CS10*/15*/20
<b>External antenna</b> 	GS05/06, CGR10/15	772002	GEV238	Antenna cable, 1.2 m
* with LEMO® connector module ** with DSUB/Mini USB connector module				

# Cables

DEVICE	INSTRUMENT	ART.	SIGN	DESCRIPTION
<b>TCPS</b>  	TM50/TS/MS60	771057	GEV236	Y-cable, 1.8 m, connects instrument to TCPS and battery
	TS11/12/15/16	734697	GEV186	Y-cable, 1.8 m, connects instrument to TCPS and battery
<b>Satellite 3AS w/o housing</b>  	GS10/15/25	639968	GEV125	Data transfer cable, 1.8 m, connects Sateline radio w/o housing
<b>Satellite 3AS HPR (35W)</b>	GS10/14/15, GR10/25	817713	GEV275	Connects Sateline to instrument, for GS08plus a GEV205 is additionally required
	GS10/14/15, GR10/25	811818	GEV274	Y-cable, 2.8 m, connects Sateline to instrument and SAE adapter
	GVP711	809028	GEV272	Cable for power connection with SAE adapter to GVP711 battery bag
	PC RS232	809029	GEV273	Programming cable RS232
<b>GFU modem</b>  	GS15	748418	GEV205	Y-cable, 1.8 m, connects instrument to GFU and battery
	GS15	767898	GEV233	Data cable, 0.8 m, connects instrument to GFU
	GS15	767897	GEV232	Data cable, 2.8 m, connects instrument to GFU
	GS14	796492	GEV264	Y-cable, 1.8 m, connects instrument to GFU and battery
<b>External modem</b>	GS10/15/25, GR10/25	563809	GEV113	Data cable, 2.8 m, connects instrument port 2 to modem
<b>PPS/Event</b>	GS25/GR25	667744	GEV150	PPS output cable, 2 m
	GS25/GR25	403448	GEV42	PPS event in, 2 m
	GS25/GR25	789061	GEV262	Event cable with LEMO® connector
<b>External GNSS antenna*</b>  	GS/GR	667200	GEV141	Antenna cable, 1.2 m
	GS/GR	724969	GEV194	Antenna cable, 1.8 m
	GS/GR	636959	GEV120	Antenna cable, 2.8 m
	GS/GR	632372	GEV119	Antenna cable, 10 m
	GS/GR	667201	GEV142	Extension antenna cable, 1.6 m

\* or external Gainflex UHF/GSM radio ant.



# Accessories overview

TRIPODS					
TPS	1"	2"	3"	5"	7"
<b>Motorised</b>					
TPS setup or traversing with forced centring	GST20 GST20-9 GST120-9	GST20 GST20-9 GST120-9	GST20 GST20-9 GST120-9	GST101	
<b>Manual</b>					
TPS setup or traversing with forced centring	GST20 GST20-9 GST120-9	GST20 GST20-9 GST120-9	GST20 GST20-9 GST120-9	GST05 GST101	GST05 GST101
Prism setups on control points	GST101	GST101	GST101	GST05 GST05L	GST05L GST103
<b>GNSS</b>	Static GST05			Kinematic GST05L	
<b>Levels</b>	LS GST40 GST20 GST20-9 GST120-9			Automatic GST103	

TRIBRACHS					
TPS	1"	2"	3"	5"	7"
<b>Motorised</b>					
TPS setup or traversing with forced centring	GDF321 GDF322	GDF321 GDF322	GDF321 GDF322	GDF321 GDF322	
<b>Manual</b>					
TPS setup or traversing with forced centring	GDF321 GDF322	GDF321 GDF322	GDF321 GDF322	GDF311 GDF312	GDF301 GDF302
Prism setups on control points	GDF311 GDF312	GDF311 GDF312	GDF311 GDF312	GDF301 GDF302	GDF301 GDF302

PRISMS				
	Model	Centring accuracy	Prisms constant	Anti-reflex coating
<b>Professional 5000</b>				
Standard reflectors	GPR121	1.0mm	0	yes
	GPR1+GPH1	1.0mm	0	yes
	GRZ4	2.0mm	+23.1mm	yes
Special reflectors	GPH1P	0.3mm	0	no (tilted)
	GRZ122	2.0mm	+23.1mm	yes
Mini reflectors	GMP101	1.0mm	+17.5mm	no
	GRZ101	1.5mm	+30mm	no
<b>Professional 3000</b>				
Standard reflectors	GPR111	2.0mm	0	no
Special reflectors	GPR112	*	-7.1mm	no
Mini reflectors	GMP111	2.0mm	+17.5mm	no
	GMP111-0	2.0mm	0	no
<b>Professional 1000</b>				
Standard reflectors	GPR113	2.0mm	0	no
Special reflectors	GMP104	*	+8.9mm	yes

\* Due to flexible mounting mechanisms no centring accuracy can be specified for monitoring prisms.



## Perfect compatibility of the accessories

Leica Geosystems instruments and Leica Geosystems accessories are perfectly aligned to each other and constitute a finely tuned package. In order to achieve the individually required accuracy, it is always necessary to consider the accuracy of the instrument and accessory system as a whole.

### Transparent choice for your individual requirements

On the table overleaf you will find an overview of Leica Geosystems instruments and the accessories recommended for them. Please consider our recommendations when selecting your tripod, tribrach and prisms, as well as electric and electronic accessories.



The table can be simply folded out. It is then always visible as the product pages and product descriptions are reviewed, helping to make your selection easier.

## Leica Geosystems – when it has to be right

Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems is the industry leader in measurement and information technologies. We create complete solutions for professionals across the planet. Known for innovative product and solution development, professionals in a diverse mix of industries, such as surveying and engineering, building and heavy construction, safety and security, and power and plant trust Leica Geosystems for all their geospatial needs. With precise and accurate instruments, sophisticated software, and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

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

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**Surveying Tripods**  
White Paper



**Surveying Tribrachs**  
White Paper



**Surveying Reflectors**  
White Paper



**Batteries & Chargers**  
White Paper



**Storage Media & Card Reader**  
White Paper

Detailed information about original Leica accessories and more documents can be found at <https://leica-geosystems.com/products/total-stations/accessories>

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- when it has to be **right**

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