Leica Geosystems
Original Accessories
Material matters

Catalogue 2017

leica-geosystems.com
- when it has to be right
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 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 fulfill the same quality criteria.”
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.

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.
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.
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.

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

<table>
<thead>
<tr>
<th>PROFESSIONAL 5000</th>
<th>PROFESSIONAL 3000</th>
<th>PROFESSIONAL 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Professional 5000" /></td>
<td><img src="image2.png" alt="Professional 3000" /></td>
<td><img src="image3.png" alt="Professional 1000" /></td>
</tr>
<tr>
<td>GDF321 GDF322</td>
<td>GDF311 GDF312</td>
<td>GDF301 GDF302</td>
</tr>
</tbody>
</table>

- 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.

- 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.

- 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.

<table>
<thead>
<tr>
<th>Professional 5000</th>
<th>Professional 3000</th>
<th>Professional 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
</tr>
<tr>
<td><strong>HIGHEST ACCURACY</strong></td>
<td><strong>MAXIMUM LIFETIME</strong></td>
<td><strong>COST EFFECTIVE MEASURING</strong></td>
</tr>
</tbody>
</table>

The prisms distinguish themselves through a centring accuracy of under 1 mm and the best possible beam deviation of < 2" 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.

**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.

- **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.

---

**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.
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°C and functions reliably at operating temperatures from –20 to +55°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.
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.

<table>
<thead>
<tr>
<th>PROFESSIONAL 5000</th>
<th>PROFESSIONAL 3000</th>
<th>PROFESSIONAL 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Intelligent Charger" /></td>
<td><img src="image2.png" alt="Multi-Functional Charger" /></td>
<td><img src="image3.png" alt="Simple Charger" /></td>
</tr>
</tbody>
</table>

- 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.

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

- 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
# Leica Geosystems Original Accessories
## Contents

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tripods</td>
<td>20</td>
</tr>
<tr>
<td>Tribrachs</td>
<td>22</td>
</tr>
<tr>
<td>Carriers</td>
<td>23</td>
</tr>
<tr>
<td>Standard reflectors</td>
<td>24</td>
</tr>
<tr>
<td>Special reflectors</td>
<td>25</td>
</tr>
<tr>
<td>Mini reflectors</td>
<td>26</td>
</tr>
<tr>
<td>Containers &amp; bags</td>
<td>27</td>
</tr>
<tr>
<td>Reflector poles</td>
<td>30</td>
</tr>
<tr>
<td>GNSS poles</td>
<td>31</td>
</tr>
<tr>
<td>Accessories for reflector poles</td>
<td>32</td>
</tr>
<tr>
<td>LS/DNA levelling staffs</td>
<td>34</td>
</tr>
<tr>
<td>Data storage</td>
<td>35</td>
</tr>
<tr>
<td>Radio accessories</td>
<td>36</td>
</tr>
<tr>
<td>Eyepieces</td>
<td>38</td>
</tr>
<tr>
<td>Chargers</td>
<td>39</td>
</tr>
<tr>
<td>Batteries</td>
<td>40</td>
</tr>
<tr>
<td>Cables</td>
<td>42</td>
</tr>
</tbody>
</table>
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
**ACCESSORIES FOR TRIPODS**

**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

**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

**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

**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

**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

**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 (1.72 lb).
Order No: 777508

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 (1.90 lb).
Order No: 777509

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 (1.76 lb).
Order No: 842061

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 (1.95 lb).
Order No: 842062

GDF301, Tribrach without plummet
Order No: 842063

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 (1.95 lb).
Order No: 842064

PROFESSIONAL 1000

GHT196, Holder for height meter
For attachment of the GHM007 height meter to any Leica Geosystems tribrach.
Order No: 722045

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
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

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

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

PROFESSIONAL 3000

GZR146, 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

GRT4, 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

ACCESSORIES FOR CARRIERS

GAD31, Screw-to-stub adapter
For mounting of GNSS antennas to poles and carriers with stub.
Order No: 667217
**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 (11,500 ft).
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 (8,200 ft).
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 (8,200 ft).
Order No: 753492

### 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

<table>
<thead>
<tr>
<th>Professional 5000</th>
<th>Professional 3000</th>
<th>Professional 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GPH1P, Precision prism</strong>&lt;br&gt; Precisely machined reflector, for high accuracy requirements. The prism dioptr is slightly tilted to prevent any EDM reflection from the front surface, thereby increasing measurement accuracy. Centring accuracy 0.3 mm, range 3,500 m (11,500 ft). Order No: 555631</td>
<td><strong>GPR112, Monitoring prism</strong>&lt;br&gt; 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 2,500 m (8,200 ft). Order No: 726295</td>
<td><strong>GMP104, Monitoring mini prism</strong>&lt;br&gt; 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 2,000 m (6,600 ft). Order No: 641762</td>
</tr>
<tr>
<td><strong>GRZ122, 360° prism</strong>&lt;br&gt; 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 78 mm. Overall 3D pointing accuracy is 2.0 mm. ATR range of 600 m (2,000 ft). Order No: 754384</td>
<td><strong>GZM29/30/31, Reflective tapes</strong>&lt;br&gt; Self-adhesive, reflective tapes supplied in pack of 20 pieces. GZM29, 20x20 mm, for measurements up to 100 m (330 ft). Order No: 763532 GZM30, 40x40 mm, for measurements up to 200 m (650 ft). Order No: 763533 GZM31, 60x60 mm, for measurements up to 250 m (820 ft). Order No: 763534</td>
<td><strong>GPR105, Double sided reflector</strong>&lt;br&gt; 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 250 m (820 ft). Order No: 731346</td>
</tr>
</tbody>
</table>

**ACCESSORIES FOR GPR112**

| **GHT112, Mounting set for GPR112**<br> 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**<br> 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 +17.5 mm, centring accuracy 1.0 mm, range 2,000 m (6,600 ft). **Order No: 641662**

**GRZ101, 360° mini reflector**
Suitable for short range ATR applications. Due to its small size, the GRZ101 provides the greatest pointing accuracy of 1.5 mm. With the GAD103 adapter, this reflector can be mounted on all poles with stub fitting. ATR range of 350 m (1,150 ft). **Order No: 644327**

**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 +17.5 mm, range 2,000 m (6,600 ft). **Order No: 641615**

**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 2,000 m (6,600 ft). **Order No: 642534**

**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**

**GMP112, Hidden point pole**
Hidden point pole extension for GMP111. Includes mini reflector and 30 cm adapter pole. Provides prism separation of 40, 70 and 100 cm. **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, GZ4 or GPH1P), 2 carriers (GZR3, SNLL121, GZR103 or GRT144), 2 tribrachs (all types), GZT4 target plate and GHM007 height meter.
Order No: 667451

GVP721, Container for base & rover
Hard container for 2 SmartAntennas, CS field controller/tablet and accessories for a base and rover setup.
Order No: 817053

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

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

GVP720, Container for rover
Small-sized hard container for SmartAntenna, CS10/CS15/CS20 field controller and accessories for a rover setup.
Order No: 817052

GVP724, Container for TS robotic setups
Small-sized hard container for 360° prism and CS field controller for TS robotic setup.
Order No: 817057
Containers & 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

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
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
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 1.39 m, extendible to 2.0 m, weight 950 grams.
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 4.56 ft, extendible to 6.56 ft, weight 2.09 lb. 
Order No: 754389

GLS11, Telescopic pole
Reflector pole with quick release clamp for easy and rapid height adjustment. Graduated in cm and ft, min. length 1.24 m (4.07 ft), extendible to 2.15 m (7.05 ft), weight 940 g (2.07 lb).
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 1.40 m (4.59 ft), extendible to 2.60 m (8.53 ft), weight 1.48 kg (3.26 lb).
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 1.47 m (4.82 ft), extendible to 3.60 m (11.81 ft), weight 1.88 kg (4.14 lb).
Order No: 667310

GLS105, Telescopic pole
Reflector pole with twist and snap locks to prevent any pole slip. With 1/4” thread for mounting of GMP111 and GPR105 reflectors. Min. length 1.28 m (4.20 ft), extendible to 2.11 m (6.92 ft), weight 890 g (1.96 lb).
Order No: 748967

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 130 cm. For prisms without bubble a additional clip on bubble is available (GLI115, 747895).
Order No: 642106

GLS14, Mini pole
Mini reflector pole for exact positioning of the reflector over a survey mark. Provides a prism height of 20 cm (0.66 ft). Order No: 403427
GNSS poles

PROFESSIONAL 5000

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

GLS31, Telescopic carbon fibre SmartPole
Carbon fibre pole with snap lock at 2.00 m, 1.80 m and 1.50 m for GRZ122 360° prism and GNSS antenna. Min. length 1.36 m (4.46 ft), light weight at 700 g (1.55 lb). 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 1.39 m, extendible to 2.0 m, weight 950 g. 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, 1.39 m, weight 950 g. Order No: 768226

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

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 reflector poles

ACCESSORIES FOR REFLECTOR 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
ACCESSORIES FOR REFLECTOR POLES AND GNSS POLES

GSR2, Dual strut support
With 2 telescopic legs, for rapid set-up of $\varnothing$ 25mm 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

GST6, Quickstand
With 3 telescopic legs, provides an extremely stable support for $\varnothing$ 25mm poles.
Order No: 560138

GZW12, TPS pole extension
Extends all poles with stub fitting, by 1.00 m (3.28 ft).
Order No: 403428

GLS18, GNSS pole extension
Extends all poles with $5/8''$ thread by 1.00 m (3.28 ft).
Order No: 667222
**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 2.0 m (5.56 ft), weight 4.2 kg (9.3 lb).
*Order No: 563659*

**GPCL3, Invar staff with bar code**
Precision levelling staff with 2 circular bubbles. The two attached handles provide steady positioning. Length 3.0 m (9.84 ft), weight 4.9 kg (10.8 lb).
*Order No: 560271*

**GPCL3, Invar staff with certificate**
Precision staff, individually measured for accuracy. Supplied with expansion co-efficient and length calibration certificate. Length 3.0 m (9.84 ft), weight 4.9 kg (10.8 lb).
*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 92 cm (3.02 ft), weight 1.7 kg (3.7 lb).
*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 600 x 25 x 1.5 mm, for measuring range of 1.8 – 20 m (6 – 65 ft).
*Order No: 563733*

**GTL4M, Telescopic fibreglass staff**
Four-section telescopic staff. Dual measuring faces with bar code and mm graduations. Incl. transport bag. Length 1.2 m (3.94 ft) to 4.0 m (13.12 ft), weight 2.2 kg (4.9 lb), coefficient of expansion 10 ppm/°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 1.2 m (3.94 ft) to 4.0 m (13.12 ft), weight 1.8 kg (4.0 lb), coefficient of expansion 24 ppm/°C.
*Order No: 667113*

**GKNL4M, Sectioned fibreglass staff**
3 connectable sections. Dual measuring faces with bar code and cm graduations. With 2 handles and transport bag. Length 1.6 m to 4.0 m, weight 4.4 kg, coefficient of expansion 10 ppm/°C.
*Order No: 522794*

**GKNL4F, Sectioned fibreglass staff**
Levelling staff in 3 connectable sections. Dual measuring faces with bar code and ft graduations. Incl. transport bag and 2 handles. Length 5.18 ft to 13.12 ft, weight 9.7 lb, coefficient of expansion 10 ppm/°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
<table>
<thead>
<tr>
<th>Product Code</th>
<th>Product Name</th>
<th>Description</th>
<th>Order No</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHT61</td>
<td>Hand strap for CS10/CS15 field controller</td>
<td>Hand strap for field controller with utility hook for attaching to a belt or tripod.</td>
<td>767877</td>
</tr>
<tr>
<td>SPF01</td>
<td>Screen protection foil</td>
<td>for CS10/CS15</td>
<td>767907</td>
</tr>
<tr>
<td>SPF02</td>
<td>Screen protection foil</td>
<td>for TPS1200, TS12, TS30, TM30</td>
<td>799658</td>
</tr>
<tr>
<td>SPF03</td>
<td>Screen protection foil</td>
<td>for TS09, TS11, TS15, T550, MS50, LS10, LS15, ICR60, ICB60</td>
<td>799660</td>
</tr>
<tr>
<td>SPF04</td>
<td>Screen protection foil</td>
<td>for CS20, TS16, TS60, MS60</td>
<td>813781</td>
</tr>
<tr>
<td>SPF05</td>
<td>Screen protection foil</td>
<td>for CS35</td>
<td>832126</td>
</tr>
</tbody>
</table>

Each set contains 2 foils and a micro fibre cleaning cloth (except SPF06).
Eyepieces

**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**
Exchangeable 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

**GKL235, Charger**
Charger for CS35 battery GEB235/236.
Order No: 832118

**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

**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

**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

**GEV242, Battery charger**
Charges one GEB371 battery.
Order No: 774437

**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, 14.8 V / 5.8 Ah.
*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, 7.4 V / 6.0 Ah.
*Order No: 793973*

**GEB221, Li-Ion battery**
High output battery for all TS11/12/15/16 and Flexline instruments, GS10 GNSS receiver and Piper 100/200, 7.4 V / 4.4 Ah.
*Order No: 733270*

**GEB212, Li-Ion battery**
High output battery with extended capacity for CS10/CS15 field controllers and GNSS receivers, 7.4 V / 2.6 Ah.
*Order No: 772806*

**GEB331, Li-Ion battery**
High output battery for CS20 field controller, 11.1 V / 2.8 Ah.
*Order No: 799190*

**GEB235, Li-Ion battery**
Battery for CS35 tablet, 10.8 V / 4.4 Ah.
*Order No: 832119*

**GEB236, Li-Ion battery**
High output battery for CS35 tablet, 10.8 V / 9.3 Ah.
*Order No: 832120*

**GEB121, NiMH battery**
Low maintenance battery for TPS400/800 and DNA instruments, 6.0 V / 4.2 Ah.
*Order No: 667123*

**GEB111, NiMH battery**
Low maintenance battery for TPS400/800 and DNA instruments, 6.0 V / 2.1 Ah.
*Order No: 667318*
**GEB371, External Li-ion battery**
High output battery for set-ups over long periods, 13 V/250 Wh. 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

**EXTERNAL POWER SUPPLY**
# Cables

<table>
<thead>
<tr>
<th>DEVICE</th>
<th>INSTRUMENT</th>
<th>ART.</th>
<th>SIGN</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cables</td>
<td>GEB371 or GEV270</td>
<td>TSO2/06/09/11/12/15/16, LS</td>
<td>409678</td>
<td>GEV52 Power cable, 1.8 m, connects instrument to external battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GSO5/06, Any GS, CS10*/<em>15</em>/20</td>
<td>560130</td>
<td>GEV97 Power cable, 1.8 m, connects instrument to external battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TSMO/TS/MS60, Any GS, CS10*/<em>15</em>/20</td>
<td>758869</td>
<td>GEV219 Power cable, 1.8 m, connects instrument to external battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GSO10/25, GR10/25</td>
<td>733298</td>
<td>GEV172 Y-cable, 2.8 m, connects instrument with two external power supplies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TSO11/15/20, GSO8plus/12/14/15</td>
<td>756365</td>
<td>GEV215 Y-cable, 2.0 m, connects instrument to external battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GSO14</td>
<td>748418</td>
<td>GEV205 Y-cable, 1.8 m, connects instrument to external battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TSMO/TS/MS60</td>
<td>796492</td>
<td>GEV264 Y-cable, 1.8 m, connects instrument to GFU and battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TM50/TS/MS60, Any GS</td>
<td>793364</td>
<td>GEV261 Y-cable, 1.8 m, connects instrument to PC and battery</td>
</tr>
<tr>
<td>12V car battery</td>
<td>All instruments</td>
<td>439038</td>
<td>GEV71 Car battery cable, 4 m, connects all power cables to 12V car battery</td>
<td></td>
</tr>
<tr>
<td>PC-RS232 port</td>
<td>TSO2/06/09/11/12/15/16, LS</td>
<td>563625</td>
<td>GEV102 Data cable, 2 m, connects instrument to PC (RS232)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSO2/06/09/11/12/15/16, DNA</td>
<td>734698</td>
<td>GEV187 Y-cable, 2 m, connects instrument to PC and battery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSO10/25, GR10/25</td>
<td>733280</td>
<td>GEV160 Data cable, 2.8 m, connects instrument port 2 to PC (RS232)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSMO/TS/MS60, GSO10/15, CS10*/<em>15</em>/20</td>
<td>733282</td>
<td>GEV162 Data cable, 2.8 m, connects instrument to PC (RS232)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GFU</td>
<td>733297</td>
<td>GEV171 Y-program cable, 1.8 m, for the Satellite radio modem inside the GFU housing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SLR</td>
<td>767803</td>
<td>GEV231 Program adapter cable, 1.8 m, for SLR radios</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSMO/TS/MS60, GSO10/15</td>
<td>759257</td>
<td>GEV220 Y-cable, 1.8 m, connects instrument to RS232 and battery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSMO/TS/MS60, Any GS</td>
<td>793364</td>
<td>GEV261 Y-cable, 1.8 m, connects instrument to PC and battery</td>
<td></td>
</tr>
<tr>
<td>PC-USB port</td>
<td>TSO2/06/09/11/12/15/16, LS</td>
<td>806093</td>
<td>GEV267 Serial data transfer cable, 2 m, TS/TPS/LS LEMO® to USB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSO10/25, GR10/25</td>
<td>806094</td>
<td>GEV268 Serial data transfer cable, 2 m, connects instrument port 2 to PC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSMO/TS/MS60, GSO10/14/15, CS1015/15/20/25</td>
<td>806095</td>
<td>GEV269 Serial data transfer cable, 2 m, connects instrument to USB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any GS, CS1015/15/20</td>
<td>767899</td>
<td>GEV234 USB data cable, 1.65 m, connects CS to GS or CS to PC (USB)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSO2/06/09, CS10*/<em>15</em>/20, GSO25</td>
<td>764700</td>
<td>GEV223 USB data cable, 1.8 m, connects instrument with Mini-USB to USB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSMO/TS/MS60, GSO10/14/15</td>
<td>793364</td>
<td>GEV221 Y-cable, 1.8 m, connects instrument to PC and battery</td>
<td></td>
</tr>
<tr>
<td>CS10/15/20</td>
<td>TSO2/06/09/11/12/15/16, Any GS</td>
<td>756367</td>
<td>GEV217 Data transfer cable, 1.8 m, connects CS10/15/20 to TS12/15/16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSO2/06/09, GSO14/15</td>
<td>767899</td>
<td>GEV234 USB data cable, 1.65 m, connects CS to GS or CS to PC (USB)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TSMO/TS/MS60, Any GS</td>
<td>772807</td>
<td>GEV237 USB data cable, 1.65 m, connects instrument to CS10*/15*/20</td>
<td></td>
</tr>
<tr>
<td>External antenna</td>
<td>GS05/06, GCR10/15</td>
<td>772002</td>
<td>GEV238 Antenna cable, 1.2 m</td>
<td></td>
</tr>
</tbody>
</table>

* with LEMO® connector module
** with DSUB/Mini USB connector module
<table>
<thead>
<tr>
<th>DEVICE</th>
<th>INSTRUMENT</th>
<th>ART.</th>
<th>SIGN</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCPS</td>
<td>TM50/TS/M560</td>
<td>771057</td>
<td>GEV236</td>
<td>Y-cable, 1.8 m, connects instrument to TCPS and battery</td>
</tr>
<tr>
<td></td>
<td>TS11/12/15/16</td>
<td>734697</td>
<td>GEV186</td>
<td>Y-cable, 1.8 m, connects instrument to TCPS and battery</td>
</tr>
<tr>
<td>Satellite 3AS</td>
<td>GS10/15/25</td>
<td>639968</td>
<td>GEV125</td>
<td>Data transfer cable, 1.8 m, connects Satelline radio w/o housing</td>
</tr>
<tr>
<td>Satellite 3AS HPR (35W)</td>
<td>GS10/14/15, GR10/25</td>
<td>817713</td>
<td>GEV275</td>
<td>Connects Satellite to instrument, for GS08plus a GEV205 is additionally required</td>
</tr>
<tr>
<td></td>
<td>GS10/14/15, GR10/25</td>
<td>811818</td>
<td>GEV274</td>
<td>Y-cable, 2.8 m, connects Satelline to instrument and SAE adapter</td>
</tr>
<tr>
<td></td>
<td>GVP711</td>
<td>809028</td>
<td>GEV272</td>
<td>Data cable with LEMO® connector</td>
</tr>
<tr>
<td></td>
<td>PC RS232</td>
<td>809029</td>
<td>GEV273</td>
<td>Data cable with LEMO® connector</td>
</tr>
<tr>
<td>GFU modem</td>
<td>GS15</td>
<td>748418</td>
<td>GEV205</td>
<td>Y-cable, 1.8 m, connects instrument to GFU and battery</td>
</tr>
<tr>
<td></td>
<td>GS15</td>
<td>767898</td>
<td>GEV233</td>
<td>Data cable, 0.8 m, connects instrument to GFU</td>
</tr>
<tr>
<td></td>
<td>GS15</td>
<td>767897</td>
<td>GEV232</td>
<td>Data cable, 2.8 m, connects instrument to GFU</td>
</tr>
<tr>
<td></td>
<td>GS14</td>
<td>796492</td>
<td>GEV264</td>
<td>Y-cable, 1.8 m, connects instrument to GFU and battery</td>
</tr>
<tr>
<td>External modem</td>
<td>GS10/15/25, GR10/25</td>
<td>563809</td>
<td>GEV113</td>
<td>Data cable, 2.8 m, connects instrument port 2 to modem</td>
</tr>
<tr>
<td>PPS/Event</td>
<td>GS25/GR25</td>
<td>667744</td>
<td>GEV150</td>
<td>PPS output cable, 2 m</td>
</tr>
<tr>
<td></td>
<td>GS25/GR25</td>
<td>403448</td>
<td>GEV149</td>
<td>PPS event in, 2 m</td>
</tr>
<tr>
<td></td>
<td>GS25/GR25</td>
<td>789061</td>
<td>GEV262</td>
<td>Event cable with LEMO® connector</td>
</tr>
<tr>
<td>External GNSS antenna*</td>
<td>GS/GR</td>
<td>667200</td>
<td>GEV141</td>
<td>Antenna cable, 1.2 m</td>
</tr>
<tr>
<td></td>
<td>GS/GR</td>
<td>726969</td>
<td>GEV194</td>
<td>Antenna cable, 1.8 m</td>
</tr>
<tr>
<td></td>
<td>GS/GR</td>
<td>636959</td>
<td>GEV120</td>
<td>Antenna cable, 2.8 m</td>
</tr>
<tr>
<td></td>
<td>GS/GR</td>
<td>632372</td>
<td>GEV119</td>
<td>Antenna cable, 10 m</td>
</tr>
<tr>
<td></td>
<td>GS/GR</td>
<td>667201</td>
<td>GEV142</td>
<td>Extension antenna cable, 1.6 m</td>
</tr>
</tbody>
</table>

* or external Gainflex UHF/GSM radio ant.
## Accessories overview

### TRIPODS

<table>
<thead>
<tr>
<th>TPS</th>
<th>Motorised</th>
<th>Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TPS setup or traversing with forced centring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRIPODS</strong></td>
<td><strong>Motorised</strong></td>
<td><strong>Manual</strong></td>
</tr>
<tr>
<td><strong>TPS</strong></td>
<td><strong>TPS</strong></td>
<td><strong>TPS</strong></td>
</tr>
<tr>
<td><strong>1”</strong></td>
<td><strong>GST20</strong></td>
<td><strong>GST20</strong></td>
</tr>
<tr>
<td><strong>2”</strong></td>
<td><strong>GST20-9</strong></td>
<td><strong>GST20-9</strong></td>
</tr>
<tr>
<td><strong>3”</strong></td>
<td><strong>GST20-9</strong></td>
<td><strong>GST20-9</strong></td>
</tr>
<tr>
<td><strong>5”</strong></td>
<td><strong>GST20-9</strong></td>
<td><strong>GST101</strong></td>
</tr>
<tr>
<td><strong>7”</strong></td>
<td><strong>GST20-9</strong></td>
<td><strong>GST101</strong></td>
</tr>
</tbody>
</table>

### TRIBRACHS

<table>
<thead>
<tr>
<th>TPS</th>
<th>Motorised</th>
<th>Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TPS setup or traversing with forced centring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TRIBRACHS</strong></td>
<td><strong>Motorised</strong></td>
<td><strong>Manual</strong></td>
</tr>
<tr>
<td><strong>TPS</strong></td>
<td><strong>TPS</strong></td>
<td><strong>TPS</strong></td>
</tr>
<tr>
<td><strong>1”</strong></td>
<td><strong>GDF321</strong></td>
<td><strong>GDF321</strong></td>
</tr>
<tr>
<td><strong>2”</strong></td>
<td><strong>GDF322</strong></td>
<td><strong>GDF322</strong></td>
</tr>
<tr>
<td><strong>3”</strong></td>
<td><strong>GDF322</strong></td>
<td><strong>GDF322</strong></td>
</tr>
<tr>
<td><strong>5”</strong></td>
<td><strong>GDF321</strong></td>
<td><strong>GDF321</strong></td>
</tr>
<tr>
<td><strong>7”</strong></td>
<td><strong>GDF321</strong></td>
<td><strong>GDF321</strong></td>
</tr>
</tbody>
</table>

### PRISMS

<table>
<thead>
<tr>
<th>Model</th>
<th>Centring accuracy</th>
<th>Prisms constant</th>
<th>Anti-reflex coating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional 5000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard reflectors</td>
<td>GPR121</td>
<td>1.0 mm</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GPR11+GPH1</td>
<td>1.0 mm</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GR24</td>
<td>2.0 mm</td>
<td>+23.1 mm</td>
</tr>
<tr>
<td>Special reflectors</td>
<td>GPH1P</td>
<td>0.3 mm</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GRZ122</td>
<td>2.0 mm</td>
<td>+23.1 mm</td>
</tr>
<tr>
<td></td>
<td>GWP101</td>
<td>1.0 mm</td>
<td>+17.5 mm</td>
</tr>
<tr>
<td></td>
<td>GRZ101</td>
<td>1.5 mm</td>
<td>+30 mm</td>
</tr>
<tr>
<td>Profession 1000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard reflectors</td>
<td>GPR111</td>
<td>2.0 mm</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GPR112</td>
<td>*</td>
<td>-7.1 mm</td>
</tr>
<tr>
<td></td>
<td>GWP111</td>
<td>2.0 mm</td>
<td>+17.5 mm</td>
</tr>
<tr>
<td></td>
<td>GWP111-0</td>
<td>2.0 mm</td>
<td>0</td>
</tr>
</tbody>
</table>

* 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.

Leica Geosystems is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technology solutions that drive productivity and quality across geospatial and industrial landscapes.