Leica Geosystems
Metrology Products
Catalog Version 1.1
Thank you for ordering a copy of the 2011 Leica Geosystems Metrology Products Catalog. This catalog contains the complete range of products and accessories available for Leica Geosystems Absolute Trackers and Leica Geosystems Industrial Theodolites & Laser Stations. Regardless of your particular application and the Leica Geosystems Metrology Products you use, we have you covered.

All of our products and accessories offer the same top-notch, no-nonsense design and quality you expect from Leica Geosystems.

If you have any questions about our products or accessories, please contact your authorized sales person to receive competent guidance and make an appropriate purchasing decision.

Sincerely,
Your Leica Geosystems Metrology Products Team
<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Leica Absolute Tracker AT901</td>
<td>Leica Absolute Tracker AT901-B&lt;br&gt;Leica Absolute Tracker AT901-MR&lt;br&gt;Leica Absolute Tracker AT901-LR&lt;br&gt;AT Controller 900</td>
</tr>
<tr>
<td>10</td>
<td>Portable CMM</td>
<td>Leica T-Probe&lt;br&gt;Styli and Extensions&lt;br&gt;Compensation Tools&lt;br&gt;Power Cables and Battery&lt;br&gt;Leica T-Mac&lt;br&gt;Leica T-Cam with Accessories&lt;br&gt;Leica T-Scan with Accessories</td>
</tr>
<tr>
<td>22</td>
<td>Leica Absolute Tracker Accessories</td>
<td>Tracker Stand&lt;br&gt;Cables and UPS&lt;br&gt;Remote Control Equipment&lt;br&gt;Levelling Equipment&lt;br&gt;Overview Camera Equipment&lt;br&gt;MeteoStation and Accessories&lt;br&gt;Measuring Cart and Shipping Container</td>
</tr>
<tr>
<td>32</td>
<td>Leica Absolute Tracker AT401</td>
<td>Leica Absolute Tracker AT401&lt;br&gt;AT Controller 400&lt;br&gt;Power Supply&lt;br&gt;Remote Control Equipment&lt;br&gt;Cables&lt;br&gt;Tripods and Stands&lt;br&gt;Tribrachs</td>
</tr>
<tr>
<td>40</td>
<td>Reflector</td>
<td>Corner Cube&lt;br&gt;Triple prism Reflector&lt;br&gt;Tape Target Reflector&lt;br&gt;Special Reflectors and Holders (Leica TDRA6000 only)&lt;br&gt;Targets for Multiple Theodolite Systems&lt;br&gt;Compensation and Field Check Tools&lt;br&gt;Reflector Holders</td>
</tr>
<tr>
<td>50</td>
<td>Hubbs</td>
<td>1.5&quot; Reflector Holders&lt;br&gt;0.5&quot; Reflector Holders&lt;br&gt;Miscellaneous</td>
</tr>
</tbody>
</table>
60  **Industrial Theodolite and Laser Station**
Leica TM6100A Motorized Industrial Theodolite
Leica TDRA6000 Motorized Industrial Laser Station

62  **Industrial Theodolite and Laser Station Accessories**
Additional Options
Power Supply
Battery Chargers
Data Storage and Data Transfer
Power Cables
Data Transfer Cables and Converter
Tripods
Tribrachs
Eyepieces, Filters, DL2 Lasers
Targets
Autocollimation Accessories
Cables

74  **Leica Geosystems Service Centers**

76  **Hexagon Metrology Precision Centers**
Leica Absolute Tracker AT901

**Leica Absolute Tracker AT901-B**
Leica Absolute Tracker AT901-Basic with Absolute Interferometer (AIFM working range 80 m), AT Controller 900, AT Quick Release Mount and Shipping Container, PowerLock functionality, emScon on-board compensation and open interface software is included.

**Leica Absolute Tracker AT901-MR**
Leica Absolute Tracker AT901-Mid Range with Absolute Interferometer (AIFM) (Interferometer = 25 m, ADM 9 m), AT Controller 900, AT Quick Release Mount and Shipping Container, PowerLock functionality, emScon on-board compensation and open interface software is included. The Leica Absolute Tracker AT901-MR is compatible with Leica T-Cam MR and other Leica T-Products.

**Leica Absolute Tracker AT901-LR**
Leica Absolute Tracker AT901-Long Range with Absolute Interferometer (AIFM working range 80 m), AT Controller 900, AT Quick Release Mount and Shipping Container, PowerLock functionality, emScon on-board compensation and open interface software is included. The Leica Absolute Tracker AT901-LR is compatible with Leica T-Cam LR and other Leica T-Products.
Leica Absolute Tracker Controller

**AT Controller 900**

The AT Controller 900 is compatible with all Leica Geosystems Laser Tracker types except Smart310. For older sensor types the ATC900 will support 3D operations (reflector) only. If Leica T-Products support is required for systems other than from the Absolute Tracker AT901 sensor family then please contact service.ims@hexagonmetrology.com
Leica T-Probe

2nd generation Leica T-Probe is a portable CMM solution for armless and wireless probing. The handy and light weight measurement probe with configurable function buttons allows measurements in small and large measurement volumes with minimal preparation time. The measurement range of the Leica T-Probe is up to 15m in all directions. The Leica T-Probe comes with:
- ruby ball stylus \( d = 6 \text{mm} \)
- Leica T-Probe Stylus Adaptor
- Stylus Compensation Tool
- 20m Cable
- Power Supply for Battery
- Replacement Battery
- Transportation Case

Styli & Extensions

Leica T-Probe Styli Kit
Recommended stylus kit for Leica T-Probe 2nd generation. Comes with 5 different styli:
- Scribe Stylus \( r = 0.1 \text{mm} \) - M2
- Ruby Ball Stylus \( d = 3 \text{mm} \) - M5
- Ruby Ball Stylus \( d = 6 \text{mm} \) - M5
- Ceramic Hemispherical Stylus \( d = 0.5 \text{in} \) - M5
- Ceramic Hemispherical Stylus \( d = 1.5 \text{in} \) - M5
3 styli extensions:
- 100mm - M5 Carbon Fibre - stem \( d = 20 \text{mm} \)
- 200mm - M5 - Carbon Fibre - stem \( d = 20 \text{mm} \)
- 40mm - M5 - Carbon - stem \( d = 11 \text{mm} \)
2 Leica T-Probe Stylus Adaptors - M5 with precision Quick Release for Self Identification, Stylus Tools for M2-M3/M4/M5 Threaded Styli and Leica T-Probe Styli Kit Case
Leica T-Probe Styli Kit Case
For standard configuration (empty)

Leica T-Probe Stylus Adaptor – M5
Precision quick release adaptor for Leica T-Probe styli to remove and attach styli without re-calibration. The stylus adaptor has built in intelligence to support stylus self identification

Punch Tool – M5
The Punch Tool is an accessory for the Leica T-Probe, it is a stylus that is used for laying out scribe lines (by punching) on the object for the next following manufacturing process

Stylus Extension 100mm - M5
carbon fibre - stem Ø 20mm

Stylus Extension 200mm - M5
carbon fibre - stem Ø 20mm

Stylus Extension 400mm - M5
carbon fibre - stem Ø 20mm

Stylus Extension 600mm - M5
carbon fibre - stem Ø 20mm
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<tr>
<th>Code</th>
<th>Description</th>
<th>Model Options</th>
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<td>576 217</td>
<td><strong>Stylus Extension 40mm - M5</strong></td>
<td>AT401</td>
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<td>carbon - stem Ø 11mm</td>
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<td>576 218</td>
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<td><strong>Ruby Ball Stylus M5</strong></td>
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<td>576 221</td>
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<td>TDRA6000</td>
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<td>TM6100A</td>
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</table>
Edge Stylus - M5
comes with Edge Sphere 0.5", Magnetic Stylus M5 and Compensation Sphere 0.5"

Stylus Tool for M2 and M3 threaded styli

Stylus Tool for M4 threaded styli

Stylus Tool for M5 threaded styli

Stylus Adaptor M5 - M2

Stylus Adaptor M5 - M4

Stylus Adaptor M4 - M5
576 143  **Ceramic Hemispherical Stylus M5**
Ø 0.5in

576 144  **Ceramic Hemispherical Stylus M5**
Ø 1.5in

**Compensation Tools**

575 987  **Magnetic Leica T-Probe Stylus Compensation Kit**
Optional for safe positioning on magnetic materials to perform stylus compensations

576 247  **Leica T-Probe Stylus Shank Compensation Tool**
This tool is an accessory for the articles 575 987 Magnetic Leica T-Probe Stylus Compensation Kit and 738 261 Leica T-Probe Stylus Compensation Kit

575 980  **Leica T-Probe Compensation Kit**
For on-site compensation of Leica T-Probe. It comes with Leica T-Probe Reference Frame, Wedge Tool, Tripod Screw and Light Duty Magnetic Holder for 0.5” Red Ring Reflectors. Requires additional 0.5” Red Ring Reflector (corner cube) for compensation process. The Leica T-Probe Compensation Kit fits into the Leica T-Cam Compensation Kit Shipping Container
Power Cables and Battery

575 972  **Cable Leica T-Probe, 10m**  
Reserve or replacement cable 10m for the Leica T-Probe

575 973  **Cable Leica T-Probe, 20m**  
Reserve or replacement cable 20m for the Leica T-Probe

575 983  **Leica T-Probe Replacement Battery**
Leica T-Mac

576 400 **Leica T-Mac Basic TMC30-B**
The Leica T-Mac Basic is a specific developed sensor using Leica Geosystems’ 6DoF technology to extend product offering. Leica T-Mac is designed to be used in combination with robots and large machines especially for positioning with high accuracy. Leica T-Mac has the possibility to mount it on a robot or machine and the housing already has 4 reflector nests included. These reflector positions can be used to establish a local coordinate system for object orientation or robot alignment. As an option a tool exchange interface from Sandvick can be adapted.

576 410 **Leica T-Mac Inspect TMC30-I**
The Leica T-Mac Inspect is a 6DoF machine control probe for use with the Leica Absolute Tracker AT901 series trackers and Leica T-Cams. The Leica TMC30-I is the deluxe version of the probe for machine positioning, alignment, calibration and all inspection tasks (such as touch trigger or scanning). The Leica TMC30-I includes: Factory Parameter CD, User Manuals, Red Transportation Case and 20m Basic Interface Cable. Leica T-Mac Inspect Cable must be ordered separately.

576 404 **Leica T-Mac Upgrade Kit Basic to Inspect**
This kit allows older Leica T-Macs to be upgraded in order to be used in new inspection systems. The upgrade kit only contains the internal hardware to convert a Leica T-Mac TMC30 to a Leica T-Mac TMC30-I, no additional cables or interfaces are included.
- Please contact service to make sure that the existing Leica T-Mac is capable of receiving this upgrade
- Leica T-Mac Inspect Cable must be ordered separately
**Automation Interface Controller**
The Automation Interface Controller handles all of the switching for an automated machine control/inspection systems including multiple trackers, multiple probe devices and machine controller Digital I/O) interfaces. Includes: Product CD, Power Cables and 5m LAN Cable

**Automation Multiplex Box**
The Automation Multiplex (MUX) Box allows on machine switching between the Leica TMC30-I and a Leica T-Scan for inspection purposes. Includes: 45m MUX-Interface Cable (between the MUX Box and Automation Interface Box) and 1m Laser Controller Cable

**TESA Touch Trigger Set for Leica T-Mac Inspect**
allow the Leica T-Mac TMC30-I to be used for touch trigger inspection. Includes: TESASTAR-rp probe head with Leica T-Mac Interface, 100mm Probe Extension, 5mm Ruby Styli, Calibration Sphere and accessories. – For use in an automated setup an additional Automation Interface Box and required cables must be ordered as well

**Leica T-Mac Inspect TMC30-I Cable, 10m**
for connecting the Leica T-Mac Inspect TMC30-I to the Automation Interface Box or MUX box directly

**Leica T-Mac Inspect TMC30-I Cable, 30m**
for connecting the Leica T-Mac Inspect TMC30-I to the Automation Interface Box or MUX box directly
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>576 507</td>
<td><strong>Trigger Cable, 2m</strong></td>
<td>AT401, AT901-B, AT901-MR, AT901-LR, TDRA6000, TM6100A, opt. opt.</td>
</tr>
<tr>
<td></td>
<td>for connecting the Automation Interface Box to the</td>
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<td></td>
<td>Laser Tracker Controller (ATC900)</td>
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<tr>
<td>576 508</td>
<td><strong>Trigger Cable, 25m</strong></td>
<td>AT401, AT901-B, AT901-MR, AT901-LR, TDRA6000, TM6100A, opt. opt.</td>
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<td></td>
<td>Laser Tracker Controller (ATC900)</td>
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<tr>
<td>576 505</td>
<td><strong>Automation Robot Cable, 20m</strong></td>
<td>AT401, AT901-B, AT901-MR, AT901-LR, TDRA6000, TM6100A, opt. opt.</td>
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<td></td>
<td>for connecting the Automation Interface Box to the</td>
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<td></td>
<td>robotic or NC machine controller</td>
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<tr>
<td>576 506</td>
<td><strong>Automation Robot Cable, 50m</strong></td>
<td>AT401, AT901-B, AT901-MR, AT901-LR, TDRA6000, TM6100A, opt. opt.</td>
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<td>for connecting the Automation Interface Box to the</td>
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<td>robotic or NC machine controller</td>
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Leica T-Cam with Accessories

576 321

**Leica T-Cam MR**
Leica T-Cam Mid Range for up to 9m measurement range. It comes with transportation case and cleaning set. Compatible with Leica Absolute Tracker AT901-MR and Leica LTD700/709

576 320

**Leica T-Cam LR**
Leica T-Cam Long Range for up to 15 meter measurement range. It comes with transportation case and cleaning set. Compatible with Leica Absolute Tracker AT901-LR and Leica LTD800/840

575 979

**Leica T-Cam Compensation Kit**
for on-site compensation of Leica T-Cam to Tracker. Requires additional 0.5" Red-Ring Reflector (corner cube) for compensation process. It is recommended to have at least one Compensation Kit per factory

575 975

**Overview Camera for Leica T-Cam**
Optional black and white overview camera that can be mounted to Leica T-Cam. It enables a safe and convenient reflector lock via video image. The functionality of the camera is supported during the various measurement modes of the Leica Geosystems Laser Tracker, which is equipped with an Absolute Distance Meter (ADM)
Leica T-Scan with Accessories

576 383

**Leica T-Scan TS50-A**

Laser Scanner complete
- Sensor head with integrated reflectors, handle and cable
- Transportation box
- Scanner-calibration-files (CD-ROM)
- Scanner certificate
- Leica T-Scan controller unit
- Leica T-Scan interface kit
- Trigger cable (LTC plus to T-Scan Controller)
- Leica T-Scan Cable (rack to LTC plus [Probe])
- Sub-D Cable (9-pin, 2 m)
- Cross over ethernet Cable 2 x 1m
- Leica T-Scan holder set
- Vertical holder with shield
- Horizontal Holder including Instant Temperature Compensation Kit
- SW T-Scan Collect
- Data collection, 3D online visualization of measurements
- Display of points, meshes or shaded meshes
- Import and export 3D-data (points, STL)
- Alignments of coordinate systems, 3D-filter Toolset, advanced cloud editing functions
- Global surface matching of point clouds
- Meshing tool
- Data post processing (programmable)
- Profile calculation
- Menu to verify accuracy, menu for calibration
- Optional visualization of hand scanner
**Leica T-Scan High-Speed Computer**
for fast data collection, powerful visualization and post processing.
- 12GB RAM
- Core i7 940, 2.93GHz processor
- Quadro FX 1700 graphics card / 512MB
(Please note: keyboard, monitor, speakers and mouse need to be purchased locally)

**Leica T-Scan High-Speed Laptop**
Mobile solution for fast data collection, powerful visualization and post processing.
- 8 GB RAM
- QuadCore QX9300, 2.53GHz processor
- Nivida Quadro FX3700M / 1 GB

**Reference Sphere with Certificate Ø 100mm**
Reference Sphere with 100mm diameter for field check and alignment checks of the Leica T-Scan system

**Leica T-Scan Measuring Cart (rack-size)**
Small 19" rack with wheels, 18 HE height to mount:
LTC plus, Cover plate for cable connection, Laser power supply, Leica T-Scan Controller, High Speed Computer and UPS.
L=0,755m, W=0,59m, H=0,845m
Tracker Stand

576 337 **AT Stand Extension**
Base Stand Extension for Leica Absolute Tracker. The AT Stand Extension does not include 576 338 AT Quick Release Mount, which is already integrated with any Leica Absolute Tracker AT901. The AT Stand Extension can be extended either with 575 998 Stand Extension, 380mm (15”) or 575 999 Stand Extension, 180mm (7”)

575 997 **Leica Tracker Stand**
The Leica Tracker Stand is equipped with three levelling screws and shock absorbing wheels

576 349 **Aluminum Tripod AT08**
for easy demos, increased portability and reduction of total system weight. Aluminum Tripod for Leica Absolute Tracker with 3.5” x 8 thread interface. The tripod interface is compatible with 576 338 AT Quick Release Mount.
Tripod height (working position): 815mm (fix)
Tilting axis height: 1430mm
Dimensions: 25 x 25 x 100cm (folded)
Weight: 10kg (without AT Quick Release Mount)
Special feature: cable fixation
Note: For best stability and accuracy it is still recommended to use the standard Tracker Stand and Stand Extension
**AT Quick Release Mount**

AT Quick Release for mounting a Leica Absolute Tracker on 576 337 AT Stand Extension, 576 336 AT Mounting Plate or any other compatible instrument stand with 3.5” x 8 thread adapter.

**AT Horizontal Mount**

The AT Horizontal Mount is designed for the Leica Leica Absolute Tracker AT901 Laser Tracker to provide a vertical range of 360°. The AT Horizontal Mount can be adjusted and locked with a “pin” to 6 positions between 0° - 90° degrees. It can be fixed on the AT Stand Extension, Leica Tracker Stand, AT Magnetic Mount, and AT Mounting Plate (or any other compatible instrument stand with 3.5” x 8 thread adapter). An AT Quick Release is part of the mount.

Note: An alignment in horizontal position is recommended to get best possible 3D accuracy. (Not to be used with Leica T-Cam)

**AT Mounting Plate**

allows to mount the Leica Absolute Tracker onto machine beds. The AT Mounting Plate does not include 576 338 AT Quick Release Mount which is required

**AT Magnetic Mount**

allows to mount the Leica Absolute Tracker onto a magnetic surface. The AT Magnetic Mount does not include 576 338 AT Quick Release Mount and 576 336 AT Mounting Plate, which is required
Cables and UPS

576 330 **Motor Cable for Leica Laser Tracker, 10m (33')**
compatible with any Leica Geosystems Laser Tracker type (except Leica AT401)

576 332 **Motor Cable for Leica Laser Tracker, 5m (16')**
compatible with any Leica Geosystems Laser Tracker type (except Leica AT401)

576 331 **Sensor Cable for Leica Laser Tracker, 10m (33')**
compatible with any Leica Geosystems Laser Tracker type (except Leica AT401)

576 333 **Sensor Cable for Leica Laser Tracker, 5m (16')**
compatible with any Leica Geosystems Laser Tracker type (except Leica AT401)

575 256 **Elbow Plug Set**
for Motor- and Sensor Cable, comprising:

575 247 **Elbow Plug**, for Motor Cable, 16 pin

575 248 **Elbow Plug**, for Sensor Cable, 54 pin

575 899 **LAN Cable RJ-45, 5m**
LAN cable to connect Laser Tracker with application computer

575 992 **Uninterrupted Power Supply UPS (220 Volt)**
Power VA / W: 1100 / 700, Input voltage tolerance: 160V / 294V adjustable to 150V / 294V via supplied UPS-driver software, Frequency: 50 / 60 HZ auto-select, Output voltage on battery power: 230V (adjustable to 200 / 220 / 240V via supplied UPS-driver software, Dimensions: 44x438x499 mm Weight: 16 kg
**Uninterrupted Power Supply UPS (110 Volt)**

Power VA / W: 1100 / 700, Input voltage tolerance: 92V / 138V adjustable to 80V / 153V via supplied UPS-driver software, Frequency: 50 / 60 Hz auto-select, Output voltage on battery power: 120V (adjustable to 100 / 120 / 127V via supplied UPS-driver software, Dimensions: 1.73x17.2x19.6 inch

Weight: 35.2 lb

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**Remote Control Equipment**

**Wireless RF Control**

Wireless Radio Frequency Remote Control (2.4GHz), 4 custom programmable buttons, up to 45m/150ft range, USB interface, compatible with Windows XP or higher (32bit/64bit)

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**Wireless IR Control**

Receiver and infrared Remote Control. Set with Product CD
Levelling Equipment

576 000  **NIVEL230**
Inclination sensor for Laser Tracker with RS232 interface. Supports gravity based coordinate measurements, with Producer Inspection Certificate M NIVEL230

576 334  **AT NIVEL Adapter Kit**
The AT NIVEL Adapter Kit is used to mount a 576 000 NIVEL 230 inclination sensor onto the Leica Absolute Tracker AT901 to determine the tilt components and to monitor the station

802 905  **Cable, 1.5m (Lemo - Lemo)**
to connect Laser Tracker with NIVEL20 or NIVEL230
Overview Camera Equipment

**Overview Camera for Laser Tracker**
The optional black/white overview camera mounts on top of the Laser Tracker. It enables save and convenient reflector lock via video image. The camera functionality is supported during the various measuring modes of Leica Absolute Tracker AT901-LR, Leica Absolute Tracker AT901-MR, Leica Absolute Tracker AT901-B, Leica Ltd840, Leica LTD706, Leica LTD709, Leica LTD640 Laser Tracker, which has the Absolute Distance Meter built in.

MeteoStation and Accessories

**AT MeteoStation**
The AT MeteoStation has a built-in temperature, humidity and pressure measuring unit. Two External Temperature Sensors (air temperature/object temperature) can be attached optionally. The MeteoStation gets connected to the AT Controller via a USB Cable. The meteo data is accessible via the emScon interface.
The product consists of: AT MeteoStation, 3m USB Cable, External NTC Temperature Sensor (2m), HW manual and Producer Certificate.

**Parameters**
- Pressure: min. 500hPa, max. 1100hPa
- Temperature (int. and ext.): min. -10°C, max. +60°C
- Rel. Humidity: min. 0%, max. 95%

**Accuracy**
- Pressure: ± 1.0hPa
- Temperature (int. and ext.): ± 0.3°C
- Humidity: ± 5%
External NTC Temperature Sensor, 2m
The External NTC Temperature Sensor is an accessory for the AT MeteoStation. The Temperature Sensor in configured with a 2m cable. It can be used as air- and/or object-sensor.
Parameter:
Temperature range: -20 – +50°C
Temperature: ± 0.1°C

External NTC Temperature Sensor, 10m
The External NTC Temperature Sensor is an accessory for the AT MeteoStation. The Temperature Sensor in configured with a 10m cable. It can be used as air- and/or object-sensor.
Parameter:
Temperature range: -20 – +50°C
Temperature: ± 0.1°C

USB Cable, 3m
The USB Cable connects the AT MeteoStation with the AT Controller unit
Measuring Cart and Shipping Container

*Both carts and shipping container will provide best stowage and transport facilities – no matter where the equipment need to travel to*

### Metrology Measurement Cart

Contains a shock absorbing 19” rack mounting for installation of controllers, UPS, and High Speed Computer. The rack mounting compartment is temperature regulated (build-in fan). The cart can be used like a regular measuring cart and in addition it can be reconfigured to a shuttle cart. The drawers are equipped with preconfigured foam inlays for storing accessories like reflectors, reflector supports, MeteoStations, Leica T-Probe styli and extensions... The main cart desktop can be extended with a foldable side-table.

L=1.20m, W=0.70m, H=1.10m

### Leica T-Scan Measuring Cart (rack-size)

Small 19” rack with wheels, 18 HE height to mount: LTC plus, Cover plate for cable connection, Leica T-Scan Controller "All-in-One", High Speed Computer and UPS.

L=0.755m, W=0.59m, H=0.845m
576 335  **Shipping Case for Stand and AT Stand Extension**

The case can be equipped with 575 997 Leica Tracker Stand, 576 337 Leica AT Stand Extension and the Leica Laser Tracker Motor & Sensor-Cables (5m or 10m)

576 348  **Rack Mount Light Duty Case**

The case is a light duty rolling rack unit. It has dual lids and rollerblade type wheels. The rack mount light duty case is versatile and can be equipped with e.g. a Leica AT Controller 900 or Leica T-Scan Controller or any other computer equipment, which fits the 4 unit height and 19" width rack system

- Exterior depth: 57.785 cm (22.75 in)
- Exterior width: 54.610 cm (21.50 in)
- Exterior height: 27.305 cm (10.75 in)
- Rack space units: 4 U
- Rack depth (rail to lid): 48.260 cm (19.00 in)
- Rack depth (rail to rail): 42.545 cm (16.75 in)
- Lid depth: 5.715 cm (2.25 in)
- Weight: 7.711 kg (17 lb)
Leica Absolute Tracker AT401

576 371  Leica Absolute Tracker AT401
including:
- Leica AT401 sensor
- AT Controller 400
- AT401 Sensor Cable
- External NTC Temperature Sensor
- Tribrach
- IR Remote Control
- LAN Cable
- ATC400 Tripod Fixture
- 2 Batteries
- Battery Charger
- AC adapter
- Producer Inspection Certificate M
- Compensation SW
- Transportation Box
Controller

**AT Controller 400**
The AT Laser Tracker Controller 400 unit is used with the Leica Absolute Tracker AT401

**ATC400 Tripod Fixture**
The ATC400 Tripod Fixture is used to mount the AT Controller 400 unit on a stand like Aluminum Tripod ATxx, Brunson etc.
Leica Absolute Tracker AT401

Power Supply

<table>
<thead>
<tr>
<th>Code</th>
<th>Item Description</th>
<th>Optional?</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>574 834</td>
<td><strong>GEB241 Battery</strong>&lt;br&gt;Internal Li-Ion battery, 14.8V, 4800mAh</td>
<td></td>
<td>AT401</td>
</tr>
<tr>
<td></td>
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<td>AT901-B</td>
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<tbody>
<tr>
<td>576 378</td>
<td><strong>GKL212, Basic Charger Set</strong>&lt;br&gt;2 basic chargers for Li-Ion Batteries GEB241, daisy chain cable, car adapter cable and AC adapter included</td>
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<td>AT401</td>
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<tr>
<td>733 271</td>
<td><strong>GKL221, Charger PRO</strong>&lt;br&gt;To be used with up to two charging adapters GDI221 or GDI222, Charger Cable and Net Adapter included</td>
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<th>Optional?</th>
<th>Options</th>
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<tbody>
<tr>
<td>733 323</td>
<td><strong>GDI221, Adapter for GKL221</strong>&lt;br&gt;for charging Li-Ion Batteries of type GEB241</td>
<td></td>
<td>AT401</td>
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</thead>
<tbody>
<tr>
<td>576 377</td>
<td><strong>AT401 PoE+ Set</strong>&lt;br&gt;The PoE+ Set configuration provides electrical power, along with data, from the PC to the Leica Absolute Tracker AT401 over standard category 5m cable in an ethernet network. Content: PoE+ midspan, PoE+ module, 5m ethernet cable</td>
<td></td>
<td>AT401</td>
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</tbody>
</table>
Remote Control Equipment

576 379

**AT Remote Control 400**
The wireless infra-red control unit is compatible with Leica Absolute Tracker AT401 and ATC400.
Content: Remote Control unit, 2 AAA-batteries

575 757

**Wireless RF Control**
Wireless Radio Frequency Remote Control (2.4GHz), 4 custom programmable buttons, up to 45m/150ft Range, USB interface, compatible with Windows XP or higher (32bit/64bit)
Cables

576 376 **AT401 Sensor Cable, 1.8m**
compatible with Leica Absolute Tracker AT401 and ATC400

576 350 **External NTC Temperature Sensor S2, 2m**
The External NTC Temperature Sensor S2 is an accessory for the Leica Absolute Tracker AT401 and the standalone AT MeteoStation (576 342). The temperature sensor is configured with a 2m cable and its tip is square shaped by 8x8x40mm with a borehole ø4.2mm to fix it to the object. It can be used as an air- and/or object-sensor.
Parameter: Temperature range: -20 – +50°C
Accuracy: Temperature: ± 0.2°C

576 351 **External NTC Temperature Sensor S2, 10m**
The External NTC Temperature Sensor S2 is an accessory for the Leica Absolute Tracker AT401 and the standalone AT MeteoStation (576 342). The temperature sensor is configured with a 10m cable and its tip is square shaped by 8x8x40mm with a borehole ø4.2mm to fix it to the object. It can be used as an air- and/or object-sensor.
Parameter: Temperature range: -20 – +50°C
Accuracy: Temperature: ± 0.2°C

575 899 **LAN Cable RJ-45, 5m**
LAN Cable to connect Laser Tracker with application computer
Tripods and Stands

**AT21 Aluminium Tripod**

Robust, well-established tripod for general use and 5/8” thread. Suitable for Laser Stations, Theodolites and Laser Tracker field check equipment.

Instrument height: from 1.4 – 2.1m (4.6 – 6.9 ft)

Weight: 11kg (24.2 lb)

**AT28 Aluminium Tripod**

With adjustable centre column. Robust, well-established tripod for general use and 5/8” thread. Suitable for Laser Stations, Theodolites and Laser Tracker field check equipment.

Instrument height: from 1.4 – 2.8m (4.6 – 9.2 ft)

Weight: 12kg (26.4 lb)

**AT08 Aluminum Tripod**

For easy demos, increased portability and reduction of total system weight. Aluminum Tripod for AT Laser Tracker with 3.5”x8 thread interface. The tripod interface is compatible with 576 338 AT Quick Release Mount.

Tripod height (working position): 815mm (fix)

Tilting axis height: 1430mm

Dimensions: 25x25x100cm (folded)

Weight: 10kg (without AT Quick Release Mount)

Special feature: cable fixation

Note: For best stability and accuracy it is still recommended to use the standard tracker stand and stand extension

**8-1/2” x 11” to 5/8” Adapter**

To mount a TPS or AT401 sensor on a heavy duty "Brunson" type stand

Please send orders for Art. 577 261 to:

Hubbs Machine & Manufacturing Inc., 6282 Rocky Grove, P.O. Box 540, Cedar Hill, Missouri 63016-0540, USA, Phone +1 636 285 43 88, Fax +1 636 285 59 70, tonya@hubbsmachine.com
**AT401 Stand Adapter**
fits on the AT Stand Extension (576 337) from the Leica Absolute Tracker AT901. The Stand Adapter is designed in such way, that the tilting axis of the Leica Absolute Tracker AT401 is at the same height as the Leica Absolute Tracker AT901 when used on the AT Stand Extension.

**GST20 Tripod, Telescopic, with Accessories**
Robust, well-established tripod for general use. Suitable for levels, lasers, Laser Stations and GPS. Extendible 180cm (5.9ft)
Weight: 6.4kg (14.1lb)

**GST4 Tripod Base**
for setting up GST Tripods on smooth surfaces
Tribrachs

<table>
<thead>
<tr>
<th>AT401</th>
<th>opt.</th>
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<tr>
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575 459 **GDF21-I Industrial Tribrach**
without optical plummet, light grey

<table>
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<tr>
<th>AT401</th>
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</table>

575 733 **GDF22-I Industrial Tribrach**
with optical, plummet, light grey
Corner Cube

575 784  **Red-Ring Reflector (RRR) 1.5”**  
ball with hardened steel surface  
Corner cube reflector with removable ring, protection cover for optic and certificate, in wooden box

575 739  **Red-Ring Reflector (RRR) 0.5”**  
ball with hardened steel surface  
Corner cube reflector with removable ring, protection cover for optic and certificate, in wooden box

576 244  **Break Resistant Reflector 1.5” (BRR)**  
Break Resistant Reflector with collar, protection cover for optic and certificate, in wooden box  
Material ball: Stainless steel, surface-hardened, magnetic
Tripleprism Reflector

**Tooling Ball Reflector 0.5” (TBR)**
Tooling ball glass prism reflector with removable ring, protection cover for optic and certificate, in wooden box
Material ball: Stainless steel, surface-hardened, magnetic

**Reflectors for Fixed Installation (RFI) 0.5”**
Set of 5 pcs.
Ball with anodized aluminium surface, ø 0.5” (12.07mm)
*Applied for: Robot and machine operations dynamic and static measurements*

**Cateye Reflector (CER)**
Ball with Hardened Steel Surface
ø 75mm (2.9528”), ±0.05mm

**Surface Reflector Kit**
including: Surface Reflector with lanyard, Pin Point Stylus, 3 mm Ruby Ball Stylus, Edge Stylus, Initialisation Sphere and Manual
<table>
<thead>
<tr>
<th>Model Number</th>
<th>Model Description</th>
<th>Quantity</th>
<th>Radius (in)</th>
<th>Centring of Optics (mm)</th>
<th>Shape Ball (mm)</th>
<th>Acceptance angle</th>
<th>Weight (oz)</th>
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<tbody>
<tr>
<td>576 241</td>
<td><strong>Red-Ring Reflector 1.5” (RRR)</strong></td>
<td>2 pcs.</td>
<td>19.05 ± 0.0025</td>
<td>±0.006 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to ring</td>
<td>170</td>
</tr>
<tr>
<td>576 242</td>
<td><strong>Red-Ring Reflector 1.5”</strong></td>
<td>5 pcs.</td>
<td>19.05 ± 0.0025</td>
<td>±0.006 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to ring</td>
<td>170</td>
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<tr>
<td>576 243</td>
<td><strong>Red-Ring Reflector 1.5”</strong></td>
<td>10 pcs.</td>
<td>19.05 ± 0.0025</td>
<td>±0.006 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to ring</td>
<td>170</td>
</tr>
<tr>
<td>576 238</td>
<td><strong>Red-Ring Reflector 0.5” (RRR)</strong></td>
<td>2 pcs.</td>
<td>6.35 ± 0.0025</td>
<td>±0.010 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to ring</td>
<td>6</td>
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<tr>
<td>576 239</td>
<td><strong>Red-Ring Reflector 0.5”</strong></td>
<td>5 pcs.</td>
<td>6.35 ± 0.0025</td>
<td>±0.010 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to ring</td>
<td>6</td>
</tr>
<tr>
<td>576 240</td>
<td><strong>Red-Ring Reflector 0.5”</strong></td>
<td>10 pcs.</td>
<td>6.35 ± 0.0025</td>
<td>±0.010 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to ring</td>
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</tr>
<tr>
<td>576 244</td>
<td><strong>Break Resistant Reflector 1.5” (BRR)</strong></td>
<td>1 pc.</td>
<td>19.05 ± 0.0025</td>
<td>±0.010 &lt; ±0.0024</td>
<td>±0.0015 &lt; ±0.0006</td>
<td>±30°, no limitation due to collar</td>
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<tr>
<td>576 235</td>
<td><strong>Tooling Ball Reflector 0.5” (TBR)</strong></td>
<td>5 pcs.</td>
<td>6.35 ± 0.004</td>
<td>±0.01 &lt; ±0.0039</td>
<td>±0.003 &lt; ±0.00012</td>
<td>≤ 22° (without ring: ≤ 50°)</td>
<td>7</td>
</tr>
<tr>
<td>576 236</td>
<td><strong>Tooling Ball Reflector 0.5”</strong></td>
<td>1 pc.</td>
<td>6.35 ± 0.004</td>
<td>±0.01 &lt; ±0.0039</td>
<td>±0.003 &lt; ±0.00012</td>
<td>≤ 22° (without ring: ≤ 50°)</td>
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<tr>
<td>576 848</td>
<td><strong>Reflectors for Fixed Installation 0.5” (RFI)</strong></td>
<td>5 pcs.</td>
<td>6.35</td>
<td>not applicable</td>
<td>not applicable</td>
<td>±50°</td>
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<tr>
<td>576 246</td>
<td><strong>Reflectors for Fixed Installation 0.5”</strong></td>
<td>10 pcs.</td>
<td>6.35</td>
<td>not applicable</td>
<td>not applicable</td>
<td>±50°</td>
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<tr>
<td>573 510</td>
<td><strong>Cateye Reflector (CER)</strong></td>
<td>1 pc.</td>
<td>75 ± 0.05</td>
<td>±0.01</td>
<td>±0.01</td>
<td>±60°</td>
<td>730</td>
</tr>
</tbody>
</table>
Tape Target Reflector

**GZM29, Reflective Tape, 20x20mm**
for short range, pack of 20 pieces

**GZM30, Reflective Tape, 40x40mm**
for mid range, pack of 20 pieces

**GZM31, Reflective Tape, 60x60mm**
for long range, pack of 20 pieces

**CRT26 Circular Retro Target Tape**
outside ø 26mm, central aperture ø 5mm,
light orange, for medium range
pack of 100 pieces

**Target-kit with retro-target on magnetic target,**
in case, comprising:
20 ring-shaped retro-target, central aperture
ø 5mm, outside ø 26mm (576 389)
20x Retro-Target, 20x20mm (635 317)
20x Retro-Target, 40x40mm (635 318)
4x RB Bases (575 776)
1x RBC Base (575 777)
4x RT3-90 Targets (575 773)
4x RT3-45 Targets (575 774)
4x RT3-0 Targets (575 775)

**RT3-90 Tape Target**
with offset 30mm ± 0.05mm, magnetic
fits to Target Base RB and RBC
575 774 **RT3-45 Tape Target**
with offset 30mm ±0.05mm, magnetic
fits to Target RB and RBC

575 775 **RT3-0 Tape Target**
with offset 30mm ±0.05mm, magnetic
fits to Target Base RB and RBC

575 776 **RB Magnetic Target Base**
with offset 10mm ±0.05mm, magnetic
fits to Tape Targets RT3

575 777 **RBC Magnetic Target Base**
with offset 10mm ±0.05mm, fits to tape targets
RT3, with central bolt hole and locating pin

575 088 **Pass Point-Retro Target Set**
in case, comprising:
3 Swivel Targets with Retro Reflective Foils
Ø45mm, h=75mm
3 Magnetic Bases
Special Reflectors and Holders (Leica TDRA6000 only)

575 940 **Roller Alignment Target Fixture**
comprising:
2 Floor Fixtures, 1 Roller Fixture, 2 RT3-90 Targets (575 773), 2 RT3-45 Targets (575 774), excluding CCR 1.5” Reflector and CCR 1.5” Supports

574 999 **Hidden Point Bar, 0.5m**
with Tape Targets

573 487 **Magnetic Support for Hidden Point Bar, 0.5m**

641 662 **GMP101 Mini Prism Set**
incl. bubble, target plate and spike, in bag, also suitable for GLS11 and GRT44 (same height as GPH1, additive constant +17.5mm)

555 631 **GPH1P Single Prism Precision Reflector**
Targets for Multiple Theodolite Systems

571 549  **Self-Adhesive Target Foils**  
black/white, ø 23mm, 48 pieces on one sheet

800 742  **Scale Bar 0,9m**  
carbon fibre, incl. Producer Inspection Certificate, in carrying case

574 681  **Orientation Target**  
magnetic

575 854  **Sphere Fit Tool**  
for Cateye Reflector

576 142  **Light Duty Magnetic Holder**  
for Tooling Ball Reflectors 0.5"
Compensation and Field Check Tools

**Compensation Set for 75mm Reflectors (CatEye),** comprising:
- 575 415 Precision Ball Bar, Motorized
- 2 x 803 728 Magnetic Reflector Holder
- 575 090 Adapter to Ball Bar

**Compensation Set for 1.5” Red-Ring Reflectors (Corner Cube),** comprising:
- 575 415 Precision Ball Bar, motorized
- 2 x 804 011 Magnetic Reflector Holder
- 575 090 Adapter to Ball Bar

**Precision Ball Bar, Motorized**
with counter weight, without reflector support

**Adapter to Ball Bar for Tripods with 5/8” Thread**
allows to mount a Ball Bar and a Magnetic Reflector Holder on a tripod, (Ball Bar and Reflector Holder are not included)

**IFM Distance Tool**
to re-determine the birdbath distance for TBR and 1.5” CCR Reflectors, 12mm bore holes for reflector supports (supports not included)
575 837  **Tripod Adapter**

To be used for various alignment or compensation measurements. Thread for tripod 5/8". Bore hole 12mm (supports not included)

- Tripod reflector holder for consistent reference point
- Drawn to scale
- Steel with black oxide finish

575 484  **AT28 Aluminium Tripod**

With adjustable centre column. Robust, well-established tripod for general use and 5/8" thread. Suitable for Laser Stations, Theodolites and Laser Tracker field check equipment.

Instrument height: from 1.4 - 2.8m (4.6 - 9.2 ft)

Weight: 12kg (26.4 lb)

575 483  **AT21 Aluminium Tripod**

Robust, well-established tripod for general use and 5/8" thread. Suitable for Total Stations, Theodolites and Laser Tracker field check equipment.

Instrument height: from 1.4 – 2.1m (4.6 – 6.9 ft)

Weight: 11kg (24.2 lb)

574 550  **Reference Tool Invar**

584 011  **Magnetic Reflector Holder**

For reflectors in spherical housings, ø 1.5" with bolt hole for 575 497
803 728 **Magnetic Reflector Holder**
for reflectors in spherical housings, ø 75mm with bolt hole for 575 497 and 575 599.
- Tripod reflector holder for consistent reference point
- Drawn to scale
- Steel with black oxide finish

576 401 **Mirror Tool**
to measure distances between 2 points with Laser Tracker using interferometer only. This basic set includes 2 holders with reflector holders for 0.5” and 1.5” (2 units each version 576 073 and 576 096). This tool can be used also to generate nominal distance values for the planned VDI/VDE standard

576 402 **Reflector Mount**
which can be mounted on a tripod or fix installed at a stabil location to establish nominal distances for comparison measurements. To support 0.5” and 1.5” CCR's Magnetic Reflector Holders version 576 073 and 576 096 are recommended
### 1.5” Reflector Holders

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Dimensions</th>
<th>Material</th>
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</thead>
<tbody>
<tr>
<td>577 011</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 24mm, shank Ø 6mm, body Ø 25.4mm stainless steel</td>
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<tr>
<td>577 002</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 24mm, shank Ø 8mm, body Ø 25.4mm stainless steel</td>
<td></td>
</tr>
<tr>
<td>577 003</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 24mm, shank Ø 12mm, body Ø 25.4mm stainless steel</td>
<td></td>
</tr>
<tr>
<td>577 101</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 25mm, shank Ø 6mm, body Ø 25.4mm stainless steel</td>
<td></td>
</tr>
<tr>
<td>577 102</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 25mm, shank Ø 8mm, body Ø 25.4mm stainless steel</td>
<td></td>
</tr>
<tr>
<td>577 103</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 25mm, shank Ø 10mm, body Ø 25.4mm stainless steel</td>
<td></td>
</tr>
<tr>
<td>577 104</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 25mm, shank Ø 12mm, body Ø 25.4mm stainless steel</td>
<td></td>
</tr>
<tr>
<td>577 120</td>
<td>Reflector Holder 1.5”</td>
<td>Offset 1.0000”, shank Ø 0.2500”, body Ø 1.000” stainless steel</td>
<td></td>
</tr>
</tbody>
</table>
577 125  **Reflector Holder 1.5”**
Offset 24mm, shankless, body Ø 40.64mm stainless steel

577 126  **Reflector Holder 1.5”**
Offset 25mm, shankless, body Ø 40.64mm stainless steel

577 127  **Reflector Holder 1.5”**
Offset 1.0000", shankless, body Ø 1.6000" stainless steel

577 128  **Reflector Holder 1.5”**
Offset 24mm, shankless, body Ø 40.64mm magnetic base, stainless steel

577 129  **Reflector Holder 1.5”**
Offset 25mm, shankless, body Ø 40.64mm magnetic base, stainless steel

577 130  **Reflector Holder 1.5”**
Offset 1.0000", shankless, body Ø 1.6000" magnetic base, stainless steel

---

**Reflector Holders**

Please send orders to: Hubbs Machine & Manufacturing Inc., 6282 Rocky Grove, P.O. Box 540, Cedar Hill, Missouri 63016-0540, USA
Phone +1 636 285 43 88, Fax +1 636 285 59 70, tonya@hubbsmachine.com
577 135 **Edge Reflector Holder 1.5”**
Offset 24mm, stainless steel

577 136 **Edge Reflector Holder 1.5”**
Offset 25mm, stainless steel

577 137 **Edge Reflector Holder 1.5”**
Offset 1.0000”, stainless steel

577 140 **Drift Nest 1.5”**
Offset 1.0000”, aluminum

576 102 **Foundation Reflector Holder 1.5”**

576 134 **Tripod Reflector Holder 1.5”**
Reflector Holders

Please send orders to: Hubbs Machine & Manufacturing Inc., 6282 Rocky Grove, P.O. Box 540, Cedar Hill, Missouri 63016-0540, USA
Phone +1 636 285 43 88, Fax +1 636 285 59 70, tonya@hubbsmachine.com
0.5” Reflector Holders

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>577 201</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, shank Ø 5mm, body Ø 12.7mm stainless steel</td>
</tr>
<tr>
<td>577 202</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, shank Ø 6mm, body Ø 12.7mm stainless steel</td>
</tr>
<tr>
<td>577 203</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, shank Ø 8mm, body Ø 12.7mm stainless steel</td>
</tr>
<tr>
<td>577 204</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, shank Ø 10mm, body Ø 0.75” stainless steel</td>
</tr>
<tr>
<td>576 068</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, with Shank Ø 5mm stainless steel</td>
</tr>
<tr>
<td>576 073</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset H 10mm, Magnetic Base with Shank A Ø 10mm, stainless steel</td>
</tr>
<tr>
<td>577 205</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, shank Ø 12mm, body Ø 0.75” stainless steel</td>
</tr>
<tr>
<td>577 206</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 12mm, shank Ø 6mm, body Ø 12.7mm stainless steel</td>
</tr>
<tr>
<td>577 207</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 12mm, shank Ø 8mm, body Ø 12.7mm stainless steel</td>
</tr>
<tr>
<td>577 208</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 12mm, shank Ø 12mm, body Ø 0.75” stainless steel</td>
</tr>
<tr>
<td>577 209</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 0.3125mm, shank Ø 0.2500”, body Ø 0.5000”, stainless steel</td>
</tr>
<tr>
<td>577 210</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 0.5000mm, shank Ø 0.2500”, body Ø 0.5000”, stainless steel</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>577 220</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 10mm, body Ø 12.7mm, shankless, magnetic base, stainless steel</td>
</tr>
<tr>
<td>577 221</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 12mm, body Ø 12.7mm, shankless, magnetic base, stainless steel</td>
</tr>
<tr>
<td>577 222</td>
<td><strong>Reflector Holder 0.5”</strong></td>
<td>Offset 0.5000”, body Ø 0.5000”, shankless, magnetic base, stainless steel</td>
</tr>
<tr>
<td>577 230</td>
<td><strong>Reflector Holder 0.5” Drift Nest</strong></td>
<td>Offset 0.5000”, stainless steel</td>
</tr>
<tr>
<td>577 235</td>
<td><strong>Reflector Holder 0.5” Target Corner</strong></td>
<td>Offset 0.5000”, stainless steel</td>
</tr>
<tr>
<td>577 240</td>
<td><strong>Magnetic Holder with Zero Thickness for 0.5” reflectors</strong></td>
<td>Steel black oxide finish</td>
</tr>
</tbody>
</table>
576 131 **Double Vector for TBR**
- Holds 2 0.5” reflectors on centreline and critical offsets to represent the centreline and direction of a hole
- Drawn to scale
- Centring and height tolerance within 0.0127mm (0.0005”)
- Steel with black oxide finish

576 052 **Heavy Duty Magnetic Holder for TBR**
for tooling ball reflectors 0.5”

**Miscellaneous**

576 055 **Heavy Duty Magnetic Reflector Holder Adaptor**
for supports with shank Ø 12mm

576 122 **Foundation Target Insert**
- Mounts to concrete floor foundations for permanent targeting reference
- Drawn to scale
**1.5” Laser Station Sphere**
A 1.5” Sphere for 3D manual sighting applications

**1.5” to 0.5” Adapter**
To be able to use a 0.5” reflector in a 1.5” nest
Leica Geosystems Laser Tracker – Imperial Reflector Holder Kit

Consisting of:
- 3 x 577 230 Reflector Holder 0.5" Drift Nest, offset 0.5000", stainless steel
- 1 x 577 235 Reflector Holder 0.5" Target Corner, offset 0.5000", stainless steel
- 1 x 577 210 Reflector Holder 0.5", offset 0.5000", shank Ø 0.2500", body Ø 0.5000", stainless steel
- 1 x 576 131 Double Vector for TBR, shank Ø 0.2500", steel black oxide finish
- 1 x 577 120 Reflector Holder 1.5", offset 1.0000", shank Ø 0.2500", Body Ø 1.0000", stainless steel
- 1 x 577 127 Reflector Holder 1.5", offset 1.0000", shankless, body Ø 1.6000", stainless steel
- 1 x 577 137 Edge Reflector Holder 1.5", offset 1.0000", stainless steel
- 2 x 576 134 Tripod Reflector Holder 1.5"
- 6 x 577 140 Drift Nest 1.5", offset 1.0000", aluminum

| AT401  | opt. |
| AT901-B | opt. |
| AT901-MR | opt. |
| AT901-LR | opt. |
| TDRA6000 | opt. |
| TM6100A | opt. |
Leica Geosystems Laser Tracker – Metric Reflector Holder Kit

Consisting of:

- 3 x 577 221 Reflector Holder 0.5”, offset 12mm, body Ø 12.7mm, shankless, magnetic base, stainless steel
- 1 x 577 202 Reflector Holder 0.5”, offset 10mm, shank Ø 6mm, body Ø 12.7mm, stainless steel
- 1 x 577 203 Reflector Holder 0.5”, offset 10mm, shank Ø 8mm, body Ø 12.7mm, stainless steel
- 1 x 577 205 Reflector Holder 0.5”, offset 10mm, shank Ø 12mm, body Ø 12.7mm, stainless steel
- 1 x 577 206 Reflector Holder 0.5”, offset 12mm, shank Ø 6mm, body Ø 12.7mm, stainless steel
- 1 x 577 207 Reflector Holder 0.5”, offset 12mm, shank Ø 8mm, body Ø 12.7mm, stainless steel
- 1 x 577 208 Reflector Holder 0.5”, offset 12mm, shank Ø 12mm, body Ø 12.7mm, stainless steel
- 1 x 577 101 Reflector Holder 1.5”, offset 25mm, shank Ø 6mm, body Ø 25.4mm, stainless steel
- 1 x 577 102 Reflector Holder 1.5”, offset 25mm, shank Ø 8mm, body Ø 25.4mm, stainless steel
- 1 x 577 104 Reflector Holder 1.5”, offset 25mm, shank Ø 12mm, body Ø 25.4mm, stainless steel
- 1 x 577 126 Reflector Holder 1.5”, offset 25mm, shankless, body Ø 40.6mm, stainless steel
- 1 x 577 136 Edge Reflector Holder 1.5”, offset 25mm, stainless steel
- 2 x 576 134 Tripod Reflector Holder 1.5”
- 6 x 577 140 Drift Nest 1.5”, offset 1.0000”, aluminum

Reflector Holders
Please send orders to: Hubbs Machine & Manufacturing Inc., 6282 Rocky Grove, P.O. Box 540, Cedar Hill, Missouri 63016-0540, USA Phone +1 636 285 43 88, Fax +1 636 285 59 70, tonya@hubbsmachine.com
Leica TM6100A
Industrial Theodolite

Leica TM6100A Motorized Industrial Theodolite
Leica TDRA6000 Laser Station

Leica TDRA6000 Motorized Industrial Laser Station
with automatic target recognition, Power Search, and reflectorless EDM. Dual face industrial keyboard and large illuminated display. Compartment for internal battery and memory card, two-axes compensator, motor controlled slow motion drives for Hz and V settings, friction coupling, optical sight in both faces. Including user manual, upright container and Producer Inspection Certificate M, angle and distances with both reflector and reflectorless EDM. (1.5" RRR, Retro-Reflective Tape).
Additional Options

769 992  **GTS23 V2 Optional 2nd Keyboard**  
with touch screen and color display, for Leica TM6100A instruments, for telescope position 2 (factory fitted)

6003 628  **TDRA6000 Accessory Set**  
Consisting of: GDF21-I, Industrial Tribrach w/o opt. Plummet, 2 GEB241 Batteries, GKL221 Charger with 2 GDJ221 Charging Adapters, MCF256 Compact Flash Card 256MB, GEV218 Data Transfer Cable Lemo 1 / USB
# Power Supply

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>754 834</td>
<td><strong>GEB241 Battery</strong></td>
<td>Internal battery, Li-Ion 14.8V, 4800mAh</td>
</tr>
<tr>
<td>727 367</td>
<td><strong>GEB171 External Battery</strong></td>
<td>12V 9Ah, Ni-MH, rechargeable</td>
</tr>
<tr>
<td>749 279</td>
<td><strong>GEV208 Power Supply Unit</strong></td>
<td>for TPS/GPS, for indoor use only. Input 100-240VAC to output 12VDC, with connection for Power Cables</td>
</tr>
<tr>
<td>575 427</td>
<td><strong>T_LINK Interface</strong></td>
<td>Power supply unit for TPS, for indoor use only. Input 94-265VAC to output 12VDC (max. 8 instruments)</td>
</tr>
</tbody>
</table>
Battery Chargers

733 271  **GKL221 Charger PRO**  
To be used with up to two charging adapters GDI221 or GDI222, Charger cable and net adapter included

733 323  **GDI221 Adapter for GKL221**  
for charging Li-Ion batteries of type GEB241

Data Storage and Data Transfer

733 257  **MCF256 Compact Flash Card**  
256MB

745 995  **MCF1000 Compact Flash Card**  
1GB

733 258  **MCFAD1 Compact Flash PC Card Adapter**

776 240  **MCR8 CF/SD/SRAM Card Reader**  
USB card reader for SD/CF and SRAM cards
Power Cables

<table>
<thead>
<tr>
<th>AT401</th>
<th>AT901-B</th>
<th>AT901-MR</th>
<th>AT901-LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDRA6000</td>
<td>opt.</td>
<td>TM6100A</td>
<td>opt.</td>
</tr>
</tbody>
</table>

576 390 **GEV86-I Data Cable, 20m**
connects instrument with external power supply
T_Link/GEV208 or battery GEB171

758 469 **GEV219 Power Cable, 1.8m**
Connects external battery GEB171 to TM30/TS30 or
Leica TDRA6000 instrument

759 257 **GEV220 Y-Cable, 2.0m**
Connects TM30/TS30 or Leica TDRA6000 to PC
(9-pin RS232 serial) and external battery

800 497 **Cable Spool**
for 20m/40m cables
(without cable)
Data Transfer Cables and Converter

733 282 **GEV162 Data Transfer Cable, 2.8m**
Connects GPS1200+ receiver RX controller port or Leica TM30/TS30 or Leica TDRA6000 to PC for data transfer, firmware upload etc. lemo to 9 pin RS232 serial connector

758 468 **GEV218 Serial Data Transfer Cable, 2.0m**
Converter cable USB to serial (Lemo to USB A connector), connects instrument to PC, PC driver included on CD

758 513 **Adapter Cable Leica TPS6000**
(Lemo 0 - Lemo 1), Used to convert Leica TPS5000 cables. Used to work with TPS6000 sensors on existing Leica TPS5000 cables

576 388 **RS232 Serial – USB Adapter**
Used to convert 9-pin RS232 connectors into USB connections

707 525 **GK1 Lemo Canon Converter**
30°, for PC
## Tripods

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>GST20</td>
<td><strong>Tripod Telescopic, with accessories</strong></td>
<td>296 632</td>
</tr>
<tr>
<td></td>
<td>Robust, well-established tripod for general use.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suitable for levels, lasers, Laser Stations and GPS.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extendible 180cm (5.9ft)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight: 6.4kg (14.1lb)</td>
<td></td>
</tr>
<tr>
<td>GST4</td>
<td><strong>Tripod Base</strong></td>
<td>332 200</td>
</tr>
<tr>
<td></td>
<td>for setting up GST Tripods on smooth surfaces</td>
<td></td>
</tr>
<tr>
<td>AT21</td>
<td><strong>Aluminum Tripod</strong></td>
<td>575 483</td>
</tr>
<tr>
<td></td>
<td>Robust, well-established tripod for general use and 5/8” thread. Suitable for Laser Stations, Theodolites and Laser Tracker field check equipment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Instrument height: from 1.4 –2.1m (4.6 – 6.9 ft)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight: 11kg (24.2 lb)</td>
<td></td>
</tr>
<tr>
<td>AT28</td>
<td><strong>Aluminum Tripod</strong></td>
<td>575 484</td>
</tr>
<tr>
<td></td>
<td>with adjustable centre column. Robust, well-established tripod for general use and 5/8&quot; thread. Suitable for Laser Stations, Theodolites and Laser Tracker field check equipment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Instrument height: from 1.4 - 2.8m (4.6 - 9.2 ft)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight: 12kg (26.4 lb)</td>
<td></td>
</tr>
</tbody>
</table>
417 677  **GMT5 Measuring Slide**
(Single direction) with maximum working range 40mm; least count 0.01mm

417 678  **GAD12 Adapter Set**
for mounting GMT5 translation stage onto any Leica Geosystems tribrach; includes tribrach to mount instrument; typical adapter set for Theodolites and Laser Stations

417 679  **GAD13 Adapter Set**
for mounting GMT5 translation stage onto 5/8” thread; includes adapter plate with 5/8” thread to mount instruments; typical adapter set for levels
### Tribrachs

<table>
<thead>
<tr>
<th>AT401</th>
<th>AT901-B</th>
<th>AT901-MR</th>
<th>AT901-LR</th>
<th>TDRA6000</th>
<th>TM6100A</th>
<th>opt.</th>
<th>opt.</th>
</tr>
</thead>
</table>

#### GDF21-I Industrial Tribrach
- **575 459**
- without optical plummet, light grey

#### GDF22-I Industrial Tribrach
- **575 733**
- with optical, plummet, light grey

#### 8-1/2” x 11” to 5/8” Adapter
- **577 261**
- to mount a TPS or Leica AT401 sensor on a heavy duty "Brunson" type stand

Please send orders for Art. 577 261 to:
Hubbs Machine & Manufacturing Inc., 6282 Rocky Grove, P.O. Box 540, Cedar Hill, Missouri 63016-0540, USA
Phone +1 636 285 43 88, Fax +1 636 285 59 70, tonya@hubbsmachine.com
Eyepieces, Filters, DL2 Lasers and Autocollimation Accessories

308 838  **FOK53 Eyepiece**
44 x magnification at 10m/30ft, optically adjusted and fitted in factory (only to be ordered with new instrument)

743 504  **GVO13 Objective Sun-Filter**

734 514  **GFZ3 Diagonal Eyepiece**
for telescope, except T100

376 236  **GOK6 Eyepiece**
for steep sights, with joint allowing variable sighting angle

723 231  **Counterweight for Leica TM5100A/TM6100A**
if steep angle GOK6 Eyepiece is attached
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT401</td>
<td><strong>GUS29</strong> Internal Target</td>
<td>433 472</td>
<td>for collimation measurements&lt;br&gt;(Factory fit to Leica TM5100A / Leica TM6100A)</td>
</tr>
<tr>
<td>AT901</td>
<td><strong>Passive Adapter Plate</strong></td>
<td>575 871</td>
<td>For Leica TM5100, Leica TM5100A and Leica TM6100A&lt;br&gt;without power supply (factory fit)</td>
</tr>
<tr>
<td>AT401</td>
<td><strong>GOA2</strong> Autocollimation Eyepiece</td>
<td>199 899</td>
<td>(Leica TDRA6000 only)</td>
</tr>
<tr>
<td>AT901</td>
<td><strong>GEB62</strong> Plug-In Lamp</td>
<td>394 787</td>
<td>with cable to battery&lt;br&gt;(Leica TDRA6000 only)</td>
</tr>
<tr>
<td>AT401</td>
<td><strong>GEB63</strong> Battery Box</td>
<td>394 792</td>
<td>for autocollimation eyepiece and eyepiece lamp.&lt;br&gt;Does not include 9V battery&lt;br&gt;(Leica TDRA6000 only)</td>
</tr>
</tbody>
</table>
Industrial Theodolite and Laser Station Accessories

575 725  **AL51 Plug in Lamp**  
Leica TM5100A/TM6100A

392 368  **GAS1 Autocollimation Mirror**  
ø 50mm, in case

574 822  **DL2 Diode Laser Eyepiece**  
with user manual, in case

723 231  **Counterweight for Leica TM6100A**  
if Diode Laser DL2/3 is attached

574 835  **Intensity Regulator for DL/3**
### Tripod Bracket

In order to attach accessories (Battery, DL2 Intensity Regulator, Radio Modem) to AT21/28 Tripods

### Cables

**Cable 1m**

connects DL2 and Intensity Regulator

**GEV52 Data Cable 1.8m**

connects instrument or intensity regulator DL2 with External Power Supply T_LINK/GEV208 or Battery GEB70/171

**GEV86 Data Cable 20 m**

connects DL2/3 intensity regulator with external power supply T_LINK/GEV208 or Battery GEB171

**GEV63-I Power Cable 1.2m**

connects instrument with DL2/3 Intensity Regulator
Qingdao

Leica Geosystems Service Centers
Hexagon Metrology Precision Centers

Where quality comes together.
Whether building the fastest car, the biggest plane, or the most precise tooling, you need exact measurements to improve quality and productivity. So when it has to be right, professionals trust Leica Geosystems Metrology to help collect, analyze, and present 3-dimensional (3D) data for industrial measurement.

Leica Geosystems Metrology is best known for its broad array of control and industrial measurement products including laser trackers, Local Positioning Technology (LPT) based systems, hand-held scanners, 3D software and high-precision total stations. Those who use Leica Metrology products every day trust them for their dependability, the value they deliver, and the world-class service & support that's second to none.

Precision, reliability and service from Leica Geosystems Metrology.

www.leica-geosystems.com/metrology
www.hexagonmetrology.com