



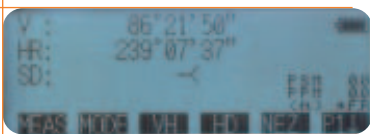
GPT-6000/GPT-6000C SERIES

**PULSE TOTAL
STATION**

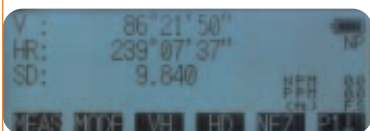
High performance, non prism measurement



Making use of state of the art pulse laser technology, TOPCON has added non-prism measurement capability to high performance total stations. Robust weather proof construction, performance enhancing software, superior measurement specifications and flexible data handling options are all features of the new GPT-6000 (C) series. Based on the popular GTS-600, the GPT-6000 series is the ideal workhorse total station for demanding survey and engineering applications, with the added performance enhancement of non-prism distance measurement.



Prism Mode



Non-Prism Mode



Graphic display/Numeric keyboard

Outstanding features

Long Range Measurement

Topcon's unique pulse laser technology has made it possible to achieve non prism measurement range of 150 meters. With this long range capability you can achieve increased productivity and efficiency with many survey tasks by being able to measure more points from a single set up. A long distance range of 7,000 meters can be measured using a single prism.

High speed non-prism measurement

Due to the nature of pulse laser technology, measurement is virtually instantaneous (0.3 sec. in tracking mode and 1.2 sec. in fine mode). This provides quick measurement and a fast update rate. Topcon has been able to achieve this high measurement performance with a Class 1 invisible laser. An important consideration in terms of user and construction site safety.

Simple operation

The GPT-6000 series is packed full of performance enhancing software routines yet the operation of the instrument remains simple and easy to learn. Switching between non-prism and prism measuring modes is a one key operation.

Angle Measurement specifications

The GTS-6000 Series consists of 4 models, GPT-6001, 6002, 6003 and 6005 with 1" (0.3mgon), 2" (0.6mgon), 3" (1.0mgon) and 5" (1.5mgon) accuracy respectively. All models have dual axis compensation. The high accuracy models GPT-6001 and GPT-6002 have a minimum reading of 0.5" (0.1mgon) whilst GPT-6003 and GPT-6005 have a minimum reading of 1" (0.2mgon). The absolute encoder system of GPT-6000 Series ensures angle measurement stability and maintenance of the horizontal zero position, even when there is loss of power. When powering up the instrument you are immediately ready to measure, as there is no need to rotate the telescope to initialise the measurement circles.

Graphic Display / Numeric Keyboard

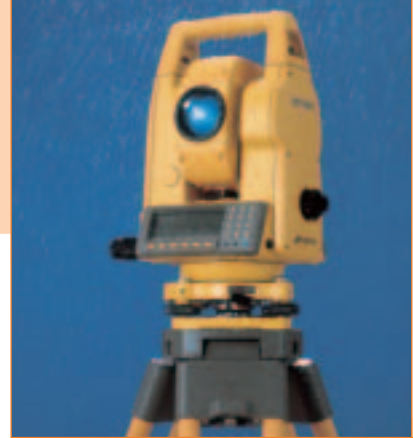
All measurements and calculations are clearly visible on the large graphic display and operation is made easy by the use of the full numeric keyboard with software driven function keys and alpha character input.



Built for tough conditions

The GPT-6000 Series is built to withstand tough working conditions. With high degrees of protection against dust and water penetration, the instruments can withstand harsh environments reducing down time and need for repair. GPT-6000 Series is tested to international standard IP65. (GPT-6000C series: IP54).

* Degree of protection against water for the Topcon's GPT-6000 series is based on the IEC60529 standard, defined as "Water projected in jets against the enclosure from any direction shall have no harmful effects". (GPT-6000C series is defined as "protected against splashing water"). Also the Topcon GPT-6000 series complies with "Dust-tight" of the IEC60529 standard as to degree of protection against solid foreign objects (GPT-6000C series is defined as "Dust protected").



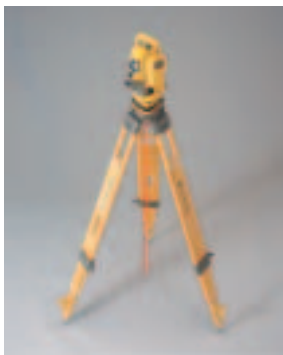
Advanced options

Compact Flash Card System (GPT-6000C)

For users that require more flexibility in handling their data, the GPT-6000C Series offers the possibility to expand on the instruments internal data memory of 320 KB RAM. By using the internal card reader, industry standard Compact Flash cards can be easily inserted in the total station to store or upload data from and to the internal memory of the instrument. This offers flexibility in data handling and ease of transferring data from site to office. Data cards of upto 32MB can be used, increasing the internal memory capacity of 5,000 points.



Compact Flash Card System

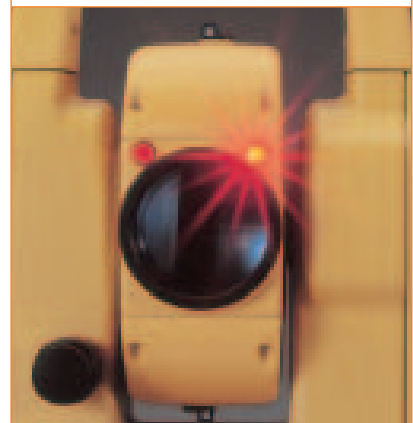


Laser Plummet (optional)

The laser plummet is available as factory option for the GPT-6000/6000C Series. Having a clearly visible laser spot on the ground, you can set up the instrument fast and easy.

Point Guide System (optional)

Topcon's Point Guide function is available as factory option. Get on line quickly and easily with this feature. Two(2) LED lights, one flashing and one constant, help identify the correct alignment for setting out.



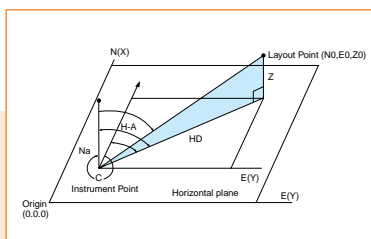
Point Guide System

Measurement software

Standard measurement routines are performed with the basic application software of the GTS-600 series. This easy to use software covers all the measurement routines for survey data collection and includes extensive routines for stake out work.

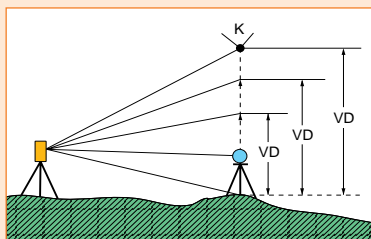
Layout

The 'Layout' program permits direct coordinate input for single point stake out or the option for layout job creation



and file management for data input from a coordinate file.

This program is easy to use for quick stake out jobs. More advanced stake out options are available in SSS600.



Remote elevation measurement

Easy to use routine for measurement of the height of inaccessible points.

Missing Line measurement

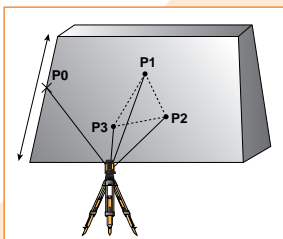
Program to calculate the distance and height difference between remote points.

Line program

Program to calculate the height of inaccessible points above a defined base line.

Plane offset measurement (for non prism measurement)

Coordinates can be calculated for points where direct measurements to a prism can not be taken, for example measurements to points on a wall or plane. Three random points (P1, P2, P3) on the plane will be measured first to determine the measured plane and their angles and distances temporarily stored. Then sight the unknown point on the plane and the instrument calculates, displays and stores coordinates and distance values of the desired point.



Survey software (SSS600)

The GPT-6000 series has a pre-installed field software package, Standard Survey Software (SSS600). This package includes extensive routines for all surveying and stake out procedures and calculations.

- Easy to read and use menu structure.
- Overview of JOB status in main menu.
- Re-computation of co-ordinates after editing measured data (e.g. prism height, offset).
- Measured co-ordinates are displayed in the measurement screen when recording.
- When setting out, points are displayed in graphics on the display.
- The Point Code library has a layer table structure. Point codes can be uploaded to the internal memory or created directly in the instrument.
- Multiple job files can be created.
- Easy to use field observation procedures for traverse and detail point measurement and offset points.
- Multiple backsight orientations with calculation of residuals.
- Resection program including calculation of residuals, the possibility to remove or add observations, calculation with scale factor, storage of measurements, continuous display of standard deviation of results.
- Cross section survey procedure.
- Point-to-line calculation.
- Point-to-line setting out routine.
- Control point coordinate library.
- Extensive editing facilities.
- DXF download.
- Printed output reports.
- Cut and fill reports can be generated for staked out points.
- Definition of road alignments and stake out.
- Traverse adjustment.
- Computation of occupied point elevation by observation to a known point.
- Area calculation using previously stored points.
- Building plot setting out routine to define batterboard intersection points.
- Computation and storage of Missing line measurements.
- Input of taped dimensions to fill in missing points.
- Plane offset measurement.

| | GPT-6001/6001C | GPT-6002/6002C | GPT-6003/6003C | GPT-6005/6005C |
|---|--|-----------------|----------------------|-----------------|
| TELESCOPE | | | | |
| Length | 150mm | | | |
| Objective Lens Dia. | 45mm (EDM 50mm) | | | |
| Magnification | 30X | | | |
| Image | Erect | | | |
| Field of View | 1°30' | | | |
| Resolving Power | 2.5" | | | |
| Min. Focus Distance | 1.3m | | | |
| DISTANCE MEASUREMENT | | | | |
| Measuring Range | (Target: White wall) 3 to 150m | | | |
| Non-prism mode | Measurement range for other objects depends on surface texture | | | |
| In low light condition and without sun glare on target | | | | |
| Prism mode | 7,000m | | | |
| 1 prism (Condition 1) | | | | |
| Condition 1: Sight haze with visibility about 20km moderate sunlight with light heat shimmer. | | | | |
| Measurement Accuracy | (Diffusing Surface) | | | |
| Non-prism mode | ±(10mm) m.s.e. | | | |
| 3 to 25m | | | | |
| 25m or more | ±(5mm+2ppmXD*) m.s.e. | | | |
| Prism Mode | ±(3mm+2ppmXD*) m.s.e. | | | |
| Least Count in Measurement | 1mm/0.2mm | | | |
| Fine measurement mode | 1mm | | | |
| Coarse measurement mode | 10mm | | | |
| Tracking measurement mode | | | | |
| Measurement Display | 11 digits: max. display 9999999.9999 | | | |
| Measuring Time | | | | |
| Fine measurement mode | 1mm: Approx. 1.2 sec. (Initial 3.0 sec.) | | | |
| Coarse measurement mode | 0.2mm: Approx. 3.0 sec. (Initial 4.0 sec.) | | | |
| | Approx. 0.5 sec. (Initial 2.5 sec.) | | | |
| Tracking measurement mode | Approx. 0.3 sec. (Initial 2.5 sec.) | | | |
| Atmospheric Correction Range | -999.9ppm to +999.9ppm, in 0.1ppm increments | | | |
| Prism Constant Correction Range | -99.9mm to +99.9mm, in 0.1mm increments | | | |
| ANGLE MEASUREMENT | | | | |
| Method | Absolute Reading | | | |
| Horizontal | 2 sides | | | |
| Vertical | 2 sides | | | |
| Minimum Reading | 0.5"/1" (0.1/0.5mgon) | | 1"/5" (0.2/1mgon) | |
| Accuracy** | 1" (0.3mgon) | 2" (0.6mgon) | 3" (1.0mgon) | 5" (1.5mgon) |
| Diameter of circle | 71mm | | | |
| TILT CORRECTION | | | | |
| Type | Dual axis | | | |
| Method | Liquid type | | | |
| Compensating Range | ±4' | | | |
| Correction Unit | 1" (0.1 mgon) | | | |
| COMPUTER UNIT | | | | |
| OS | MS-DOS ver. 3.22 | | | |
| Internal Memory | | | | |
| System memory | FEEPROM 512KB | | | |
| Main memory | RAM 640KB | | | |
| Data memory | RAM 320KB | | | |
| Program memory | FEEPROM 512KB | | | |
| Application program memory | FEEPROM 2MB | | | |
| Display | Graphics LCD 40 characters X10 lines (240X80dots)w/backlight | | | |
| Calendar Clock | Provided | | | |
| Card System | CompactFlash™ Card (Type 1) (up to 32MB) | | | |
| (GPT-6000C only) | Surveying data (Dist, Angle, Coordinate) Setting out coordinate | | | |
| Interface | For computer: RS-232C (6 pin) | | | |
| Serial I/F | For printer: Centronics Standard (12 pin) | | | |
| Parallel I/F | | | | |
| OTHERS | | | | |
| Instrument Height | 182mm | | | |
| Level Sensitivity | | | | |
| Circular Level | 10'/2mm | | | |
| Plate Level | 30"/2mm | | | |
| Optical Plummet | | | | |
| Magnification | 3X | | | |
| Focusing Range | 0.5m to infinity | | | |
| Image | Erect | | | |
| Laser Plummet | Factory option | | | |
| Point Guide | Factory option | | | |
| Dimension | 343mm(H)X230mm(W)X178mm(L) | | | |
| Weight | | | | |
| Instrument (with battery) | 6.0kg (GPT-6000C)/5.9kg (GPT-6000) | | | |
| Plastic carrying case | 3.7kg | | | |
| Durability | | | | |
| Dust/Water Protection | IP65 (GPT-6000 series)/IP54 (GPT-6000C series) | | | |
| Ambient Temperature | -20°C to +50°C | | | |
| BATTERY BT-50Q | | | | |
| Output Voltage | 7.2 V | | | |
| Capacity | 2.7 AH (Ni-MH) | | | |
| Maximum operating time at +20°C | | | | |
| Including Distance Measurement | 3 hours | | | |
| Angle measurement only | 14 hours | | | |
| Weight | 0.3kg | | | |
| BATTERY CHARGER BC-27CR | | | | |
| Input Voltage | AC 230V (BC-27CR) | | | |
| Frequency | 50Hz | | | |
| Recharging time (at +20°C) | 1.8 hours | | | |
| Ambient Temperature Range | +10°C to +40°C | | | |
| Weight | 0.5kg | | | |

* D: measuring distance (mm) ** Standard deviation based on DIN18723.
 • Designs and specifications herein are subject to change without notice.
 • CompactFlash™ is a trademark of SanDisk Corporation.

Important
 In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.

Standard set composition

| | |
|--------------------------------|--------|
| GPT-6000/6000C series | 1 pc. |
| Battery BT-50Q | 2 pc. |
| Battery charger BC-27CR (230V) | 1 pc. |
| Tool kit with case | 1 set |
| Plastic carrying case | 1 pc. |
| Silicon cloth | 1 pc. |
| Plastic rain cover | 1 pc. |
| Plumb bob set | 1 pc. |
| Lens cap | 1 pc. |
| Sun shade | 1 pc. |
| Instruction manual | 1 vol. |



Optional accessories



TROUGH COMPASS-6

Compass for determining magnetic north. Used by attaching to the handle. Shock proof construction.



DIAGONAL EYEPIECE-10

For easy observation to the zenith position.



SOLAR FILTER-6

A filter designed for direct collimation of the sun.



SOLAR RETICULE-6

A reticule designed for collimation of the sun. Can be used together with Solar Filter.



BACK PACK-2

Back pack with soft case and aluminum frame is compact and light, yet is highly shockproof and rainproof.



OPTICAL PLUMMET TRIBRACH

This is a detachable tribrach having built-in optical plummet telescope.

More than 70 years of experience

For 70 years, Topcon has been a leading manufacturer in industrial, medical and positioning enhancement tools. This broad experience has created a basis for Topcon's wide product line for basically every positioning need, whether it's for construction or surveying applications. For the construction industry, Topcon offers a complete range of innovative laser and sonic solutions, including industry leading products for interior, utility, general construction and machine control applications. For surveying applications, Topcon manufacturers and supplies a complete range of optical measuring products,



from digital and optical levels to theodolites and robotic total stations, and a full line of GPS+ satellite positioning solutions.



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