



GTS-600/GTS-600C series

**ELECTRONIC
TOTAL STATION**

All weather, High Performance total stations

If there was ever a total station built for tough site performance and to meet the demands of high production survey work, the Topcon GTS-600 series is it. Packed with performance enhancing software routines, high capacity memory, the best in optical technology and advanced electronics, the GTS-600 series delivers today's busy surveyor the performance he demands in a total station.

The compact, robust construction with IPX-5 water protection ensures that GTS-600 is built for tough site conditions and a demanding working regime. Add to this the unique Auto-Focus feature of the GTS-600AF models, the optional point guide and/or the laser plummet, and the surveyor has unprecedented convenience and ease of use.

Outstanding features

Water proof protection

The degree of protection against penetration by water is classified as IP65 (GTS-600C; IP54) against international standard IEC529. This ensures that when used under wet site conditions rainwater will not penetrate the instrument body. This high degree of water protection allows the continuation of surveying work during heavy rain and ensures an instrument that can be relied upon day after day, with no down time due to the need for workshop repairs.

Measurement specifications

The GTS-600 Series consists of 4 models, GTS-601, 602, 603 and 605 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 GTS-601 and GTS-602 have a minimum reading of 0.5" (0.1mgon) whilst GTS-603 and GTS-605 have a minimum reading of 1" (0.2mgon). The distance measuring range to a single prism is 3,000 m for all models, except GTS-605, which has a distance range of 2,000m. The very fast distance measurement time of 4 seconds for the initial measurement and an update rate of 1.3 seconds, in fine mode, ensure an effortless work process and increases efficiency and productivity.

Absolute encoder

The absolute encoder system in the GTS-600 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 horizontal and vertical circles.

Long life battery

The compact internal clip-on Nickel Metal Hydride battery has enough power for over 6 hours measurement and can be recharged, using battery charger BC-27CR, in only 1 hour.

High capacity internal memory

The memory area is divided into a program area and a data area. The program area is 2MB capacity and the data area has a capacity of 320KB, sufficient for coordinates of approximately 5,000 points.

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.



Advanced options

Compact Flash Card System (GTS-600C)

For users that require more flexibility in handling their data, the GTS-600C 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.



Auto focus (GTS-600AF series)

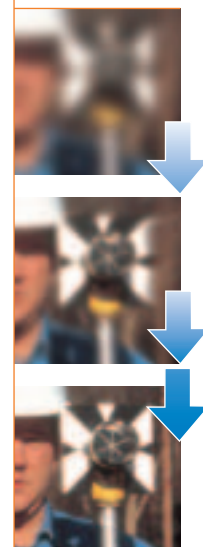
Topcon is the first to introduce this time saving, convenience technology to a high performance total station. The Auto Focus can focus in a matter of seconds at the point sighted through the telescope. Just direct the telescope to the prism or target position using the sighting scope, press the "AF" key and the focus will be set automatically. This dramatically increases convenience and speed with which points can be located and viewed through the telescope. Manual focussing is performed by rotation of the focussing dial positioned conveniently next to the telescope eyepiece.

Point guide

Available as factory option is the Point Guide. This feature makes stake out work easier and faster. Two lights emitted from the instrument, guide the rod person to the correct stake out direction.

Laser plummet

Also available as an option is the laser plummet, to replace the standard optical plummet, which is built into the instrument body. The laser plummet is a red laser beam, which produces a clearly visible red spot on the vertical axis of the instrument. This clearly marks the position for quick and easy centering of the instrument over a point.

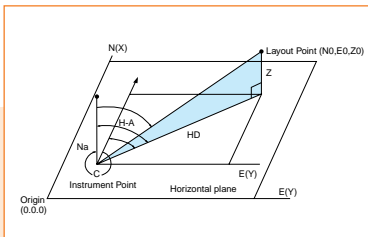


Measurement software

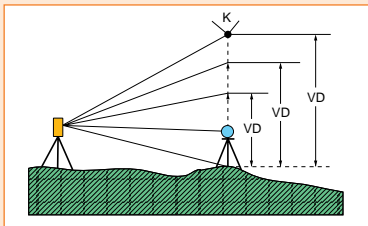
Standard measurement routines are performed with the basic application software of the GTS-600 series. This easy to use software covers all the measurement routines for surveying and includes extensive routines for stake out work.

Layout

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

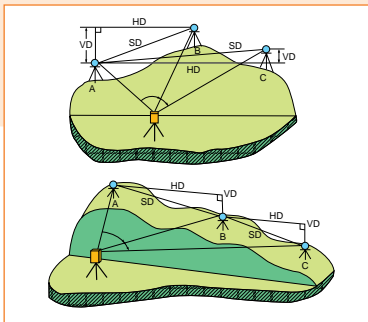


management for data input from a coordinate file. This program is easy to use for quick stake out jobs. More advanced stake out options are available in SSS600.



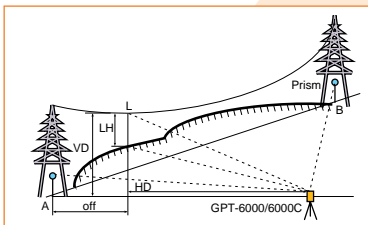
Remote elevation measurement

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.

Survey software (SSS600)

The GTS-600 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.

SPECIFICATIONS

	GTS-601/601C	GTS-602/602C	GTS-603/603C	GTS-605/605C
TELESCOPE				
Length	150mm			
Objective lens diameter	45mm			
Magnification	30x			
Field of view	1° 30'			
Resolving power	2.5"			
Minimum focus	1.3m			
DISTANCE MEASUREMENT				
1 Prism(*)	3,000m			2,000m
3 Prism(*)	4,000m			2,700m
9 Prism(*)	5,000m			3,400m
Measuring accuracy	± (2mm + 2ppm) m.s.e.			
Measuring time (initial measurement)	Fine: 1mm 1.3sec (4sec) - Coarse: 0.7sec (3sec) - Tracking: 0.4sec (3sec)			
Min. reading	Fine: 1mm/0.2mm - Coarse: 1mm - Tracking: 10mm			
ANGLE MEASUREMENT				
Accuracy (DIN18723)	1" (0.3mgon)	2" (0.6mgon)	3" (1.0mgon)	5" (1.5mgon)
Min. reading	0.5"/1" (0.1/0.5mgon)		1"/5" (0.2/1.0mgon)	
TILT SENSOR				
Type	Dual axis			
Method	Liquid type			
Range	±3'			
Display unit	1"			
Circular level	10'/2mm			
Plate level	30"/2mm			
OPTICAL PLUMMET				
Magnification	3x			
Focussing range	0.5m~∞			
Field of view	4° (Ø91mm/1.3m)			
OTHER FUNCTIONS				
Operating system	MS-DOS ver. 3.22			
Internal data memory	320 KB (up to 5,000 points)			
Operating temperature	-20°C ~ +50°C			
Water proof	IPX 5			
Dimensions	178(L) x 230(W) x 343(H) mm			
Weight (incl. battery)	5.8kg			
Display	2 side graphic LCD display, size max. 40 chr. x 10 lines, with backlight, heater function, and contrast adjustment			
Key board	2 side 21 keys (6 function keys, 15 numeric keys) / 1 power key			
POWER SOURCE				
Battery BT-50Q	Output voltage: 7.2V Capacity: 2.7Ah (NI-MH) Operating time: ± 6 hours (distance and angle) - ± 9 hours (angle only)			
Battery charger BC-27CR	With discharge function Recharging time: 1 hour			

(*) Slight haze visibility about 20 km.

Designs and specifications herein are subject to change without notice.

Standard set composition

GTS-600(C) series	1 pc.
Battery BT-50Q	1 pc.
Battery charger BC-27CR	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.
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 manufactures 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.



TOPCON EUROPE B.V.

Essebaan 11
2908 LJ Capelle a/d IJssel
The Netherlands

Phone: 31-(0)10 - 458 50 77
Fax: 31-(0)10 - 458 50 45
E-mail: survey@topcon.nl
http: www.topconeurope.com

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Certificatie No. 03682548
TOPCON EUROPE B.V.
Capelle a/d IJssel, The Netherlands