Trimble 5600 IR Total Station

Specialized total station incorporating very high-accuracy infrared EDM

GENERAL FEATURES

- High-precision upgradeable total station
- Angular accuracy of 1″ and distance accuracy of ± (0.8 mm + 1 ppm)
- Autolock®, 4-speed servo, and robotic options
- Long range distance measurement up to 3,900 m (12,790 ft)
- All metal instrument
- Choice of data collector
- Endless tangents

PERFORMANCE SPECIFICATIONS

ANGLE MEASUREMENT

Accuracy (Standard deviation based on DIN 18723)

5600 IR	1″ (0.3 mgon)

Angle reading (least count) horizontal and vertical

Standard measurement	1″ (0.1 mgon)
Fast Standard	1″ (0.1 mgon)
Tracking	2″ (0.5 mgon)

Arithmetic mean value (D-bar)

Horizontal angle	0.1″ (0.01 mgon)
Vertical angle	1″ (0.1 mgon)

Automatic level compensator Dual-axis compensator 6′ (±100 mgon)

DISTANCE MEASUREMENT

Accuracy (Standard deviation)

Prism

Standard measurement	±(2 mm + 2 ppm) ±(0.007 ft + 2 ppm)
Fast Standard	±(4 mm + 2 ppm) ±(0.014 ft + 2 ppm)
Tracking	±(6 mm + 2 ppm) ±(0.019 ft + 2 ppm)

Arithmetic mean value (D-bar)
+5° C to +40° C(+41° F to 104° F) and up to 500 m (1,640 ft)
±(0.8 mm + 1 ppm) ±(0.0026 ft + 1 ppm)

Arithmetic mean value (D-bar)
outside the above temperature range and over 500 m (1,640 ft)
±(1 mm + 1 ppm) ±(0.003 ft + 1 ppm)

Shortest possible range to prism 0.2 m (0.7 ft)

Measuring time

Standard measurement	3.5 seconds
Fast Standard	1.3 seconds
Tracking	0.4 seconds
Arithmetic mean value (D-bar)	Repeats until stopped manually (or after 99 measurements)

Range (under standard clear conditions*)

1 prism	2,000 m (6,560 ft)
1 prism, Long Range Mode	2,800 m (9,185 ft)
3 prism	2,800 m (9,185 ft)
3 prism, Long Range Mode	3,900 m (12,790 ft)

**) Standard clear: No haze. overcast or moderate sunlight with atmospheric conditions and background radiation*

ROBOTIC SURVEYING SPECIFICATIONS

Range

Range Robotic*	Up to 1,200 m (4,920 ft) depending on type of RMT
Range Autolock*	Up to 2,200 m (7,216 ft) depending on type of RMT
Shortest search distance	2 m (6.5 ft)
Position accuracy at 200 m (656 ft) (Standard deviation)	<2 mm (0.007 ft)

Angle reading (least count)

Standard measurement	1″ (0.1 mgon)
Fast Standard	1″ (0.1 mgon)
Tracking	2″ (0.5 mgon)
Arithmetic mean value (D-bar)	1″ (0.1 mgon)

Measuring time

Standard measurement	5–10 seconds
Fast Standard	5–10 seconds
Tracking	0.4 seconds
Arithmetic mean value (D-bar)	
Search time (typical)**	<10 seconds**
Search area	360 degrees (400 gon) or defined search window

**) Range and accuracy are dependent on atmospheric conditions and background radiation*
***) Dependent on selected search window*

GENERAL SPECIFICATIONS

Light source	Infrared GaAs diode
Beam divergence	1.6 mrad (16 cm/100 m) (0.52 ft/328 ft)
Atmospheric correction	–60 to 195 ppm continuously
Leveling	
Circular level in tribrach	8′/2 mm (8′/0.007 ft)
Electronic 2-axis level in the LC-display	6″ (2 mgon)
Clamps and slow motions	Servo-drive with endless fine adjustment
Centering	
Centering system	Trimble 3-pin
Optical plummet	Optical plummet in tribrach
Magnification	2.4×
Shortest focusing distance	0.5 m to infinity (1.6 ft to infinity)
Telescope	
Magnification	26× (30× Optional)
Aperture	40 mm (1.57″)
Field of view at 100 m (328 ft)	2.6 m (8.5 ft)
Shortest focusing distance	1.7 m (5.58 ft) to infinity
Illuminated crosshair	Yes, variable (15 steps)
Tracklight	Standard
Operating temperature	–20° C to +50° C (–5° to +122° F)
Power supply	
External battery	External rechargable NiMH batteries 12V, 3.8–11.4 Ah. Operating time approximately 11h Autolock, 9h Robotic (11.4 Ah)
Weight	
Instrument with ACU	6.7 kg (14.7 lbs)
Instrument with Geodimeter CU	6.4 kg (14.1 lbs)
Tribrach	0.7 kg (1.5 lbs)
Instrument for Robotic surveying (including Tracker, and built-in radio)	7.5 kg (16.5 lbs)
Trunnion axis height	205 mm (8.1 in)

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CONTROL UNIT FEATURES

Keyboard	
ACU	Attachable Trimble ACU controller
Geodimeter® CU	Attachable Geodimeter Control Unit: numeric or alphanumeric
TSCe™	Handheld Trimble TSCe controller
Zeiss Elta Panel	Attached Zeiss Elta Panel or attached dual-face Zeiss Elta Panel
Display screen	
ACU	Color, illuminated TFT, daylight readable touch screen displayed at 320 × 240 pixels (QVGA) CCFL
Geodimeter CU	33 keys, 4 line LCD, 20 characters/line, illuminated
TSCe	Color, illuminated TFT, daylight readable touch screen displayed at 320 × 240 pixels (QVGA) CCFL
Zeiss Elta Panel	8 lines by 40 columns, CGA graphic display (320 x 80 pixels), illuminated, 28 keys
Data recording	
ACU	128 MB non-volatile flash memory
Geodimeter CU	Internal memory up to 8,000 points
TSCe	128 MB non-volatile flash memory
Zeiss Elta Panel	Internal memory > 4MB
Data transfer	
ACU	
Multiport	COM2; Ethernet 10-BaseT; USB client, power in/out, audo in/out, 26-pin RS-232
Hirose	COM1; power in, 4-pin RS-232
Geodimeter CU	Two-way RS-232
TSCe	
Multiport	COM2; Ethernet 10-BaseT; USB client, power in/out, audo in/out, 26-pin RS-232
Hirose	COM1; power in, 9-pin RS-232
Zeiss Elta Panel	RS-232- Slipring, IR communication
Software	
ACU	Trimble Survey Controller or Trimble Survey Pro*
Geodimeter CU	Extensive library of powerful programs for data collection and field calculations
TSCe	Trimble Survey Controller™ or Trimble Survey Pro*
Zeiss Elta Panel	Extensive library of powerful programs for data collection and field calculations or third-party software of your choice, e.g. TDS Survey Pro

** Only available in North America*

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