

Trimble C5 & C5 HP

MECHANICAL TOTAL STATION



KEY FEATURES

- ▶ Choose the EDM that works for you
 - Trimble C5 model with powerful, fast EDM excels at long range measuring. This EDM also enables Autofocus for precise and fast focus increasing efficiencies and eliminating downtime in the field
 - Trimble C5 High Precision (HP) model specializes in reflectorless edge measurements using a small EDM beam
- ▶ Trimble® Access™ software onboard to facilitate your everyday work, including topographic surveys, staking, and control
- ▶ Fully integrated with Trimble Business Center Office Software to manage, process, and create customer deliverables with confidence and quality
- ▶ Dual color touchscreen displays
- ▶ Trimble L2P security location technology
- ▶ Compact, lightweight and rugged

Learn more: geospatial.trimble.com

		C5	C5 HP
Autofocus		✓	—
EDM	Range to Prism ¹	5,000 m	3,000 m
	Range to Reflectorless ¹	800 m	500 m
	Accuracy to Prism ^{4,7}	± (2 + 2ppm x D) mm	± (1 + 1.5ppm x D) mm
	Accuracy to Reflectorless ⁴	± (3 + 2ppm x D) mm	± (2 + 2ppm x D) mm
	Measuring Interval ⁵ in Standard Mode to Prism	1.0 s	1.6 s
	EDM Type	Pulse	Phase Shift
	Beam divergence at 30 m	60 mm	26 mm
Operating Time Measuring Angle and Distance Every 30 s		12 h	18 h
Plummet Type		Optical or Laser	Optical

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DISTANCE MEASUREMENT

Range with specified prisms

Good conditions ¹	C5	C5 HP
With single prism 6.25 cm	5,000 m	3000 m
With reflector sheet 5 cm x 5 cm	300 m	270 m

Reflectorless mode

C5	Good ¹	Normal ²	Difficult ³
KGC (90%)	800 m	500 m	250 m
KGC (18%)	400 m	300 m	235 m

C5 HP	Good ¹	Normal ²	Difficult ³
KGC (90%)	500 m	400 m	250 m
KGC (18%)	350 m	250 m	200 m

Accuracy in standard measurement mode⁷

	C5	C5 HP ^{4,8}
Prism ⁴	$\pm(2+2 \text{ ppm} \times D) \text{ mm}$	$\pm(1+1.5 \text{ ppm} \times D) \text{ mm}$
Reflectorless	$\pm(3+2 \text{ ppm} \times D) \text{ mm}$	$\pm(2+2 \text{ ppm} \times D) \text{ mm}$

Measuring interval⁵

C5	Standard mode	Fast standard mode	Tracking mode
Prism mode	1.0 s	0.5 s	0.3 s
Reflectorless Mode	1.0 s	0.5 s	0.3 s

C5 HP	Standard mode	Fast standard mode
Prism mode	1.6 s	1.2 s
Reflectorless Mode	2.1 s	1.6 s

ANGLE MEASUREMENT

Accuracy (Standard Deviation based on ISO 17123-3) ... 1" (0.3 mgon), 2" (0.6 mgon), 3" (1.0 mgon), 5" (1.5 mgon)

Reading system Absolute encoder
Circle diameter 62 mm
Horizontal/Vertical angle Diametrical/ Single

TELESCOPE

Tube length 128 mm
Image Erect
Magnification 30x (19x/38x with optional eyepieces)
Effective diameter of objective
Trimble C5 45 mm
Trimble C5 HP 40 mm
EDM Diameter
Trimble C5 50 mm
Trimble C5 HP 45 mm
Field of view 1° 25'
Resolving power 3"
Minimum focusing distance 1.5 m
Laser Pointer Coaxial Red Light
Tracklight Yes
Reticle Illumination Yes, 4 steps

TILT SENSOR

Type Dual-axis
Method Liquid-electric detection
Compensation range $\pm 3'$

COMMUNICATIONS

Communication ports 1 x serial (RS-232C), 2 x USB (host and client)
Wireless communications Integrated Bluetooth[®]

POWER

Internal Li-ion battery (x2)
Output voltage 3.6 V

Operating time ⁶	C5	C5 HP
Continuous angle-only measurement	14 h	19 h
Distance/ angle measurement/ AF every 30 s	12 h	18 h
Continuous distance / angle measurement	7 h	10.5 h

Charging time, full charge both batteries approx. 6 h

GENERAL SPECIFICATIONS

Autofocus
Trimble C5 Yes
Trimble C5 HP No
Level vials
Sensitivity of Circular level vial on tribrach 10' / 2 mm
Tangent Clamps Yes
Display face 1 LCD back-lit (640 x 480 pixel)
Display face 2 LCD back-lit (640 x 480 pixel)
Operating system Windows[®] Embedded Compact 7
Processor Dual Core 800 MHz
Point memory 512 MB RAM, 4 GB flash memory
Internal Plummet Optical or Class 2 Laser
Optical Plummet:
Magnification 3x
Field of view 5°
Minimum focusing distance 0.5 m
Dimensions (W x D x H) 206 mm x 169 mm x 318 mm
Weight (approx.)
1", 2", 3", 5" Main unit
Trimble C5 4.3 kg
Trimble C5HP 4.4 kg
Battery 0.1 kg
Carrying case 3.3 kg

ENVIRONMENTAL

Operating temperature range -20 °C to +50 °C
Winterized -30 °C to +50 °C
Storage temperature range -25 °C to +60 °C
Winterized -30 °C to +60 °C
Atmospheric correction
Temperature range -40 °C to +60 °C
Barometric pressure 400 mmHg to 999 mmHg/533 hPa to 1,332 hPa/15.8 inHg to 39.3 inHg
Dust and water protection IP66

CERTIFICATION

Class B Part 15 FCC certification, CE Mark approval. RCM Mark.
IEC60825-1 am 2007, IEC60825-1 am 2014, FDA notice 50

C5
Prism/Reflectorless mode Class 1 laser
Laser Plummet/Laser Pointer Class 2 laser
C5 HP
Prism mode Class 1 laser
Reflectorless/Laser Pointer Class 3R laser

- Good conditions (good visibility, overcast, twilight, low ambient light).
- Normal conditions (normal visibility, object in the shadow, moderate ambient light).
- Difficult conditions (haze, object in direct sunlight, high ambient light).
- Standard Deviation based on ISO 17123-4.
- Measuring time may vary depending on measuring distance and conditions. Specification based on average of repeated measurements.
- Battery life specification at 25 °C. Operation times may vary depending on the condition and deterioration of the battery.
- For both prism and reflectorless modes, EDM accuracy in fast standard mode is $\pm(10+5 \text{ ppm} \times D) \text{ mm}$ for the C5, $\pm(5+5 \text{ ppm} \times D) \text{ mm}$ for the C5 HP and tracking mode is $\pm(20+5 \text{ ppm} \times D) \text{ mm}$ for the C5 only.
- C5 HP accuracy in standard measurement mode to a prism less than 1000m away is $\pm(1+1.5 \text{ ppm} \times D) \text{ mm}$. At a range greater than or equal to 1000m, the accuracy is $\pm(2+2 \text{ ppm} \times D) \text{ mm}$.

Bluetooth type approvals are country specific.

Specifications subject to change without notice.



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