



Trimble C5 & C5 HP

MECHANICAL TOTAL STATION



KEY FEATURES

- ▶ Enjoy all of the features of Trimble® Access™ software from both faces with two color touchscreen displays
- ▶ Fully integrated with Trimble Business Center office software to manage, process, and create customer deliverables
- ▶ Fast measuring speed
- ▶ Compact, lightweight and rugged

Choose the model that works for you:

C5	C5 HP
Time of Flight / Pulse EDM 	Phase Shift EDM
With Autofocus	Without Autofocus
Prism Range 5,000 m Accuracy 2 mm + 2 ppm	Prism Range 3,000 m Accuracy 1 mm + 1.5 ppm
Reflectorless Range 800 m Accuracy 3 mm + 2 ppm Measuring interval in Standard mode 0.9 s 35 mm beam divergence at 30 m 12 h operating time*	Reflectorless Range 500 m Accuracy 2 mm + 2 ppm Measuring interval in Standard mode 1.6 s 22 mm beam divergence at 30 m 18 h operating time**
Optical or laser plummet type	Optical plummet type

* Measuring Angle and Distance Every 30 s when EDM Power Save Mode is set to "At Once."
** Measuring Angle and Distance Every 30 s.

Learn more: geospatial.trimble.com/trimble-C5

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DISTANCE MEASUREMENT

Range with specified prisms

Good conditions ¹	C5	C5 HP
With single prism 2.5 in (6.25 cm)	16,404 ft (5,000 m)	9,843 ft (3,000 m)
With reflector sheet 2 in x 2 in (5 cm x 5 cm)	984 ft (300 m)	886 ft (270 m)

Reflectorless mode

C5	Good ¹	Normal ²	Difficult ³
KGC (90%)	2,625 ft (800 m)	1,640 ft (500 m)	820 ft (250 m)
KGC (18%)	1,312 ft (400 m)	984 ft (300 m)	771 ft (235 m)

C5 HP	Good ¹	Normal ²	Difficult ³
KGC (90%)	1,640 ft (500 m)	1,312 ft (400 m)	820 ft (250 m)
KGC (18%)	1,148 ft (350 m)	820 ft (250 m)	656 ft (200 m)

Accuracy in standard measurement mode⁷

	C5	C5 HP ^{4, 8}
Prism ⁴	± (2 mm + 2 ppm)	± (1 mm + 1.5 ppm)
Reflectorless	± (3 mm + 2 ppm)	± (2 mm + 2 ppm)

Measuring time⁵

C5	Standard mode	Fast standard mode	Tracking mode
Prism mode	0.9 s (initial 1.4 s)	0.5 s (initial 1.2 s)	0.3 s (initial 0.7 s)
Reflectorless Mode	1.0 s (initial 1.5 s)	0.5 s (initial 1.3 s)	0.3 s (initial 0.8 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
 Minimum increment (Degree, Gon) 0.1" (0.02 mgon)
 1" model 1.0" (0.2 mgon)
 2", 3", 5" models 2.4 in (62 mm)
 Circle diameter Diametrical/ Single
 Horizontal/Vertical angle 3"

TELESCOPE

Tube length 5.0 in (128 mm)
 Image Erect
 Magnification 30x (19x/38x with optional eyepieces)
 Effective diameter of objective
 Trimble C5 1.77 in (45 mm)
 Trimble C5 HP 1.57 in (40 mm)
 EDM Diameter
 Trimble C5 1.97 in (50 mm)
 Trimble C5 HP 1.8 in (45 mm)
 Field of view 1° 25'
 Resolving power 3"
 Minimum focusing distance 4.9 ft (1.5 m)
 Laser Pointer Coaxial Red Light
 Tracklight Yes
 Reticle Illumination Yes, 4 steps

- 1 Good conditions (good visibility, overcast, twilight, low ambient light).
- 2 Normal conditions (normal visibility, object in the shadow, moderate ambient light).
- 3 Difficult conditions (haze, object in direct sunlight, high ambient light).
- 4 Standard Deviation based on ISO 17123-4
- 5 Measuring time may vary depending on measuring distance and conditions. Specification based on average of repeated measurements.
- 6 Battery life specification at 77 °F (25 °C). Operation times may vary depending on the condition and deterioration of the battery.
- 6a When EDM power save mode set to "At once".
- 7 For both prism and reflectorless modes, EDM accuracy in fast standard mode is ± (10 mm + 5 ppm) for the C5, ± (5 mm + 5 ppm) for the C5 HP and tracking mode is ± (20 mm + 5 ppm) for the C5 only.
- 8 C5 HP accuracy in standard measurement mode to a prism less than 1000 m away is ± (1 mm + 1.5 ppm). At a range greater than or equal to 1000 m, the accuracy is ± (2 mm + 2 ppm).

TILT SENSOR

Type Dual-axis
 Method Liquid-electric detection
 Compensation range ±3

COMMUNICATIONS

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

POWER

Hot swappable Li-ion battery (x2) 3.6 V
 Output voltage approx. 6 h

Operating time ⁶	C5	C5 HP
Distance/ angle measurement every 30 s	12 h ^{6a}	18 h
Continuous distance / angle measurement	7 h	10.5 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 Color LCD back-lit (640 x 480 pixel)
 Display face 2 Color 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) 7.2 in x 6.7 in x 12.5 in
 (184 mm x 169 mm x 318 mm)
 Weight (approx.)
 1", 2", 3", 5" Main unit
 Trimble C5 9.5 lb (4.3 kg)
 Trimble C5 HP 9.7 lb (4.4 kg)
 Battery 0.2 lb (0.1 kg)
 Carrying case 5.7 lb (2.6 kg)

ENVIRONMENTAL

Operating temperature range -4 °F to +122 °F (-20 °C to +50 °C)
 Storage temperature range -13 °F to +140 °F (-25 °C to +60 °C)
 Atmospheric correction
 Temperature range -40 °F to +140 °F (-40 °C to +60 °C)
 Barometric pressure 15.8 inHg to 39.3 inHg (400 mmHg to 999 mmHg)
 or (533 hPa to 1,332 hPa)
 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

Bluetooth type approvals are country specific.
 Specifications subject to change without notice.



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