DATASHEET

Trimble Ri

Robotic Total Station

Key Features

- Level Detection & Monitoring
- Built-in calibration
- Focusing Red Laser EDM
- Trimble Vision technology
- Upgradeable Instrument
- FieldLink Integration

Total Performance

Expanded range and various zoom levels plus new side to side search pattern for quick-lock onto prism, saves time when searching for a target.

Built for Construction

Trimble's most scalable, accurate and automated Robotic Total Station. Easy set-up for faster efficient positioning with minimal training required.

The Trimble Ri is part of the Trimble Portfolio of Building Construction products advancing mixed reality technology through data visualization in the field.

Leverage the XR10 with HoloLens 2, together with FieldLink MR, to view and measure with confidence and precision.

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Trimble Ri Robotic Total Station

Performance

Accuracy

Angle Accuracy	
(based on ISO 17123-3)	2" (0.6 mgon) / 3" (0.9 mgon)

Automatic level compensator

Type	MEMS, dual-axis, self-leveling
Accuracy	2" (0.6 mgon)
Working Range	± 5 gon (± 4,5 °)

Distance measurement

Accuracy to Reflectors (based on ISO 17123-4)	
Standard	2 mm (0.007 ft) + 2 ppm
Tracking	3 mm (0.01 ft)
Accuracy Reflectorless Mode	2 mm (0.007 ft) + 2 ppm
Range Reflector Mode[1)]	
Single Prism 50 mm	900 m (2953 ft)
Single Prism 25 mm	400 m (1312 ft)
Cat-Eye Reflector 85 mm	300 m (984 ft)
Foil Reflector 60 mm	300 m (984 ft)
Shortest possible range	1 m (3.3 ft)
Range Reflectorless Mode[2)]	
Kodak White (90% reflective)	840 m (2756 ft) / 150 m (492 ft)
Kodak Gray Card (18% reflective)	375 m (1230 ft) / 150 m (492ft)
Shortest possible range	0.5 m (1.6 ft)

Robotic Tracking

360° Cat-Eye Prism	
Robotic Range	1,5 m (5 ft) ... 120 m (427 ft)
360° Prism3	
Robotic Range	1,5 m (5 ft) ... 400 m (985 ft)

EDM Specifications

EDM Laser and Principle

Light source	Laser Diode 660 nm
Laser Class Safety	
Reflector Mode	Laser Class 2
Reflector-less Mode and Laser Pointer	Laser Class 2

EDM Beam divergence

Divergence	adaptive to distance (focusable laser)

EDM Specifications cont'd

Diameter	< 10 mm @ 100 m (0.4 in/328 ft)
Diameter	< 4 mm @ 40 m (0.16 in/131 ft)

General Specifications

Telescope

Lens System	Continuous focus
Aperture	32 mm (1.3 in)
Field of view	2 gon – 12 gon (1.8 deg – 11 deg)
Focusing distance	0.5 m – Infinity (1.7 ft – Infinity)
Crosshair	Digital, superimposed
Tracklight built in	Red / Green Status LEDs

Camera

Resolution of Stream	960 x 540 or 1920 x 1080
Resolution of Still Image	1 - 7 m: 1920 x 1080 (2,1 MPx) 7 - 300 m: 2560 x 1440 (3,7 MPx)

Environmental

Operating temperature	–20 °C to +50 °C (–4 °F to +122 °F)
Storage temperature	–40 °C to +70 °C (-40°F to +158 °F)
Dust and water proofing	IP55

Power Supply

Internal battery	Li-Ion, 10.8 V / 6.5Ah
Operating time	4.5 hours

Communications

Wireless communication	WLAN, Dual 2.4GHz and 5GHz band, IEEE 802.11 a/b/g/n/ac

Weight

Instrument (Trimble Ri)	5,65 kg
Internal battery (Trimble Ri)	0.37 kg

Dimensions

Height x Width x Depth (Trimble Ri)	368mm x 184mm x 178mm

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