Trimble RTS655 Robotic Total Station

Accuracy for Everyday Applications

With the Trimble RTS655 Robotic Total Station contractors can improve efficiency and accuracy for common layout tasks in building construction.

- **For Everyday Layout**
  Automate building layout tasks with total confidence. The Trimble RTS655 streamlines layout of excavation lines, concrete forms, anchor bolts and control lines. Versatile enough for light topographic projects and as-built data collection, the RTS655 can handle almost any challenge on the job site.

UNSURPASSED TOTAL STATION TECHNOLOGY

Trimble MagDrive Servo Technology provides for exceptional speed and accuracy with smooth, silent operation.

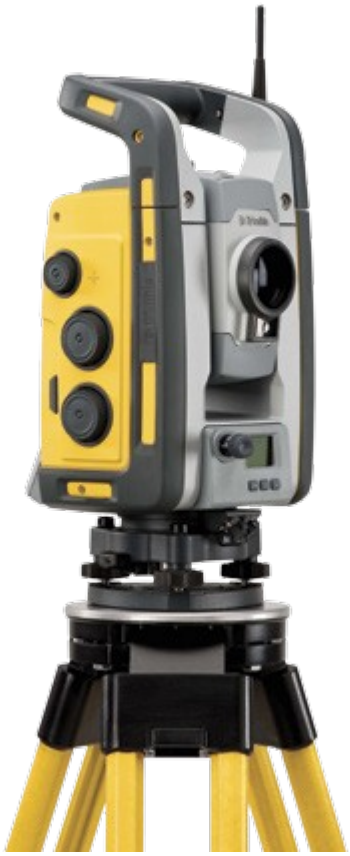
Trimble SureFoot Technology ensures accurate measurements by automatically correcting for unwanted movement due to wind, sinkage, and other factors.

Trimble MultiTrack technology locks on and tracks passive prisms for control measurements and active targets for dynamic measurement, stakeout and grade control.

Key Features:

- MagDrive technology for maximum speed and efficiency
- MultiTrack technology offers the choice between passive and active tracking
- Quickly mark layout points with Class 3 laser Pointer

Provided by Xpert Survey Equipment
Click Trimble RTS655 for Product Info and Updated Pricing



BUILT FOR CONSTRUCTION

For construction applications, you need a measurement solution with optimal speed, accuracy and reliability. Combine the Trimble DR HP Precision EDM with Trimble VISION and you have the flexibility to tackle the most demanding projects.

- Visually mark points, with high precision, using the Class 3R Laser Pointer.
- **Automatic Servo Focus** sets the optical focus for quick manual aiming when laying out points in DR mode.
- Combine with Trimble Field Link software running on the Trimble Field Tablet to optimize your accuracy and productivity.

EDM	Servo Control	Angle Accuracy	Hardware Options
DR	Robotic, Autolock	5”	Trimble VISION

GENERAL SPECIFICATIONS

PERFORMANCE

Angle measurement accuracy (standard deviation based on DIN 18723) . . . . . 5" (1.5 mgon)
Angle display (least count) . . . . . 0.1" (0.01 mgon)
Distance measurement

Typical Accuracy	50 m (164 ft)	100 m (328 ft)	200 m (656 ft)	300 m (984 ft)
Prism mode				
Standard	2 mm (5/64")	3 mm (1/8")	6 mm (15/64")	8 mm (5/16")
Tracking	5 mm (13/64")	6 mm (15/64")	8 mm (5/16")	10 mm (25/64")
DR mode				
Standard	3 mm (1/8")	4 mm (5/32")	6 mm (5/64")	9 mm (23/64")
Tracking	10 mm (25/64")	11 mm (7/16")	12 mm (15/32")	13 mm (33/64")

Measuring time
Prism mode
Standard . . . . . 2.5 s
Tracking . . . . . 0.4 s
Averaged observations . . . . . 2.5 s per measurement
DR mode
Standard . . . . . 3–15 s
Tracking . . . . . 0.4 s
Range (under standard clear conditions)[1,2]
Prism mode
1 prism . . . . . 2,500 m (8,202 ft)
Shortest range . . . . . 1.5 m (4.9 ft)
DR mode

	Good (Good visibility, low ambient light)	Normal (Normal visibility, moderate sunlight, some heat shimmer)	Difficult (Haze, object in direct sunlight, turbulence)
White card (90% reflective)[3]	400 m (1312 ft)	400 m (1312 ft)	186 m (610 ft)
Gray card (18% reflective)[3]	250 m (820 ft)	250 m (820 ft)	116 m (381 ft)

Shortest range . . . . . 1.5 m (4.9 ft)

EDM SPECIFICATIONS

Light source . . . . . Laserdiode 660 nm; Laser class 1 in Prism mode
Laser class 2 in DR mode
Laser pointer coaxial (standard) . . . . . Laser class 3R
Beam divergence Prism mode
Horizontal . . . . . 4 cm/100 m (0.13 ft/328 ft)
Vertical . . . . . 4 cm/100 m (0.13 ft/328 ft)
Beam divergence DR mode
Horizontal . . . . . 2 cm/50 m (0.066 ft/164 ft)
Vertical . . . . . 2 cm/50 m (0.066 ft/164 ft)
Atmospheric correction . . . . . –130 ppm to 160 ppm continuously

GENERAL SPECIFICATIONS

Leveling
Circular level in tribrach . . . . . 0.2 mm (0.007 ft)
Automatic level compensator
Type . . . . . Gimbaled dual-axis
Accuracy . . . . . 0.5" (0.15 mgon)
Range . . . . . ±4' (±100 mgon)
Servo system . . . . . MagDrive servo technology, integrated servo/angle sensor, electromagnetic direct drive
Rotation speed . . . . . 110 degrees/s (128 gon/s)
Rotation time Face 1 to Face 2 . . . . . 2.6 s
Positioning speed 180 degrees (200 gon) . . . . . 2.6 s
Clamps and slow motions . . . . . Servo-driven, endless fine adjustment
Centering
Centering system . . . . . Trimble 3-pin
Optical plummet . . . . . Built-in optical plummet
Magnification/shortest focusing distance . . . . . 2.3×/0.5 m to infinity (1.6 ft to infinity)
Telescope
Magnification . . . . . 30×
Aperture . . . . . 40 mm (1.57 in)
Field of view at 100 m (328 ft) . . . . . 2.6 m at 100 m (8.5 ft at 328 ft)
Shortest focusing distance . . . . . 1.5 m (4.92 ft) to infinity
Illuminated crosshair . . . . . Variable (10 steps)
Autofocus . . . . . Standard
Tracklight built in . . . . . Not available in all models
Operating temperature . . . . . –20° C to +50° C (–4° F to +122° F)
Dust and water proofing IP55
Humidity . . . . . 100% condensing
Power supply
Internal battery . . . . . Rechargeable Li-Ion battery 11.1 V, 5.0 Ah
Operating time[4]
One internal battery . . . . . Approx. 6.5 hours
Three internal batteries in multi-battery adapter . . . . . Approx. 18 hours
Robotic holder with one internal battery . . . . . 13.5 hours
Operating time with video robotic[4]
One battery . . . . . 5.5 hours
Three batteries in multi-battery adapter . . . . . 17 hours
Weight
Instrument (Servo/Autolock®) . . . . . 5.15 kg (11.35 lb)
Instrument (Robotic) . . . . . 5.25 kg (11.57 lb)
Trimble CU controller . . . . . 0.4 kg (0.88 lb)
Tribrach . . . . . 0.7 kg (1.54 lb)
Internal battery . . . . . 0.35 kg (0.77 lb)
Trunnion axis height . . . . . 196 mm (7.71 in)
Communication . . . . . USB, Serial, Bluetooth®[5]
Security . . . . . Dual-layer password protection

ROBOTIC RANGE

Autolock and Robotic range[2]
Passive prisms . . . . . 500–700 m (1,640–2,297 ft)
Trimble MultiTrack Target . . . . . 800 m (2,625 ft)
Autolock pointing precision at 200 m (656 ft) (standard deviation)[2]
Passive prisms . . . . . <2 mm (0.007 ft)
Trimble MultiTrack™ Target . . . . . <2 mm (0.007 ft)
Shortest search distance . . . . . 0.2 m (.65 ft)
Search time (typical)[6] . . . . . 2–10 s

1 Standard clear: No haze. Overcast or moderate sunlight with very light heat shimmer.
2 Range and accuracy depend on atmospheric conditions, size of prisms and background radiation.
3 Kodak Gray Card, Catalog number E1527795.
4 The capacity in –20 °C (–5 °F) is 75% of the capacity at +20 °C (68 °F).
5 Bluetooth type approvals are country specific. Contact your local Trimble Authorized Distribution Partner for more information.
6 Dependent on selected size of search window.

Specifications subject to change without notice.

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