



Trimble RTS773

ROBOTIC TOTAL STATION

TOTAL PERFORMANCE

The RTS773 incorporates advanced technologies to deliver accurate and reliable layout fast, to ensure that design intent is executed correctly the first time.

Video-Assisted Control

Trimble VISION™ gives you the power to see everything the instrument sees without a trip back to the tripod. Direct your layout with live video images on the Trimble Field Tablet. Now you are free to capture measurements, to prism or reflectorless surfaces, with point and click efficiency.

Visual Verification

To provide an accurate documentation of the design and field image that is displayed within the Trimble Field Link software, job data including points and linework are overlaid on the camera image.

LAYOUT TECHNOLOGY FOR CONTRACTORS

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

Trimble SurePoint™ 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

- ▶ Trimble VISION video-assisted robotic measurement
- ▶ Visual verification with data overlay and photo documentation
- ▶ MagDrive technology for maximum speed and efficiency
- ▶ MultiTrack technology offers the choice between passive and active tracking

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, at greater range, with the Class 2 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.



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PERFORMANCE

Angle measurement accuracy (standard deviation based on DIN 18723)	3" (0.9 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 Tracking	2 mm (5/64") 5 mm (13/64")	3 mm (1/8") 5 mm (13/64")	4 mm (5/32") 6 mm (15/64")	6 mm (15/64") 8 mm (5/16")

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

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) ¹²				
Prism mode				
1 prism		3,000 m (9,800 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	>150 m (492 ft)	150 m (492 ft)	70 m (229 ft)
Gray card (18% reflective) ³	>120 m (394 ft)	120 m (394 ft)	50 m (164 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)	
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

CAMERA

Chip	Color Digital Image Sensor
Resolution	2048 x 1536 pixels
Focal length	23 mm
Depth of field	3 m to infinity
Field of view	15.5 deg x 12.3 deg
Digital zoom	4-step (1x, 2x, 4x, 8x)
Video streaming	5 frames/sec

GENERAL SPECIFICATIONS

Leveling	
Circular level in tribrach8' / 2 mm (8'/0.007 ft)
Automatic level compensator	
Type	Centered dual-axis
Accuracy	0.5" (0.15 mgon)
Range	±5.4' (±100 mgon)
Servo system	MagDrive servo technology, integrated servo/angle sensor: electromagnetic direct drive

Rotation speed	115 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	2.3x/0.5 m to infinity (1.6 ft to infinity)

Telescope	
Magnification30x
Aperture40 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

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 10.8V, 6.5Ah, 70Wh
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
Security	Dual-layer password protection

ROBOTIC RANGE	
Autolock and Robotic range ²	500–700 m (1,640–2,297 ft)
Passive prisms	800 m (2,625 ft)
Trimble MultiTrack Target	
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 (0.65 ft)
Search time (typical) ⁵	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 Dependent on selected size of search window.

Specifications subject to change without notice.



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