



# R9 ROBOTIC TOTAL STATION



**RC9 FIELD  
CONTROLLER**



# R9 ROBOTIC TOTAL STATION

## Technical Data



Technical features		R9 ROBOTIC TOTAL STATION	
<b>Angle measurement</b>		<b>2" Type</b>	<b>3" Type</b>
<b>Accuracy</b>	Hz:	2" (0.6 mgon)	3" (1 mgon)
(standard deviation, ISO 17123-3)	Display resolution:	0.1"(0.1 mgon)	0.1"(0.1 mgon)
<b>Method</b>	absolute, continuous, diametrical	0.1"(0.1 mgon)	0.1"(0.1 mgon)
<b>Compensator</b>	Working range:	4' (0.07 gon)	4' (0.07 gon)
	Setting accuracy:	0.5" (0.2 mgon)	1.0" (0.3 mgon)
	Method:	centralized dual axis compensator	
<b>Distance measurement</b>			
<b>Range</b>	Round prism:	3000 m	
(average atmospheric conditions)	360° reflector:	1500 m	
	Mini prism:	1200 m	
	Reflective tape (60 x 60 mm):	250 m	
	Shortest measurable distance:	1.5 m	
<b>Accuracy / Measurement time</b>	Standard mode:	1 mm + 1.5 ppm / typ. 2.4sec	
	Fast mode:	3 mm + 1.5 ppm / typ. 0.8 s	
	Tracking mode:	3 mm + 1.5 ppm / typ. 0.15 s	
	Display resolution:	0.1 mm	
<b>Method</b>	Phase measurement (coaxial, visible red laser)		
<b>DR reflectorless distance measurement</b>			
<b>Range</b>	DR 400 - 400m model	400 m / 200 m (Kodak Grey Card: 90% reflective / 18% reflective)	
	DR1000 - 1000m model	1000 m / 500 m (Kodak Grey Card: 90% reflective / 18% reflective)	
	Shortest measurable distance:	1.5 m	
	Long Range to round prism:	1000 m - 7500 m	
<b>Accuracy / Measurement time</b>	Reflectorless < 500 m:	2 mm + 2 ppm / typ. 3-6 s, max. 12 s	
(standard deviation, ISO 17123-4)	Reflectorless > 500 m:	4 mm + 2 ppm / typ. 3-6 s, max. 12 s	
(object in shade, sky overcast)	Long Range:	5 mm + 2 ppm / typ. 2.5 s, max. 12 s	
<b>Laser dot size</b>	At 20m:	approx. 7 mm x 14 mm	
	At 100 m:	approx. 12 mm x 40 mm	
	At 200 m:	approx. 25 mm x 80 mm	
<b>Method</b>	DR400 / DR1000	Phase measurement (coaxial, visible red laser)	
<b>Motorized</b>			
<b>Maximum speed</b>	Rotating speed:	45° / s	
<b>iLock (Target Recognition)</b>			
<b>Range iLock mode</b>	Round prism:	1000 m / 800 m	
	360° reflector:	600 m / 500 m	
	Mini prism:	500 m / 400 m	
	Reflective tape (60 x 60 mm):	55 m	
	Shortest measurable distance:	1.5 m / 5 m	
<b>Accuracy / Measurement time</b>	Positioning accuracy:	< 2 mm	
	Measurement time:	3 - 4 s	
<b>Maximum speed (LOCK mode)</b>	Tangential (standard mode):	5 m/s at 20 m, 25 m/s at 100 m	
	Radial (tracking mode):	4 m/s	
<b>Method</b>	Digital image processing (laser beam)		
<b>SureBeam</b>			
<b>Range (average atmospheric conditions)</b>	Working range:	5 m - 150 m	
<b>Accuracy</b>	Positioning accuracy:	5 cm at 100m	

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## Technical Data

General data	R9 ROBOTIC TOTAL STATION
<b>Telescope</b>	
Magnification:	30X
Free objective aperture:	40 mm
Field of view:	1°30' (1.66 gon) / 2.7 m at 100m
Focusing range:	1.7 m to infinity
<b>Keyboard and display</b>	
Display:	1/4 VGA (320*240 pixels), graphic LCD, illumination, touch screen
Keyboard:	28 keys (6 function keys, 12 alphanumeric keys)
Angle display:	360° ' ", 360° decimal, 400 gon, 6400 mil, V%
Distance display:	meter, int. Ft, int. ft/inch, US ft, US ft/inch
Position:	Face I standard
<b>Data Storage</b>	
Memory card:	CF cards (256 MB)
Interfaces:	RS232, Bluetooth
<b>Circular level</b>	
Sensitivity:	6' / 2 mm
<b>Laser plummet</b>	
Centering accuracy:	1.5 mm at 1.5 m
Laser dot diameter:	2.5 mm at 1.5 m
<b>Endless drives</b>	
Number of drives:	1 horizontal / 1 vertical
<b>Battery</b>	
Type:	Lithium-Ion
Voltage:	7.4 V
Capacity:	3.8 Ah
Operating time:	Typically 5-8 hours
<b>Weight</b>	
Total station:	5.5 Kg
Battery:	0.2 Kg
Tribrach:	0.8 Kg
<b>Environmental specifications</b>	
Working temperature range:	-20°C to +50°C
Storage temperature range:	-40°C to +70°C
Dust / water (IEC 60529):	IP54
Humidity:	95%, non-condensing

# RC9 FIELD CONTROLLER

## Technical Data

Technical features	RC9 FIELD CONTROLLER
<b>Technical Specifications</b>	
Communication	via integrated radio modem
<b>Control unit</b>	
Display:	1/4 VGA (320*240 pixels), graphic colour LCD, illumination, touch screen
Keyboard:	62 keys (12 function keys, 40 alphanumeric keys), illumination
Interface:	RS232
<b>Battery</b>	
Type:	Lithium-Ion
Voltage:	7.4 V
Capacity:	1.9 Ah
Operating time:	typ. 8 h
<b>Weights</b>	
Control Unit:	0.8 Kg
Battery:	0.1 Kg
Reflector pole adapter:	0.25 Kg
<b>Environmental specifications</b>	
Working temperature range:	-30°C to +50°C
Storage temperature range:	-40°C to +80°C
Dust / water (IEC 60529):	IP67
Waterproof (MIL-STD-810F)	temporary submersion to 1 m



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