

Trimble 5605 DR200+ Total Station

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Precise Reflectorless Site Measurement

The Trimble® 5605 DR200+ Direct Reflex Total Station series gives you access to the best and most productive measuring methods available for every measuring situation. The Direct Reflect (DR) capability opens up a new world of measurement applications. You can now measure objects that were previously difficult or impossible to reach, as easily as those measured with a prism.

The 5605 DR200+ is ideal for measuring stockpiles, excavations, cuttings, mine high walls, in addition to visible but inaccessible property boundaries without gaining land access. You can also measure overhead cables, tunnels, bridges, and elevations quickly, safely and easily even in live traffic situations.

Accurate long-range measurement

The long-range 5605 DR200+ total station allows you to measure up to 600 m (1,968 ft) to a 90% reflective Kodak Gray Card and 200 m (656 ft) to an 18% reflective Kodak Gray Card. That's 3.3 times further than standard reflectorless total stations. And the range using a single prism is 5,500 m (18,040 ft) with an accuracy of $\pm(3 \text{ mm} + 2 \text{ ppm})$.

Unique "Time-of-Flight" pulse measurement

The DR200+ uses the "time-of-flight" measurement technique based on the pulse measurement principle. The 5605 instrument measures the time for a very short transmitted pulse to travel to the target and back.

Increase productivity with Servo, Autolock and Robotic options Servo gives you a 30% increase in productivity

The Trimble 5605 DR200+ total station offers four-speed servo operation to provide variable speed, faster, smoother and more accurate aiming. Servo combined with DR gives you automated measurements and additional upgrade opportunities to increase your productivity.



Upgrade to Autolock and increase productivity by 50%

Autolock® technology enables semi-robotic operation, with measuring and recording performed at the total station. The Trimble 5605 DR200+ seeks out the target, locks to it, and tracks it during movement between points.

Autolock upgrade features include:

- Eliminates fine adjustment, focusing, and problems working in the dark
- Unique active targets guarantee 100% accuracy in locating the right target. In most cases, you can stake out or gather measurement data as fast as the rod man can move.

Upgrade to Robotic and increase productivity by 80%

Robotic operation offers the same advantages as Autolock. Additional features include:

- Move efficiently during stakeout and/or work with one less person.
- Increases productivity and reduces personnel costs.
- Provides higher quality measurements since all the control initiation and registration take place at the measuring point where you can quickly identify any errors or discrepancies.

Combine Robotic with Direct Reflex for even higher productivity

Combine the two methods for the ultimate one-person measurement system. This combination will increase your flexibility to tackle any application.



5605 DR200+ Measurement Applications

- Stockpiles
- Excavations
- Cuttings
- Mine high walls
- Visible property boundaries and corners
- Overhead cables
- Tunnels
- Bridges
- Elevations

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Superior accuracy and productivity

PERFORMANCE SPECIFICATIONS

Angle measurement	
Accuracy (Standard deviation based on DIN 18723)	5" (1.5 mgon)
Angle reading (least count)	
Horizontal & vertical	
Standard measurement	1" (0.1 mgon)
Fast Standard	1" (0.1 mgon)
Tracking	2" (0.5 mgon)
Automatic level compensator	Dual-axis compensator $\pm 6''$ (± 100 mgon)

Distance measurement

Accuracy (standard deviation)	
Direct Reflex	
Standard measurement	$\pm(3 \text{ mm} + 2 \text{ ppm}) \pm(0.01 \text{ ft} + 2 \text{ ppm})$
Fast Standard	$\pm(5 \text{ mm} + 2 \text{ ppm}) \pm(0.016 \text{ ft} + 2 \text{ ppm})$
Tracking	$\pm(10 \text{ mm} + 2 \text{ ppm}) \pm(0.032 \text{ ft} + 2 \text{ ppm})$
Shortest possible range	
Direct Reflex	1.5 m (4.9 ft)
Reflective foil	2.5 m (8.2 ft)
Measuring time	
Prism mode	
Standard measurement	2 s
Fast Standard	1.8 s
Tracking	0.4 s
DR mode	
Standard measurement	1-5 s
Fast Standard	1-4 s
Tracking	0.4 s
Range Direct Reflex typical measurement	
Kodak Gray Card (18% reflective)*	>200 m (656 ft)
Kodak Gray Card (90% reflective)*	>600 m (1,968 ft)
Concrete	200-300 m (656-984 ft)
Wood construction	150-300 m (492-984 ft)
Metal construction	150-200 m (492-656 ft)
Light rock	150-250 m (492-820 ft)
Dark rock	100-150 m (328-492 ft)
Range using reflective foil in Direct Reflex Mode	
Reflective foil 20 mm	800 m (2,624 ft)
Reflective foil 60 mm	1600 m (5,248 ft)

* Kodak Gray Card, Catalog number E1527795.
Specifications subject to change without notice.

GENERAL SPECIFICATIONS

Light source	Pulsed laser diode 870 nm Laser class 1
Laser pointer eccentric (optional)	Laser class 2
Beam divergence	
Horizontal	0.4 mrad (4 cm/100 m) (0.13 ft/328 ft)
Vertical	0.8 mrad (8 cm/100 m) (0.26 ft/328 ft)
General	
Atmospheric correction	-60 to 195 ppm continuously
Leveling	
Circular level in tribrach	.8'/2 mm (8'/0.007 ft)
Electronic 2-axis level in the	
LC-display with a resolution of	.6" (2 mgon)
Clamps and slow motions	Servo-drive. Endless fine adjustment
Centering	
Centering system	Trimble 3-pin
Optical plummet	Optical plummet in tribrach
Magnification	.24x
Shortest focusing distance	0.5 m (1.6 ft) to infinity
Telescope	
Magnification	.26x (30x Optional)
Aperture	40 mm (1.57 in)
Field of view at 100 m (328 ft)	2.6 m (8.5 ft)
Shortest focusing distance	1.7 m (5.58 ft) to infinity
Illuminated crosshair	Variable (15 steps)
Tracklight	Optional (Servo only) Standard (Autolock and Robotic)
Operating temperature	-20 °C to +50 °C (-5 °F to +122 °F)
Power Supply	
Internal battery	Rechargeable NiMH battery 12 V, 1.8 Ah Operating time approx. 3 h (Servo only)
External battery	External rechargeable NiMH batteries 12 V, 3.8-11.4 Ah Operating time approx. 11 h Autolock, 9 h Robotic (11.4 Ah)
Weight	
Instrument with ACU controller	6.7 kg (14.7 lb)
Tribrach	0.7 kg (1.5 lb)
Internal battery	0.4 kg (0.9 lb)
Instrument for Robotic measurement (incl. Tracker, and built in radio)	7.5 kg (16.5 lb)
Trunnion axis height	205 mm (8.1 in)

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