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Trimble MS980 Smart GPS Antenna

Rugged, integrated GPS antenna and receiver for the GCS900 system

The Trimble® MS980 Smart GPS Antenna combines the receiver and antenna into one rugged, externally mounted unit. This allows for installation as close as possible to the cutting edge for greater accuracy in machine guidance. The MS980 is the first truly modular GPS positioning sensor for sensor-independent machine control.

General Description

Portable, Flexible, Versatile – The MS980 is light and quick to remove making it easy to move between machines or daily removal. Just disconnect one cable and use the inbuilt ratchet to remove the MS980 from the mast. Now you can now quickly swap from one sensor to another as work demands.

Built to Last – Extremes of temperature, vibration, moisture and dust characterize the on-machine environment. The MS980 is designed to the toughest industry standards and has been field proven in extensive and extreme testing. Designed for today and the future, the MS980 sensor is built with Trimble's latest core technology to provide tracking of the new L2C signal for more robust operation.

Standard Features

- Single, rugged unit – GPS antenna, receiver and isolation system
- Centimeter accurate 3D GPS positioning capable of utilizing the new L2C GPS signals
- On-machine connection by one data cable connection (J1939 CAN industry standard interface)
- 3 LED indicators provide instant operational feedback – DC power, GPS correction signal status, GPS signal status
- 100% sealed housing

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Specifications

Physical characteristics	Specifications
Size	Height: 147mm (5.8") Width: 231.9mm (9.1") Depth: 251.1mm (9.9")
Weight	3.04 (6.6 lb) ± 0.04 kg without bracket 3.76 (8 lb) ± 0.04 kg with bracket
Indicators	3 amber LEDs: DC Power on; GPS correction signal status (via radio link or cable); GPS signal status

Environmental characteristics	Specifications
Temperature	Operating: -40°C to +70°C (-40°F to +158°F) Storage: -50°C to +85°C (-67°F to +185°F)

Technical characteristics	Specifications
Electrical Input Voltage	9 to 32 VDC
Tracking	Tracking 24 channels L1 C/A code, L1/L2 full cycle carrier, L2C capable. Fully operational during P-code encryption

Positioning characteristics	Specifications
Range	Up to 20 km from base station for RTK
Start-up	<2 minutes

Mode	Accuracy[1]	Latency[2]	Max Rate
Low Latency RTK	2cm + 2ppm Horizontal[3] 3cm + 2ppm Vertical	<20ms	10Hz
Moving Base RTK	1cm Horizontal[4] 2cm Vertical	<100ms	10Hz
	[1] 1 sigma level [2] At maximum output rate [3] Assumes 1 second data link delay [4] Assumes that base – rover separation is less than 1 km		

MS980 connector – 16 pin Amphenol bayonet

Pin	Description
A	RS232 GND
B	PWR -
C	CAN2 LO
D	CAN2 GND
E	Chassis
F	RS232-1 TXD
G	PWR +
H	Boot monitor
J	RS232-1 RXD
K	CAN1 GND
L	CAN1 LO
M	ID
N	CAN2 HI
P	CAN1 HI
R	RS232-2 RXD
S	RS232-2 TXD
Notes:	
1. No ground on pin H or M defines ID= 0 2. Grounding pin M defines ID=1 3. Grounding both pin H and pin M defines ID=3	