ONCORE™ HAWK ACTIVE ANTENNA

THE SMALLEST ANTENNA WITH THE POWER TO MEET THE REQUIREMENTS OF THE AUTOMOTIVE INDUSTRY

Features of the Oncore HAWK Active Antenna

- 24dB Active Antenna
- 3 Volt operation
- 16mA typical current consumption
- Magnetic or direct mounting methods
- <1.8dB typical noise figure
- Small form factor

The HAWK Active Antenna is our smallest general purpose GPS antenna to date. It is designed to meet the stringent environmental and performance needs of the automotive market place.

Designed for urban environments

The design reflects Motorola's high standard for performance when operating in foliage/urban canyon environments and in the presence of electromagnetic interference.

Small size, big performance

The small footprint, low profile package and the shielded LNA offer significantly enhanced performance. Plus, the magnetic and blind hole direct mounting scheme make the antenna suitable for a number of different installation configurations.

Highly compatible

The Oncore HAWK Active Antenna is designed to operate with Motorola's successful family of Oncore GPS receivers, as well as many GPS receivers from other manufacturers. The 3 Vdc version of the HAWK GPS Antenna is designed to operate with Motorola's M12+ Oncore receivers.

Motorola Matching M12+ Oncore GPS Receiver

- 3 Volt operation
- 12 Channel simultaneous operation
- 185mW Power consumption
- Small 40 * 60 * 10 mm form factor
- Antenna current sense detection
- 60 Seconds typical cold start TTFF
- 40 Seconds typical warm start TTFF
- 15 Seconds typical hot start TTFF
- <1s internal reacquisition
- DGPS support including base-station mode

There's only one name for quality and performance in GPS technology.

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HAWK Active Antenna Specifications

GENERAL CHARACTERISTICS	Antenna Description	Passive dielectric patch antenna Top and bottom radome plastic housing assembly Active low noise amplifier/filter –PWB assembly RF cable with connector assembly
	Operating Frequency	L1 (1575.42 MHz, +/- 1.02 MHz)
PERFORMANCE CHARACTERISTICS	Input Impedances	50 Ohm
	VSWR	1.5 (typical) @ 1575.42 MHz (2.5 max)
	Bandwidth	10 to 45 MHz (± 3dB points)
	Polarization	Right hand circular
	Azimuth Coverage	360°
	Elevation Coverage	0° to 90°
	Gain Characteristics of Antenna Element	+2.0 dBic minimum at zenith -10 dBic minimum at 0° elevation
	Filtering	-30dB @ 1675 MHz (typical) -30dB @ 1475 MHz (typical)
	LNA Gain	3 Vdc version 24dB (typical, including dB cable loss)
	Noise Figure	<1.8dB (typical), 2.2dB (max)
	Dynamics	Vibration: 7.7 G's (Military Standard 810E) Shock: 100 G's (Military Standard 810E)
ELECTRICAL CHARACTERISTICS	Power Requirements	3 V ± 0.2 Vdc for GC3LPxxxxx models
	Power Consumption 3 Vdc version	16mA (typical), 20mA (max)
PHYSICAL CHARACTERISTICS	Dimensions	38 x 34 x 13.2 mm ± 0.5 mm
	Weight	< 89 grams (including 5m cable and connector)
	Mount	Magnetic and Blind holes (2) Taplite screw size of 2.6 x 5 mm (I mm thick base plate)
	Plastic color 3 Vdc version	Black
	Cable Connectors	BNC (straight) – Special order SMA (straight) – Special order MMCX (right angle) – Standard for 3 Vdc antenna
	Antenna to Receiver Interconnection	Single shield RG-316 type coaxial cable 5 meters (25 ft.) long (See connectors above)
ENVIRONMENTAL CHARACTERISTICS	Operating Temperature	-40°C to +100°C
	Storage Temperature	40°C to +100°C
	Thermal Testing	Cycled 600 hours at –40°C and +100°C
	UV Radiation	Sunshine Carbon Arc System – JIS D0205
	Salt Spray Test	320 hours, Spray 5% NaCl solvent at +35°C.
	Immersion Test	60 minutes at 1 meter
MISCELLANEOUS	Optional Features	Special order models: Substrate (no plastic) version with cable and connector
NOTE	All values above are referenced to 25°C unless indicated otherwise	

From Motorola, the leader in GPS technology

The Oncore family of GPS receivers demonstrates Motorola's quest for product and service excellence, and is further evidenced by our QS-9000 certification and Six Sigma quality achievements. Understand Motorola's reliability, responsive support and long-term commitment and you understand why Oncore is the receiver of choice. *After all, it's not where you are, it's where you're going.*

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