SG5300 Data Modem
800 MHz, 900 MHz

The SG5300 Data Modem provides

- Reliable access to the sophisticated data capabilities of Harris' OpenSky® trunked wireless voice and data network

- Wide area coverage and a secure wireless connection with many different types of fixed remote terminals

- Ideal for Smart Grid applications in the Utility industry and automated signage, traffic flow, and other tasks in the Transportation field

The SG5300 Data Modem is part of the OpenSky suite of products which delivers very high capacity, end-to-end digital voice and data communication. The small and lightweight unit is designed for mounting indoors or in a NEMA enclosure to provide reliable, secure, and cost-effective data communications to and from remote locations.

Multiple Applications
The SG5300 is suitable for a wide range of applications. The substantial coverage of an OpenSky private wireless network means that the SG5300 can be useful to collect or distribute data messages in locations where other wireless technologies are not affordable, available, or reliable enough. Utilities will find it an excellent means of communication with line reclosers, capacitor banks, and other devices on the grid, including direct connection to devices that use DNP 3.0 protocol. Transportation applications include automated signs, bus stop kiosks, and connection with remote traffic flow and weather sensors. Public safety agencies can use it to send alarms for public notification of severe weather or emergencies or for a host of other applications.

The SG5300 provides a choice of Ethernet (RJ45) or Serial (DB9) interface to remote terminals. Its 3-Watt RF output makes it a compact and cost-effective wireless link that can easily fit alongside Remote Terminal Units (RTUs) and other devices.

Wide-Area Coverage
A small "spike" antenna can be fitted, or more remote coverage can be achieved with a fixed "yagi" antenna configuration.

Over-the-Air Programming
As an OpenSky radio, the SG5300 benefits from a flexible, software-based design. Features, profiles, and system updates are software-defined and can be reprogrammed over the air.

Security
The SG5300 is designed along with the OpenSky system to add a level of security to all connected devices, even serial DNP devices.

General Specifications

Dimensions (H x W x D):
2.5 x 5.0 x 8.0 in.
(6.3 x 12.7 x 20.3 cm)

Power Requirements:
9-57 VDC
9.6 Watt Transmit
2.5 Watt Receive
<3 Watt Average Power
at 95/5

Physical Interface (Ethernet or Serial):

Ethernet - The SG5300 Ethernet interface is used for connecting to an RTU.

Connector Type:
RJ45
Electrical Protocol:
10/100 BaseT
Data Format:
Ethernet IEEE 802.3

Serial - The SG5300 serial interface is used for data (SLIP/PPP) as well as for maintenance support. The serial interface is configurable to operate as a full duplex DCE EIA/TIA-232 port.

Connector Type:
9-pin D Receptacle
Electrical Protocol:
EIA/TIA-232 Full Duplex
Data Format:
8 bits/character, 1 start bit, 1 stop bit
Antenna:
TNC connector (female)
LEDs:
RX/TX, Status

Operating Temperature Range:
-22 to +140°F
(-30 to +60°C)
Or 158°F/70°C at 30% duty cycle

Relative Humidity:
95% @ 122°F (+50°C)

Altitude:
Operational: 15000 ft
(4572 m)

Case (Color):
Metallic

Mounting Holes:
1/4 in. diameter
3.75 in. apart by 6.25 in. apart

Transmitter

Typical performance specifications	**800**	**900**
Frequency Range (MHz):	806-825	896-902
Rated RF Power Trunked (W):	0.5-3	0.5-3
Frequency Stability (-30 to +60°C; +25°C Ref) (ppm):	±1.5	±1.5
Frequency Separation (MHz):	19 (full bandwidth)	6 (full bandwidth)
Modulation Deviation (kHz):	±4.0	±2.0

Receiver

Typical performance specifications	**800**	**900**
Frequency Range (MHz):	851-870	935-941
Frequency Separation (MHz):	Full bandwidth	Full bandwidth
Channel Spacing (kHz):	25/NPSPAC	12.5
Frequency Stability (-30 to +60°C; +25 Ref) (ppm):	±1.5	±1.5

Digital Operation

Data Rate (kbps):	19.2 for 800 MHz, 9.6 for 900 MHz
Modulation:	4-Level GFSK; M4FM

Regulatory Data

Frequency Range (MHz)	RF Output (W)	Frequency Stability (ppm)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules
896-901 935-940	3	1.5	OWDTR-0064-E	90	3636B-0064	RSS-119
806-809 809-824	3	1.5	OWDTR-0063-E	90	3636B-0063	RSS-119

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