

FSS-4180-IP

Communications On-The-Move (COTM) Antenna System

The FISICA Datron COTM Antenna System delivers combat ready performance when the mission is most critical. The Series FSS-4180-IP is the evolution of our COTM solutions. This self-contained system provides the next level of performance. Product features include an IP67 water-resistant rating that expands ground and shipboard applications without modification of the platform. Increased system dynamics are achieved by high torque drives. Mean-Time-Between-Failure (MTBF) is increased by reduction of moving components and reduced power consumption. The FSS-4180-IP COTM Antenna System is a single, self-contained unit, making integration into any tactical or commercial application easy. Included in this single unit solution are the Antenna Control Unit (ACU), Inertial Measurement Unit (IMU), Beacon Receiver and swappable RF Suites of: a Solid State Power Amplifier (SSPA), Block Up Converter (BUC) and Low Noise Block Downconverter (LNB). Antenna connection is quick and easy with an IF Transmit Cable, IF Receive Cable, Single System Power Cable, GPS and an Ethernet Communications Cable. Our system is modem agnostic, it operates with any L-Band modem, which gives the user the most flexibility. The Series FSS-4180-IP was designed with the same mounting footprint, cable interfaces and SNMP interface to provide an easy transition across product lines.



FEATURES	BENEFITS
Multi-band, supports X, Ku and Ka-band Operation	Provides flexibility across commercial and MILSATCOM bands of operation
Compliant to FCC, ITU and ARSTRAT	Ease of implementation on existing or new platforms
Compliant to MIL-STD-810F (Environmental Performance)	Tested and proven to meet the most demanding conditions
Compliant to MIL-STD-461 (EMI Standards)	For interoperability with other electronic systems on the platform
Modem Agnostic	Operates with any L-Band modem
Improved Water-Resistance	IP67 compliant design is submersible up to 1 meter for 30 minutes
Reduced moving parts	Improved MTBF (Reliability)
Non-volatile Memory, increased logging and displayed elapsed time feature.	Available for analysis, reliability calculation and system health monitor
Quick Release Latches	Tool-Less Radome Access

KEY FEATURES

- > Delta 8 (ARSTRAT) WGS KA-AND X-BAND CERTIFIED
- > KA-BAND IS INMARSAT COMPATABLE
- > COMBAT HERITAGE
- > SINGLE SELF-CONTAINED UNIT WITH ACU, IMU AND BEACON RECEIVER
- > EASY INTEGRATION
- > INTERCHANGEABLE FEED KITS FOR X, KU & KA-BAND SATCOM

TYPICAL PERFORMANCE CHARACTERISTICS

Frequency Band	X-Band	Ku-Band	Ka-Band
Model	FSS-4180-IP-3-X	FSS-4180-IP-1-X	FSS-4180-IP-2-X
Aperture Size	18 in. (46 cm)	18 in. (46 cm)	18 in. (46 cm)
RF Frequency	Tx: 7.90 to 8.40 GHz Rx: 7.25 to 7.75 GHz	Tx: 13.75 to 14.50 GHz Rx: 10.95 to 12.75 GHz	Tx: 29.00 to 31.00 GHz Rx: 19.20 to 21.20 GHz
Mid-Band G/T*	8.0 dB/K	12.4 dB/K	12.8 dB/K
EIRP (p1dB)	40.0 dBW	44.0 dBW	46.0 dBW
Beamwidth (nominal)	Tx: 5.4° Rx: 5.9°	Tx: 3.2° Rx: 3.9°	Tx: 1.5° Rx: 2.2°
Polarization (Remotely Selectable)	Tx: Circular polarized Rx: Oppositely polarized to Tx	Tx: Steered linear Rx: Oppositely polarized to Tx	Tx: Circular polarized Rx: Oppositely polarized to Tx
Coverage	Az: 360° continuous, El: 0° to 90°		
Pointing Error	<0.5° peak error on Churchville B up to 70° elevation, up to 80° elevation on improved roads.		
Satellite Reacquisition Time	< 5 sec	< 5 sec	< 5 sec
Height (radome)	23.0 in. (58.4 cm)	23.0 in. (58.4 cm)	23.0 in. (58.4 cm)
Base Footprint (minimum)	26 x 26 in. (66 x 66 cm)		
Weight	<147 lbs. (67kg)	<145 lbs. (66kg)	<145 lbs. (66kg)
EMI	MIL-STD-461		
Max. Vehicle Speed	Maximum vehicle speed < 25 mph on Churchville B, < 75 mph on Highway		
Power	28 VDC, peak @ 300 W continuous @ 175 W	28 VDC, peak @ 280 W continuous @ 150 W	28 VDC, peak @ 280 W continuous @ 150 W

ORDER NUMBER CONFIGURATION - Example: FSS4180IP-1-110100

FSS4180IP-	X-	X	X	X	X	X	X
Model	Frequency	Radome Color	Latch Kit	Base Color	GPS	Isolator	External Items (Cables)

FREQUENCY		RADOME		QUICK RELEASE LATCH	
Code	Model	Code	Color	Code	Required
1	Dual Ku-	1	Tan	0	No
2	Dual Ka-	2	White	1	Yes
3	X-band	3	Green		

BASE COLOR		EXTERNAL GPS		VIBRATION ISOLATOR	
Code	Color	Code	Required	Code	Required
0	Black	0	No	0	No
1	Match Radome	1	Yes	1	Yes

