AvL TECHNOLOGIES

MODEL 850K MVSAT

0.85m Ku-Band Vehicle-Mount Auto-Acquisition Antenna

Reflector	90cm x 80cm (effective 0.85m) AvL Precision Composite
Optics	Offset, Prime Focus, 0.6 f/D
Feed	2-Port LP Precision Ku-band w/ Polarization (motorized)
Mount Geometry	Elevation over Azimuth
Drive System	Patent-Pending AvL Cable Drive
Emergency/Manual Drive	Supplied Handcrank – Elevation, Azimuth & Polarization
Controller	AvL One-Button Auto-Acquisition
Color	Standard AvL "MVSAT Gray" (custom colors optional)

Mechanical

Travel		
	Azimuth	± 200°
	Elevation	5° to 90° of reflector boresight from calibrated inclinometer
	Polarization	± 95°
Speed		
	Slewing/Deploying	10°/second Az, 5°/second El, 5°/second Pol
	Peaking	0.2°/second
Motors		24V DC variable speed, constant torque, with optical encoders
Emergency Axes Drives		Hand-crank supplied for Az, El and Pol
Stowed Dimensions		49" L x 36.25" W x 10.75" H (125cm L x 92cm W x 27cm H)
Weight		90 lbs (36 kg)
Set-up Time		Less than 15 minutes
RF Interface		
	BUC Mounting (on Feed Boom)	Up to 10 lbs (4 kg)
	Coax	75-ohm Type F Rx & Tx at base of antenna (on pallet)
Electrical Interface		Connector at positioner base, one 25 ft. cable with connectors to controller

Environmental

Wind		
	Operational	
	Without anchoring	Gusts to 30 mph
	With anchoring	30 mph gusting to 45 mph
	Survival (anchored)	80 mph in 73° elevation position
Pointing Loss in Wind (anchored)		
	Ku-band Receive, Operational winds	1.0 dB typical, 2.0 dB max
	Ka-band Receive, Operational winds	1.2 dB typical, 2.0 dB max
	X-band Receive, Operational winds	0.5 dB typical, 1.3 dB max
Temperature		
	Operational	-22° to 125° F (-30° to 52° C)
	Survival	-40° to 140° F (-40° to 60° C)

15 North Merrimon Avenue • Asheville, NC 28804 • 828.250.9950 • FAX 828.250.9938 • www.avltech.com

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Electrical

Ku-Band	Receive	Transmit
Polarization	Linear orthogonal standard	
Frequency Range (GHz)	10.95 - 12.75	13.75-14.50
Gain (Midband) (dBi)	38.6	40.1
VSWR	1.30:1	1.30:1
Beamwidth (-3 dB, Az)	2.1°	1.7°
Radiation Pattern Compliance	FCC 25.209 (No Wings), ITU-R S.580-6, IESS 208	FCC 25.209 (No Wings), ITU-R S.580-6, IESS 208
Ant Noise Temperature @ 20° El, midband	54° K	
G/T with 50° LNB, midband, clear horizon	18.4 dB/° K	
Cross Pol Isolation, on-axis	35 dB	35 dB
Cross Pol Isolation, within pointing cone	28 dB standard, 25dB optional MM feed	30 dB standard, 35 dB optional MM feed
Feed Port Isolation – TX to RX (dB)	35	80 (includes filter)
Power Handling Capability		500 watts per port

Controller

Fully Automatic Satellite Acquisition, Peaking, and Cross-Pol Adjustment with GPS, Compass, Level compensation with Entry of Desired Satellite. Select 10"x9"x2.5" power supply/hand-held controller or 1 RU P.S. controller. Options include inclined orbit tracking, and External Beacon Receiver.

Positioning Accuracy ±0.2°	±0.2°
Input Power	95-250VAC auto-ranging or 2 RU option 110/240 VAC, 1 phase, 50/60 Hz, 6/3 A peak, 1 A continuous

Options

- BUC/HPA mounting kit (feed boom mounting, including brackets and flexible waveguide)
- Antenna Mounting Kit (for existing Thule Bar system)
- Logo on Reflector Face (one- or two-color)
- Controller packaged in 1RU Chassis
- World-wide satellite acquisition S/W upgrade
- Custom colorization
- Remove pallet for direct mount to vehicle (price credit - contact AvL factory for detailed interface requirements)