# **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)

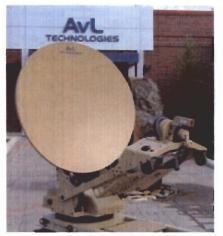
Mount Geometry Elevation over Azimuth

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
Ka-band Receive, Operational winds
X-band Receive, Operational winds

1.0 dB typical, 2.0 dB max
1.2 dB typical, 2.0 dB max
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

## 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\*

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)

±0.2°

- 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)