

# AVL TECHNOLOGIES

## MODEL 1878KF Ku Band MVSAT 1.8 METER MOTORIZED VEHICULAR ANTENNA

Reflector	1.8 meter Single-skin Steel
Feed	Corrugated Horn, .6 F/D
Optics	Offset, Prime Focus
Drive System	Patented Roto-Lok® Positioner
Mount Geometry	Elevation over Azimuth
Polarization Adjustment	Rotation of Feed



### Electrical RF



### Receive

### Transmit

Frequency Standard	10.7 -12.75 GHz	13.75-14.5 GHz
Gain (Midband) 2-port	45.1 dBi	46.7 dBi
VSWR	1.43:1	1.22:1
Beamwidth (degrees) -3 dB	1.0°	0.85°
-10 dB	1.8°	1.5°
First Sidelobe Level (Typical)	-25 dB	-25 dB
Radiation Pattern Compliance	32-25 Log Ø 1.5° to 7°	29-25 Log Ø 1.5° to 7°
Antenna Noise Temperature	55° K at 10° Elevation	
Polarization	Linear	Linear
Power Handling Capability		40 watts at TX Port
Cross-Pol Isolation On-Axis (minimum)	30 dB	30 dB
Feed Port Isolation – TX to RX	40 dB	90 dB

### Controllers

Standard	Three-axis Jog Control & Display with Auto-stow
Optional Upgrades	
Semi-automatic Operation	Drive to calculated position based on operator entered vehicle location, heading, plus satellite (longitude or listed)
Automatic Operation	Drive to calculated position based on auto GPS and Flux-Gate Compass data and satellite peaking with LNB signal
Auto-acquisition	One-button acquisition of selected satellite including peaking and optimization of cross-pol (certified for auto-commissioning on most satellite services)
Size	Two Rack Units for Semi-automatic & Automatic Controllers
Input Power	110/240 VAC, 1 ph, 50/60 Hz, 10/5A peak, 1A continuous

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### 1.8 METER MOTORIZED VEHICULAR ANTENNA

#### Mechanical

Az/EI Drive System	Patented Roto-Lok® Cable Drive System
Polarization Drive System	Motorized Gear-drive
Travel	
Azimuth	400° Standard,
Elevation	True elevation readout from calibrated inclinometer
Mechanical	0° to 90° of reflector boresight
Electrical	Standard limits at 5° to 65° (CE Approval) or 5° to 90°
Polarization	±95°
Speed	
Slewing/Deploying	2°/second
Peaking	0.2°/second
Motors	24V DC Variable Speed, Constant Torque
RF Interface	
BUC Mounting	Feed Boom or Rear of Reflector
Transmit	WR75 Flexible to W/G Adapter on Feed
Receive	WR75 Flat Flange at feed OMT
RX Coax	RG59 from feed to base plus 25 ft. (8 m)
TX Coax	As required per customer or spec
Electrical Interface	25 ft. (8 m) Cable with Connectors for Controller
Manual Drive	Handcrank on Az and EI Axii, Leads from 12VDC Pol Motor
Weight	360 lbs. (163 kgs)
Stowed Dimensions	104 5/8 L x 74¼ W x 25 5/8 H inches (266 L x 189 W x 65 H cm)

#### Environmental

##### Wind

Survival	
Deployed	60 mph (96 kmph)
Stowed	80mph (128 kmph)
Operational	30 mph (48 kmph), Gusts to 45 mph (72 kmph)

##### Pointing Loss in Winds

20 mph (32 kmph)	0.1 dB RMS, 0.2 degrees Typical
30 Gusting to 45 mph (48 to 72 kmph)	0.5 dB RMS, 0.4 degrees Typical

##### Temperature

Operational	+5° to 125°F (-29° to 52°C)
Survival	-40° to 140°F (-40° to 60°C)