

AVL TECHNOLOGIES

MODEL 1888K 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

	<u>Receive</u>	<u>Transmit</u>
Frequency	10.7-12.75 GHz	13.75-14.5 GHz
Gain (Midband)		
2-port	45.0 dBi	46.5 dBi
VSWR	1.30:1	1.30:1
Beamwidth (degrees)		
-3 dB	0.9	0.8
-15 dB	1.9	1.6
First Sidelobe Level (Typical)	-18 dB	-20 dB
Radiation Pattern Compliance	FCC §25.209, ITU-R S.528.5	
Antenna Noise Temperature	43° K at 10° Elevation	
Polarization	Orthogonal standard, Optional Co-pol	
Power Handling Capability		40 watts at TX Port
Cross-Pol Isolation		
On-Axis (minimum)	35 dB	35 dB
Off-Axis (within 1 dB BW)	22 dB	24 dB
Feed Port Isolation – TX to RX		60 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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Mechanical

Az/EI Drive System	Patented Roto-Lok® Cable Drive System
Polarization Drive System	Motorized Gear-drive
Travel	
Azimuth	270° Standard, 400° Optional
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
Waveguide	WR 75 Groove Flange at Interface Point
Coax	2-RG59 runs from feed to base plus 25 ft. (8 m)
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	300 lbs. (136 kgs)
Stowed Dimensions	103½ L x 74¼ W x 22 H inches (263 L x 189 W x 56 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)	0.2 dB RMS, 0.2 degrees Typical
30 Gusting to 45 mph (48 to 72 kmph)	0.7 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)

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