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

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

Controllers

Standard Three-axis Jog Control & Display with Auto-stow
Optional Upgrades Drive to calculated position based on operator entered vehicle location, heading, plus satellite (longitude or listed)
Semi-automatic Operation 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

All specifications subject to change without notice.
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**Mechanical**

Az/El 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 El 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  80 mph (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)

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