The 4115-300 Ka-band Block Upconverter converts 0.95 - 1.95 GHz up to 27.5 - 31.0 GHz in four selectable fixed bands. Front panel LEDs provide indication of DC Power and PLL Alarms. The L-band to RF gain is +30 dB. Connectors are 2.92 mm for RF Out and RF Monitor, SMA for the external reference input and reference output and Type N (all female) for the L-band. Gain, band select, and internal 10 MHz frequency are controlled by the Ethernet M&C. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. It is powered by a 100-240 ± 10% VAC power supply, and mounted in a 8”W X 6”H X 16”D Weather Resistant enclosure.

**Weather Resistant** enclosures are designed to be water resistant for installation in an outdoor enclosure/antenna hut or mounted outdoors on an antenna assembly at their specified temperature ranges. They are designed to be located “out in the elements” (water, sleet, snow, etc.) but they are not designed to be “submerged under” water.

If an extended temperature range is required, there is an **Extended Temperature** option (Option W21: -30°C to +60°C) available at an additional cost. Contact Cross for quote.

### Power Specifications
- **Input Characteristics**
  - Impedance/Ret. Loss: 50Ω/14 dB
  - Frequency: 0.95 to 1.95 GHz
  - Noise Figure, Max.: 20 dB max gain
  - Input Level range: -40 to -15 dBm

- **Output Characteristics**
  - Impedance/Ret. Loss: 50 Ω/14 dB, Mute & UnMute
  - Frequency (GHz): BAND1 27.5 to 28.5, BAND2 28.0 to 29.0, BAND3 29.0 to 30.0, BAND4 30.0 to 31.0
  - Output Level Range: -15 to 0 dBm
  - Output 1 dB comp.: +8 dBm, max gain
  - Mute: >60 dB @ 0 dBm output

- **Channel Characteristics**
  - Gain at Fc: +30 ± 3 dB, (+30 to 0 dB variable in 0.5 dB steps)
  - Spurious, Inband: SIG REL < -50 dBc in band, -15 to 0 dBm out; SIG IND, -55 dBc; Over 27.5 to 31 GHz band
  - Spurious, Out of band: < -50 dBm; Over 27.0-27.5 and 31.0-31.5 GHz band
  - Intermodulation: < -45 dBc for two carriers at 4 MHz spacing, each at -5 dBm out
  - Frequency Response: ± 2 dB, over RF band; ± 0.5 dB, 40 MHz BW, Frequency Sense - Non-inverting

- **LO Characteristics**
  - LO Frequency: Band Specific
  - Frequency Accuracy: ± 0.05 ppm max over temp internal reference; ext. ref. input
  - 10 MHz level In/Mon: +2 to +8 dBm in; Monitor Output = input level ± 1.0 dB, 50 ohms

<table>
<thead>
<tr>
<th>Connectors*</th>
<th>Connector Part #</th>
<th>Matting Connector Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross/Control Connector</td>
<td>MS3112E14-18S</td>
<td>MS3116F14-18P</td>
</tr>
<tr>
<td>Ethernet Connector/RJ45</td>
<td>RJ2F1B</td>
<td>RJF6G</td>
</tr>
<tr>
<td>AC Input Connector**</td>
<td>CL1M1102</td>
<td>CL1F1101</td>
</tr>
</tbody>
</table>

- **Size**: 8” Wide X 6” High X 16” Deep Weather Resistant* Enclosure
- **Power**: 100-240 ±10% VAC, 47 - 63 Hz, 25 watts max.,
  - FCI Clipper Series CL1M1102 Weather Resistant Connector

*All Connectors are Weather Resistant

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**Connectors**:
- **Status/Control Connector**: MS3112E14-18S
- **Ethernet Connector/RJ45**: RJ2F1B
- **AC Input Connector**: CL1M1102

**Additional Connector Specifications**
- **RF Out, RF Mon. Connectors**: 2.92 mm, 40 GHz (female) 50Ω
- **L-Band Connector**: Type N (female) 50Ω
- **10 MHz Connectors**: SMA (female) 50Ω

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