The 4115-67 Block Upconverter converts 0.95 - 1.825 GHz to 5.85 - 6.725 GHz with a 4.9 GHz local oscillator (LO). Front panel LEDs provide indication of DC Power, and PLL Alarm. The L-band to RF gain is +30 dB. Connectors are Type N for the L-band, RF and RF Monitor and SMA (all female) for the external reference input and reference output. Gain and internal 10 MHz frequency are controlled by the Ethernet M&C or via the Status/Control connector. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The 4115 is powered by a 100-240 ± 10% VAC power supply, and mounted in an 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.

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**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- **Impedance/Return Loss**: 50Ω/14 dB
- **Frequency**: 0.95 to 1.825 GHz
- **Noise Figure, Max.**: 20 dB max gain
- **Input Level range**: -40 to -15 dBm

**Output Characteristics**
- **Impedance/Return Loss**: 50 Ω/14 dB, Mute & UnMute
- **Frequency (GHz)**: 5.85 to 6.725
- **Output Level Range**: -15 to 0 dBm
- **Output 1 dB compr.**: +10 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 ± 0.5 dB steps)
- **Spurious, Inband**: SIGNAL RELATED, -55 dBc in band, -15 to 0 dBm out; SIGNAL INDEPENDENT, <60 dBm
- **Spurious, Out of band**: <55 dBm; 4.85-5.84 and 6.726-7.725 GHz
- **Intermodulation**: <-50 dBc for two carriers at 4 MHz spacing, each at -5 dBm out, max gain
- **Frequency Response**: ±2 dB, over RF band; ± 0.5 dB, 40 MHz BW
- **Frequency Sense**: Non-inverting
- **RF Output monitor**: -20 ±2 dB of RF Out; Response ±2 dB, over RF band; ± 0.5 dB, 40 MHz BW

**LO Characteristics**
- **LO Frequency**: 4.9 GHz
- **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

**Phase Noise @ F (Hz) > 100, 1K, 10K, 100K, 1M dBc/Hz**
- 100 MHz: -70
- 80 MHz: -80
- 60 MHz: -85
- 40 MHz: -98
- 20 MHz: -110

**Controls, Indicators**
- Gain, 10M Freq.
- PLL Alarm: Red LED, External contact closure
- Power: Green LED

**Connectors**
- **Status/Control Connector**: MS3112E14-18S
- **Ethernet Connector/RJ45**: RJF21B
- **AC Input Connector**: CL1M1102

**AC In**

**Connectors**
- **RF Output, RF Mon, L-Band In**: Type N, 50Ω (female)
- **10 MHz Connectors**: SMA (female)

**Additional Connector Specifications**

**Size**
- 8"W X 6"H X 16"D Weather Resistant* Enclosure

**Power**
- 100-240 ±10% VAC, 47 - 63 Hz, 25 watts maximum

*All Connectors are Weather Resistant

*+0 to +50 degrees C; Specifications subject to change without notice.

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**DATA SHEET**

**REV. C 07/17/14**

**4115-67 Block Upconverter - Weather Resistant**

Cross Technologies, Inc. • www.crosstechnologies.com

6170 Shiloh Road • Alpharetta, GA 30005 • 770.886.8005 • FAX 770.886.7964