

## FEATURES

- Converts synthesized L-Band to Ka-Band 28.0 – 31.0 GHz (in sub-bands)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- High stability and excellent phase noise characteristics
- Internal High Stability 10 MHz Reference
- Weatherproof package
- Protection against thermal runaway and out-of-lock conditions
- Built-in power supply
- Compact packaging
- CE Marking

## OPTIONS

- Redundant system
- Remote M&C panel (Ethernet port optional)

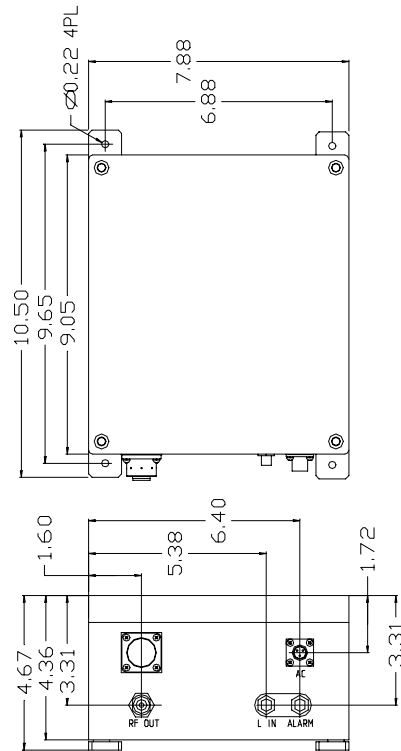
## OVERVIEW

The AWUB-LKa® series are hub-mount up-converter transmitters, operating in the Ku-Band. The AWUB-LKa® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, and filter. Intended for outdoor operation, the AWUB-LKa® provides the utmost in convenience and efficiency. They are the smallest fully integrated units on the market today. Other block-up converters are also available for operation at other frequencies.

The design of these units is based on Advantech AMT™ industry proven reliable block-up converter. Built-in design features and assembly methods incorporated with efficient combining techniques result in an amplifier with exceptional linearity and operating efficiency. The use of high efficiency power supply and conservative thermal designs contribute to the trouble-free operation of the amplifier.

## REDUNDANCY

The AWUB-LKa® series are available in redundant configuration with a single Monitor and Control interface.



Outline Drawing of the Block-up Converter Shown

## APPLICATION

The AWUB-LKa® series convert an L-Band signal to the Ka-band frequency. Designed for Ka-Band satellite up-link applications, the AWUB-LKa has been designed to interface easily with popular L-band modulators and can provide a full bandwidth operation over the whole Ku-band transmission range. The up converter is designed to be completely self-controlled, therefore it does not require any operator intervention.

L-BAND TO Ka-BAND HUB-MOUNT  
BLOCK-UP CONVERTER  
**AWUB-LKa<sup>®</sup>**



L-Band to Ka-Band Block-up Converter

| Technical Specifications            |   |  |
|-------------------------------------|---|--|
| <b>Electrical Characteristics</b>   |   |  |
| Input /Output frequency range       | Standard Ka-Band: 950 - 1800 MHz/28.00 – 31.00 GHz (in sub-bands) |  |
| Output power (P1dB)                 | -3 dBm, min   |  |
| Conversion gain @ central frequency | 15 ± 0.5 dB   |  |
| Conversion gain flatness            | 3.0 dB p-p, max over 575 MHz,<br>1.0 dB p-p, max over 40 MHz      |  |
| Input return loss                   | 9dB, min  |  |
| Output return loss                  | 14dB, min   |  |
| Noise Figure                        | 25 dB, typical  |  |
| Spurious (in-band) at rated power   | -60 dBc, max  |  |
| Output third order intercept point  | +10 dBm, min  |  |
| LO leakage                          | -20 dBm, max  |  |
| Phase noise @ offset frequency:     |   |  |
| 100 Hz                              | -63 dBc/Hz max  |  |
| 1kHz                                | -73 dBc/Hz max  |  |
| 10 kHz                              | -83 dBc/Hz max  |  |
| 100 kHz                             | -93 dBc/Hz max  |  |
| Group Delay                         | Linear  | 0.02 ns /MHz, max  |
| (over any 40 MHz):                  | Parabolic   | 0.003 ns/MHz <sup>2</sup> , max                            |
|                                     | Ripple  | 1 nsec p-p, max  |
| <b>Internal reference</b>           |   |  |
| Reference frequency                 | 10 MHz, sine wave   |  |
| Reference frequency level           | 0 ± 3dBm  |  |
| <b>Power Requirements</b>           |   |  |
| Supply voltage                      | 110/220 V AC (autoranging)  |  |
| Current consumption                 | 150 mA @ 110V, typical  |  |
| <b>Mechanical Characteristics</b>   |   |  |
| Dimensions (W x H x L)              | 10.50" x 4.67" x 7.88" (26.67 x 11.86 x 20.02 cm)                 |  |
| Weight                              | 5.4 kg (12 lbs)   |  |
| Interfaces:                         | RF input: Type F (F)  | Alarm Output: Type F (F)                                   |
|                                     | RF output: WR28   |  |
|                                     | AC input: MS 3112E8-3P  |  |
| <b>Environmental Conditions</b>     |   |  |
| Temperature:                        | Operating   | -30°C to +55°C; Option: E-40°C to +55°C; G: -50°C to +50°C |
|                                     | Storage   | -55°C to +85°C   |
| Humidity                            | 100%, condensing (2" rain/hour)                                   |  |
| Altitude                            | 10,000' AMSL, de-rated 2°C/1,000' from AMSL                       |  |

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