

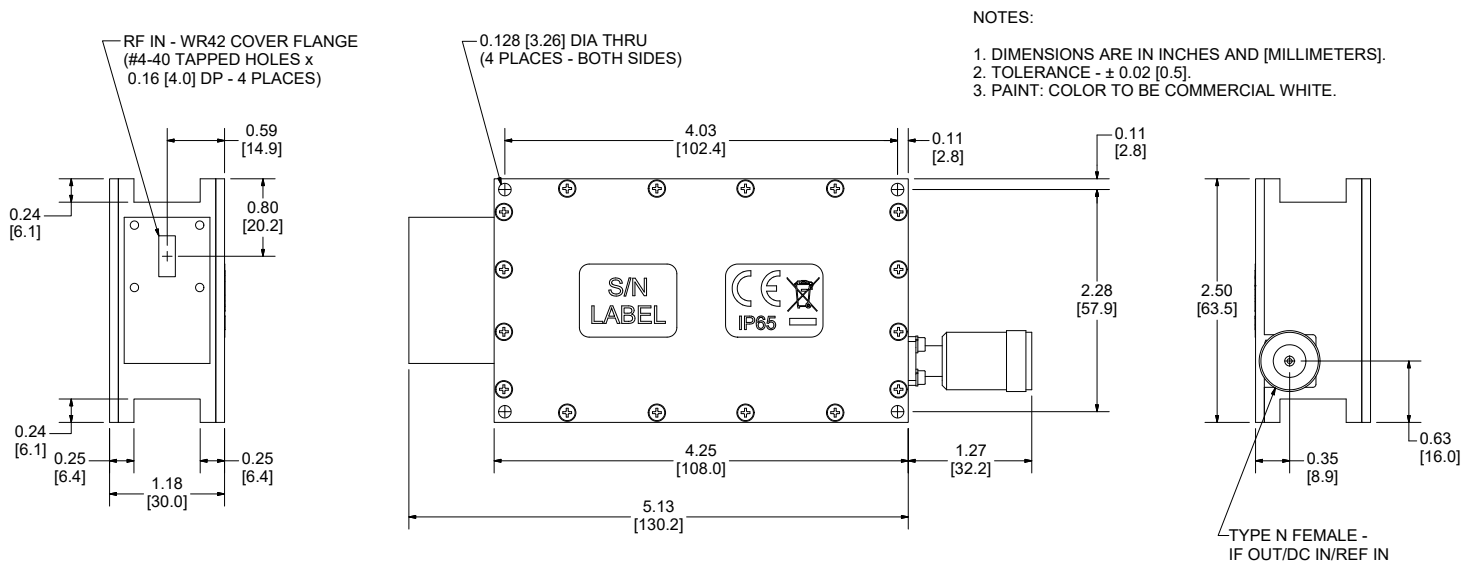
## The TLNB-20000X Ka-Band Low Noise Block Converter is specially designed for SATCOM applications.

Utilizing state-of-the-art HEMT and GaAs FET technology, this block converter has been designed for both fixed and transportable applications. The TLNB-20000X has the quality, stability, and performance required for demanding receiver applications in today's SATCOM systems.

### FEATURES:

- Low noise temperature
- High reliability HEMT design
- Phase-locked oscillator
- Excellent phase noise
- Reverse polarity protection
- Wide operating temperature range, -40 °C to +70 °C

### Outline Drawing



Outline 21104-5

Parameter	Notes	Specification
Input Frequency		20.2 GHz min., 21.2 GHz max.
Output Frequency		1000 to 2000 MHz
Output Spectrum		Non-Inverted
Local Oscillator Frequency		19.20 GHz typical
LO Phase Noise with external reference	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	-32 dBc/Hz max. -62 dBc/Hz max. -72 dBc/Hz max. -82 dBc/Hz max. -92 dBc/Hz max. -102 dBc/Hz max.
Spurious	Signal related, IF Band Non-signal related, IF Band	-60 dBc max. -70 dBm max.
Gain (Nominal)		56 dB min., 60 dB typical, 64 dB max.
Gain Flatness		±1.5 dB max., over Full-band ±0.30 dB max., per 40 MHz
Gain Stability		±0.5 dB max., per week, constant temp. ±2 dB typical, versus temp.
Power Output at 1dB compression (P <sub>1dB</sub> )		+15 dBm min., +18 dBm typical
3 <sup>rd</sup> Order Output Intercept Point (OIP <sub>3</sub> )		+25 dBm min., +28 dBm typical
Noise Temperature	At +23°C	110 K typical, 120 K max.
VSWR	Input Output	1.25:1 typical, 1.35:1 max. 1.50:1 typical, 1.80:1 max.
Connectors	RF Input IF Output/DC In/Ref In	WR42 Cover Flange Type N Female
Power Requirements	Voltage Current	+12 VDC min., +22 VDC max. 300 mA typical, 380 mA max.
Operating Temperature	TAMB	-40°C to +70°C
<b>External Reference Requirements</b>		
Parameter	Notes	Specification
Frequency		10.00 MHz typical
Input Level		-5 dBm min., 0 dBm typical, +5 dBm max.,
Input Impedance		50 ohms typical
Phase Noise at Offset Frequency	10 Hz 100 kHz 1 kHz 10 kHz	-105 dBc/Hz -135 dBc/Hz -145 dBc/Hz -150 dBc/Hz
<b>Caution:</b> To prevent potential equipment damage from water intrusion, which will VOID the warranty, use waterproof cable and apply waterproof tape or heatshrink tubing to protect external connections.		