

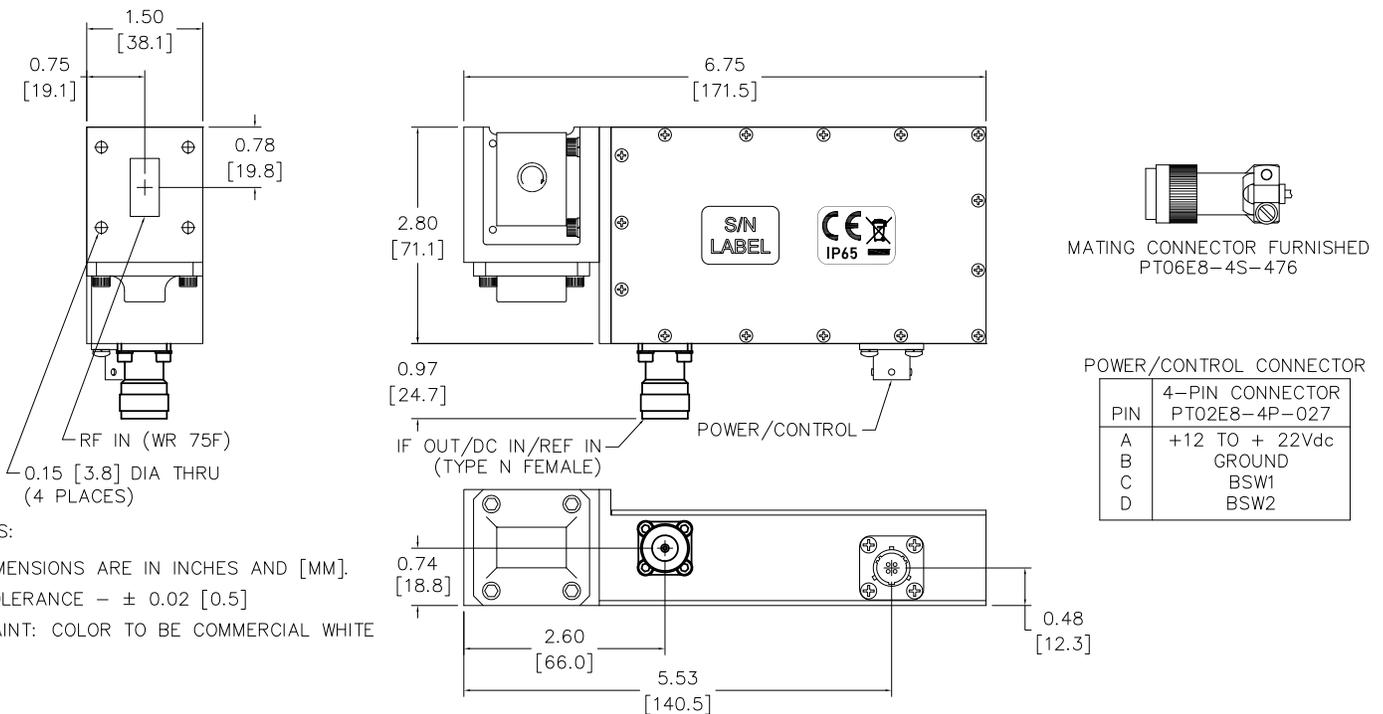
The TLNB-12000X band-switching Ku-Band Low Noise Block Converter is specially designed for satellite earth station and other telecommunications applications.

Utilizing state-of-the-art HEMT and GaAs FET technology, this block converter has been designed for both fixed and transportable applications. The TLNB-12000X has the quality, stability, and performance required for demanding receiver applications in today's diverse satellite communications systems.

FEATURES:

- Full Ku-Band coverage via band-switching architecture
- Low noise temperature
- High reliability HEMT design
- Phase-locked oscillator
- Reverse polarity protection
- Wide operating temperature range, -40 °C to +70 °C
- INTELSAT/EUTELSAT compliant phase noise

Outline Drawing



- NOTES:
1. DIMENSIONS ARE IN INCHES AND [MM].
 2. TOLERANCE - ± 0.02 [0.5]
 3. PAINT: COLOR TO BE COMMERCIAL WHITE

Outline 19967-6

Parameter	Notes	Specification
Input Frequency	Band 1 Band 2 Band 3	10.70 GHz min., 11.70 GHz max. 11.70 GHz min., 12.20 GHz max. 12.20 GHz min., 12.75 GHz max.
Output Frequency		950 to 1950 MHz
Output Spectrum		Non-Inverted
Local Oscillator Frequency (1)	Muted (BSW1=0, BSW2=0) Band 1 (BSW1=0, BSW2=1) Band 2 (BSW1=1, BSW2=0) Band 3 (BSW1=1, BSW2=1) 2.4 V < Logic 1 < 5 V, 0 V < Logic 0 < 0.4 V @ 30 μ A, typ.	— 9.75 GHz typical 10.75 GHz typical 11.25 GHz typical
External Reference		10 MHz typical
LO Phase Noise	100 Hz 1 kHz 10 kHz 100 kHz 1 MHz	-60 dBc/Hz max. -70 dBc/Hz max. -80 dBc/Hz max. -90 dBc/Hz max. -100 dBc/Hz max.
Spurious	Signal related, IF Band Non-signal related, IF Band	-60 dBc max. -70 dBm max.
Gain (Nominal)		60 dB min., 63 dB typical
Gain Flatness		\pm 1.0 dB max., over Full-band \pm 0.30 dB max., per 40 MHz
Gain Stability		\pm 0.5 dB max., per week, constant temp. \pm 1 dB typical, versus temp.
Power Output at 1dB compression (P_{1dB})		+10 dBm min., +13 dBm typical
3rd Order Output Intercept Point (OIP_3)		+20 dBm min., +23 dBm typical
Noise Temperature	At +23°C	65 K typical, 75 K max.
VSWR	Input (50 ohms) Output (50 ohms)	1.20:1 typical, 1.25:1 max. 1.35:1 typical, 1.50:1 max.
Connectors	RF Input IF Output/DC In/Ref. In Band Switch/DC In	WR75 Cover Flange Type N Female PT02E8-4P-027 (mate supplied)
Power Requirements	Voltage Current	+12 VDC min., +22 VDC max. 400 mA typical, 500 mA max.
Operating Temperature	TAMB	-40°C to +70°C
External Reference Requirements		
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
<p>1) BSW1 (Pin C), BSW2 (Pin D) are pulled up to +3.3 Vdc, referenced to Pin B, through 100 k Ω resistors.</p> <p>Caution: 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.</p>		