



## 25W Fanless X-Band Block Up Converter

### KEY FEATURES

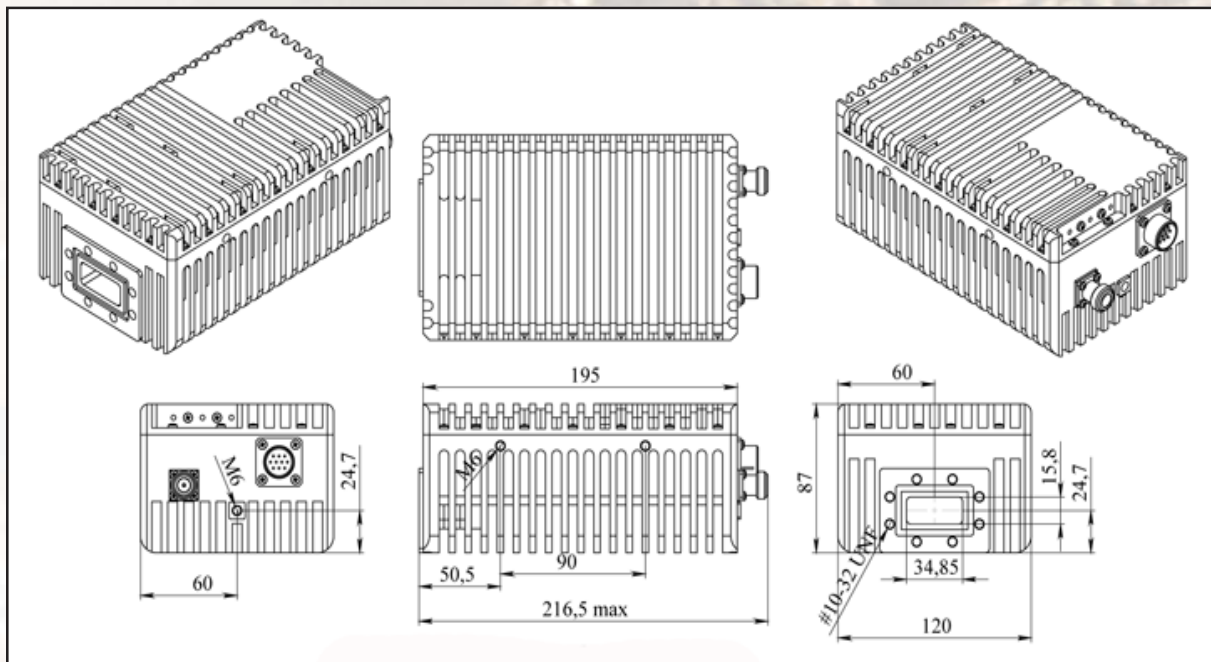
- ◆ 7.9 GHz - 8.4 GHz output frequency
- ◆ Based on GaN technology which enables high efficiency, low power consumption and high reliability
- ◆ Incomparable low power consumption (87W max)
- ◆ Auto-ranging powering option 15-60VDC
- ◆ High power efficiency (25W min over temperature)
- ◆ Digital temperature compensation
- ◆ Field-exchangeable (F/N) IF connector
- ◆ Status and 10MHz detection LED
- ◆ Advanced M&C RS-232/485, FSK, Ethernet (optional)
- ◆ Internal 10MHz high stability  $10^{-8}$  reference (optional)
- ◆ RoHS compliant

### ABE25X / ABE25XF



This smallest and lightest fanless 47W L-To X-Band Block Up Converter is based on GaN technology. It could be mounted directly on a feed horn. M&C (FSK) capability enables troubleshooting, monitoring and controlling the BUC. The unit can be powered either with 24VDC or 48VDC. Unit can use either external or internal 10MHz reference.

### Mechanical Drawing





## 25W Fanless X-Band Block Up Converter

<b>TECHNICAL SPECIFICATIONS</b>	
<b>RF frequency</b>	7.90 to 8.4 GHz
<b>Local oscillator</b>	6.95 GHz
<b>IF frequency</b>	950 to 1,450 MHz
<b>Output power</b>	25 W (+44 dBm min.), 13 W (41 dBm min.) P-Linear
<b>IF connector</b>	N-type or F-type (field-exchangeable)
<b>Power supply : auto-ranging via IF connector</b>	15-60 VDC, 87 W max
<b>Output interface</b>	CPR-137G, CPR-112G, WR-90, WR-112G
<b>Internal 10MHz high stability reference</b>	10 <sup>-8</sup>
<b>Gain</b>	68 dB nominal
<b>IMD3 (two tones)</b>	-26 dBc max. 2 signal 5MHz apart at P-LINEAR
<b>L.O. leakage</b>	-45 dBm max
<b>Spurious</b>	-53 dBc max
<b>Spectral regrowth</b> (QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2dB back-off from rated output power)	-30dBc
<b>Requirement for external reference:</b> frequency input power	<b>via IF cable</b> 10 MHz (sine-wave) -5 to +5 dBm @ input port
<b>TX Gain variation</b>	± 0.5 dB over 40 MHz ± 1.8 dB over full band
<b>TX Gain stability over temperature range</b>	± 1.5 dB typ., ± 1.8 dB max.
<b>Phase noise</b>  (Exceeds Intelsat's standard IESS308/309)	-55 dBc/Hz max. @ 10 Hz -65 dBc/Hz max. @ 100 Hz -75 dBc/Hz max. @ 1 KHz -85 dBc/Hz max. @ 10 KHz -95 dBc/Hz max @ 100 KHz -115 dBc/Hz max @ 1 MHz
<b>Noise power density</b>	<b>Transmit</b> -66 dBm/Hz (max) <b>Receive</b> -157 dBm/Hz (max)
<b>M&amp;C Interface</b>	RS-232 and RS-485, Ethernet
<b>FSK</b>	Multiplexed on TX IFL, compatible with Comtech and Paradigm
<b>Noise figure</b>	15 dB max
<b>Input V.S.W.R.</b>	2 : 1 max
<b>Output V.S.W.R.</b>	2 : 1 max.
<b>Mute</b>	Shut off the HPA if L.O. unlocked
<b>Status LED</b>	<b>RED</b> Summary Alarm
<b>10MHz LED</b>	<b>GREEN</b> All OK <b>RED</b> No 10MHz reference detected <b>GREEN</b> 10MHz reference detected within requirement 25
<b>Temperature range (ambient)</b>  operating storage	-40 deg C to +55 deg C -55 deg C to +85 deg C
<b>Vibration and shock</b>	Complies with MIL-STD-810E
<b>Dimensions &amp; housing</b>	216.5 (L) x 120 (W) x 87 (H) mm 8.66" (L) x 4.8 (W) x 3.48" (H)
<b>Weight</b>	2.76 kg (6.1 lbs) max