X BDC 7.25 - 7.75 GHz 1 Band SATCOM

Key features

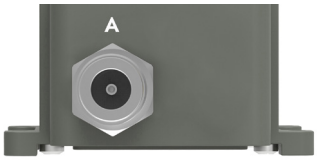
- **Built-in filtering**
- **Low Phase noise**
- **Compact size and light weight**
- **For outdoor use**
- **Wide operating temperature range**
- **Low profile to fit 1U for build-in applications**

Description

The professional X-Band PLL Block Down Converter covers X-band within the frequency range of 7.25 to 7.75 GHz. The BDC has some built-in filtering for improved Tx and IF margin, high IP3 and Low power consumtion. RF input is SMA female. IF output is standard L-Band, non inverted spectrum via N-, F-, or SMA-connector. Options include customized LO, customized gain, separate DC input and separate input for external 10 MHz reference.

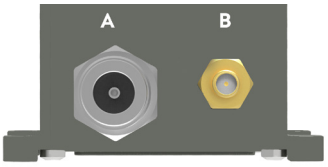
Available with Internal LO ref. or with External 10 MHz ref. input.

BDC connector standard



Connector A (standard)
Type: N-female, (option F-female or SMA-female)
Functions: L-Band out, DC in, External 10 MHz in

BDC connector optional



Connector B (optional)
Type: SMA-female
Functions: External DC or Ext. 10 MHz ref. input.

Explore our full product range in this category

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Technical specifications

	MODEL	X-Band BDC
INPUT	Input freq. GHz	7.25 - 7.75 GHz
	LO	6.30 GHz or by request (Factory programmable)
	Input	SMA female 50 Ω
	DC Input	+12 to +18 V supplied through output connector
	Current drain	300-400 mA typ.
	Input VSWR	1.7:1 max.
INTERNAL	LO ref.	Internal or External 10 MHz ref. Note! Different models
	MODELS with External LO ref.	Sine Wave, Level -10 to +10 dBm. Supplied through output connector. With no ext 10 MHz ref. signal present LO shifts -20 ppm.
	MODELS with Internal LO ref.	±0.5 ppm -20 to +70°C (±1 ppm -40 to +80°C), ±1 ppm -20 to +70°C (±1.5 ppm -40 to +80°C)
	LO Leakage	-60 dBm max. @ RF input
	Gain	By request 0 to 55dB in 5 dB steps (Factory programmable)
	Gain variation over 24h	±0.1 dB @ 23°C
	Flatness	±0.4 dB within 30 MHz, ±2 dB max. over band
	Noise figure	1.0 dB / 75 K @ 50dB gain configuration max., increasing to appr. 20 dB / 28710 K @ 0 dB gain configuration
	Phase Noise	-40 dBc @ 10 Hz -62 dBc @ 100 Hz -80 dBc @ 1 kHz -88 dBc @ 10 kHz -95 dBc @ 100 kHz -120 dBc @ ≥1 MHz typ.
	Filter attenuation	15 dB @ 7.90 GHZ, 30 dB @ 8.00 GHz, 40 dB @ 8.10 GHz, 50 dB @ 8.20 GHz, >60 dB @ 8.30-8.40 GHz
	Group Delay	±1 ns max.
	Image Rejection	60 dB min.
OUTPUT	IF output	Within 950-1450 MHz
	Output P1dB	+15 dBm typ., +5 dBm < 10dB gain
	Output IP3	+25 dBm typ.
	Output VSWR	2.1:1 max.
	Output Connector	N-type 50Ω , SMA-type 50Ω or F-type 75Ω
GENERAL	Dimensions	127 x 80 x 30 mm (F- & SMA-connector), 133 x 80 x 30 mm (N-connector)
	Weight	330 g (F- & SMA-connector) 344 g (N-connector)
	MTBF	MTBF as per MIL-HDBK-217F Notice 2: Environmental Condition GF (Ground Fixed): >489000 hours, Environmental Condition AIC (Airborne, Inhabited, Cargo): >245000 hours, Quality level: Commercial, Temp used for MTBF calculation: +35 C Ambient
	Temperature range	Storage and operating: -40 to +80°C, -40 to +176° F
OPTIONS	Options	Separate SMA connector for DC input or Ext. 10 MHz reference Customized gain & variation Extended IF

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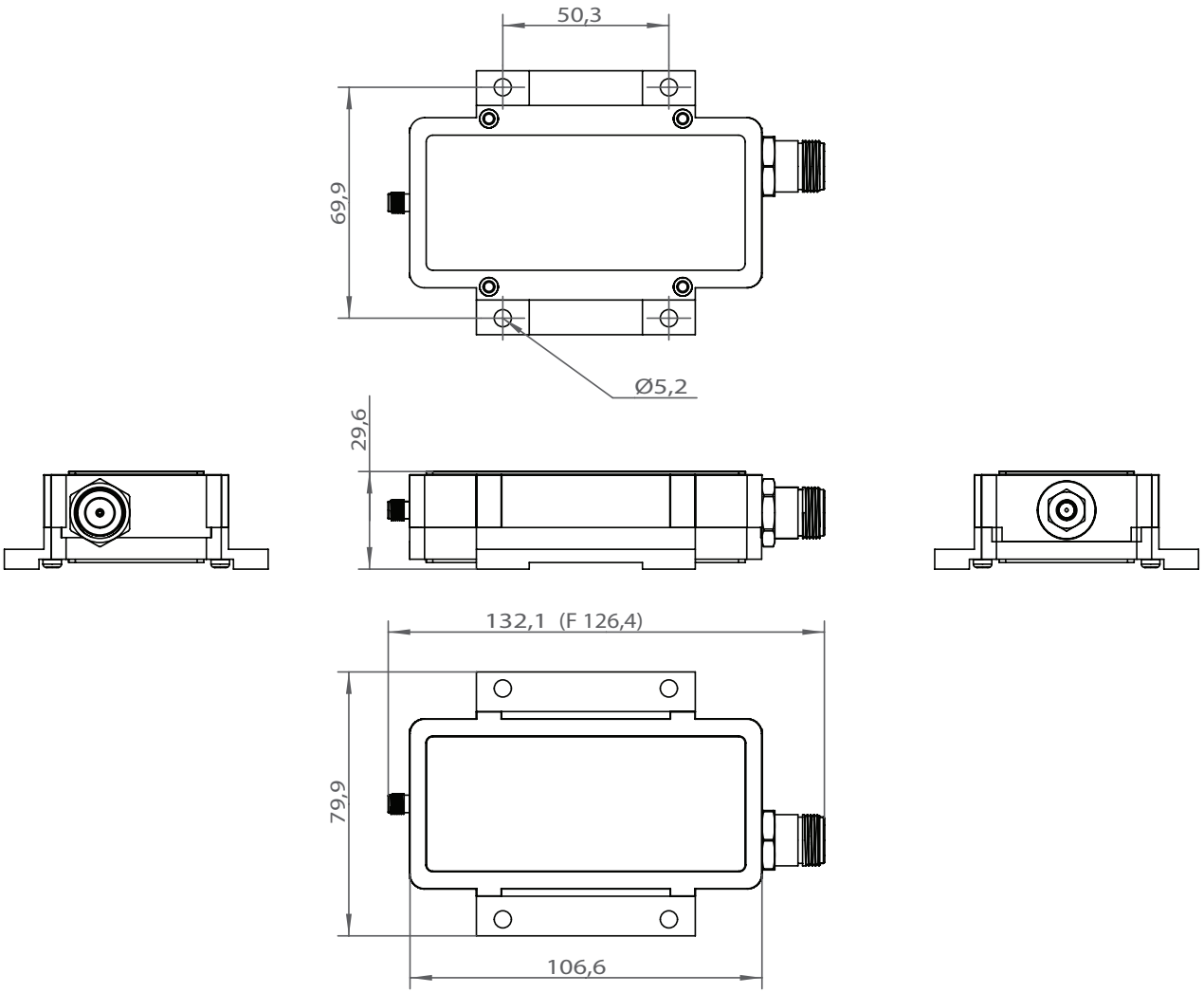
Technical Drawing



Designed and Manufactured IN SWEDEN

Professional Satcom Frequency Converters & Components. All products are fully CE and RoHS complient and every unit includes full documentation of performance tests and quality control. Please contact sales@smw.se to configure or customize the unit to your needs. Visit smw.se or scan QR code to see our full product range and request a quote.

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