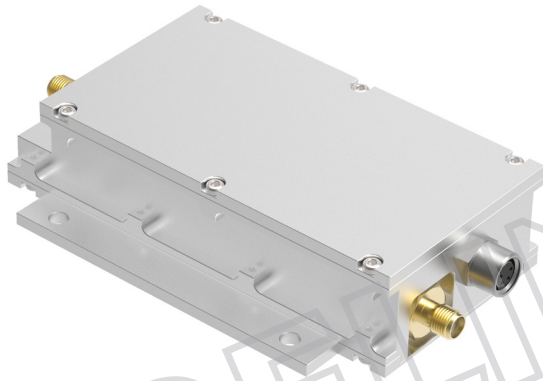


AESA Ka-Band PLL BDC modular

Key features



- Available for Ku- & Ka-Bands
- LO / Sub-band switchable
- Customizable design
- DVB-S2X compliant VSAT profile
- High P1dB and IP3
- Compact & Lightweight 25.4 mm (1 inch) height
- Alarm and Monitoring & Control via Modbus

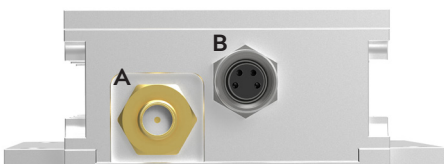
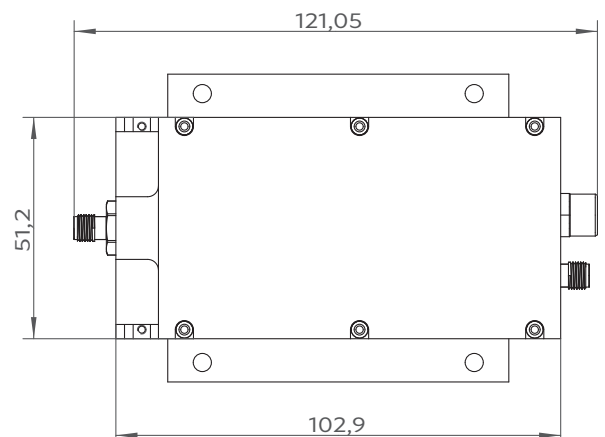
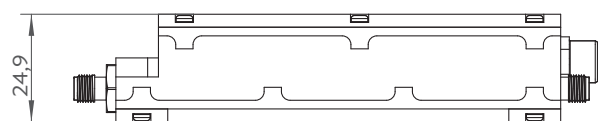
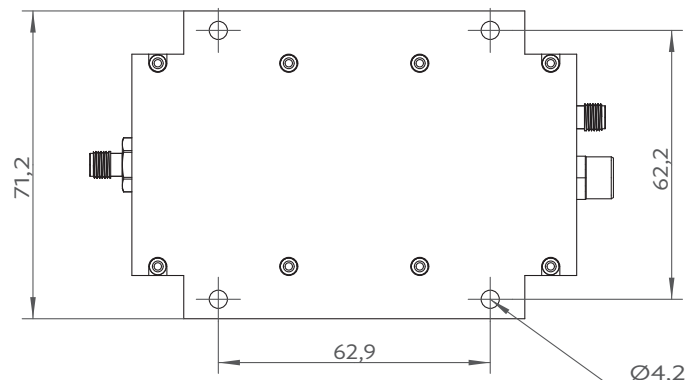
Description

AESA Modular – one of our most advanced products to date. Active Electronically Scanned Array (AESA) Frequency Converter Modules, designed for integration in AESA antennas.

In the era of New Space – LEO, MEO and GEO HTS satellite constellations and addressing the New Ground segment – AESA antennas are believed to be key.

As a well known manufacturer of high quality, high performance, cost effective Professional Satcom Block Downconverter products and related equipment, we wanted to apply our knowledge and experience in Block Frequency converters to the AESA market. We started development with a modular approach for both Uplink and Downlink Block Frequency converter products.

The result is a range of State-of-the-Art Frequency Blockdown converters (BDC) for both Ku- and Ka-Bands, featuring unique functionality.



Connector A (standard)

Type: SMA 50 Ω female
Functions: L-Band out, DC in, ext 10 MHz in

Connector B (standard)

Type: M8 female, 4 pin, A coded
Functions: Alarm and M&C

AESA Ka-Band PLL BDC modular

Technical specifications

GENERAL	Input Frequency	Within 17.20 to 22.20 GHz, 1 to 8 bands
	LO Frequency	Custom between 16.25 to 20.75 GHz, step size 50 MHz
	Output Frequency	950 to 2000 MHz, optional 950-2450 MHz
	DC Input	+11 to +26 V through output connector or separate connector (SMA), see switching voltage above
	Power consumption	6 W max.
	Dimensions	121 x 71 x 24.9 mm exclusive connectors and mounting flanges
	Weight	203 g
	Temperature Range	Storage and operating: -40 to +80°C
	Switching	Via Modbus M&C or legacy +11 to 26 V nom. & 22 kHz (example 13/15/18/24 V & 22 kHz tone for 8 Bands)
	22 kHz tone	Switching No tone/22 kHz \pm 4 kHz, Amplitude voltage 0.6 \pm 0.2 V, Duty cycle 40-60%
INTERFACES	Input connector	SMA-type 50 Ω female
	Output Connector	SMA-type 50 Ω , female
	Ext. 10 MHz Ref.	Sine wave, Level -10 to +10 dBm. Supplied through output connector.
	Alarm	Interface: Separate SMA-f connector (C), Open collector, Open on fault, 3.3 to 24 V, max. 200 mA Available Alarms: LO not locked, Total current consumption, Power detector outside limits, RF level outside limits
M&C	Via MODBUS RTU RS485 electrical interface, see sep. document for details. NOTE! Mates with M8 male connector. Cable: shielded min. CAT 5	
INTERNAL	Gain	20 dB nominal (15 dB to 30 dB by request)
	Flatness each band	\pm 1.5 dB max.
	Noise figure	15 dB / 8881 K max.
	Phase Noise	-32 dBc @ 10 Hz -62 dBc @ 100 Hz -80 dBc @ 1 kHz -83 dBc @ 10 kHz -93 dBc @ 100 kHz -112 dBc @ 1 MHz -120 dBc @ >10 MHz max.
	Group Delay	0.25 ns @ 50 MHz, 2 ns @ each band max.
	Image Rejection	30 dB @ LO < 19.25, 20 dB @ LO 20.25
	Input VSWR	1.7:1 max.
	Output P1dB	+10 dBm min. @ 20 dB gain
	Output IP3	+20 dBm min. @ 20 dB gain
	Output VSWR	1.7:1 max.
	LO reference	Auto switch External/Internal
	Internal LO ref.	\pm 1.5 ppm -40 to +80°C
	LO Leakage	-60 dBm max. @ input
Options	Customized LO frequencies (up to 8 LOs), Extended IF, Separate DC (SMA), Separate 10 MHz ref. input (SMA)	



Professional Satcom Frequency Converters & Components. All products are fully CE and RoHS compliant 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.

