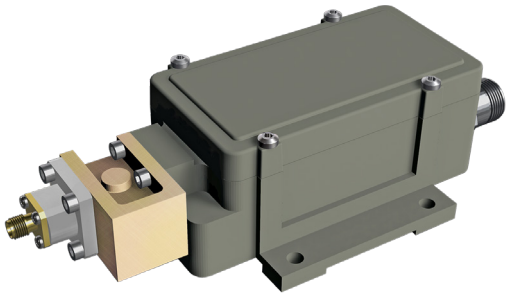
Ka BDC 17.30-22.30 GHz 1 Band

Key features



- Auto Switch between External or Internal reference
- High P1dB and IP3
- Excellent Phase noise meets all profiles of DVB-S2X.
- Customized LO as option
- Wide operating temperature range
- Alarm and Monitoring & Control as option

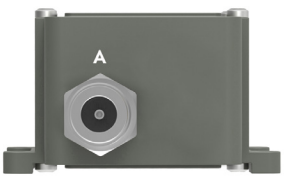
M&C monitoring and control interface

DVB S2X

Description

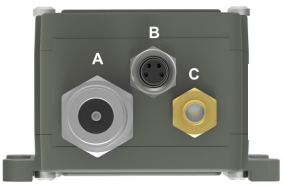
The Ka-Band Singleband BDC is the choice when you need to receive only one sub-band within the frequency range of 17.30 to 22.30 GHz and want to combine with a LNA or already have a LNA. As an option the SMW M&C give you the possibility to cascade several units in a Modbus RTU RS485 network for Alarm and Monitoring & Control functionality.

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 connectors (optional)



Connector B (optional)
Type: M8 female, 4 pin, A-coded
Functions: Alarm and M&C

Connector B (optional)



1 = Alarm open collector (max. 200 mA) or optionally DC input.
2 = A pos+ RS485
3 = B neg- RS485
4 = Common (GND)
5 = Shield

Connector C (optional)
Type: SMA female only
Functions: Ext. 10 MHz in and/or DC input

Explore our full product range in this category

Technical specifications are typical, for specific part number specifications, please contact us. Specifications are subject to change without prior notice. Products from Swedish Microwave AB are made for commercial use.
Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se

Rev. 2501

Ka BDC 17.30-22.30 GHz 1 Band

Technical specifications

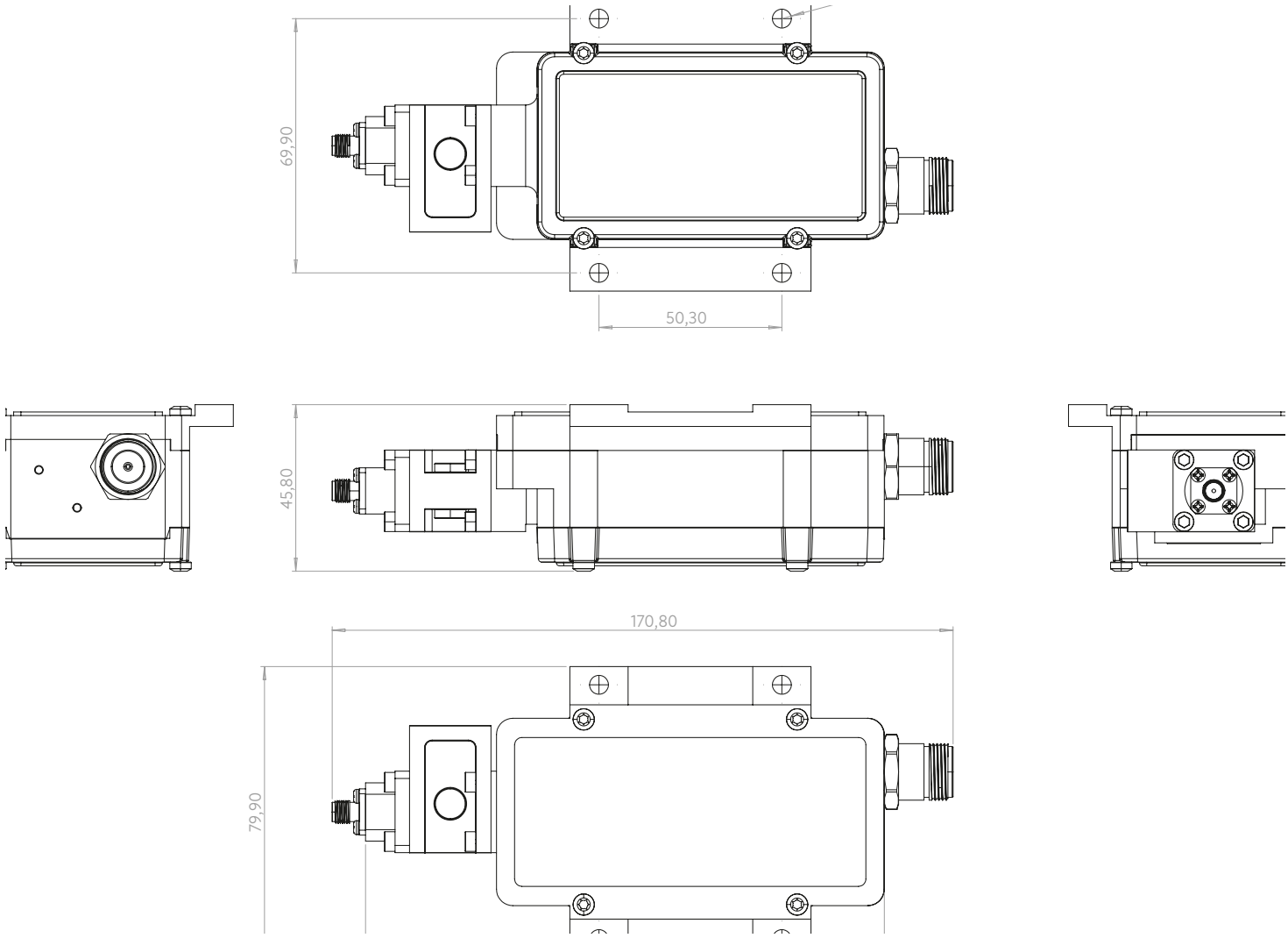
	MODEL/LO	16.35	16.75	17.20	17.25	18.20	18.25	18.75	19.20	19.25	20.20	20.25
INPUT	Input freq. GHz	17.30-18.30	17.70-18.70	18.20-19.20	18.20-19.20	19.20-20.20	19.20-20.20	19.70-20.20	20.20-21.20	20.20-21.20	21.20-22.20	21.20-22.20
	IF MHz	950-1950	950-1950	1000-2000	950-1950	1000-2000	950-1950	950-1450	1000-2000	950-1950	1000-2000	950-1950
	Input	SMA female 50Ω										
	DC Input	+12 to +26 V through output connector or separate SMA connector (optional), power consumption 5W max.										
	Input VSWR	1.9:1 max. with Isolator (included)										
INTERNAL	LO ref.	Auto LO ref. External 10 MHz ref / Internal ±2.5 ppm -40 to +80°C										
	External LO ref.	Sine Wave, Sine wave, Level -10 to +10 dBm. Supplied through output connector.										
	LO Leakage	-60 dBm max. @ RF input, -40 dBm max. @ IF output										
	Gain	30 to 60 dB typ. 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. full band										
	Noise figure	2 to 4 dB, depending on gain										
	Phase Noise	-35 dBc @ 10 Hz -65 dBc @ 100 Hz -80 dBc @ 1 kHz -85 dBc @ 10 kHz -95 dBc @ 100 kHz -112 dBc @ >1 MHz typ.										
	Integrated Phase Noise Model 19.20/19.25	Single sideband phase noise integrated over the bandwidth from 10 Hz to 16 kHz relative to carrier center frequency: < 3.4° RMS (two-sided value <4.8° RMS).										
	Group delay	± 1ns max.										
	Image Rejection	30 dB min.										
OUTPUT	IF output	950-1950 MHz or 1000-2000 MHz, (950-2250 MHz optional)										
	Output P1dB	+ 5 dBm min. @ 30 to 40 dB gain, +15 dBm min. @ 45 to 60 dB gain										
	Output IP3	+15 dBm min. @ 30 to 40 dB gain, +25 dBm min. @ 45 to 60 dB gain										
	Output VSWR	1.7:1 typ.										
	Output Connector	N-type 50Ω , SMA-type 50Ω or F-type 75Ω										
GENERAL	Alarm functions (optional)	Sum alarm, set via M&C to alarm in any combination of: LNA failure, Total current, LO lock (Ext/Int/n/a), signal power high/low, Supply voltage low. Open collector 3.3 to 28 V, max. 200 mA (pull-up 10 k Ohm at host side), pin 1 in M8 connector.										
	M & C functions (optional)	Via MODBUS RTU RS485 electrical interface, see document Monitoring_and_Control_technical_interface for details. NOTE! Mates with M8 male connector/Cable, use only shielded cables										
	Dimensions	171 x 80 x 46 mm (N-connectors), including isolator										
	Weight	418 g (N-connector) including isolator										
	MTBF	MTBF as per MIL-HDBK-217F Notice 2: Environmental Condition GF (Ground Fixed): >690000 hours, Environmental Condition AIC (Airborne, Inhabited, Cargo): >360000 hour, Quality level: Commercial, Temperature 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 Alarm and Monitoring & Control Customized gain Customized LO Extended IF Input frequency from 17.20 GHz										

Technical specifications are typical, for specific part number specifications, please contact us. Specifications are subject to change without prior notice. Products from Swedish Microwave AB are made for commercial use.
Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se

Rev. 2501

Ka BDC 17.30-22.30 GHz 1 Band

Technical Drawing



Designed and Manufactured IN SWEDEN

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

Technical specifications are typical, for specific part number specifications, please contact us. Specifications are subject to change without prior notice. Products from Swedish Microwave AB are made for commercial use.
Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se