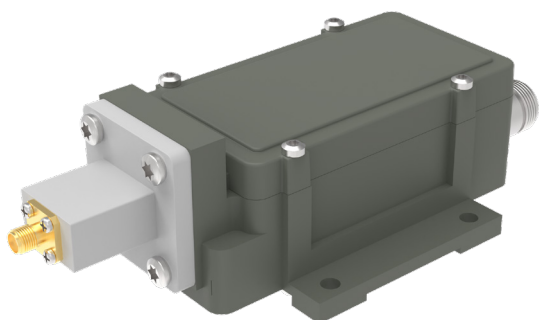


Ku BDC 10.70-12.75 GHz 2-4 Band

Key features



- Excellent Phase Noise
- Auto switch between External or Internal reference
- Wide operating temperature range
- High P1dB and IP3
- Alarm and Monitoring & Control as option
- Gain 20 to 60 dB on request

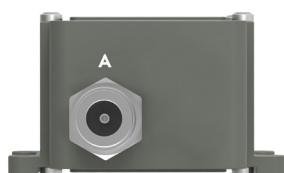


Description

The Ku-Band Multiband BDC is the choice when you need to switch between 2 to 4 sub-bands within the frequency range of 10.70 to 12.75 GHz and want to combine with a LNA or already have a LNA.

An preferred option is Alarm and Monitoring & Control via Modbus RS485, for surveillance of the most important parameters and some adjustments. The configurable Alarm output alerts you if something goes wrong with the signal reception or if the external reference fails.

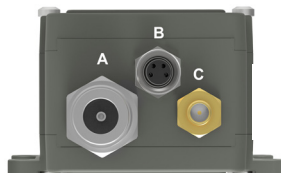
BDC connector (standard)



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



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Ku BDC 10.70-12.75 GHz 2-4 Band

Technical specifications

Parameter		
MODELS	Freq. GHz	9.75, 10.00, 10.25, 10.50, 10.60, 10.75, 10.80, 10.90, 11.00, 11.05, 11.20, 11.25, 11.30 GHz
	LO frequencies	Multiband Any combination of above LOs, 2-4 Bands, examples next page
	Band Switching	13/15/18 V and 22 kHz tone, (24 V as option)
INPUT	Input connector	SMA-female 50Ω
	Frequency range	Within 10.70 to 12.75 GHz
	DC Input	nom. +12 to +24 V (11V min., 26V max.) through output connector or separate connector (SMA). 5W max. See table next page
	Input VSWR	2.3:1 typ.
INTERNAL	LO ref.	Auto switch External 10 MHz ref / Internal ±2.5 ppm -40 to +80°C
	Ext. 10 MHz ref.	Sinus wave, input level -10 dBm to +10 dBm through output connector or optionally via separate SMA connector.
	LO Leakage	-60 dBm max. @ RF input
	Gain	By request, 20 to 60 dB (factory programmable)
	Gain variation over 24h	±0.1 dB @ 23°C
	Flatness	± 1.5 dB max. each band
	Noise figure	3.0 dB / 289 K typ. @ 60 dB gain configuration, increasing to appr. 20 dB / 28710 K @ 20 dB configuration.
	Phase Noise	10 Hz -35dBc/Hz • 100 Hz -65dBc/Hz • 1 kHz -82dBc/Hz • 10 kHz -86dBc/Hz • 100kHz -95dBc/Hz • 1MHz -120dBc/Hz (max.)
	Image Rejection	20 dB min.
OUTPUT	Group delay	± 1ns max.
	IF output range	950-2150 MHz
	Output P1dB	+ 5 dBm min. @ 20 to 40 dB gain, +15 dBm min. @ 40 to 60 dB gain
	Output IP3	+15 dBm min. @ 20 to 40 dB gain, +25 dBm min. @ 40 to 60 dB gain
	Output VSWR	1.7:1 max. (N and SMA connector), 2.3:1 max. (F connector)
GENERAL	Output Connector	N-type 50Ω , SMA-type 50Ω or F-type 75Ω
	Dimensions	166 x 80 x 48 mm
	Weight	425 g
	Temperature range	Storage and operating: -40 to +80°C, -40 to +176°F
OPTIONS	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
	Options	- Separate SMA connector for DC input - Alarm and Monitoring & Control - WR 75 input (without SMA transition) - Custom number of bands (2 to 8 bands) - Custom LOs - Custom input frequencies

Ku BDC 10.70-12.75 GHz 2-4 Band

Model examples

2-BAND				
Type	Band	LO	Ku-band (GHz)	L-band (MHz)
B	1	10.00	10.95-11.70	950-1700
	2	10.75	11.70-12.75	950-2000
C	1	9.75	10.70-11.70	950-1950
	2	10.75	11.70-12.75	950-2000
E	1	9.75	10.70-11.70	950-1950
	2	10.60	11.70-12.75	1100-2150
W	1	10.50	11.45-11.95	950-1450
	2	11.30	12.25-12.75	950-1450

SWITCHING			
Option	Band	Voltage	Tone
V	1	13 V	
	2	18 V	
T	1	12-20 V	
	2	12-20 V	22 kHz

DC Voltage tolerances	
Nominal Voltage	Tolerance
13 V	11.5 to 14.5 V
18 V	16.0 to 20.0 V

DC Voltage tolerances	
Nominal Voltage	Tolerance
13 V	11.5 to 17.5 V
24 V	18.0 to 26.0 V

22 kHz switching	
Tolerance	22 kHz $\pm$ 4 kHz
Amplitude Voltage	600 mV $\pm$ 200mV
Duty cycle	40 to 60 %

3-BAND				
Type	Band	LO	Ku-band (GHz)	L-band (MHz)
H	1	10.00	10.95-11.70	950-1700
	2	10.75	11.70-12.25	950-1500
	3	11.30	12.25-12.75	950-1450
U	1	9.75	10.70-11.45	950-1700
	2	10.50	11.45-12.20	950-1700
	3	11.25	12.20-12.75	950-1500
T	1	9.75	10.70-11.70	950-1950
	2	10.75	11.70-12.25	950-1500
	3	11.30	12.25-12.75	950-1450

SWITCHING			
Option	Band	Voltage	Tone
VT	1	13 V	
	2	13 V	22 kHz
	3	18 V	
V	1	13 V	
	2	15 V	
	3	18 V	
V 24V	1	13 V	
	2	18 V	
	3	24 V	

DC Voltage tolerances	
13 V	11.5 to 13.9 V
15 V	14.2 to 16.3 V
18 V	16.6 to 20.0 V
24 V	20.3 to 26.0 V

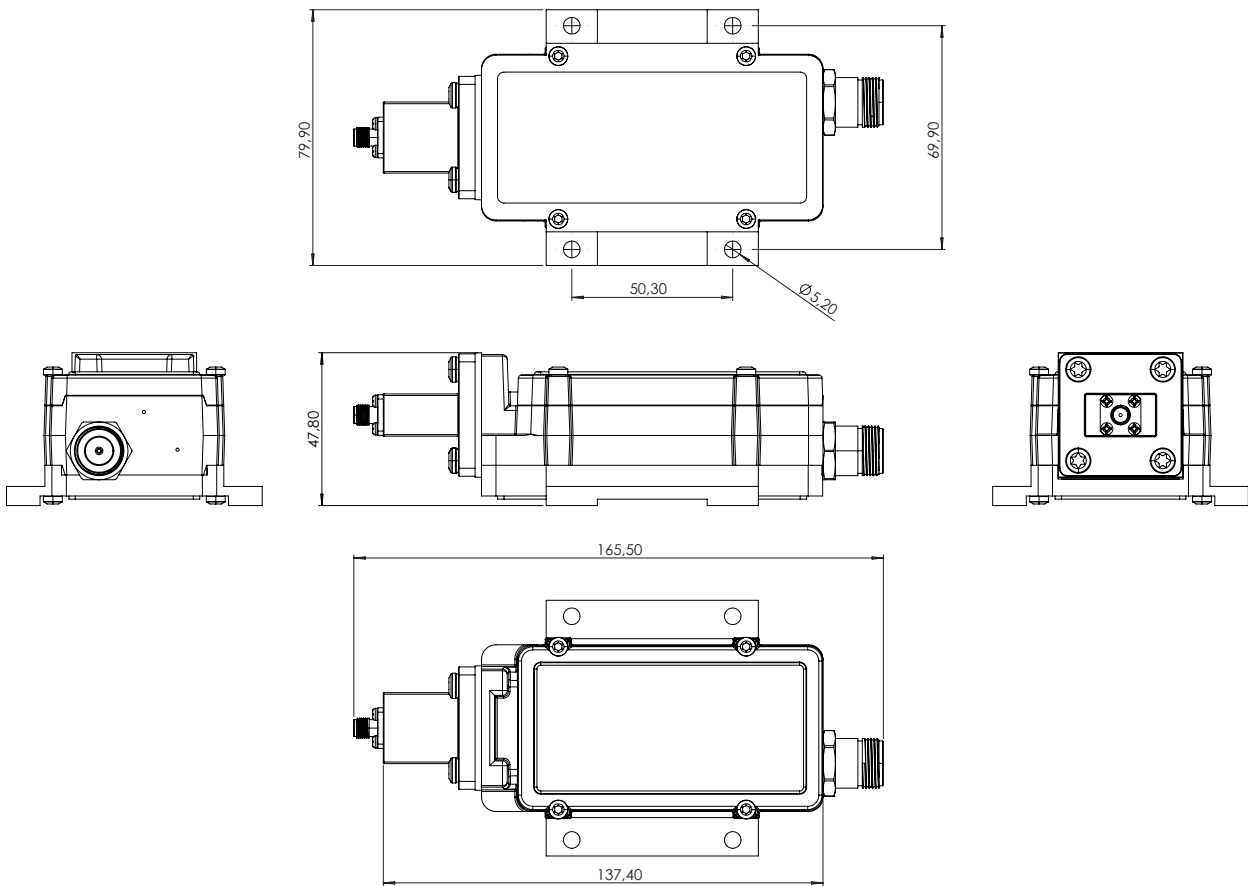
4-BAND				
Type	Band	LO	Ku-band (GHz)	L-band (MHz)
N	1	9.75	10.70-10.95	950-1200
	2	10.00	10.95-11.70	950-1700
	3	10.75	11.70-12.25	950-1500
	4	11.30	12.25-12.75	950-1450
O	1	9.75	10.70-11.20	950-1450
	2	10.25	11.20-11.70	950-1450
	3	10.75	11.70-12.20	950-1450
	4	11.25	12.20-12.75	950-1500
R	1	10.00	10.95-11.70	950-1700
	2	10.75	11.70-12.25	950-1500
	3	11.30	12.25-12.75	950-1450
	4	9.75	10.70-11.70	950-1950
V	1	9.75	10.70-11.50	950-1750
	2	10.00	10.95-11.75	950-1750
	3	10.50	11.45-12.25	950-1750
	4	11.05	12.00-12.80	950-1750

SWITCHING			
Option	Band	Voltage	Tone
VT	1	13 V	
	2	13 V	22 kHz
	3	18 V	
	4	18 V	22 kHz

DC Voltage tolerances	
Nominal Voltage	Tolerance
13 V	11.5 to 14.5 V
18 V	16.0 to 20.0 V

Ku BDC 10.70-12.75 GHz 2-4 Band

Technical Drawing



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.

