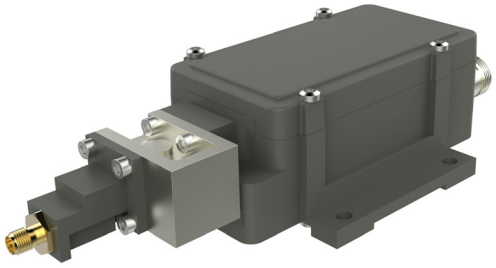
2-Band PLL BDC

SMW SWEDISH MICROWAVE AB

Professional Ka-Band BDC with Low Phase Noise



The Ka-Band PLL BDC is a family of 2-band BDC that covers the wide frequency range 17.3-22.2 GHz with several sub bands and LO frequencies.
The BDC features Low Phase Noise meets all profiles of DVB-S2X.

Features

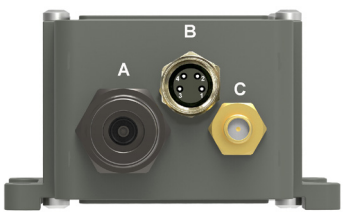
- ***NEW! Optional Alarm output and M&C interface***
- ***Auto switching LO ref: Internal / Ext. 10 MHz***
- ***Frequency range 17.30-22.20 GHz***
- ***Several LO frequencies available***
- ***Low Phase Noise***
- ***High P1dB and IP3***
- ***Compact size and light weight***
- ***Wide operating temperature range***

TECHNICAL SPECIFICATIONS

MODEL:	16.80 / 17.40	17.20 / 18.20	17.25 / 18.25	17.45 / 18.25	18.20 / 19.20	18.25 / 19.25	19.20 / 20.20	19.25 / 20.25
Input Freq. Band 1	17.75 - 18.75 GHz	18.20 - 19.20 GHz	18.20 - 19.20 GHz	18.40 - 19.20 GHz	19.20 - 20.20 GHz	19.20 - 20.20 GHz	20.20 - 21.20 GHz	20.20 - 21.20 GHz
Input Freq. Band 2	18.35 - 19.35 GHz	19.20 - 20.20 GHz	19.20 - 20.20 GHz	19.20 - 20.20 GHz	20.20 - 21.20 GHz	20.20 - 21.20 GHz	21.20 - 22.20 GHz	21.20 - 22.20 GHz
LO Frequency	16.80 / 17.40 GHz	17.20 / 18.20 GHz	17.25 / 18.25 GHz	17.45 / 18.25 GHz	18.20 / 19.20 GHz	18.25 / 19.25 GHz	19.20 / 20.20 GHz	19.25 / 20.25 GHz
Output Freq. Band 1	950 - 1950 MHz	1000 - 2000 MHz	950 - 1950 MHz	950 - 1750 MHz	1000 - 2000 MHz	950 - 1950 MHz	1000 - 2000 MHz	950 - 1950 MHz
Output Freq. Band 2	950 - 1950 MHz	1000 - 2000 MHz	950 - 1950 MHz	950 - 1950 MHz	1000 - 2000 MHz	950 - 1950 MHz	1000 - 2000 MHz	950 - 1950 MHz
Switching Voltage	Band 1: 13 V (11.0 - 14.9 V) Band 2: 18 V (15.2 - 26.0 V)							
Gain	Mid gain, 30 to 40 dB in 5 dB steps				High gain, 45 dB to 60 dB in 5 dB steps			
Flatness	±0.4 dB max. within 30 MHz ±2 dB max. over each band							
Noise Figure / Noise Temperature	4 dB / 438 K typ.				2 dB / 170 K @ 60dB gain typ.			
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.							
Image Rejection	30 dB min.							
Input Connector	SMA-type 50Ω							
Input VSWR	1.9:1 max. with waveguide isolator (included)							
LO Leakage	-60 dBm @ RF input							
LO reference	Auto switch External / Internal							
Internal Ref. Stability	±2.5 ppm -40 to +60°C (±3.5 ppm -40 to +80°C)							
External 10 MHz Ref.	Sine wave, Level: -10 to +10 dBm. Supplied through output connector							
Output P1dB	+5 dBm typ.				+15 dBm typ.			
Output IP3	+15 dBm typ.				+25 dBm typ.			
Output VSWR	1.7:1 typ.							
Output Connector	F-type 75Ω / N-type 50Ω Option SMA-type 50Ω							
DC Input	See switching voltage above							
Power Consumption	5 W max.							
Temperature Range	Storage and operating: -40 to +80°C							
Dimensions	178 x 80 x 46 mm (F- & SMA-connectors) 184 x 80 x 46 mm (N-connectors) (for drawing, see www.smw.se)							
Weight	326 g (F- & SMA-connectors) 345 g (N-connectors)							
Optional Alarm	Interface: Separate M8-connector (B), 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							
Optional M&C	Via MODBUS RTU RS485 electrical interface, see sep. document for details. NOTE! Mates with M8 male connector. Cable: shielded min. CAT5							
Options	Customized LO, gain and variation, separate DC input, separate 10 MHz ref. input (SMA-f), Extended IF, Alarm, M&C,							

Rev. 12-21-6E

BDC rear connectors



Connector B (opt.)

1 = Alarm. open coll.
2 = A pos+, RS485
3 = B neg-, RS485
4 = Common (GND)
5 = Shield

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

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

Connector C (optional)
Type: SMA-f only
Functions: Ext. 10 MHz in or DC input

Above parameters are generic product family values. For part number specific min./max. values, please consult us.
Specifications are subject to change without notice. Products from Swedish Microwave AB are made for commercial use.