

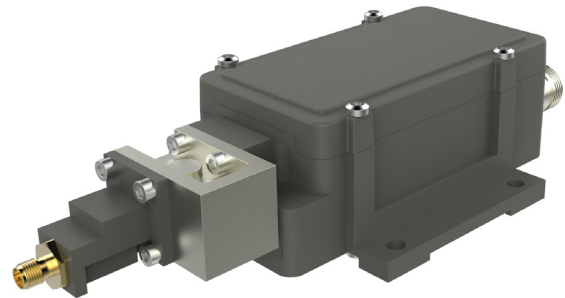
Multiband PLL BDC



3 to 8-Band switchable
BDC, 17.30-22.30 GHz

Features

- **NEW!** Optional Alarm output and M&C interface
- Auto switching LO ref: Internal / Ext. 10 MHz
- Low Phase Noise
- High P1dB and IP3
- Wide operating temperature range
- Customizable switching, Voltage/Tone

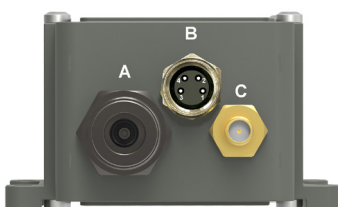


TECHNICAL SPECIFICATIONS

MODEL:	Multiband BDC	
Input Frequency	3 to 8 Bands, custom between 17.30 to 22.30 GHz, overlap possible	
LO Frequency	Custom between 16.25 to 20.75 GHz	
Output Frequency	950 to 1950 MHz, or 1000-2000 MHz	
Switching	+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 ± 4 kHz, Amplitude voltage 0.6 ± 0.2 V, Duty cycle 40-60%	
Gain	Mid gain, 30 dB to 40 dB in 5 dB steps	High gain, 45 dB to 60 dB in 5 dB steps
Flatness each band	± 2 dB max.	
Noise figure	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 50 Ω female	
Input VSWR	1.9:1 with isolator (standard)	
Output P1dB	+5 dBm min	+15 dBm min.
Output IP3	+15 dBm min.	+25 dBm min.
Output VSWR	1.7:1 typ.	
Output Connector	N-type 50 Ω standard, Option: SMA-type 50 Ω or F-type 75 Ω , female	
LO reference	Auto switch External/Internal	
Internal LO ref.	± 2.5 ppm -20 to +70°C (± 3.5 ppm -40 to +80°C)	
External 10 MHz Ref.	Sine Wave, Sine wave, Level -10 to +10 dBm. Supplied through output connector.	
LO Leakage	-60 dBm max.	
DC Input	+11 to +26 V through output connector or separate connector (SMA), see switching voltage above	
Power consumption	5W max.	
Dimensions	178 x 80 x 46 mm (SMA-connectors), 184 x 80 x 46 mm (N-connectors), including isolator	
Weight	399 g (F- & SMA-connector), 418 g (N-connector)	
Temperature Range	Storage and operating: -40 to +80°C	
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. CAT 5	
Other Options	Customized LO frequencies (up to 8 LOs), Separate DC (SMA), Separate 10 MHz ref. input (SMA), Customized gain	

Rev. 03-22-7D

BDC rear connectors



Connector B (opt.)



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

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

Examples Multiband

3-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.70-18.70	16.75	950-1950	13 V (11.5 to 14.9 V)	1
2	18.45-19.45	17.50	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 26.0 V)	3
1	17.70-18.70	16.75	950-1950	13 V (11.5 to 14.9 V)	1
2	18.70-19.70	17.75	950-1950	13 V + 22 kHz tone	2
3	19.70-20.70	18.75	950-1950	18 V (15.2 to 26.0 V)	3
1	17.30-18.30	16.35	950-1950	13 V (11.5 to 14.9 V)	1
2	18.30-19.30	17.35	950-1950	13 V + 22 kHz tone	2
3	19.30-20.30	18.35	950-1950	18 V (15.2 to 26.0 V)	3
1	18.20-19.20	17.25	950-1950	13 V (11.5 to 14.9 V)	1
2	19.20-20.20	18.25	950-1950	13 V + 22 kHz tone	2
3	20.20-21.20	19.25	950-1950	18 V (15.2 to 26.0 V)	3
1	19.20-20.20	18.25	950-1950	13 V (11.5 to 14.9 V)	1
2	20.20-21.20	19.25	950-1950	13 V + 22 kHz tone	2
3	21.20-22.20	20.25	950-1950	18 V (15.2 to 26.0 V)	3
1	17.50-18.50	16.55	950-1950	13 V (11.5 to 14.9 V)	1
2	18.20-19.20	17.25	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 26.0 V)	3
1-3	Customized	Cust.	950-1950	Customized	1-3

4-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.20-18.20	16.25	950-1950	13 V (11.5 to 14.9 V)	1
2	18.20-19.20	17.25	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 26.0 V)	3
4	20.20-21.20	19.25	950-1950	18 V + 22 kHz tone	4
1	17.70-18.70	16.75	950-1950	13 V (11.5 to 14.9 V)	1
2	18.70-19.70	17.75	950-1950	13 V + 22 kHz tone	2
3	19.70-20.70	18.75	950-1950	18 V (15.2 to 26.0 V)	3
4	20.70-21.70	19.75	950-1950	18 V + 22 kHz tone	4
1	18.20-19.20	17.25	950-1950	13 V (11.5 to 14.9 V)	1
2	19.20-20.20	18.25	950-1950	13 V + 22 kHz tone	2
3	20.20-21.20	19.25	950-1950	18 V (15.2 to 26.0 V)	3
4	21.20-22.20	20.25	950-1950	18 V + 22 kHz tone	4
1-4	Customized	Cust.	950-1950	Customized	1-4

6-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.30-18.30	16.35	950-1950	13 V (11.5 to 14.9 V)	1
2	18.00-19.00	17.05	950-1950	13 V + 22 kHz tone	2
3	18.70-19.70	17.75	950-1950	18 V (15.2 to 20.0 V)	3
4	19.40-20.40	18.45	950-1950	18 V + 22 kHz tone	4
5	20.10-21.10	19.15	950-1950	24 V (20.3-26.0 V)	5
6	20.80-21.30	19.85	950-1450	24 V + 22 kHz tone	6
1-6	Customized	Cust.	950-1950	Customized	1-6

5-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.20-18.20	16.25	950-1950	13 V (11.5 to 14.9 V)	1
2	18.20-19.20	17.25	950-1950	13 V + 22 kHz tone	2
3	19.20-20.20	18.25	950-1950	18 V (15.2 to 20.0 V)	3
4	20.20-21.20	19.25	950-1950	18 V + 22 kHz tone	4
5	21.20-22.20	20.25	950-1950	24 V (20.3-26.0 V)	5
1	17.50-18.50	16.55	950-1950	13 V (11.5 to 13.9 V)	1
2	18.40-19.40	17.45	950-1950	13 V + 22 kHz tone	2
3	19.30-20.30	18.35	950-1950	15 V (14.2 to 16.3 V)	3
4	20.20-21.20	19.25	950-1950	15 V + 22 kHz tone	4
5	21.10-22.10	20.15	950-1950	18 V (16.6 to 26.0 V)	5
1-5	Customized	Cust.	950-1950	Customized	1-5

8-BAND					
Band	Input freq. (GHz)	LO	L-band (MHz)	Voltage/Tone Switching	SMW M&C switch PDU #
1	17.20-18.20	16.25	950-1950	13 V (11.5 to 13.9 V)	1
2	17.85-18.85	16.90	950-1950	13 V + 22 kHz tone	2
3	18.50-19.50	17.55	950-1950	15 V (14.2 to 16.3 V)	3
4	19.15-20.15	18.20	950-1950	15 V + 22 kHz tone	4
5	19.80-20.80	18.85	950-1950	18 V (16.6 to 20.0 V)	5
6	20.45-21.45	19.50	950-1950	18 V + 22 kHz tone	6
7	21.10-22.10	20.15	950-1950	24 V (20.3-26.0 V)	7
8	21.70-22.30	20.75	950-1550	24 V + 22 kHz tone	8
1-8	Customized	Cust.	950-1950	Customized	1-8

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