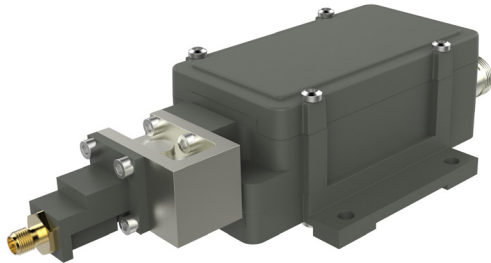


2-Band PLL BDC



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

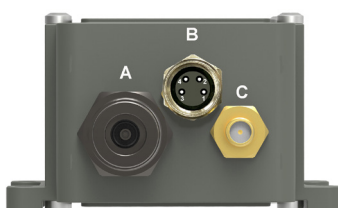
TECHNICAL SPECIFICATIONS

| 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, | | | | | | | |

Above parameters are generic product family values. For part number specific min./max. values, please consult us.

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