

Single band PLL LNB

Key features



- Auto LO ref Ext. 10 MHz / Internal ± 2.5 ppm
- 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



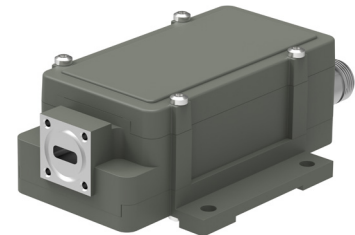
Description

The Ka-Band Singleband PLL LNBs are the choice for reception of one sub-band in the Ka Receive band 17.30 to 22.30 GHz.

SMW also offers 2 and up to 8 Multi-LO/sub-band switchable models, Ka Transmit band monitoring LNBs/BDCs/TLTs and LNA+BDCs systems for up to full Ka-Band simultaneous reception, with the same excellent performance and useful features.

Options include the daisy-chainable SMW M&C interface (RS-485/Modbus RTU), Sum alarm output, Customizable LOs,

IF range up to 2150 MHz, Enclosure with additional fixing point and Waveguide input isolator for exceptional input matching.

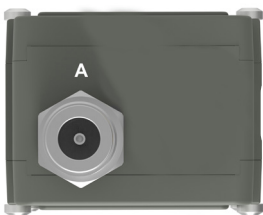


Optional enclosure fixing points



Optional Low loss isolator, std for LO 20.20 GHz and up VSWR 1.35:1 max.

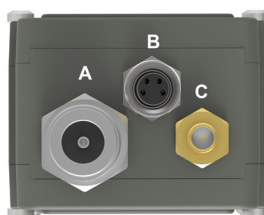
LNB connector (standard)



Connector A (standard)

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

LNB 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-f only
Functions: Ext. 10 MHz in and/or DC input

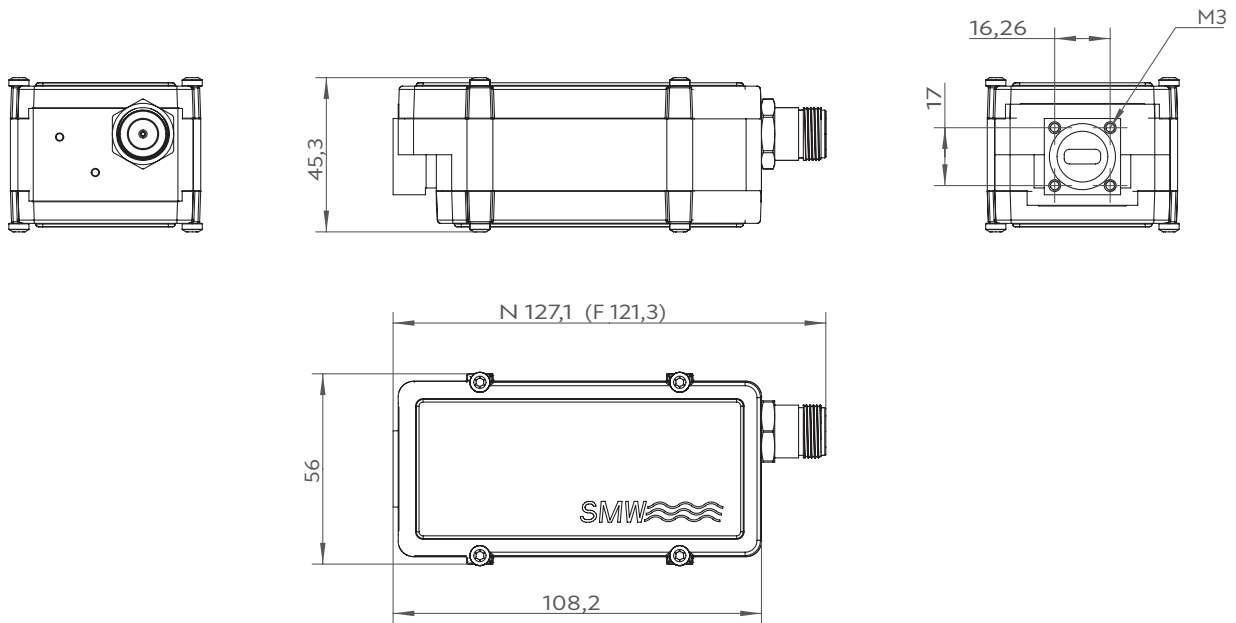
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Technical specifications

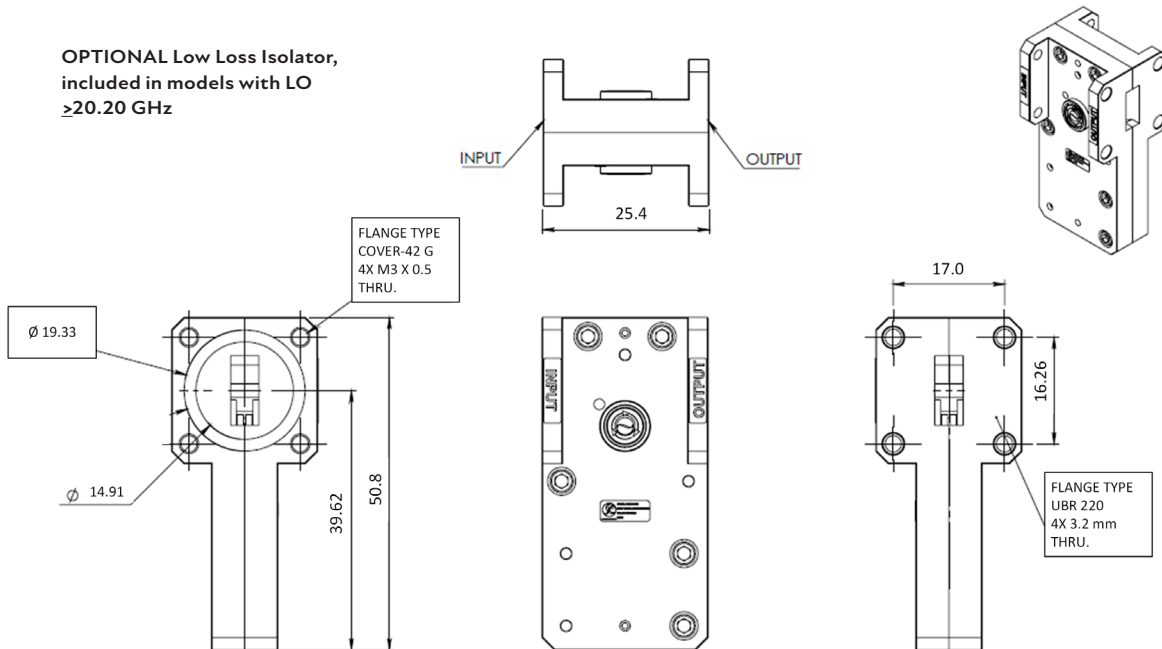
| | MODELS/LO | 16.35 | 16.75 | 17.20 | 17.25 | 18.20 | 18.25 | 18.75 | 19.20 | 19.25 | 20.20 | 20.25 |
|----------|-------------------|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| INPUT | Input freq. 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 | Flange PBR220, waveguide WR42 | | | | | | | | | | |
| | Pressurizable | 0.1 bar max. (option) | | | | | | | | | | |
| | DC Input | +11 to +26 V through output connector or separate SMA connector (optional), power consumption 5W max. | | | | | | | | | | |
| | Input VSWR | 2.3:1 typ., optional 1.35:1 max. with Low Loss Isolator (included @ LO \geq 20.20 GHz) | | | | | | | | | | |
| INTERNAL | LO ref. | Auto LO ref. External 10 MHz ref / Internal \pm 2.5 ppm -40 to +80°C | | | | | | | | | | |
| | External LO ref. | Sine wave, Level -10 to +10 dBm. Supplied through output connector. | | | | | | | | | | |
| | LO Leakage | -60 dBm max. @ waveguide input | | | | | | | | | | |
| | Gain | 60 dB typ. (55dB min.) | | | | | | | | | | |
| | Flatness | \pm 0.4 dB within 30 MHz, \pm 1.5 dB max. full band | | | | | | | | | | |
| | Noise figure | 1.3 dB to 1.5 dB typ., increases with input frequency | | | | | | | | | | |
| | 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. | | | | | | | | | | |
| OUTPUT | IF output | 950-1450, 950-1950 MHz or 1000-2000 MHz. Custom extended IF up to 2150 MHz. | | | | | | | | | | |
| | Output P1dB | +15 dBm min. | | | | | | | | | | |
| | Output IP3 | +25 dBm min. | | | | | | | | | | |
| | Output VSWR | 1.7:1 typ. | | | | | | | | | | |
| | Output Connector | N-type 50 Ω , SMA-type 50 Ω or F-type 75 Ω | | | | | | | | | | |
| GENERAL | Alarm (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 (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 CAT 5 cables | | | | | | | | | | |
| | Dimensions | 127x56x46 mm (N-connector, without Isolator), for other versions, please consult us. | | | | | | | | | | |
| | Weight | 354 g (N-connector) | | | | | | | | | | |
| | Temperature range | Storage and operating: -40 to +80°C, -40 to +176°F | | | | | | | | | | |
| | Miscellaneous | Enclosed conductive O-ring, mounting screws (M3 x 8) 4 pcs | | | | | | | | | | |
| 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 | | | | | | | | | | |

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Technical Drawing



OPTIONAL Low Loss Isolator,
included in models with LO
≥20.20 GHz



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

