

# Ka LNB 17.70-21.20 GHz 1-2 Band Wideband

## Key features



- External reference with fallback to Internal ref.
- Ultra Low Phase noise meets all profiles of DVB-S2X.
- 2-8 Band switchable as option
- Wide operating temperature range
- Alarm and Monitoring & Control as standard



### Description

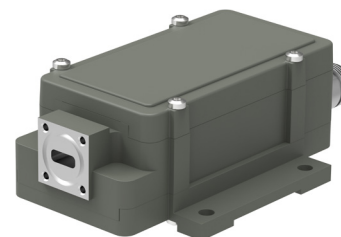
The Ka-Band wideband LNB is the choice for reception of one or two wide sub-bands in the Ka Receive band 17.70 to 21.20 GHz.

With an IF of 950-3450 MHz you cover 17.70 to 20.20 GHz or/and 18.70 to 21.20 GHz. The switchable 2-band and Ext ref. 100 MHz is optional.

SMW also offers Single band and 2 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.

Standard products include the daisy-chainable SMW M&C interface (RS-485/Modbus RTU) and Alarm output.

Optional Enclosure with additional fixing point and Waveguide input isolator for exceptional input matching.

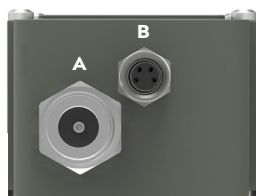


Optional enclosure fixing points



Optional Low loss isolator, VSWR 1.35:1 max.

#### LNB connectors (standard)



##### Connector A (standard)

Type: N-f, (option F-f or SMA-f)

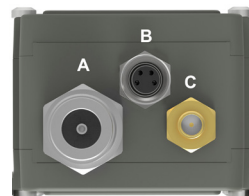
Functions: L-Band out, DC in, External 10 MHz in

##### Connector B (standard)

Type: M8 female, 4 pin, A-coded

Functions: Alarm and M&C

#### LNB connectors (optional)



##### Connector C (optional)

Type: SMA-f only

Functions: Ext. 10 MHz in and/or DC input  
(Ext. 100 MHz ref. as option)

#### Connector B (standard)



1 = Alarm open collector (max. 200 mA)  
or optionally DC input.

2 = A pos+ RS485

3 = B neg- RS485

4 = Common (GND)

5 = Shield



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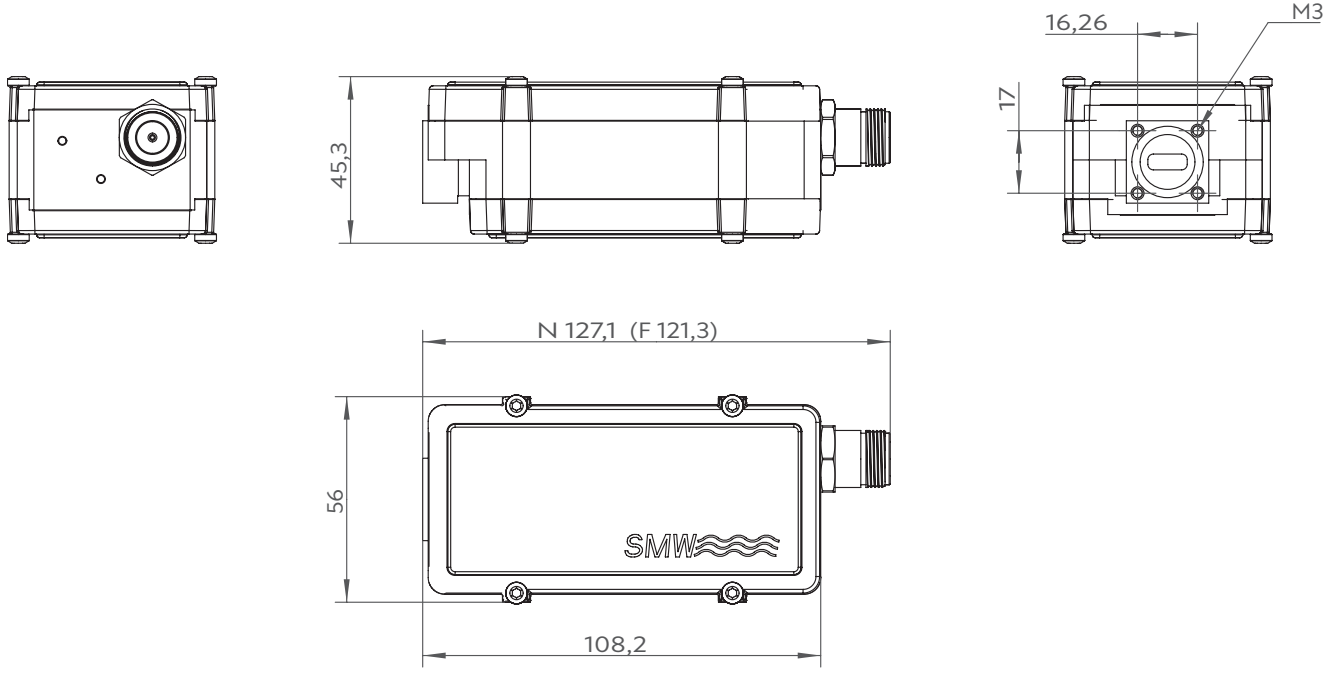
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## Technical specifications

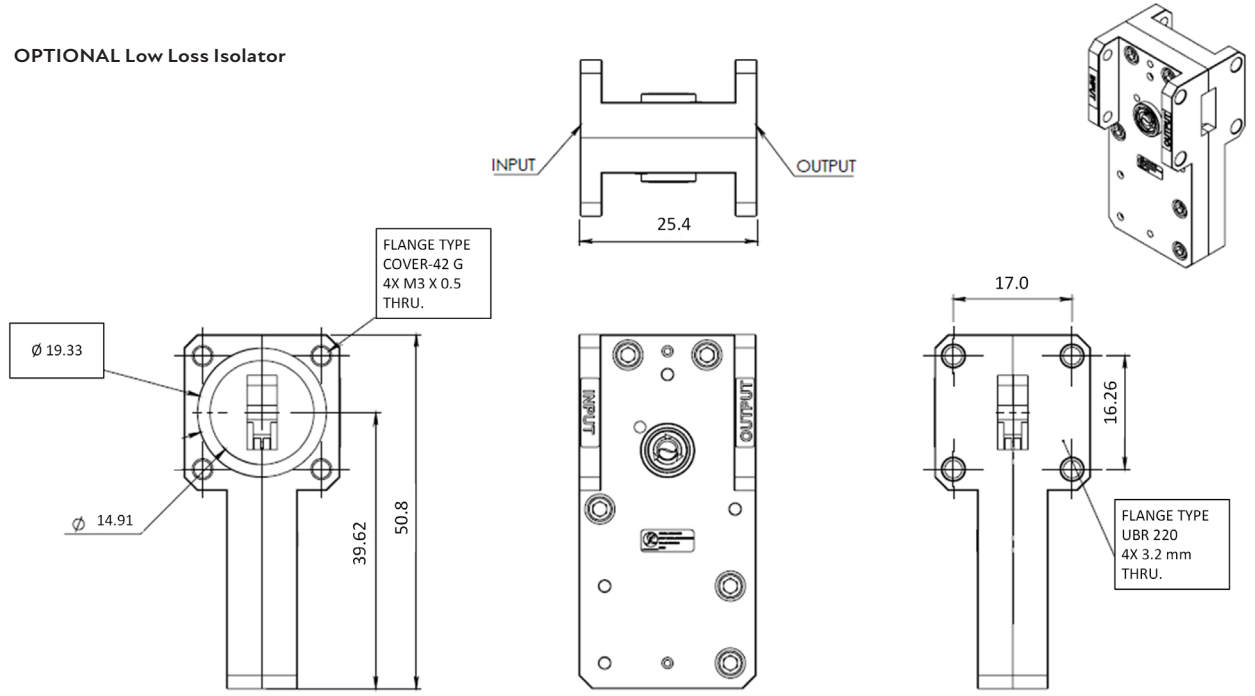
MODELS/LO	16.75 GHz	17.75 GHz	18.25 GHz
INPUT			
Input frequency	17.70 - 20.20 GHz	18.70 - 21.20 GHz	19.20-21.20 GHz
LO frequency	16.75 GHz	17.75 GHz	18.25 GHz
Input	Flange PBR220, waveguide WR42 / R 220		
Input max power	0 dBm instantaneous (not continuous)		
DC Input	+11 to +26 V through output connector or separate SMA connector (optional), power consumption 6W max. Optional Band switching: 13 (11.5 to 14.0V) / 18V (16.0 to 26 .0V) or 22 kHz Tone (optional via Monitoring & Control)		
Input VSWR	2.3:1 typ., optional 1.35:1 max. with Low Loss Isolator		
INTERNAL			
LO ref.	External 10 MHz ref. with fallback to Internal $\pm 30$ 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	55 dB typ.		
Flatness	$\pm 0.4$ dB within 30 MHz, $\pm 2.0$ dB max. full band		
Noise figure	1.3 dB / 101 K typ., 1.5 dB max.	1.4 dB / 110 K typ., 1.6 dB max.	
Phase Noise	-40 dBc @ 10 Hz -70 dBc @ 100 Hz -86 dBc @ 1 kHz -94 dBc @ 10 kHz -99 dBc @ 100 kHz -105 dBc @ 1 MHz -125 dBc @ >10 MHz max.		
Group delay	$\pm 1$ ns max.		
Out of band rejection	20 dB min.		
Image Rejection	30 dB min.	> 20 dB	> 20 dB
OUTPUT			
IF output	950 - 3450 MHz	950 - 3450 MHz	950-3000MHz
Output P1dB	+14 dBm min.		
Output IP3	+24 dBm min.		
Output VSWR	2.1:1 typ.		
Output Connector	N-type 50 $\Omega$ , option SMA-type 50 $\Omega$		
GENERAL			
Alarm	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 (pullup 10 k Ohm at host side), pin 1 in M8 connector.		
M&C	Via MODBUS RTU RS485 electrical interface, see document <a href="#">Monitoring and Control technical interface</a> for details. NOTE! Mates with M8 male connector/Cable, use only shielded CAT 5 cables		
Dimensions	127x56x46 mm (N-connector), 121x56x44 mm (SMA connector), without Low loss isolator		
Weight	345 g (N-connector), 326 g (SMA-connector)		
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		
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	<ul style="list-style-type: none"> <li>- 100 MHz reference instead of 10 MHz external reference.</li> <li>- Custom LO</li> <li>- Custom no of LO bands</li> <li>- Low loss isolator</li> <li>- Enclosure fixing points</li> <li>- Pressurizable 0.1 bar max.</li> </ul>		

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## Technical Drawing



**OPTIONAL Low Loss Isolator**



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](mailto:sales@smw.se) to configure or customize the unit to your needs. Visit [smw.se](http://smw.se) or scan QR code to see our full product range and request a quote.



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