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

M&C monitoring and control interface

DVB S2X

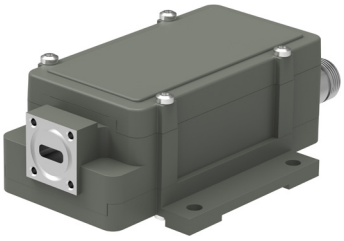
Description

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.

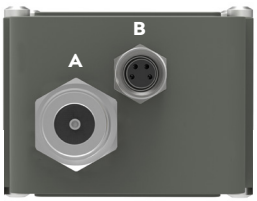
Optional Enclosure with additional fixing point and Waveguide input isolator for exceptional input matching.



Optional enclosure fixing points

Optional Low loss isolator,
VSWR 1.35:1 max.

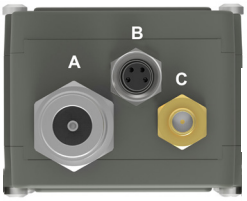
LNB connectors (standard)



Connector A (standard)
Type: N-female, (option SMA-female)
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-female 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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Rev. 2601

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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 ±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, -40dBm max. @ IF output		
	Gain	55 dB typ.		
	Gain variation over 24h	±0.1 dB @ 23°C		
	Flatness	±0.4 dB within 30 MHz, ±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	± 1ns 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 50Ω , option SMA-type 50Ω		
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 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), 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	- 100 MHz reference instead of 10 MHz external reference. - Custom LO - Custom no of LO bands - Low loss isolator - Enclosure fixing points - Pressurizable 0.1 bar max - Input frequency from 17.30 GHz		

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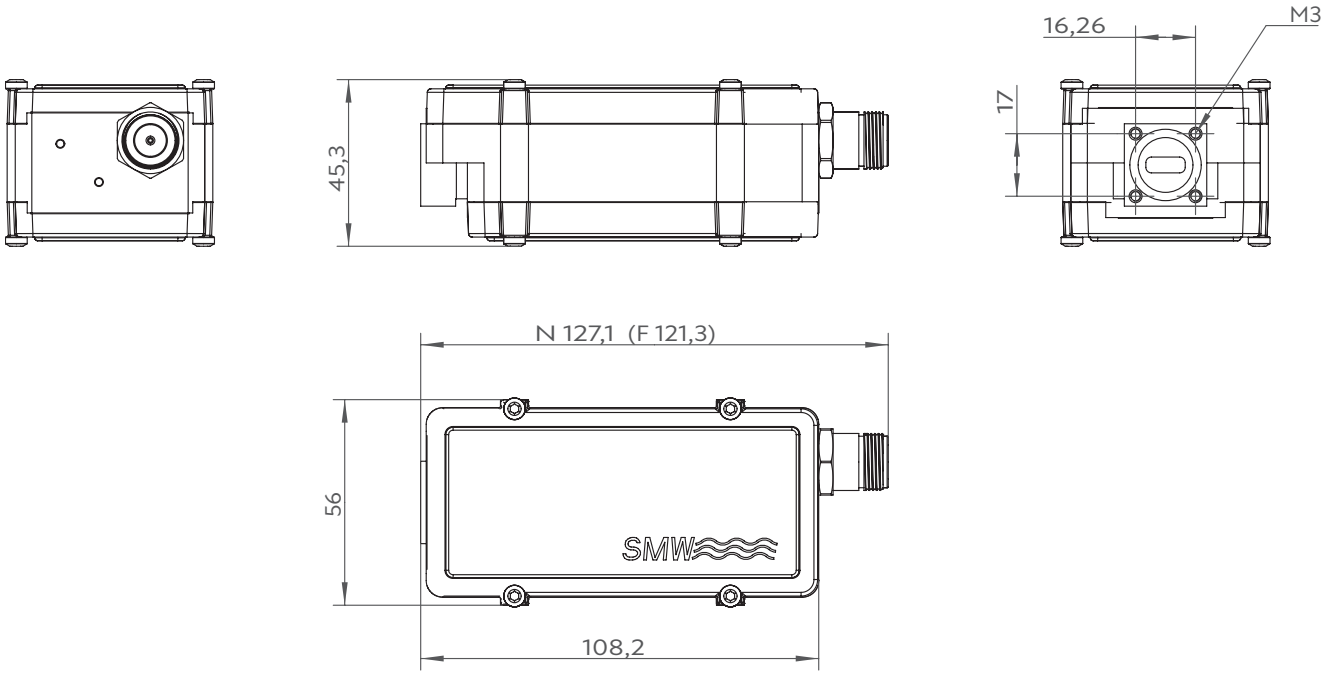
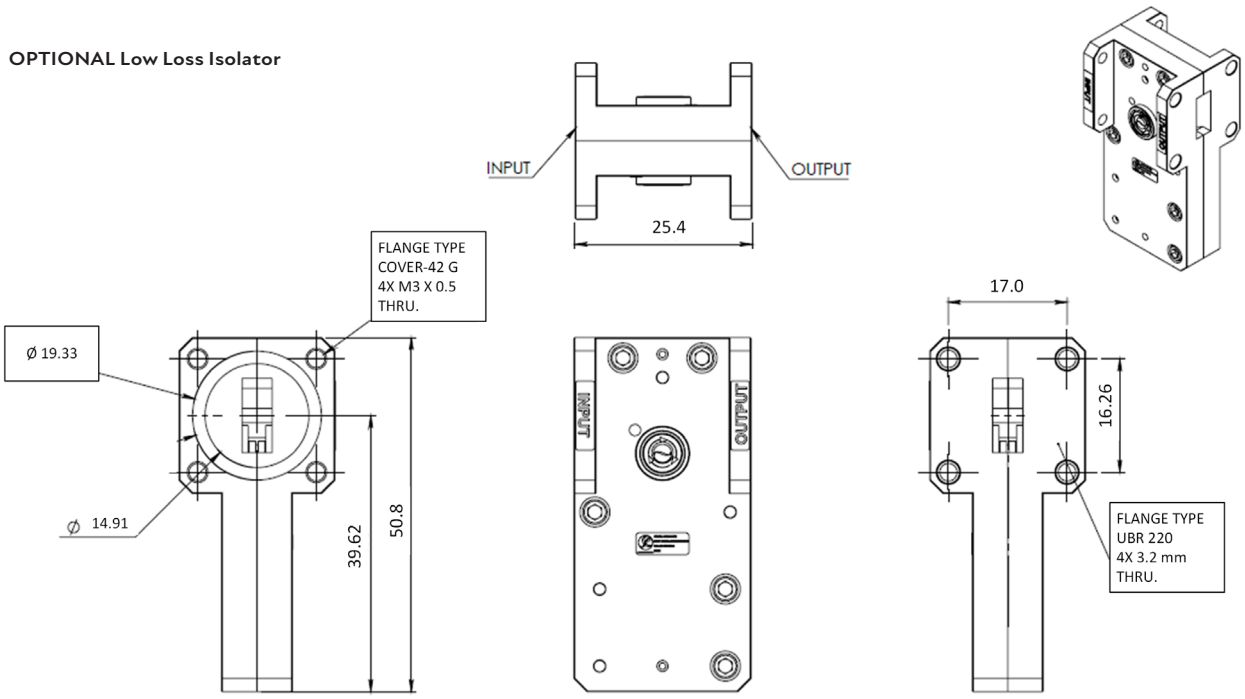
Technical Drawing



OPTIONAL Low Loss Isolator



Designed and Manufactured IN SWEDEN

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