

Ka LNB 17.30-22.30 GHz 1 Band

Key features



- Auto Switch between External or Internal reference
- 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 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-Band 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, VSWR 1.35:1 max.

LNB connector (standard)



Connector A (standard)
Type: N female, (option F female or SMA female)
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 female only
Functions: Ext. 10 MHz in and/or DC input

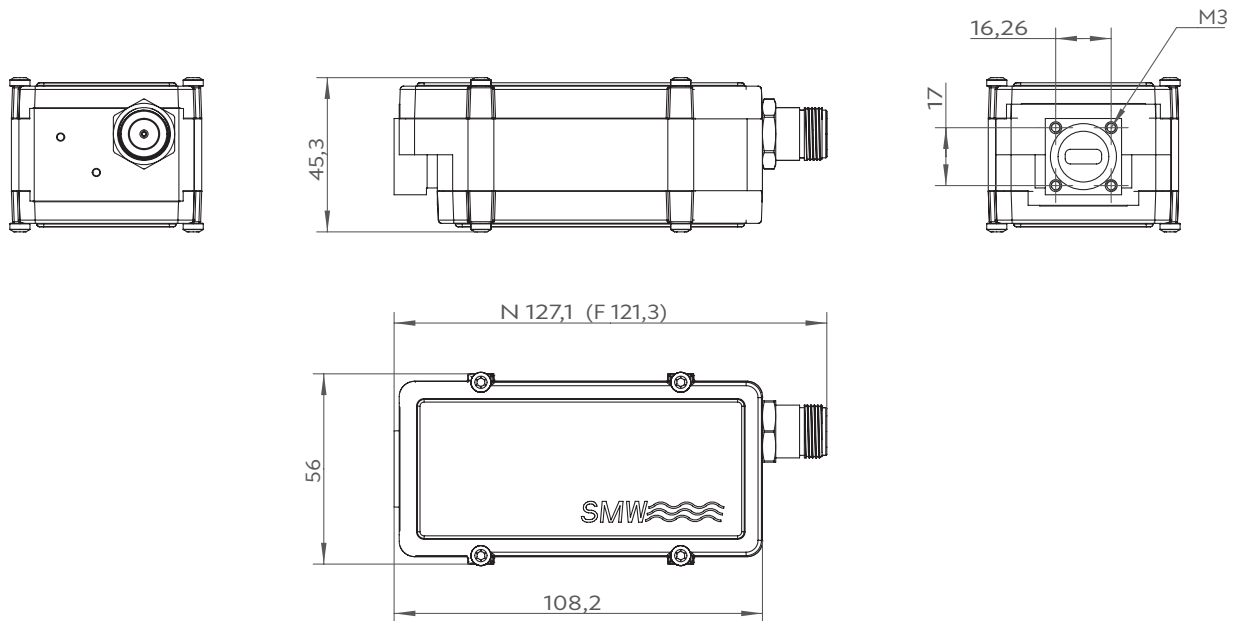
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Technical specifications

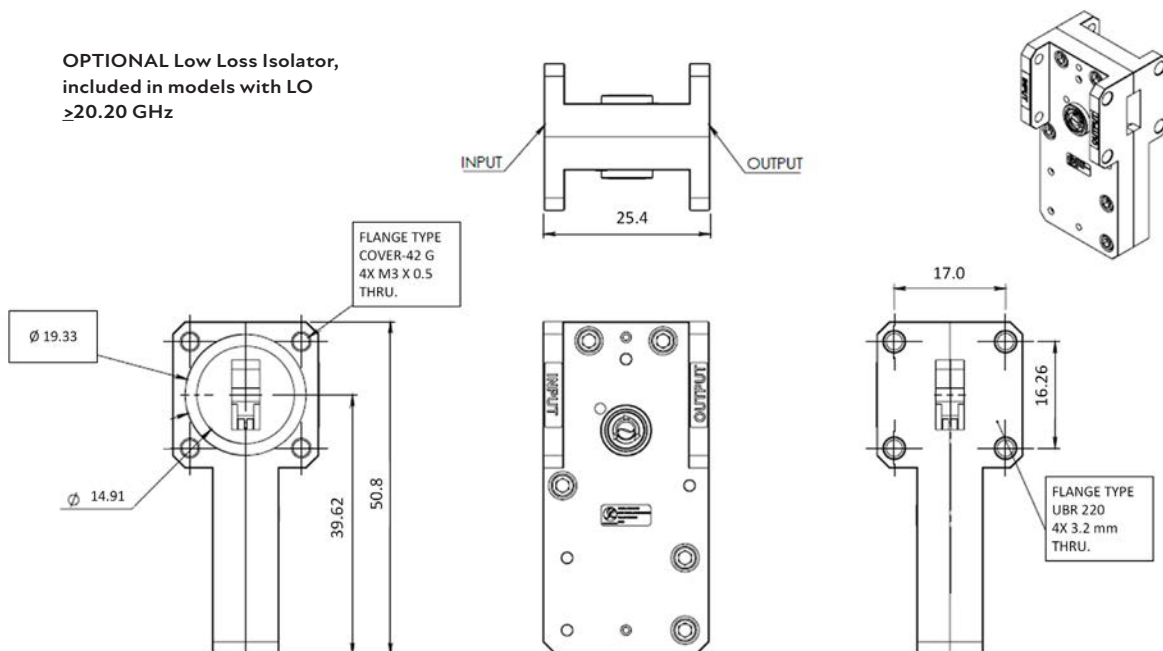
	MODELS/LO	16.35	16.75	17.20	17.25	18.20	18.25	18.75	19.20	19.25	20.20	20.25
INPUT	Input freq. GHz	17.30-18.30	17.70-18.70	18.20-19.20	18.20-19.20	19.20-20.20	19.20-20.20	19.70-20.20	20.20-21.20	20.20-21.20	21.20-22.20	21.20-22.20
	IF MHz	950-1950	950-1950	1000-2000	950-1950	1000-2000	950-1950	950-1450	1000-2000	950-1950	1000-2000	950-1950
	Input	Flange PBR220, waveguide WR42										
	Input max power	0 dBm instantaneous (not continuous)										
	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 ≥ 20.20 GHz)										
INTERNAL	LO ref.	Auto LO ref. External 10 MHz ref / Internal ±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, -40 dBm max. @ IF output										
	Gain	60 dB typ. (55dB min.)										
	Flatness	±0.4 dB within 30 MHz, ±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.										
	Integrated Phase Noise Models 19.20 & 19.25	Single sideband phase noise integrated over the bandwidth from 10 Hz to 16 kHz relative to carrier center frequency: < 3.4° RMS (two-sided value <4.8° RMS)										
	Group delay	± 1ns max.										
	Out of band rejection	20 dB min.										
OUTPUT	Image Rejection	30 dB min.										
	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.										
GENERAL	Output Connector	N-type 50Ω , SMA-type 50Ω or F-type 75Ω										
	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)										
	Weight	354 g (N-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										
OPTIONS	Miscellaneous	Enclosed conductive O-ring, mounting screws (M3 x 8) 4 pcs										
	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 - Pressurizable 0.1 bar max.										

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Technical Drawing



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



Designed and
Manufactured



IN SWEDEN

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