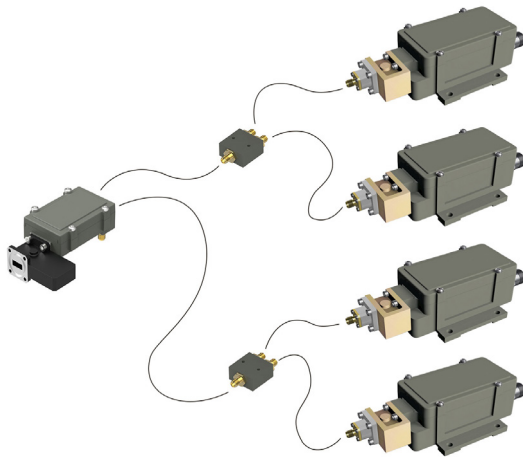


Ka System 17.20-22.30 GHz Quad

Key features



HF cables and DC cable included

- Auto LO ref Ext. 10 MHz, fallback to Internal ref
- Full Ka Receive band coverage
- High P1dB and IP3
- Excellent Phase noise meets all profiles of DVB-S2X.
- Customized LO as option
- Alarm and Monitoring & Control as option

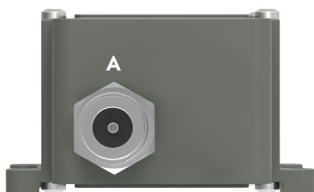


Description

The Ka-Band Quad System provides full coverage of the Ka receive band. The system consists of Ka LNA Wide-band with waveguide isolator, Ka BDC's with waveguide isolators and matched HF cables. Excellent Phase Noise to support all profiles of DVB-S2X services.

Options include customized LO, customized frequency ranges, customized gain, separate DC power input and separate input for the external 10 MHz reference. As an option the SMW M&C interface provides possibility to daisychain several units in one Modbus RTU RS485 network for the optional Alarm and Monitoring & Control functionality.

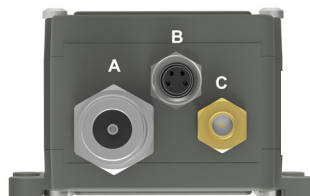
BDC connector (standard)



Connector A (standard)

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

BDC 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



Explore our full product range in this category



Ka System 17.20-22.30 GHz Quad

Technical specifications

INPUT	Input frequency	Custom between 17.20-22.30 GHz
	LO frequency	Custom between 16.25-20.75 GHz
	Input LNA	Waveguide WR 42 / R 220. Flange PBR 220.
	Input BDC	SMA female 50Ω
	DC Input BDC	+12 to +24 V through output connector or separate SMA connector (optional), power consumption 5W typ.
	DC input LNA	+12 to +24 V / 110 mA typ. Supplied through separate SMA connector via included DC cable, mated from BDC # 1
INTERNAL	Input VSWR LNA	1.35:1 max. with Isolator (included)
	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. @ RF input, -40 dBm max. @ IF output
	Gain	60 dB typ. (55dB min.)
	Gain variation over 24h	±0.1 dB @ 23°C
	Flatness	±0.4 dB within 30 MHz, ±2 dB max. over each band
	Noise figure	1.8 dB / 149 K typ.
	Group Delay	±1 ns max.
	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	950-1950 MHz, (950-2250 MHz optional)
	Output P1dB	+ 15 dBm
	Output IP3	+ 25 dBm
	Output VSWR BDC	1.7:1 typ.
	Output connector LNA	SMA-type 50Ω
GENERAL	Output Connector BDC	N-type 50Ω , SMA-type 50Ω or F-type 75Ω
	Alarm (option)	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 (option)	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
	System power consumption	23 W max.
	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
	Dimensions LNA	103 x 63 x 34 mm, including isolator
	Dimensions BDC	171 x 80 x 46 mm (N-connector) (for drawing, see www.smw.se)
	Weight LNA	160 including isolator
	Weight BDC	418 g (N-connector)
	Temperature range	Storage and operating: -40 to +80°C, -40 to +176°F
OPTIONS	- Separate SMA connector on BDC for DC input or Ext. 10 MHz reference - Alarm and Monitoring & Control - Customized gain - Customized LO - Extended IF	

Ka System 17.20-22.30 GHz Quad

Example and wiring diagram

Example Ka-Band QUAD System configurations					
P/N	Frequency range (GHz)	BDC	LO	Ka-band (GHz)	L-band (MHz)
KASYS-QSYS-23041	17.20 - 21.20	1	16.25	17.20-18.20	950-1950
		2	18.25	19.20-20.20	950-1950
		3	17.25	18.20-19.20	950-1950
		4	19.25	20.20-21.20	950-1950
KASYS-QSYS-23360	17.30 - 22.10	1	16.35	17.30-18.50	950-2150
		2	18.75	19.70-20.90	950-2150
		3	17.55	18.50-19.70	950-2150
		4	19.95	20.90-22.10	950-2150
KASYS-QSYS-23591	17.70 - 21.20	1	16.75	17.70-18.60	950-1850
		2	18.55	19.50-20.40	950-1850
		3	17.65	18.60-19.50	950-1850
		4	19.45	20.40-21.20	950-1750

Ka Quad Band System

