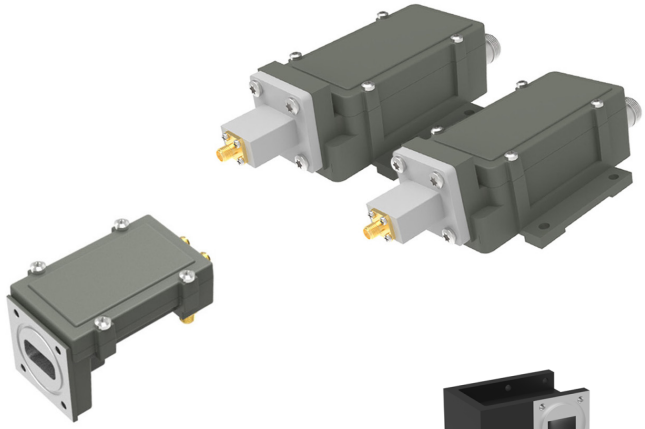
Ku System 10.70 - 12.75 GHz Dual

Key features

LNA+BDC M&C

- **Excellent Phase Noise**
- **Auto switch between External or Internal reference**
- **Wide operating temperature range**
- **High P1dB and IP3**
- **Alarm and Monitoring & Control as option**



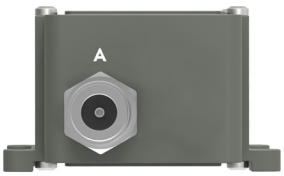
HF cables and DC cable included

Optional Low loss isolator

Description

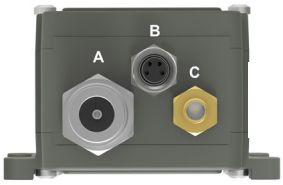
The Dual Ku System (PLL) is the professional solution to receive the two bands simultaneously with high LO Stability and Low Phase Noise. Any LO frequencies can be combined without spuriouses e.g. Low band 10.00GHz & High band 11.30 GHz. The standard configuration consists of a LNA with two BDC (Block Down Converters) including HF cables 4 meter and DC cable 4.8 meter. An preferred option is Alarm and Monitoring & Control via Modbus (RS485) interface, for monitoring of important parameters and adjustments available. The configurable alarm output alerts if the signal reception is lost or if the external reference fails.

BDC connector (standard)



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

Explore our full product range in this category

Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se

Rev. 2403

Ku System 10.70 - 12.75 GHz Dual

Technical specifications

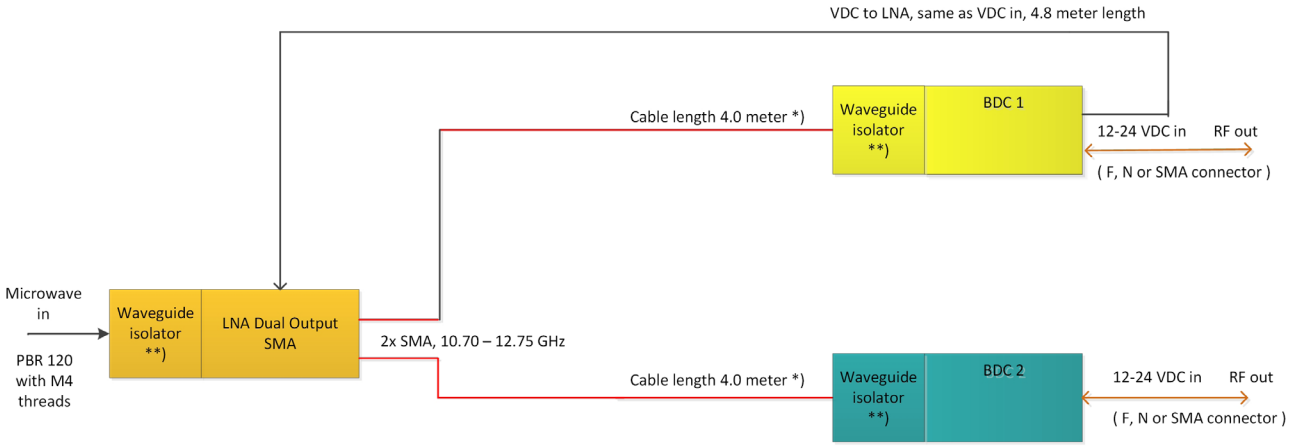
	BDC LO Low Band	**9.75**	**10.00**	**10.25**	**10.50**	**10.60**	**10.75**					
	BDC LO High Band							**10.60**	**10.75**	**11.20**	**11.25**	**11.30**
INPUT	Input frequency GHz	10.70-11.80	10.95-11.80	11.20-11.70	11.45-12.20	11.70-12.75	11.70-12.75	11.70-12.75	11.70-12.75	12.20-12.75	12.20-12.75	12.25-12.75
INPUT	LO frequency GHz	9.75	10.00	10.25	10.50	10.60	10.75	10.60	10.75	11.20	11.25	11.30
INPUT	IF frequency MHz	950-2050	950-1800	950-1450	950-1700	1100-2150	950-2000	1100-2150	950-2000	1000-1550	950-1500	950-1450
INPUT	Input LNA	Waveguide WR 75 / R 120. Flange PBR 120.										
INPUT	Input BDC	SMA female 50Ω										
INPUT	DC Input BDC	nom. +12 to +24 V (11V min., 26V max.) through output connector or separate connector (SMA). 5W max.										
INPUT	DC input LNA	+12 to +24 V / 70 mA typ. Supplied through separate SMA connector via included DC cable, mated from BDC Low Band										
INPUT	Input VSWR LNA	2.0:1 max., 1.25:1 max. with optional waveguide Isolator										
INTERNAL	LO ref.	Auto switch External 10 MHz ref / Internal ±2.5 ppm -40 to +80°C										
INTERNAL	Ext. 10 MHz ref.	Sinus wave, input level -10 dBm to +10 dBm through output connector or optionally via separate SMA connector.										
INTERNAL	LO Leakage	-60 dBm max. @ RF input										
INTERNAL	System Gain	60 dB typ.										
INTERNAL	Gain variation over 24h	±0.1 dB @ 23°C										
INTERNAL	Flatness	±0.4 dB within 30 MHz, ±2 dB max. over each band										
INTERNAL	Group delay	±1 ns max.										
INTERNAL	Noise figure	1.0 dB / 75 K typ.										
INTERNAL	Phase Noise	10 Hz -35dBc/Hz • 100 Hz -65dBc/Hz • 1 kHz -82dBc/Hz • 10 kHz -86dBc/Hz • 100kHz -95dBc/Hz • 1MHz -120dBc/Hz (max.)										
INTERNAL	Image Rejection	40 dB min.										
OUTPUT	IF output	Within 950-2150 MHz , see above.										
OUTPUT	Output P1dB	+ 5 dBm min. @ 20 to 40 dB gain, +15 dBm min. @ 40 to 60 dB gain										
OUTPUT	Output IP3	+15 dBm min. @ 20 to 40 dB gain, +25 dBm min. @ 40 to 60 dB gain										
OUTPUT	Output VSWR BDC	1.7:1 max. (N and SMA connector), 2.3:1 max. (F connector)										
OUTPUT	Output connector LNA	SMA-type 50Ω										
OUTPUT	Output Connector BDC	N-type 50Ω , SMA-type 50Ω or F-type 75Ω										
GENERAL	System power consumption	8,2 W typ.										
GENERAL	Dimensions LNA	78 x 46 x 44 mm										
GENERAL	Dimensions BDC	166 x 80 x 48 mm										
GENERAL	Weight LNA	124 g										
GENERAL	Weight BDC	425 g										
GENERAL	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										
GENERAL	Temperature range	Storage and operating: -40 to +80°C, -40 to +176°F										
OPTIONS	Options	- Separate connector on BDC for DC input - Alarm and Monitoring & Control - Customized gain and variation - Customized LO - Low Loss waveguide isolator (VSWR 1.25:1 max.										

Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se

Rev. 2403

Ku System 10.70 - 12.75 GHz Dual

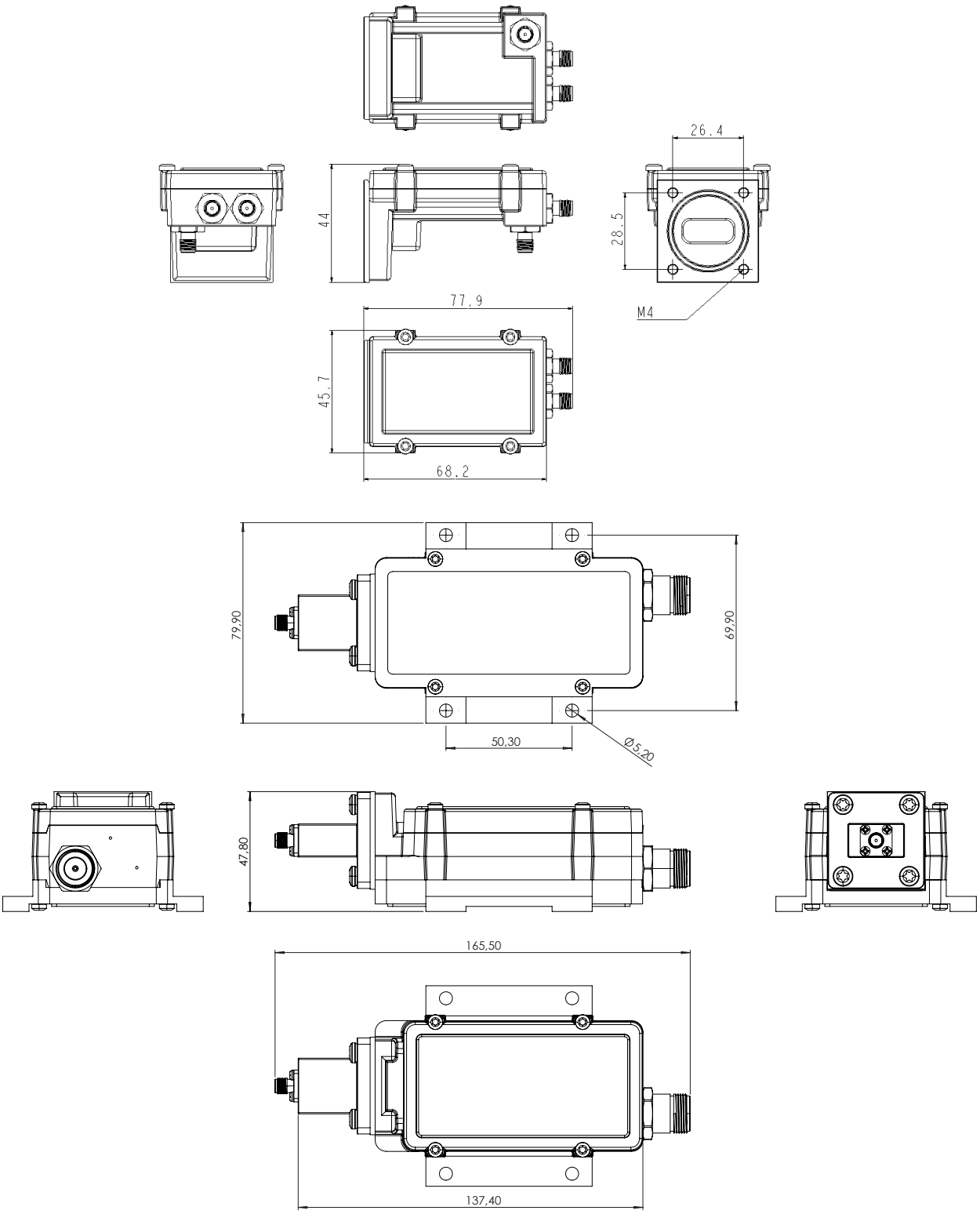
Wiring diagram



Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se

Ku System 10.70 - 12.75 GHz Dual

Technical Drawing



Designed and Manufactured IN SWEDEN

Professional Satcom Frequency Converters & Components. All products are fully CE and RoHS complient 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.

Swedish Microwave AB | Dynamovagen 5 | S-591 61 Motala | Sweden | Contact: +46 141 21 61 35 | sales@smw.se | smw.se