

DUAL-, TRI- AND QUAD-BAND OUTDOOR BLOCK CONVERTERS

narda  MITEQ



FEATURES

- Small weather resistant enclosure
- RS-422/RS-485 and 10/100 Base-T Ethernet remote control
- Output signal monitor port
- 30 dB gain control
- Automatic 5/10 MHz internal/external reference selection
- Low phase noise
- LNA power provided with current detection (downconverter)
- High frequency stability
- Summary alarm
- AC power supply (CE mark)

OPTIONS

- High-stability reference
- LNA power on RF center conductor (downconverter)

This series of multiband block upconverters and downconverters is designed for antenna mounting.

A strong set of monitor and control functions support powerful remote control. A contact closure summary alarm is provided for fault monitoring.

A continuously updated log of time-stamped records of activity is also provided.



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DOWNCONVERTERS

INPUT (GHz)	OUTPUT (GHz)	MODEL NUMBER
3.4 to 4.2	0.95 to 1.75	DNB-T/Q-BCEG
7.25 to 7.75	0.95 to 1.45	
10.7 to 11.7	0.95 to 1.95	
11.7 to 12.75	0.95 to 2	
3.4 to 4.2	0.95 to 1.75	DNB-T/Q-BCDFH
7.25 to 7.75	0.95 to 1.45	
10.7 to 11.45	0.95 to 1.7	
11.45 to 12.2	0.95 to 1.7	
12.2 to 12.75	0.95 to 1.5	
3.4 to 4.2	1.2 to 2	DNB-T/Q-ACEGK
7.25 to 7.75	0.95 to 1.45	
10.7 to 11.7	0.95 to 1.95	
11.7 to 12.75	0.95 to 2	
20.2 to 21.2	0.95 to 1.95	
7.25 to 7.75	0.95 to 1.45	DNB-T/Q-CK
20.2 to 21.2	0.95 to 1.95	

UPCONVERTERS

INPUT (GHz)	OUTPUT (GHz)	MODEL NUMBER
0.95 to 1.75	5.85 to 6.65	UPB-T/Q-ABC
0.95 to 1.45	7.9 to 8.4	
0.95 to 1.7	13.75 to 14.5	
0.95 to 1.75	5.85 to 6.65	UPB-T/Q-ABCE
0.95 to 1.45	7.9 to 8.4	
0.95 to 1.7	13.75 to 14.5	
0.95 to 1.95	30 to 31	
0.95 to 1.45	7.9 to 8.4	UPB-T/Q-BE
0.95 to 1.95	30 to 31	
0.95 to 1.75	5.85 to 6.85	UPB-T/Q-ABCD
0.95 to 1.45	7.9 to 8.4	
0.95 to 1.7	13.75 to 14.5	
0.95 to 1.45	14 to 14.5	
0.95 to 1.75	5.85 to 6.65	UPB-T/Q-ABD
0.95 to 1.45	7.9 to 8.4	
0.95 to 1.45	14 to 14.5	

Note: Additional models and bands available. Please contact Narda-MITEQ with band requirements.

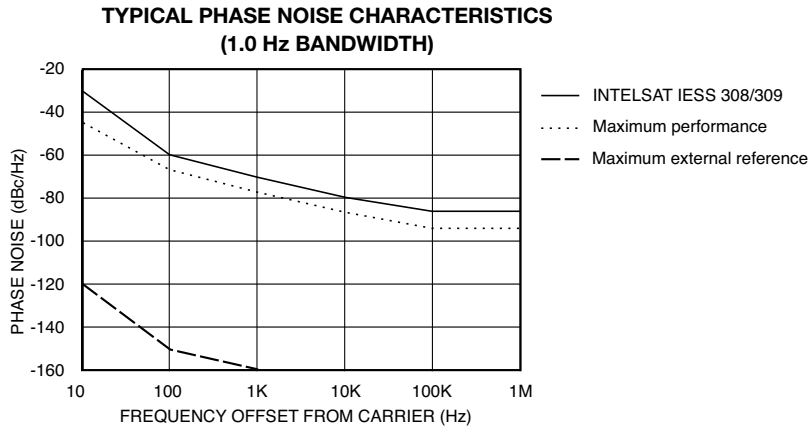
SPECIFICATIONS

Frequency sense	No inversion
Input Characteristics	
Impedance	50 ohms
Return loss	18 dB minimum
Nondamage	+10 dBm
Local oscillator leakage (downconverter)	-80 dBm maximum
Output Characteristics	
Impedance	50 ohms
Return loss	18 dB minimum
Power output (1 dB compression)	+10 dBm minimum
Signal monitor	20 dBc nominal
Transfer Characteristics	
Gain (at minimum attenuation)	
Upconverters (except Ka-Band)	13 dB, ± 3 dB at 23 °C
Upconverters (Ka-Band)	20 dB, ± 3 dB at 23 °C
Downconverters	30 dB, ± 3 dB at 23 °C
Image rejection	60 dB minimum
Level stability	
Constant temperature	± 0.25 dB/day maximum
Over operating temperature	± 2 dB maximum
Noise figure (at minimum attenuation)	
Upconverters	20 dB maximum
Downconverters	15 dB maximum
Amplitude response	± 0.5 dB/ ± 40 MHz, ± 2 dB over RF band
Group delay	1 ns peak-to-peak maximum
Intermodulation distortion (third-order)	With two 0 dBm output signals, 40 dBc minimum
Spurious outputs	
Signal-related	60 dBc minimum up to 0 dBm output level
Signal-independent	-60 dBm maximum
LO leakage at RF	-70 dBm maximum
Gain adjustment	30 dB in 0.2 dB steps
Frequency stability	$\pm 5 \times 10^{-8}$, -40 °C to +60 °C (high stability options available), $\pm 5 \times 10^{-9}$ /day typical (fixed temperature after 24 hours on time)
Automatic reference configuration	External 5 or 10 MHz at +4 ± 3 dBm. If external reference is below +1 dBm nominal, the converter will automatically lock to the internal reference.
Remote interface	10/100 Base-T Ethernet interface providing Web-browser-based configuration, SNMP 1.0 configuration, alarm reporting via SNMP trap, telnet access, password protection and selectable RS-485/RS-422. Refer to Narda-MITEQ Technical Note 25T060 for details.
Indicator and Summary alarms (front panel)	Red LED (for active alarm), Amber LED (for logged alarms), Summary alarm indicates: LO out-of-lock or DC voltage alarm or LNA current on block downconverters
Power ON indicator	Green LED (front panel)
Summary alarm	Contact closure status for DC voltage and local oscillator, external mute input on J3 connector (programmable LNA current alarm for downconverters +12 VDC up to 500 mA maximum)

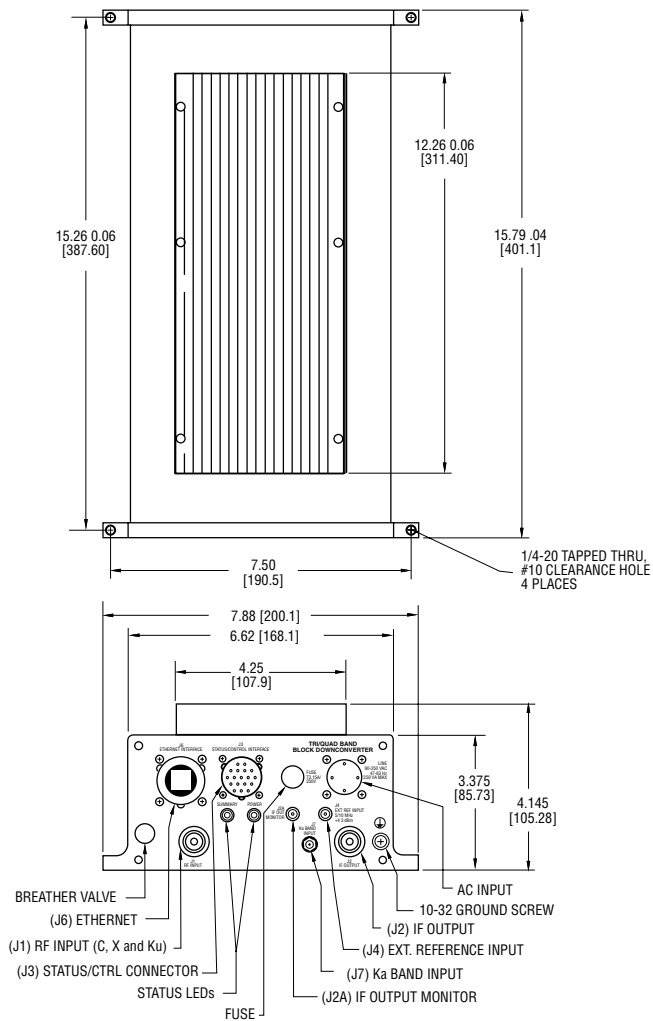
Note: All specifications at maximum gain unless otherwise noted.

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PHASE NOISE SPECIFICATIONS

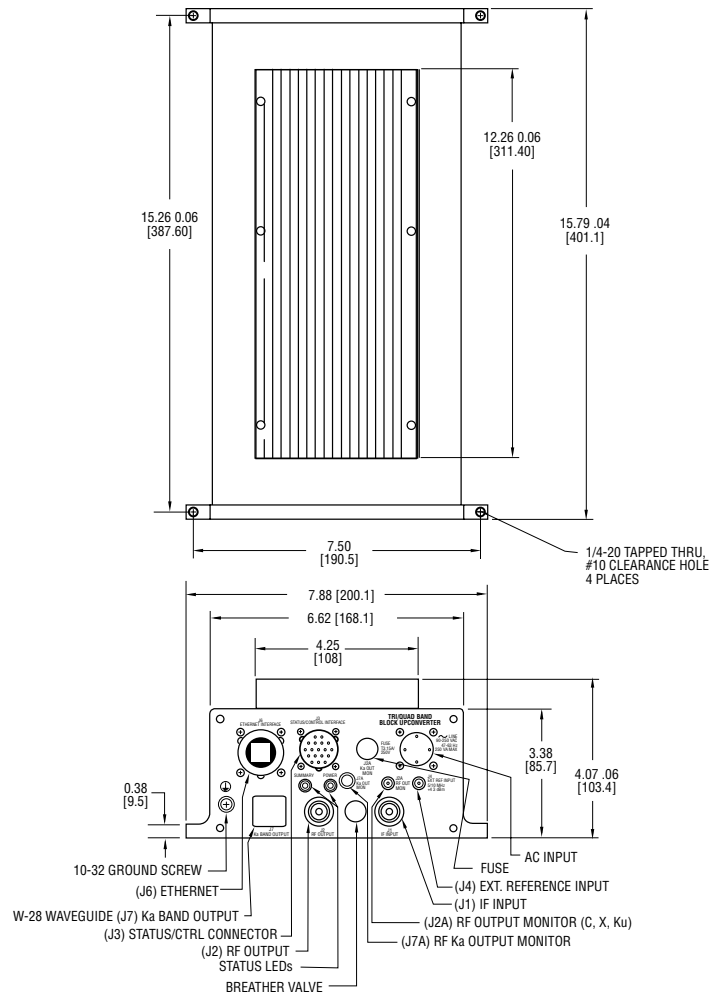


OUTLINE DRAWINGS DOWNCONVERTER



Note: Dimensions shown are in inches and those shown in brackets [] are in millimeters.

**OUTLINE DRAWINGS (CONTINUED)
UPCONVERTER**



Note: Dimensions shown are in inches and those shown in brackets [] are in millimeters.

OPTIONS

Missing option numbers are not applicable for this product

4B. LNA power on RF center conductor (downconverter only)

Available colors:

Furniture white (standard).....FED-STD-595B color 27875

Desert tan.....FED-STD-595B color 33303

10. Higher frequency stability reference

$\pm 5 \times 10^{-9}$, -40 °C to +60 °C,

1×10^{-9} /day typical (fixed temperature after 24 hours on time).

VM. Vertical Mounting

Note: For literature describing local control (front panel) and remote control (bus protocols), refer to Narda-MITEQ Technical Note 25T060.

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GENERAL SPECIFICATIONS

PRIMARY POWER REQUIREMENTS

Voltage..... 90 VAC to 250 VAC
Frequency 47 Hz to 63 Hz
Power..... 20 W typical

SUMMARY ALARM

Contact closure/open for DC voltage and/or LO alarm

PHYSICAL

Weight..... 14 lb. [6.35 kg] typical
Color Powder coat green hybrid matte 383,
FED-STD-595 color 34094 (standard)

Connectors

RF

Below 22 GHz N female

Above 26.5 GHz WR-28 grooved

RF output monitor..... SMA female

RF output monitor above 26.5 GHz 2.92 mm female (upconverter)

IF N female

IF output monitor SMA female (downconverter)

External reference..... SMA female

Ethernet interface RJ-45 female (Amphenol RJF6MGF)*

Status/control interface MS3116F14-18P for summary alarm, RS-422/RS-485 and LNA power*

Power/status interface..... FCI Clipper series CL1M1102*

*Note: Unit supplied with mating connector

ENVIRONMENTAL

Operating

Ambient temperature -40 °C to +60 °C

Atmospheric pressure Up to 10,000 feet

Nonoperating

Ambient temperature -50 °C to +70 °C

Atmospheric pressure Up to 40,000 feet

Shock and vibration Normal handling by commercial carriers

The material presented in this datasheet was current at the time of publication. Narda-MITEQ's continuing product improvement program makes it necessary to reserve the right to change our mechanical and electrical specifications without notice. If either of these parameters is critical, please contact the factory to verify that the information is current.

This material consists of Narda-MITEQ general capabilities information and does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Part 734.7-11.
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