This equipment is designed for applications where frequency translation is needed with a minimum of amplitude and group delay distortion.

**Features**

- Small weather resistant enclosure
- 30 dB level control
- Local oscillator monitor port
- Output signal monitor port (L-band output only)
- Low phase noise
- Low intermodulation distortion
- RS422/RS485 and 10/100Base-T Ethernet

**Options**

- Higher frequency stability
- Automatic 5/10 MHz internal/external reference selection
- Gain on transmit to L-band units
# Specifications

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<td>Gain control is 30 dB in 0.2 dB steps</td>
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**Phase Noise Specifications**

![Phase Noise Characteristics Graph](image_url)
Options

1. Gain on transmit to L-band units
   Gain................................................................. 20 ±3 dB
   Power output (1 dB compression).............. 18 dBm minimum
   Gain slope ...................................................... 0.03 dB/MHz maximum
   Gain stability .................................................. ±0.25 dB/day maximum at constant temperature
   Intermodulation distortion (third order) ...... With two inband signals at 0 dBm output, third order
      intermodulation products are less than 60 dBc minimum and
      50 dBc minimum (Ka-band units).

7. 30 dB additional level control.

8. LO level detect.


    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. Reference oscillator acts as an analog phase lock with a 0.1 Hz nominal loop bandwidth.
    Typical loop suppression of the external reference is as follows: -28 dB at 1 Hz offset; 65 dB at 10 Hz offset and 100 dB
    at 100 Hz offset. Internal oscillator is available with the following stabilities:

    A. ±5 x 10⁻⁸, -40 to +60°C,
       1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).
    B. ±1 x 10⁻⁸, -40 to +60°C,
       1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).
    C. ±5 x 10⁻⁹, -40 to +60°C,
       1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).

    Note: Translator may require 7-10 days to reach stability after long storage periods.

19. DC power input.
    A. +24 to +32 VDC input
    B. +42 to +60 VDC input
    C. -42 to -60 VDC input

    Note: For literature describing local control (front panel) and remote control (bus control), refer to MITEQ's
    Technical Note 25T060. Missing option numbers are not applicable for this product.
General Specifications

**Primary Power Requirements**
- Voltage .................................................................. 90–250 VAC
- Frequency .......................................................... 47–63 Hz
- Consumption ..................................................... 12 W typical

**Physical**
- Weight ........................................................... 15 pounds (6.8 kg) nominal
- Front panel connectors
  - RF band .................................................... N female (below 15 GHz),
    SMA female compatible (above 15 GHz),
    WR28 (Ka-band above 27 GHz)
  - L-band ....................................................... N female
  - L-band monitor .......................................... SMA female
  - External reference input ............................ SMA female
  - Status monitor ........................................... MS3116F14-18P*
  - Remote interface ....................................... RJ-45 female for Ethernet, RS422/485 available on status connector
  - Primary power input .................................. FCI clipper series CL1M1102*

*Note: Unit supplied with mating connector.

**Environmental**
- Operating
  - Temperature .............................................. -40 to +60°C
  - Atmospheric pressure ............................... Up to 10,000 feet
- Nonoperating
  - Temperature .............................................. -50 to +70°C
  - Atmospheric pressure ............................... Up to 40,000 feet
  - Shock and vibration..................................... Normal handling by commercial carriers
High Performance Outdoor Test Translators

Translator Outline Drawing

1/4-20 TAPPED THRU,
#10 CLEARANCE HOLE
4 PLACES

7.50 [190.50]

12.61 [320.29] ±0.06 [1.52]

12.26 [311.40] ±0.06 [1.52]

3.38 [85.85]

6.63 [168.40]

7.88 [200.15]

NOTE: DIMENSIONS SHOWN IN BRACKETS [ ] ARE IN MILLIMETERS.
Ka-Band Translator Outline Drawing

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