System Interface Products

MOS - Master Oscillator

10MHz TCXO Master Oscillator

How to order a MOS - Master Oscillator

Module MOS - Master Oscillator

- J-1: DC Output (+15 to +24 VDC)
- J-2: 10MHz Output Connector (in phase with other 10 MHz output)
- J-3: To DC supply Connector (+15 to +24 VDC)
- J-4: 10MHz Output Connector (in phase with other 10 MHz output)

Connectors available:

J2, J4: 10MHz
B - BNC (industry standard)
S - SMA (recommended for outdoor use)
N - N

J1, J3: DC Supply
B - BNC (preferred)
S - SMA
T - TNC
N - N
ft - feedthru

BNC-to-pigtail adapters and BNC-to-binding post adapters sold separately. See SIP price list for part number and price.

Quiet, Stable, Pure, and Enduring

The Orbital MOS - Master Oscillator can be used alone or combined with other Orbital products such as the MT25/40 - Mux/Tee, RPT - Redundant Power Tee or SP10 - 10MHz Splitter to provide the 10 MHz source to synchronize your entire system. See our MOM brochure.

You can lock the signals of your LNB, BDC, BUC, modem or VSAT to the same precise signal. You can even combine it with a pair of Mux / Tees to lock both the horizontal and vertical polarity feeds to the same timebase. See our MODM brochure.

J1 is a feedthrough from the DC in J3 so that you can send power to any components attached or adjacent to the MOS such as the components mentioned above.

J2 and J4 have an output level of +7 dBm for insertion into splitters to feed the rest of the system or, with an attenuator, input into a BUC, BDC or LNB.

Temperature Compensated Crystal Oscillator (TCXO)

- Great phase noise: -147 dBC/Hz @ 1kHz
- Excellent thermal stability: ±1.5 ppm, 0 to +40°C
- Sine wave purity, low harmonic content
- Good aging: ±1 x 10^-6 per day after 30 days

Functional

- Operate with LN Bs, BDCs, VSATs, BUCs, and Modems
- Filters and conditions the DC power to eliminate extraneous signals coming in through the power supply.

Structural

- Machined from solid aluminum billet for strength & stability
- Anodized finish for corrosion protection and excellent RF shielding/grounding
- 'Back O Rack' mounting for ease of installation and lead dress (Reduces the mess of cables at the back of the rack)
- Connectors are ‘O’ ring sealed for weather resistant operation
- RoHs & REACH Compliant

Sales contact:

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Orbital Oscillator: MOS – Master Oscillator Specifications

**Power Specifications**

- **Input DC Voltage:** +15 to +24 V supplied via DC input connector
- **Current Drain:** Approximately 100 mA

**Environmental Specifications**

- **Operating Temp:** 0 to +40°C
- **Relative Humidity:** Up to 100% condensation and frost

**Mechanical Specifications**

- **Measurements:** Tolerance ±.005 in.
- **Voltage Interface:** F, N, BNC
- **10MHz Interface:** BNC, SMA or N
- **Size (case):** 3.425l x 2.55w x 0.88h in.
- **Size (with conn):** 3.425l x 3.8w x 0.88h in.
- **Weight:** 5 oz
- **Paint / Colour:** Blue Anodized finish
- **Mounting holes:** 3/8" (5mm)
- **Accepts standard rackmounting screws:** 10/32 or 10/34
- **RoHs & REACH Compliant**

**10 MHz Oscillator**

- **Frequency:** 10 MHz
- **Output Level:** J2: +2 dBm (standard) J4: +2dBm (standard)
- **Stability:** ±1.5 ppm, 0 to +40°C
- **Aging:** ±1 x 10^-6 per day after 30 days ±5 x 10^-6 per year after 180 days
- **Phase Noise:**
  - 100Hz: -130 dBc/Hz
  - 1kHz: -147 dBc/Hz
  - 10kHz: -148 dBc/Hz
  - 100kHz: -148 dBc/Hz
- **2nd Harmonic:** < -30 dBc

**Switching Power Supply**

- **Input DC Voltage:** +15 to +24 V supplied via DC input connector
- **Frequency:** 10MHz
- **Output Level:** J2: +2 dBm (standard) J4: +2 dBm (standard)
- **Stability:** ±1.5 ppm, 0 to +40°C
- **Aging:** ±1 x 10^-6 per day after 30 days ±5 x 10^-6 per year after 180 days
- **Phase Noise:**
  - 100Hz: -130 dBc/Hz
  - 1kHz: -147 dBc/Hz
  - 10kHz: -148 dBc/Hz
  - 100kHz: -148 dBc/Hz
- **2nd Harmonic:** < -30 dBc

**PS30-B18 Switching Power Supply, pigtail and binding post adaptors (not included with Oscillator)**

The Master Oscillator has been designed specifically for the satellite industry. Its sturdy case, anodized finish, small size and back-o-rack mounting system make it both enduring and easy to use. The replaceable, Murray-style connectors guarantee the best possible connections for the life of the product.