

Description



The PLDRO (Phase Locked Dielectric Resonator Oscillator) provides the ultra-low phase noise and excellent frequency stability when it is phase locked to a clean and stable crystal reference signal. The PLDRO provides ideal signal for commercial and military systems requiring ultra-low phase noise, low spurious, and high frequency stability.

Our PLDRO series are available in three types: Single Loop PLDRO, Dual Loop PLDRO, and Fractional-N PLDRO.

The Single Loop PLDRO is a phase locked dielectric resonator oscillator whose output frequency is generated by a single phase locked loop. Our Single Loop PLDRO is available in four types of housings.

Features

- Ultra low Phase Noise
- Low Spurious
- Phase-Locked Alarm
- Internal Voltage Regulators
- Low Power Consumption
- Compact Housing
- Rugged Construction

Options

- 17 dBm (typ.) Output Power
- 10 VDC Supply Voltage
- Extended Operating Temperature: -20 °C to +70 °C or -40 °C to +70 °C
- Field Replaceable SMA-Jack
- Customized Outlines
- Laser Marking

Applications

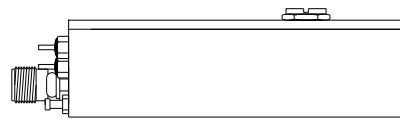
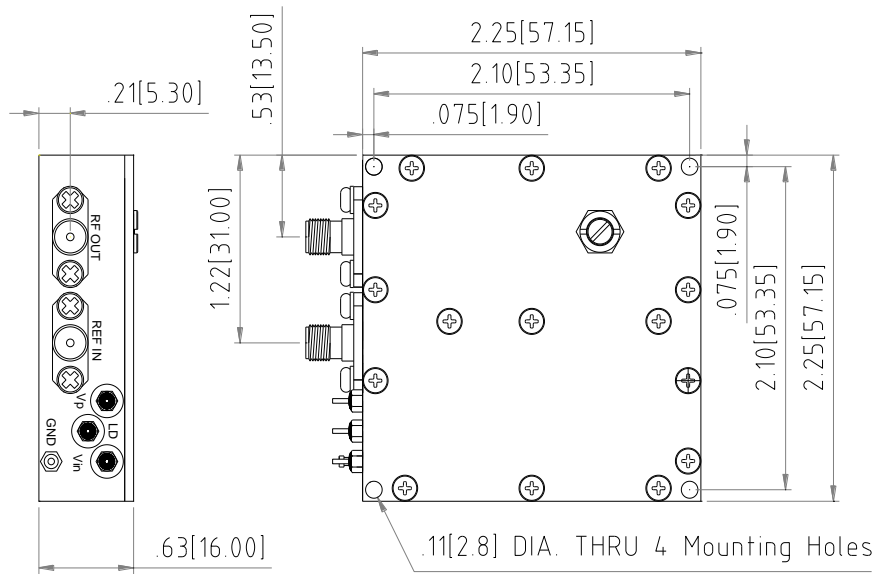
- Radar Systems
- VSAT/Satellite Communication Systems
- Test Equipment
- Microwave Transmitters & Receivers
- Cable TV Links (CATV)
- LMDS
- Missile Guidance
- Local Area Networks (LAN)

Specifications

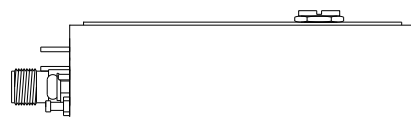
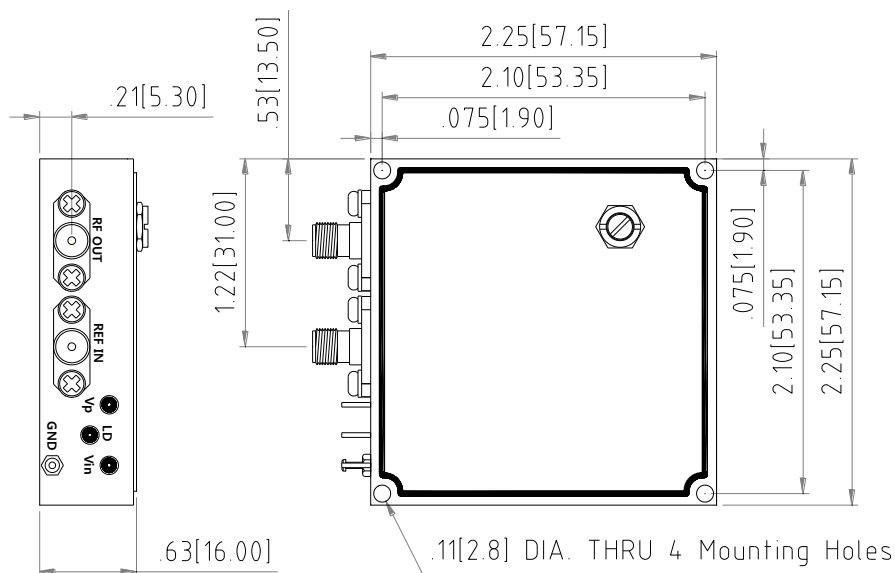
Parameters		Specifications			
Output Frequency		5 GHz to 28 GHz			
Number of Output Connectors		1 to 3			
Output Power	Single Output PLDRO	13 dBm (min.)			
	Dual Outputs PLDRO	11 dBm (min.)			
	Triple Outputs PLDRO	9 dBm (min.)			
Phase Noise (dBc/Hz)	Frequency	6 GHz	10 GHz	13 GHz	26 GHz
	Offset				
	100 Hz	-92	-87	-84	-78
	1 KHz	-112	-108	-105	-99
	10 KHz	-122	-117	-110	-104
	100 KHz	-123	-120	-116	-110
	1 MHz	-139	-135	-131	-125
External Reference	Frequency	10 MHz to 500 MHz			
	Input Power	0±2 dBm			
Harmonics		-30 dBc (typ.), -20 dBc (max.)			
Sub-harmonics (N*Fout/2, N odd) (Model using Freq. Multiplier)		-25 dBc (typ.), -15 dBc (max.)			
Frequency Stability		Same as the Reference			
Spurious	< fo ± 300 MHz	-75 dBc (typ.), -70 dBc (max.)			
	> fo ± 300 MHz	-80 dBc (typ.), -75 dBc (max.)			
Pulling (3:1 VSWR) (max.)		Will not break lock			
Output Impedance		50 Ω			
Supply Voltage		12 VDC or 15 VDC			
Current Consumption	Single Output PLDRO	250 mA to 450 mA depending on model			
	Dual Outputs PLDRO	300 mA to 450 mA depending on model			
	Triple Outputs PLDRO	350 mA to 650 mA depending on model			
Connectors	RF Output (RF OUT)	SMA-Jack Flange 2-Hole, Field Replaceable SMA-Jack, 2-Hole, or Field Replaceable SMA-Jack 4-Hole			
	External Reference Input (REF IN)	SMA-Jack Flange 2-Hole, Field Replaceable SMA-Jack, 2-Hole, or Field Replaceable SMA-Jack 4-Hole			
	Supply Voltage (Vin)	EMI Feed-thru or Glass to Metal Hermetic Feed-thru			
	Phase Voltage (Vp)	EMI Feed-thru or Glass to Metal Hermetic Feed-thru			
	Lock-Detect (LD)	EMI Feed-thru or Glass to Metal Hermetic Feed-thru			
	GND	Turret Thread Mount Terminal			
Housing Size (W x L x H)	Single Bed, Hermetic Housing, and Single Bed Dual Ports	2.25"[57.15] x 2.25"[57.15] x .63"[16]			
	Double Bed	2.25"[57.15] x 2.25"[57.15] x 1.06"[27]			
	Single Bed Triple Ports	2.25"[57.15] x 2.75"[69.85] x .63"[16]			
Environmental Conditions	Operating Temperature	0 °C to 60 °C			
	Storage Temperature	-20 °C to 70 °C			

Outline Drawing

Dimensions shown in brackets [] are in millimeters.



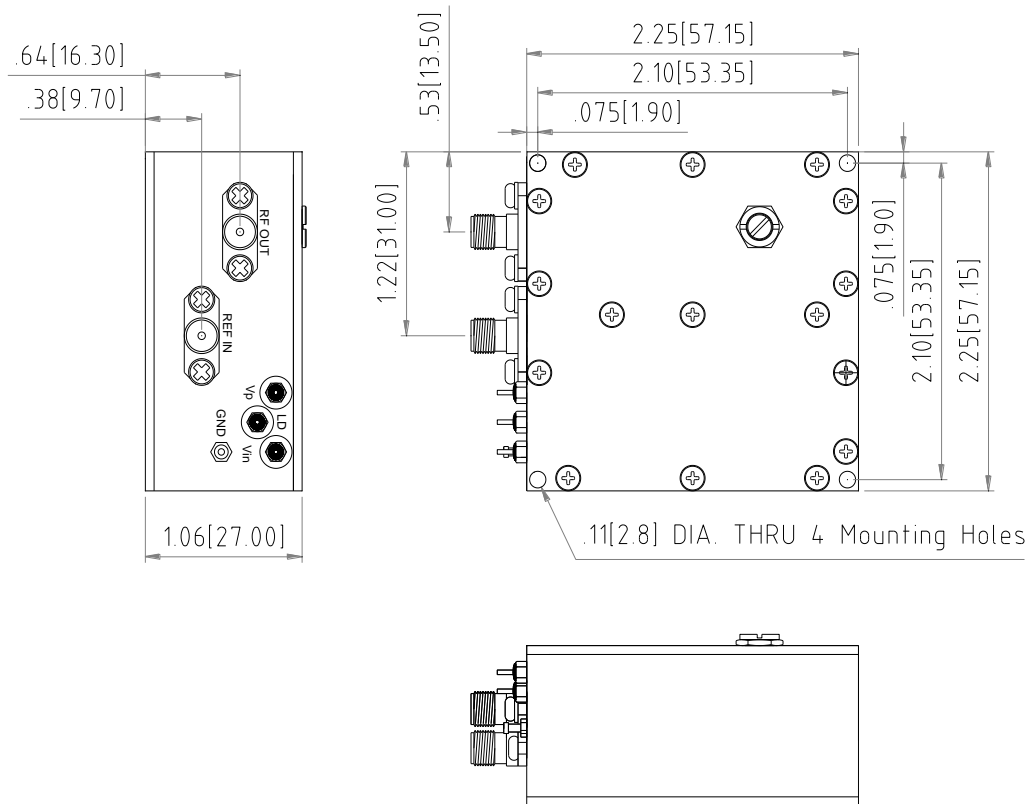
Single Bed Housing



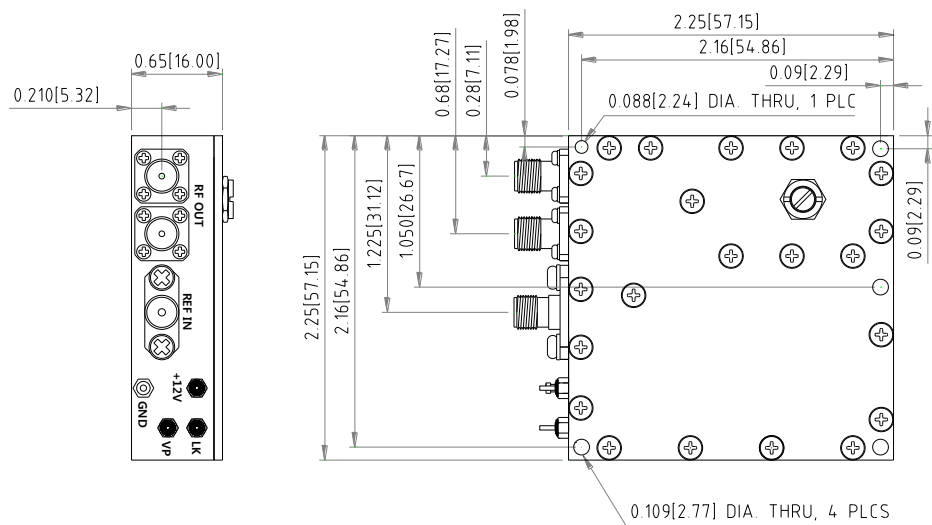
Hermetically Sealed Housing

Outline Drawing

Dimensions shown in brackets [] are in millimeters.



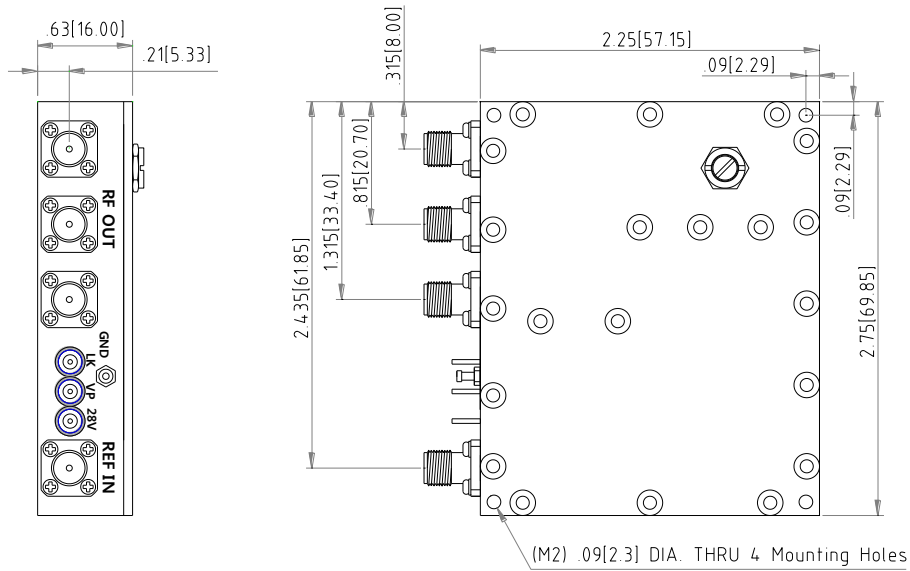
Double Bed Housing



Single Bed Dual Ports Housing

Outline Drawing

Dimensions shown in brackets [] are in millimeters.



Single Bed Triple Ports Housing

Ordering Information

wPLDRO-**R**xxxx-**y**...**y**-**P**zz-**aa**

- **w**: Product Categories
 - . S (Single Loop PLDRO)
 - . F (Fractional-N PLDRO)
 - . D (Dual Loop PLDRO)
- **xxxx**: Reference Frequencies (MHz)
 - . Ixxx: Internal, xxxMHz
 - . Exxx: External, xxxMHz
- **y...y**: Output Frequency (MHz)
- **zz**: Output Power (dBm)
- **aa**: Housing types
 - . SB (Single Bed Housing)
 - . DB (Double Bed Housing)
 - . HS (Hermetically Sealed Housing)
 - . NP (Number of Ports)

Examples

SPLDRO-**RE**100-12300-**P**15-**3P**

- . Product Category: Single Loop PLDRO
- . Reference Frequency: External, 100 MHz
- . Output Frequency: 12,300 MHz
- . Output power: 15 dBm
- . Triple Ports Housing

SPLDRO-**RE**10-6850-**P**17-**HS**

- . Product Category: Single Loop PLDRO
- . Reference Frequency: External, 10 MHz
- . Output Frequency: 6,850 MHz
- . Output power: 17 dBm
- . Hermetically Sealed Housing

- Address: #1913, Anam tower, 311, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea
- Tel: +82-2-2009-2120
- e-mail: info@polariswave.com
- web: www.polariswave.com