

## 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 Fractional-N PLDRO is an innovative phase locked dielectric resonator oscillator that improves the reference frequency dependence of the output frequency. This PLDRO series can generate any frequency in 10KHz steps within 5 GHz to 13 GHz, has the same phase noise characteristics as Single Loop PLDRO, and cheaper than Dual Loop PLDRO. In addition, this PLDRO series has the same housing size and lower power consumption compared to Dual Loop PLDRO.

## Features

- Can generate any frequency in 10 KHz steps within 5 GHz to 13 GHz
- Ultra-low Phase Noise
- Low Spurious
- Phase-Locked Alarm
- Internal Voltage Regulators
- Compact Housing
- Rugged Construction

## Options

- 17 dBm (typ.) Output Power
- Extended Operating Temperature: -20 °C to +70 °C
- 10 VDC Supply Voltage
- 1KHz Frequency Resolution
- 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)

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## Options

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- 10 VDC Supply Voltage
- 1KHz Frequency Resolution
- Field Replaceable SMA-Jack, 2-Hole Connectors
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## Applications

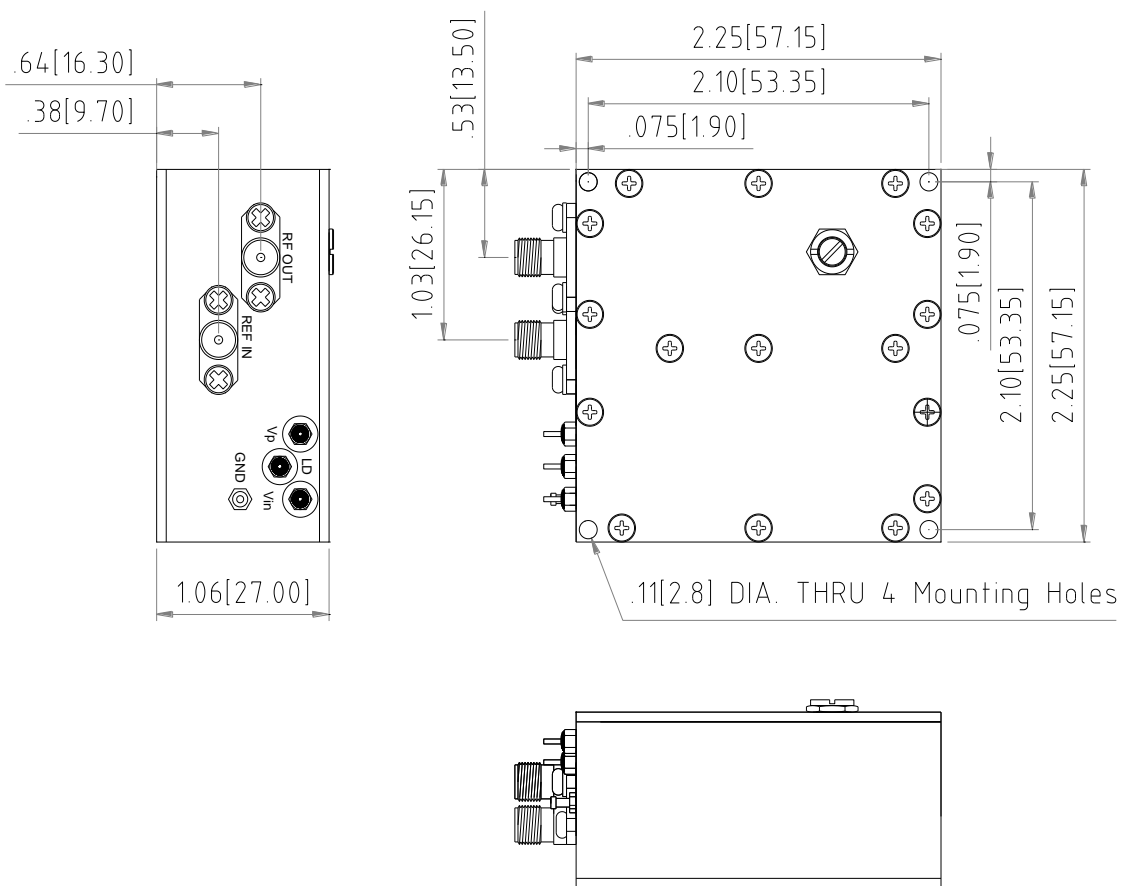
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-

## Specifications

Parameters		Specifications			
Output Frequency		5 GHz to 13 GHz			
Frequency Step		10 KHz			
Output Power		13 dBm (min.)			
Phase Noise (dBc/Hz)	Offset	Frequency	6 GHz	10 GHz	13 GHz
	100 Hz		-92	-87	-84
	1 KHz		-112	-108	-105
	10 KHz		-122	-119	-116
	100 KHz		-123	-120	-117
	1 MHz		-139	-135	-132
External Reference	Frequency	50 MHz or 100 MHz			
	Input Power	0±2 dBm			
Harmonics		-30 dBc (typ.), -20 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		350 mA to 550 mA depending on model			
Connectors	RF Output (RF OUT)	SMA-Jack Flange 2-Hole			
	External Reference Input (REF IN)	SMA-Jack Flange 2-Hole			
	Supply Voltage (Vin)	EMI Feed-thru			
	Phase Voltage (Vp)	EMI Feed-thru			
	Lock-Detect (LD)	EMI Feed-thru			
	GND	Turret Thread Mount Terminal			
Housing Size (W x L x H)		2.25"[57.15] x 2.25"[57.15] x 1.06"[27]			
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.



Double Bed Housing

## Ordering Information

**w**PLDRO-**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

**F**PLDRO-**RE**100-**7092.35**-**P**13-**DB**

- . Product Category: Fractional-N PLDRO
- . Reference Frequency: External, 100 MHz
- . Output Frequency: 7,092.35 MHz
- . Output power: 13 dBm
- . Double Bed Housing

**F**PLDRO-**RE**50-**9936.95**-**P**17-**DB**

- . Product Category: Fractional-N PLDRO
- . Reference Frequency: External, 50 MHz
- . Output Frequency: 9,936.95 MHz
- . Output power: 17 dBm
- . Double Bed Housing

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