1 Purpose

WORK phase-locked oscillator (PLO) products are rugged modular components that can be used in a wide variety of applications. The phase-locked oscillators have found their way into every type of high quality telecommunications, lab testing, satellite up- and downconverters, radar and many other applications that require the high quality and performance that we design into our products.

2 Performance Parameters

The phase-locked frequency source is both an accurate and stable signal source. Its stability and accuracy are directly related to the stability and accuracy of a lower-frequency reference. The most significant parameters are the frequency band of operation and the corresponding frequency resolution. Next would be performance requirements such as phase noise, spurious, harmonics, type of reference, operating voltage and power consumption. The PLO-CRO-xxxx-EXT Series is designed as a low cost single loop device with a single frequency and requires an external reference. Typical performance:

- Low phase noise design
- > +10 dBm output level
- Low spurious and harmonics
- High reference frequency suppression, typical –80 dBc
- Low power consumption <2 W
- Input reference typical 10 MHz
- Low timing jitter, typical 90 fs (30 Hz to 1 MHz offset)

Further options:

- Higher output power
- Lower power consumption <1.4 W

3 Setup

WORK synthesizers are compatible with many standard serial or parallel interfaces to program frequency, and can be customized to meet any user protocol. Standard user interfaces can be downloaded from the WORK web site and operate from any windows based PC.

Figure 1: PLO-CRO-xxxx-EXT product example.

4 Dimensions of PLO-CRO-xxxx-EXT Series

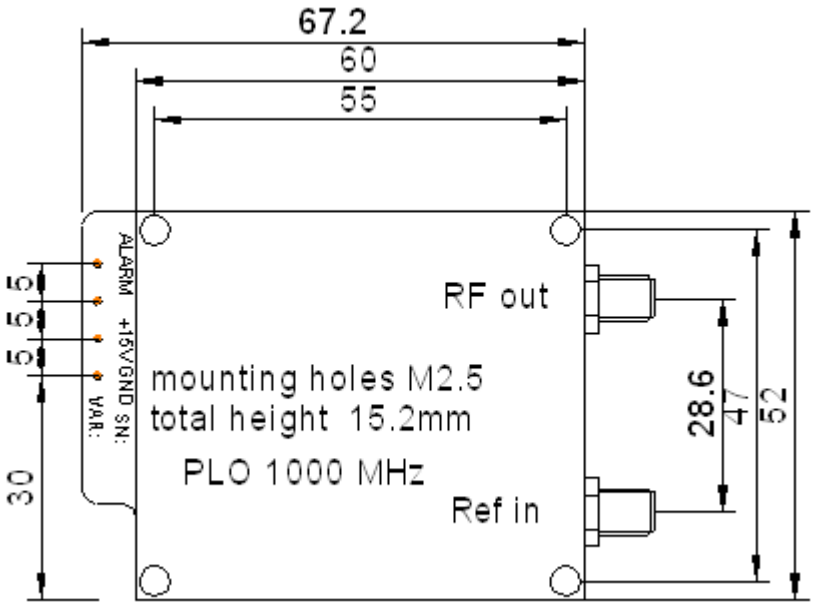

Figure 2: Outline Dimensions.

5 Technical data

PLO Type:		PLO-CRO-xxxx-EXT	
RF-Output Frequency:		125 ... 2500 MHz	
Phase Noise: (800..1000 MHz)	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz 1 MHz 10 MHz	-85 -97 -104 -111 -130 -145 -150	-87 -98 -106 -115 -132 -147 -155
		max. values in dBc/Hz	typ. values in dBc/Hz
Spurious Outputs:		Δf = ±10 MHz: Δf > 10 MHz: Output harmonics:	< -70 dBc < -75 dBc < -50 dBc
Output level:		Connector:	>10 dBm SMA (female)
Timing Jitter:		30 Hz … 1 MHz offset	< 100 fs
Reference Input:		Frequency: Level: Connector:	10 MHz sine wave 5 dBm ±5 dB SMA (female)
Lock detect output:		TTL, active high	
Temperature Range:		0 °C … 60 °C operating, -30 °C … 80 °C storage	
Relative Humidity:		< 95 % non condensing	
Power Input:		15 V ± 5 %	
Power Consumption:		Max: 2 W	
Power and control connector:		Solder point (through hole 1 mm)	
Dimension and Weight:		67.2 x 52.0 x 15.2 mm³ (WxHxD), approx. 75 g	

Specifications are subject to change

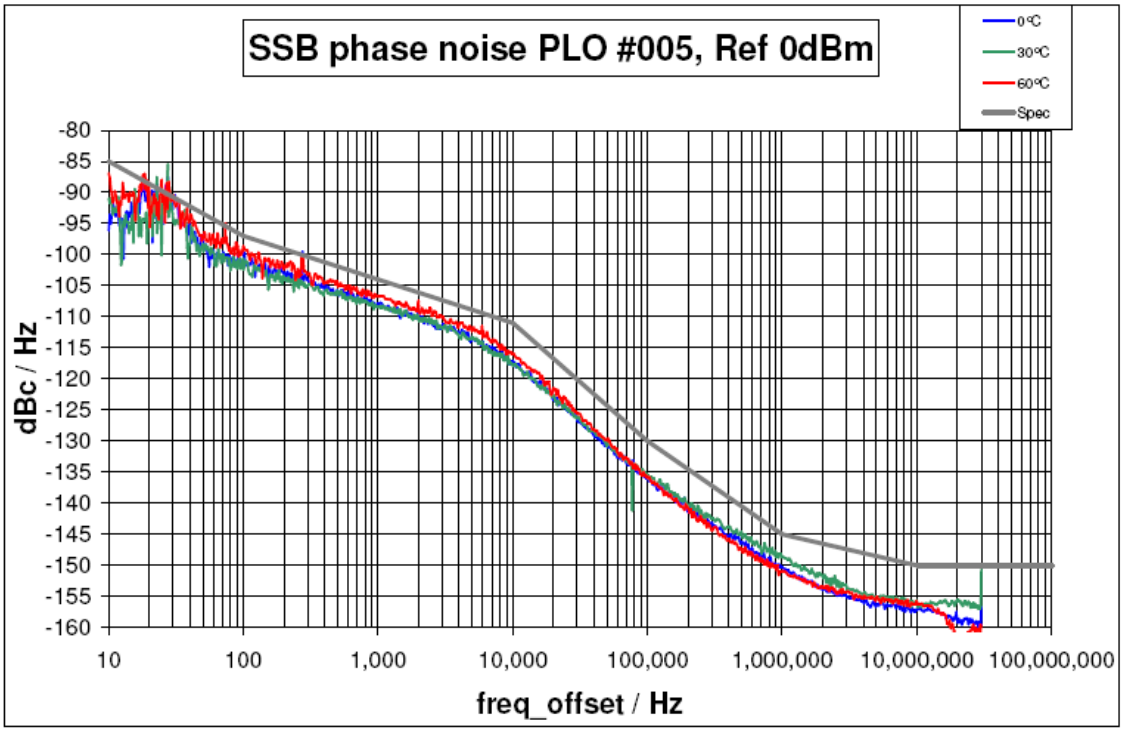

Figure 3: Typical phase noise over temperature.

6 Ordering information

Model-Nr	Description	Connector
PLO-CRO-xxxx-EXT	PLO, xxxx = frequency in MHz	SMA

7 Company address

WORK Microwave GmbH
Rudolf-Diesel-Ring 2
D-83607 Holzkirchen
www.work-microwave.com