



# PLD-2C Driver Master/Slave Synchronizer

## DESCRIPTION

The [sub]system consists of two **resonant optical choppers** (type CH), chopper "A" and chopper "B", in a **MASTER/SLAVE mode**, to provide **ultra stable modulating beam motions**. The system can be used as a "stand alone" unit, in the laboratory or as a portable instrument, or incorporated into a larger instrument/system. The two modulators are **ONE FIXED FREQUENCY each**, picked from the range of 5 Hz to 20 kHz. They are small size, light weight, low cost and long life devices. They require low power drive electronics and do not radiate any electromagnetic interference (EMI). The choppers have high amplitude stability and high frequency stability. They are IR, VIS, UV and high vacuum capable (to  $10^{-10}$  torr) and can be used in a large temperature range. Reference signal and position output available.

The **PLD-2C** driver phase locks **two** choppers. Chopper "B" is phase locked to chopper "A" (the slave is locked to the master). The phase relationship to the master is factory set to customer's requirement ( $0^\circ$  to  $360^\circ$ ) and is front panel adjustable in a range of  $\pm 45^\circ$  min. The driver can be a fully integrated driver with front panels controls and internal power supplies or a printed circuit board level driver. The dimensions of the cased driver are: 12" x 10" x 3.8". The **PLD-2C-PC** driver is a printed circuit board level driver, which requires an external  $\pm 15V$  DC power supply.

## CHARACTERISTICS

Frequency range: 5 Hz to 20 KHz.

External clock signal: Sine or TTL level square wave (1V PTP to 20V PTP).

External clock stability:  $\pm 50$  PPM.

External clock accuracy: 100 PPM.

Choppers' amplitude stability: .01% or better.

Reference output: Sine and TTL level square wave.

Phase adjustment range:  $\pm 45^\circ$  min.

Phase stability: .01%

Phase relationship: factory set to customer's spec.

Operating temperature range: 0-60°C.

Power input: 110V ac or 220V ac, 50-60 Hz, 20W.



## FRONT PANEL CONTROLS

POWER: Power switch to turn the drive "ON".

OUTPUT A: To interconnect chopper "A" (master) to the driver.

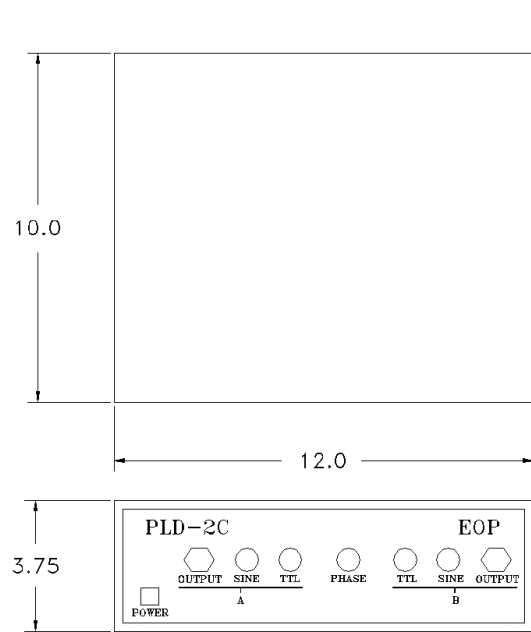
SINE A: Reference sine wave output of chopper "A", BNC connector.

TTL A: Reference TTL output of chopper "A", BNC connector.

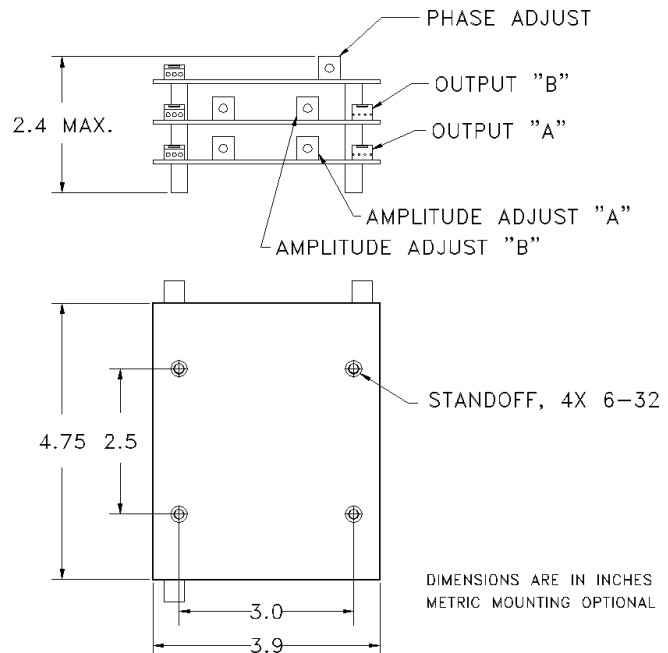
OUTPUT B: To interconnect chopper "B" (slave) to the driver.

SINE B: Reference sine wave output of chopper "B", BNC connector.

PHASE: To adjust the phase of the chopper "B" in relationship to chopper "A",  $\pm 45^\circ$  min. range of adjustment around the set level.



PLD-2C OUTLINE DRAWING



PLD-2C-PC OUTLINE DRAWING

