



CH-50, CH-60, CH-61 Low Frequency Optical Modulator/Shutter

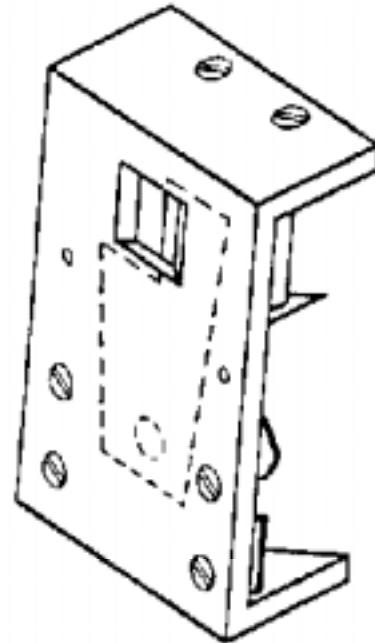
FEATURES AND ADVANTAGES

LOW COST

- Jitter free operation
- High frequency stability (to 0.005%)
- Small size
- Withstands shock and vibration
- High reliability, long life
- Accepts external clock input
- Phase locking to an external input
- Can be stopped in the "ON" or "OFF" position
- No radiated electromagnetic interference (EMI)
- Bright or dark blade
- A BOXED chopper optional
- Special pricing for OEM applications.

DESCRIPTION

The VARIABLE LOW FREQUENCY modulator Models CH-50, CH-60, and CH-61 consist of a blade (vane) mounted on a motor with a limited rotation angle. The position of the blade follows the direction of the current in the motor winding. Current in one direction will set the chopper to the open position and current in the other direction will set the chopper to the closed position. Alternating the current will cause the blade to open and close the chopper at a frequency range from DC to 12Hz (for the CH-50) or 50Hz (for the CH-60 and CH-61). This method of chopping is jitter free. High reliability and long life is achieved by eliminating the use of a brush type motor or gear heads.



The models **CH-60-B** and **CH-61-B** are boxed choppers (1.88" W x 2.50" L x 1.20" D) with a 0.34" (8.7mm) Dia. window for laser light, larger available.

When used with **DCH-50** or **DCH-60** Drive Electronics and an external clock input, a frequency stability of 0.005% is possible. This ultra high stability cannot be achieved with a rotating chopper. The chopping operation is locked in phase to the clock input therefore no additional circuitry is needed for phase locking. The driver also enables the user to set the chopper, when it is not running, in either a closed position or an open position.

The **DCH-50-PC** and **DCH-60-PC** are printed circuit board level drivers which require an external +/-15V dc power supply. The Model CH-61 uses the DCH-60-PC circuit board.

The chopper is especially suitable for low cost dedicated applications, OEM, built into an instrument/system, and for portable systems.



SPECIFICATIONS (WHEN USED WITH DCH DRIVER)

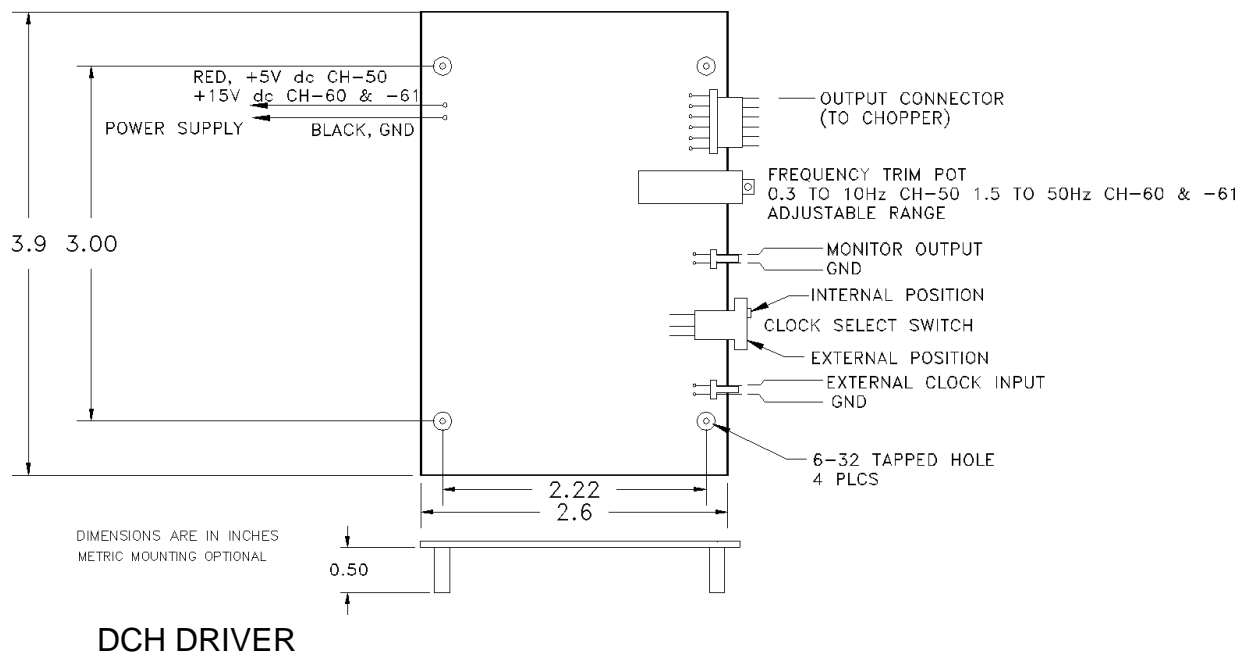
	CH-50	CH-60	CH-61
Aperture Size	0.25 x 0.45 inch	0.25 x 0.45 inch	0.34" (8.7mm) Dia.
Frequency Range	DC to 12Hz	DC to 50Hz	
Response Time, from OPEN to CLOSED, or vice-versa	30 mSec	10 mSec	
Power Requirements, driver and board	5V DC, 300mA	15V DC, 250mA	
Chopper Size	1.3"W x 2.5"H x 0.85"D	1.75"W x 3.0"H x 1.0"D 1.88"W x 2.40"L x 1.20"D boxed	
Chopper Weight	1.5 Oz (42 grams)	2.5 Oz (70 grams)	
Settling Time to External Clock	60 mSec	20 mSec	
External Clock Input	DC to 12Hz TTL level input	CD to 50Hz TTL level input 5V or OPEN to open the chopper 0V or "GND" to close the chopper	
Monitor Outut	TTL level output "Hi" indicates the chopper is open "Low" indicates the chopper is closed		
Operating Temperature	0-65°C		

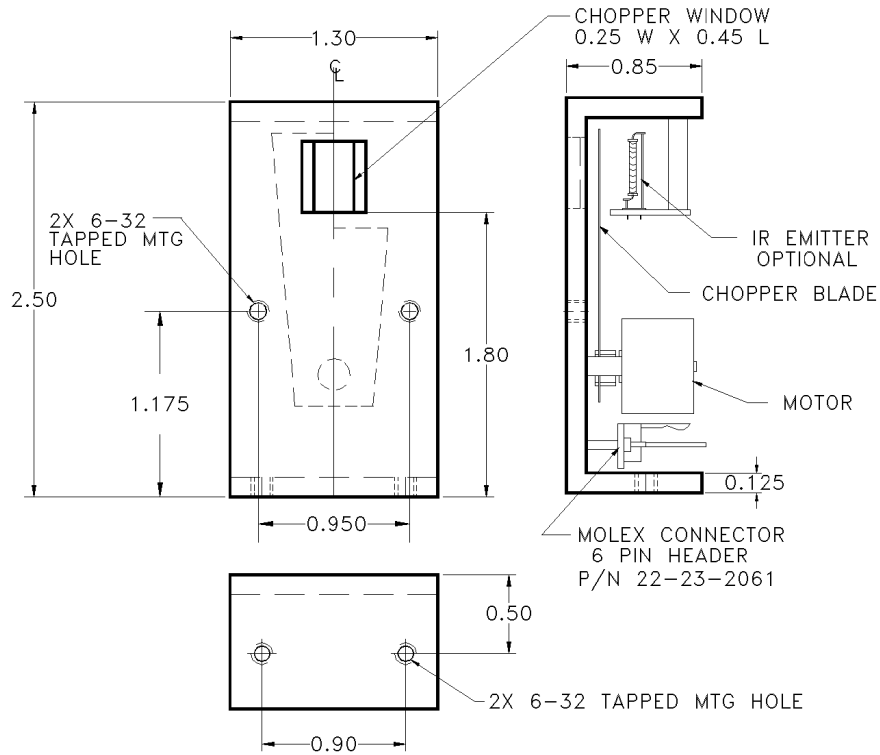
The DCH-50 Driver Configuration

The DCH-50 Driver is available in two configurations:
 Model **DCH-50PC**: A board level driver
 Model **DCH-50-100/220**: A cased driver, 5.3"x5.3"x2",
 operating from a line voltage of 110V AC or 220V AC

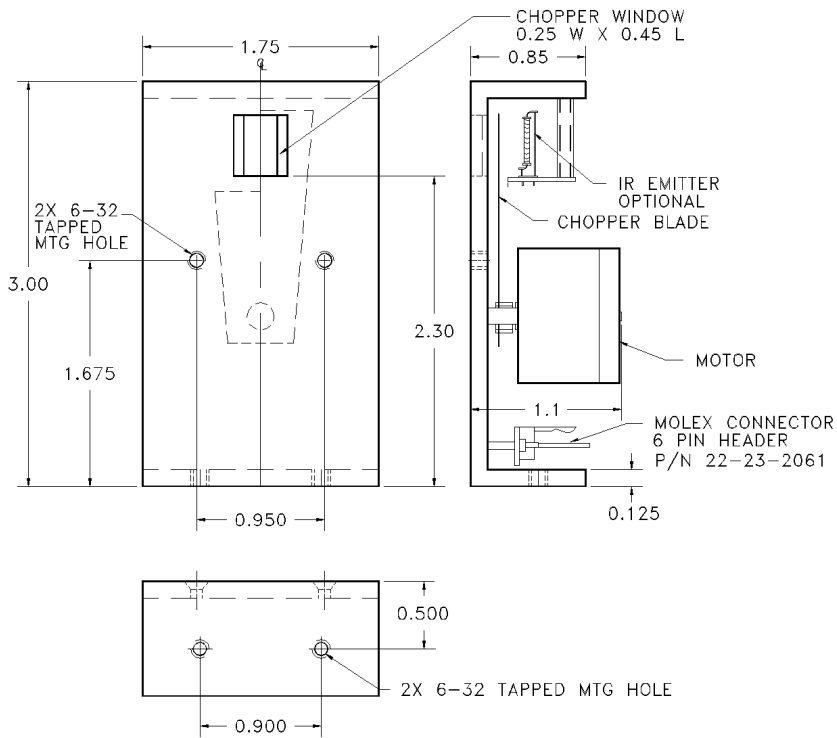
The DCH-60 Driver Configuration

The DCH-60 Driver is available in two configurations:
 Model **DCH-60-PC**: A board-level driver
 Model **DCH-60-110/220**: A cased driver, 5.3"x5.3"x2",
 operating from a line voltage of 110V AC or 220V AC



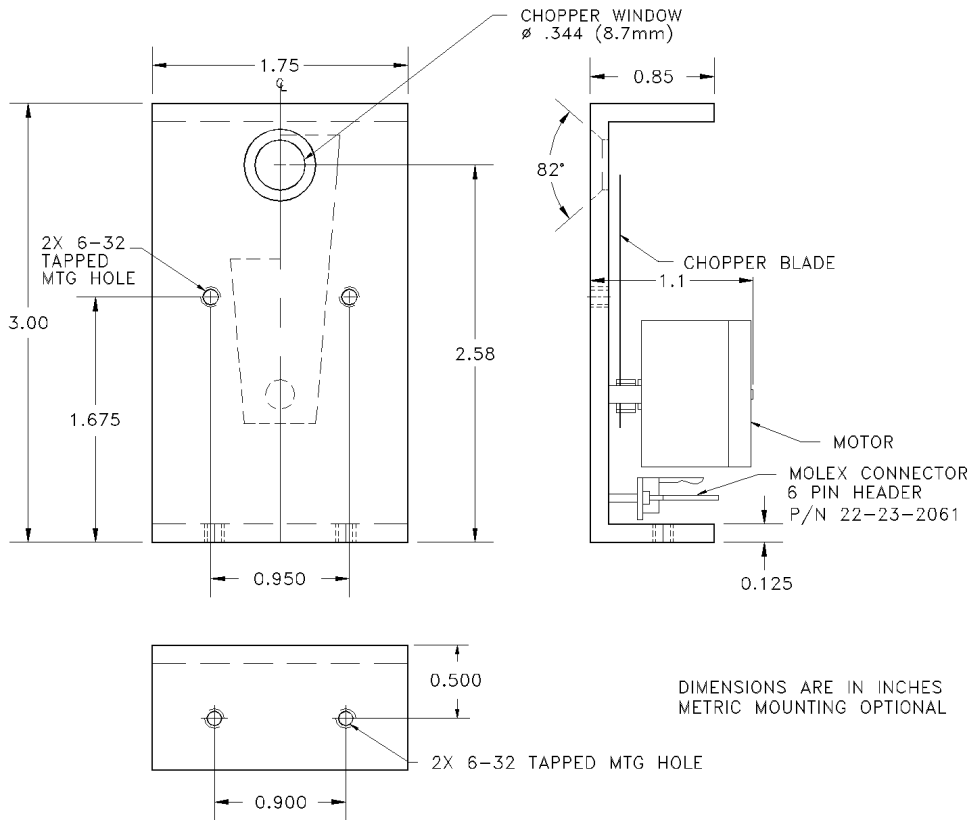


CH-50 OUTLINE DRAWING



CH-60 OUTLINE DRAWING





CH-61 OUTLINE DRAWING

