

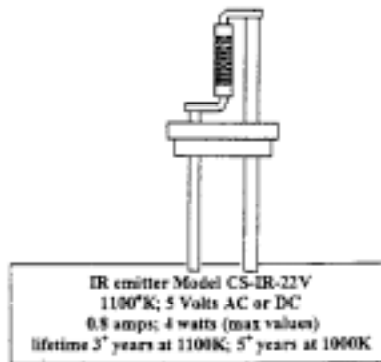


CH-50S and CH-60S Modulated IR Source

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
- Integrated IR EMITTER (BLACK BODY)
- 5+ year projected service life



DESCRIPTION

The VARIABLE LOW FREQUENCY modulator Models CH-50S and CH-60S 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-50S) or 50Hz (for the CH-60S). 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.

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 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)

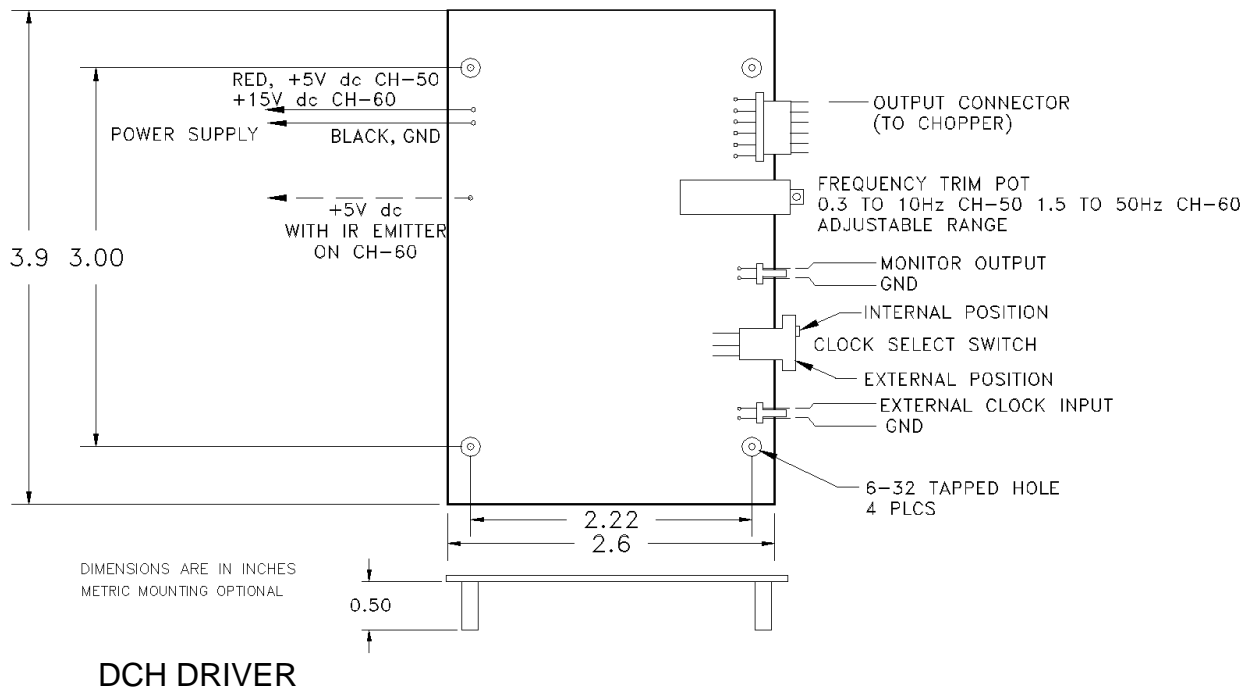
| | CH-50 | CH-60 |
|---|--|---------------------------------|
| Aperture Size | 0.25 x 0.45 inch | 0.25 x 0.45 inch |
| Frequency Range | DC to 12Hz | DC to 50Hz |
| Response Time, from OPEN to CLOSED, or vice-versa | 30 mSec | 10 mSec |
| Power Requirements, chopper with emitter and driver board | 5V DC, 1.2Amp | 15V DC, 250mA and 5V DC, 1.0Amp |
| Chopper Size | 1.3"W x 2.5"H x 0.85"D | 1.75"W x 3.0"H x 1.0"D |
| 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 5V or OPEN to open the chopper 0V or "GND" to close the chopper | CD to 50Hz TTL level input |
| Frequency Stability | 0.1% internal clock 0.005% with external crystal clock input | |
| Monitor Outut | TTL level output "Hi" indicates the chopper is open "Lo" indicates the chopper is closed | |
| Operating Temperature | 0-65°C | |

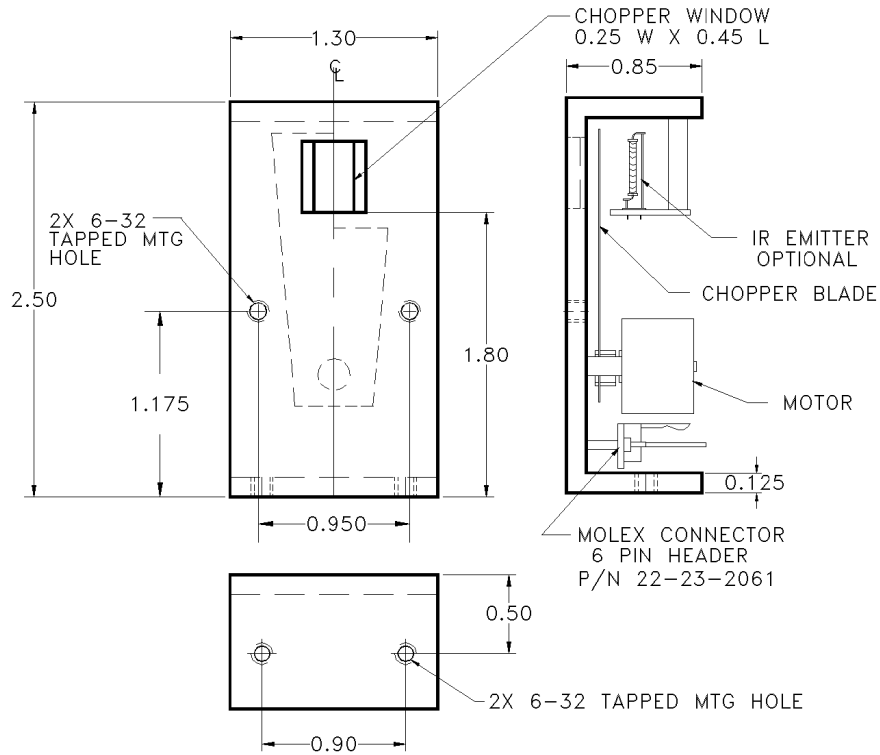
The DCH-50 Driver Configuration

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

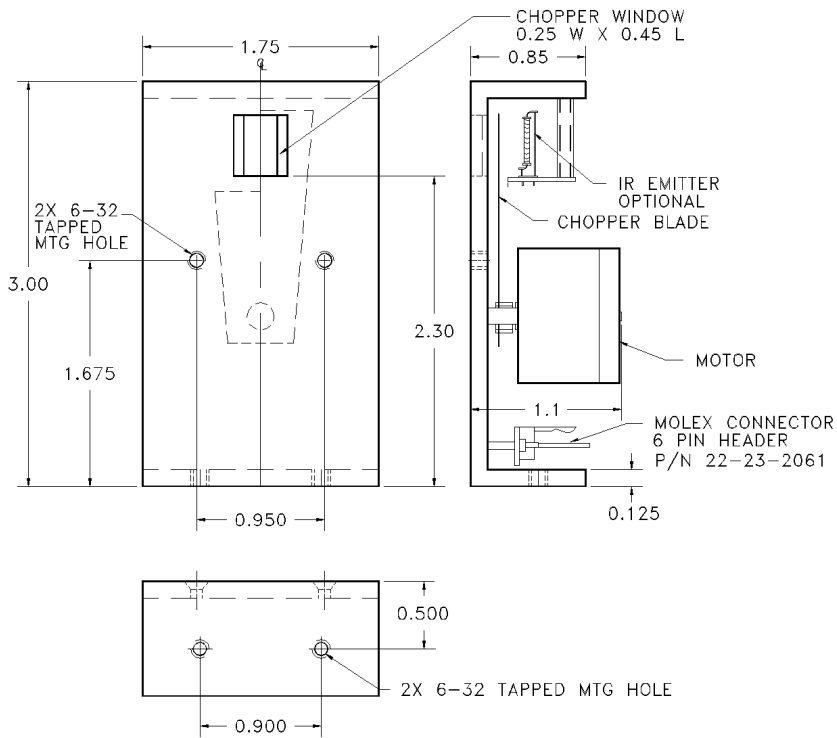
The DCH-60 Driver Configuration

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

