



GAS-GAP HEAT SWITCHES CRC-GHS4-2.5 & CRC-GHS3-2.5.



Note: These devices are quite delicate, and care must be taken not to bend or twist them. Distortion is likely to cause a thermal short.

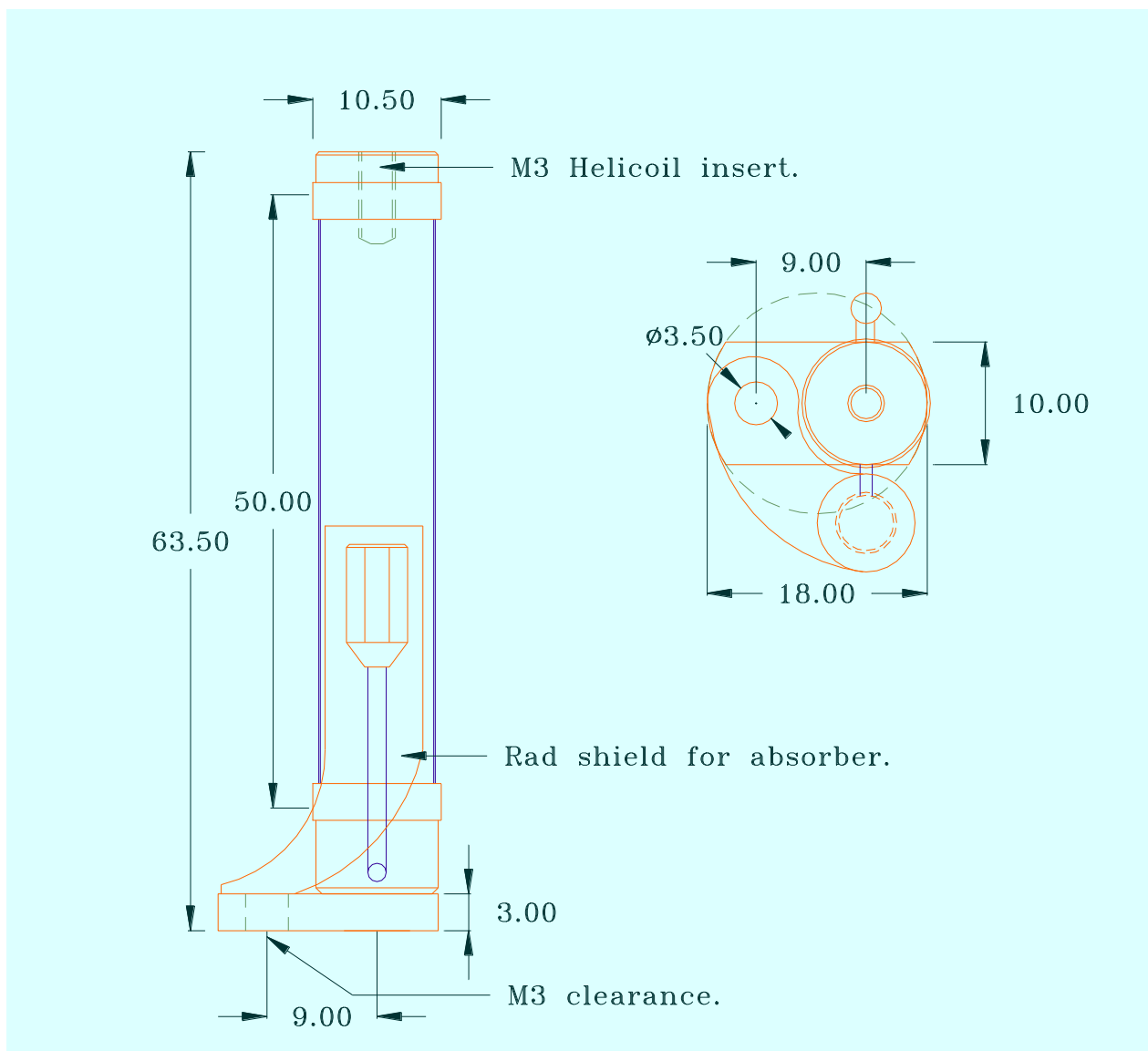
For good thermal contact, ensure that all mechanical/thermal connections are tight, and use spring washers under all bolt/screw heads.

Each switch is equipped with a 10kOhm heater (two brown-coloured wires), and a diode thermometer (Pink/Gold wires, pink is +ve¹). The diode should be excited with 10 μ A, and the junction voltage read out with a suitable high impedance circuit, e.g. a buffer amplifier or high impedance DVM. A calibration file may be obtained on request by e-mail from info@chasecryogenics.com.

The heater and thermometer are attached to the gas absorber pot. The switch will turn ON when the absorber is hotter than about 12K and will be fully ON when it is at about 20K. A potential of about 4 to 5 Volts applied to the heater resistor (i.e. a current of around 400 to 500 μ A, power of a few mW) is sufficient to achieve this. The switch turn-on/turn-off timescale is of the order of a few minutes.

To protect the absorber from radiant heating and consequent inadvertent turn-on, a small copper radiation shield is provided. This should be secured to the switch base by one of the fixing bolts/screws used to anchor the switch. If radiant heating of the absorber is unlikely to occur, then the shield may be omitted.

¹ Note: on more recent models the pink wire has been replaced with green.



External dimensions of gas-gap heat switches type
CRC-GHS3-2.5 and CRC-GHS4-2.5.

N.B. the imperial thread version has the top fixing hole tapped UNC#4-40, and the baseplate hole as UNC#6 clearance. The two-flange version has 4 x UNC#4 or M3 clearance holes (3.1mm) on a 1/2" grid at each end.