

Operation and Installation of the Optical Oil Level Sensor

Applications: "J" & "K" MSC compressors with Serial Numbers after "95J"

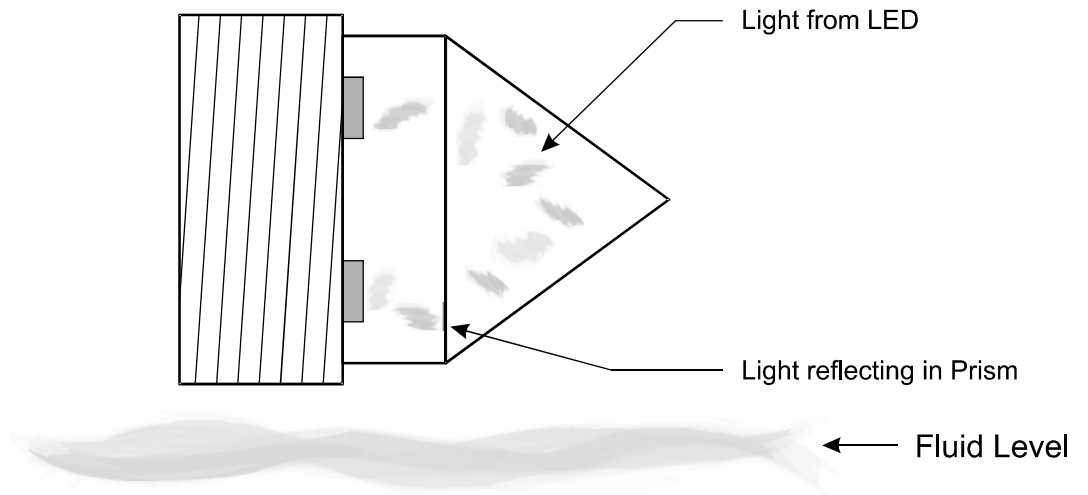


Figure 1
OIL BELOW SENSING PRISM

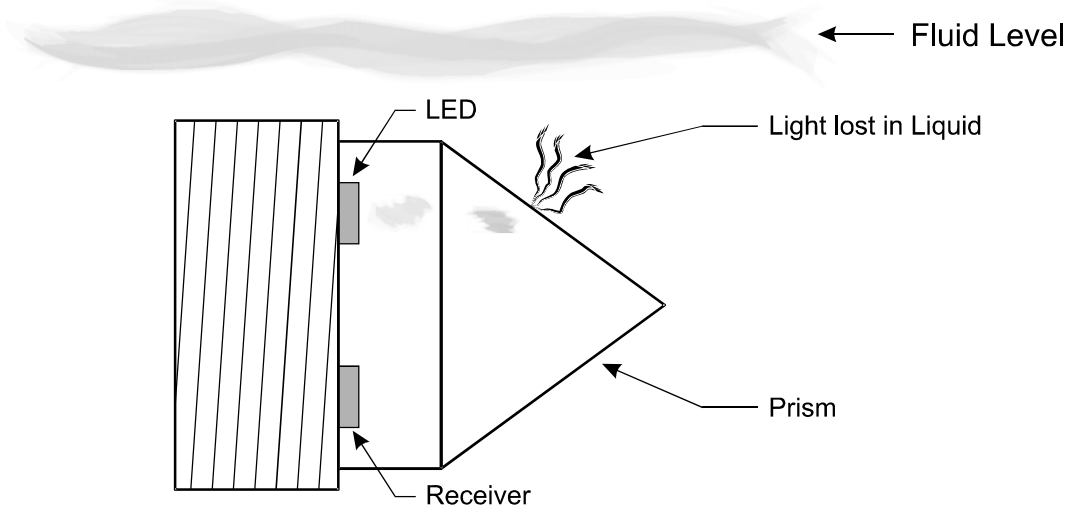


Figure 2
OIL COVERING SENSING PRISM

PART INFORMATION

Two sensors are available, one for 115 VAC and one for 230 VAC.

Control Voltage	HCI Part #	Wire Colors
115 VAC	055820A1	White, Yellow, Black
230 VAC	055820A2	White, Red, Black

Yellow / Red – Oil Sensor Load switch

Black – Oil Sensor to resistor to common

White – Oil sensor Hot constant power

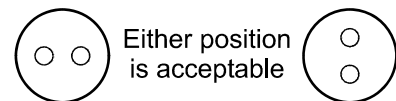
OPERATION

- The optical oil level sensor is mounted in the compressor body at the lowest point location at which the compressor can safely be operated.
- When the oil level drops below the level of the sensor, the sensor sends an electrical signal to the compressor control circuit, shutting down the compressor.
- On some packages containing multiple compressors, the control circuit will initiate a signal to feed oil to the compressor from the oil equalization circuit.
- When the oil is below the level of the sensor (See Fig. 1.) light from the LED reflects off the prism and is picked up by the receiver. This signal shuts the compressor off.
- When the oil level is above the prism, (See Fig. 2.) light from the LED is lost in the liquid. Interrupting the beam to the receiver signals the control circuit that oil is detected, allowing the compressor to run.
- It is important for the prism to be extremely clean or the receiver may get an erroneous signal. Dust or dirt on the prism can give a false reading indicating there is a liquid covering the prism. If the prism is cracked, the same problem will occur.

NOTE: The sensor will detect any fluid. If water or liquid refrigerant is present, the sensor will act the same as though oil was covering the prism.

INSTALLATION INSTRUCTIONS

- When replacing the oil sensor, it is important that you use extreme caution when tightening the replacement sensor. Whenever possible, use a box end wrench to tighten the replacement sensor.
- The wrench must be as low (near the thread end on the sensor) as possible. If the sensor is tightened from the upper end, it is possible to distort the housing and crack the prism. Over torquing the sensor can also crack the prism.
- When installing the electronic section into the prism section, there is no specific alignment required. The sensor will function in any position.



Refer to oil sensor replacement kit for additional instructions.