Electronic Oil Level Regulator Type OLCE

HPEOK Patent

Patent No.ZL 201520473220.6

Main Features

- Patented photoelectric sensor technology
- Low level alarm circuit
- Replacement parts available
- Adapters available for most popular compressor models
- Universal flange compressor connection
- Comparing to mechanical level regulator, OLEC has a compacted structure, more precise in level detect and high reliability capability, by which it can protect or avoid compressor burned or shorten service live due to lack of lubricant oil

OLCE regulator is an electronic oil level controller in refrigeration system; it offers accurate oil detection and oil level control in commercial refrigeration compressors.

Applications

The OLCE Electronic Oil Regulator can be used with Low and High Pressure Oil Management Systems on a single compressor or on multi–compressor racks.

It is bolt directly to the sight glass housing on the compressor crankcase. The regulator comes ready to mount to several popular compressors.

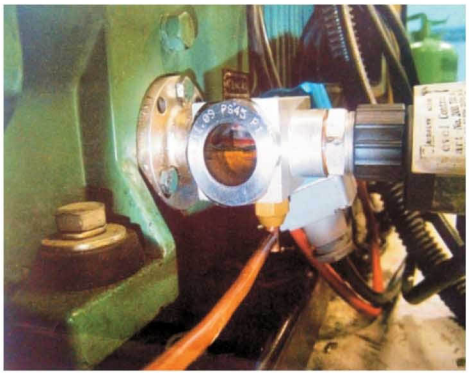
These Regulators are more stable than those electromagnetic regulators.

Specification

Max.working Pressure	43Bar	Refrigerant	HFC and HCFC, as well as other non–corrosive refrigerants
Supply voltage (fuse melting point: 5A)	24V AC，50/60HZ; +10~–15% voltage fluctuating allowed	Medium temp.	–20 ℃ –+80 ℃
Alarm contact rating	3A,240V AC	Ambient temp.	–20 ℃ –+50 ℃
Coil Voltage	220–230V AC Frequency:50/60HZ	Solenoid valve Max.differential pressure	21Bar
Operating current	0.7A	Storage & transport term.	–20 ℃ –+50 ℃
Oil return	1/4" flare	Protection class (DIN43650)	Ip65

How it works

The regulator uses photoelectric sensor technique to detect oil level, the sensor detects the oil level, and transfers the optical signal to electrical signal and sends it to solenoid coil to open or close the solenoid valve, when solenoid valve open, the oil get into the compressor.

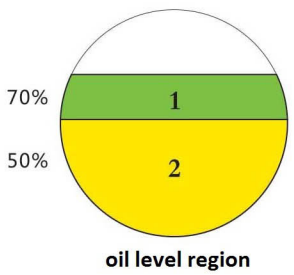


The sight glass is divided to two oil level zones, green (oil level at 70%–50%) and yellow (oil level at 50%–0%) as below table. When the oil level at the yellow zone, the photoelectric sensor detects the signal and sent it to solenoid valve, the solenoid valve will open till the oil level get to the green zone.

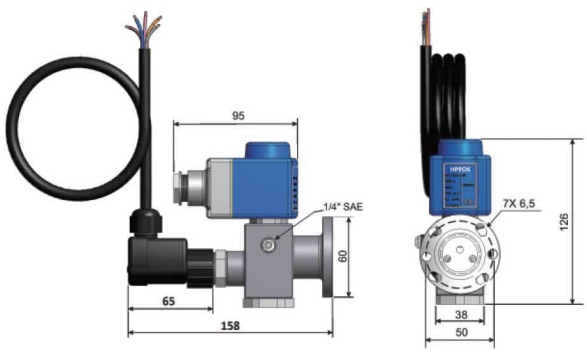
The green led in top of the sensor can indicate the oil level status. When light off, the oil level is normal state, when the light on, the oil level is lower than the set data and system is sending the oil to the compressor.

Technical data

LED	oil level status
ON	Green (oil level at 70%–50%) oil level status 1
OFF	Yellow (oil level at 50%–0%) oil level status 2

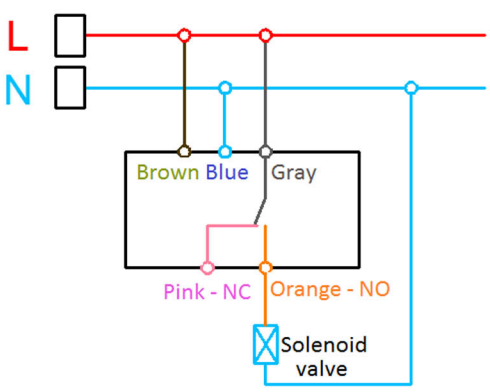


oil level region

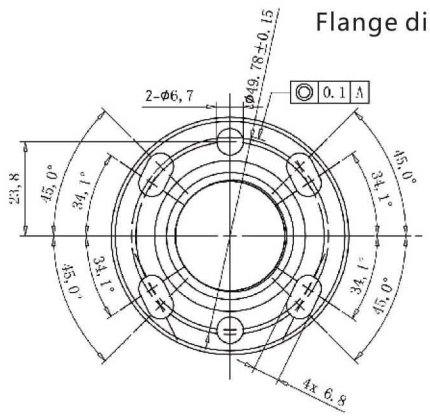


Adapters are optional for regulator installation

AC 50/60HZ 220V±10%



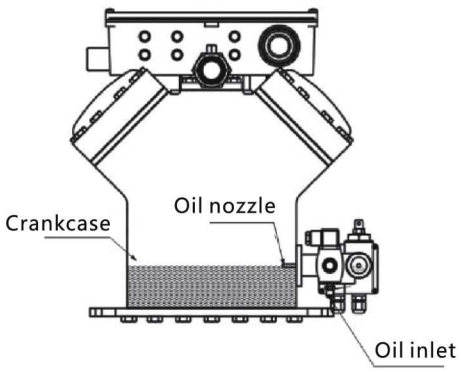
Flange dimension



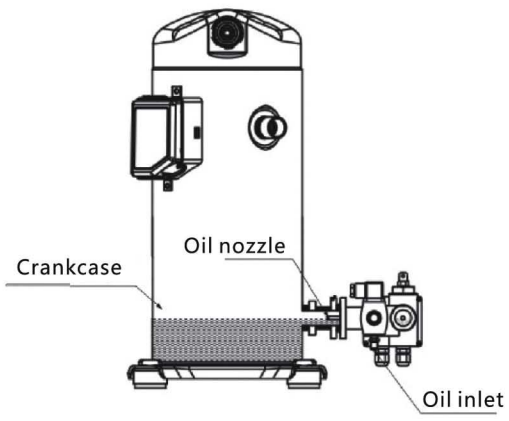
Installation – Notes

1. To protect the Oil Level Regulator from system debris, an Oil Strainer, Oil Filter or Oil Filter Drier is recommended.
2. The operating differential oil pressure should be within the range of the Regulator's specification.
3. Power to the unit should be maintained during compressor running, standby and shutdown modes.
4. Full instructions are given in the Product Instruction Sheet included with each Regulator.
5. Keep clean of the sight glass housing, housing tighten torque 35N.m.
6. Vertically insert the sensor into glass housing with 10N.m tighten torque, the wire outlet should downward.
7. Ensure the body is in a horizontal position when install to the compressor.
8. The sensor starts 5 seconds after connecting the supply voltage.
9. The sensor disconnected after 5 seconds in case of low oil level or sensor fault happens, and connected after 5 seconds when oil level normal and fault gone. This delay prevents high switching rate at not clear conditions e.g. formation of foam, bubbles in liquid.

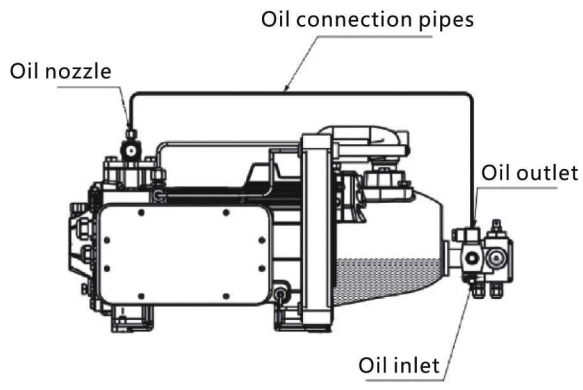
Installation of electronic oil level regulator in compressors



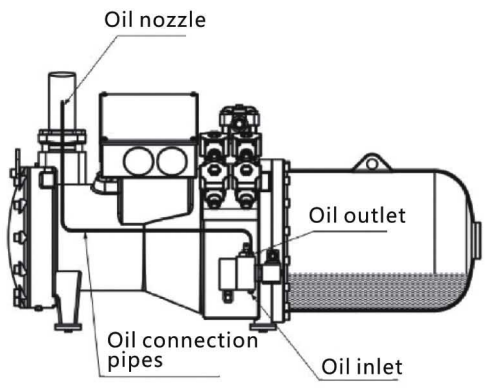
Semi-closed piston compressor



Hermetive scroll compressor



Semi-closed scroll compressor



Screw compressor with inner Oil separator