



## Crankcase Heater Optimiser

**The Guardian Controls Crankcase Heater Optimiser (CHO) has been specifically developed to reduce the energy consumed by compressor crankcase heaters.**

Compressor crankcase heaters being on when they're not required is a continual source of wasted energy, especially for idle packs.

The CHO continually assesses the pack pressure, suction line temperature and plant room temperatures to determine if it's safe to inhibit the crank case heater power. Further energy savings can be made by inhibiting the ventilation fans if conditions allow.

The CHO can monitor and optimise crankcase heaters for up to 10 compressors on a pack and 1 ventilation fan. Assessing the plant room conditions is vital to provide safeguards and prevent oil slugging and flood back.

### Features

Suitable for reciprocating or scroll compressor packs

Up to 10 compressors & 1 ventilation fan per pack

LCD display with configuration buttons

Inbuilt data logging to verify savings

Slim vertical fitting enclosure

Kit includes all necessary probes, cables and glands for installation

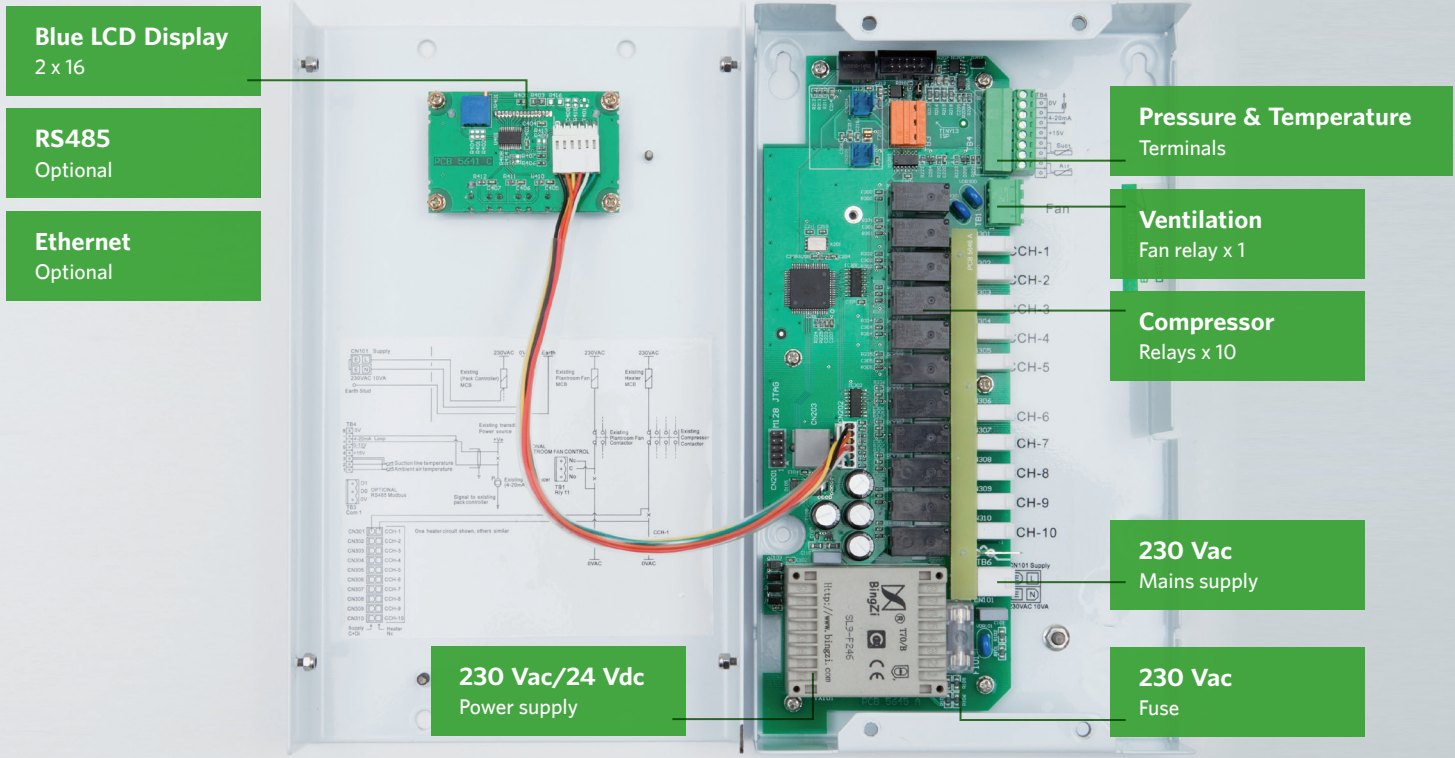
### Key Benefits

After 12 months of successful live testing Guardian Controls is delighted to release its Crankcase Heater Optimiser.

Average Annual Energy Savings of 75%

- Straight forward retrofit to existing packs as part of energy saving initiatives
- Increases pack efficiency from day one when fitted to new packs
- Vital oil slugging and flood back safeguards
- Compatible with existing control equipment
- Simple set up and configuration
- In built data logging; 28 day rolling log and cumulative totals





### Door Sentry

## Use in conjunction with

### GC-45 Compressor Controller

Guardian Controls methodologies can save up to 40% of the energy used in traditional refrigeration compressor pack control

The GC-45 delivers stable pack control, smooth transitions and optimises:

- Compressors, loading valves and variable speed drives
- Superheats
- Suction & discharge pressure set point
- Condenser capacity
- Fan power
- Removes unnecessary stops/starts



## Options

### CHO-10

Up to 10 compressors & 1 ventilation fan

### CHO-05

Up to 5 compressors & 1 ventilation fan

### RS485

Modbus Communications

### IPM-04

Ethernet Communications

## Coming Soon

### CHO-03

Up to 2 compressors & 1 ventilation fan

## Why are crankcase heaters required?

They protect the compressor when it's not running and ambient conditions are cooler than the evaporating conditions. Without it the refrigerant is able to mix with the oil resulting in oil slugging and flood back both of which can severely damage the compressor.

Crankcase heaters play an important role, but to leave them on continuously is wasteful.