

# CoreSense™ Protection modules for Copeland Scroll™ compressors



5 Year Warranty

Model # ESC1AFPT-CC-901

## A superior replacement for most traditional AC and heat pump compressor contactors

CoreSense™ Protection modules for single phase, residential air conditioning and heat pump systems combine the functionality of a standard system contactor with compressor diagnostic and protection capabilities. Exclusively for Copeland Scroll™ compressors, this innovative new product can be used to replace single and two-pole contactors commonly used in the field. Through built-in CoreSense technology this device will actively shut down the compressor when critical system faults are detected. CoreSense Protection modules maintain the same wiring configuration as a standard contactor and are easily installed in a condensing unit electrical panel. By using the compressor as a sensor, the onboard diagnostics help the service technician more accurately troubleshoot system and compressor fault conditions.

**Copeland Scroll™**

  
**EMERSON™**  
Climate Technologies

# CoreSense™ Diagnostics + SureSwitch™ = CoreSense™ Protection



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## Benefits

- Actively shuts down the compressor when critical system faults are detected
- Six diagnostic codes enable greater speed and accuracy of troubleshooting
- Stores system and fault history for download
- Reduces callbacks and provides homeowner peace of mind
- Same wiring as traditional contactor

## Features

- Microprocessor controlled sealed compressor switching
- Low line voltage protection
- LED displays status and fault conditions
- Heavy duty line voltage lug connectors
- Push-button test
- Zero chatter latching relay construction
- Similar mounting footprint as traditional contactors
- Two pin data port enables download of fault history

## Performance tested

CoreSense Protection modules have undergone exhaustive testing on Copeland Scroll compressors to demonstrate ultimate reliability of over 1 million cycles. This technology has been utilized on OEM production controls since 2006 and is now available for the aftermarket.

## Terminal designations

24V: Y, C

208/240V: L1, L2, T1, T2

## Specifications

### Operating condition

--Operating temperature..... -40°C to 65°C

--Storage temperature..... -40°C to 80°C

### Electrical rating

--Line voltage input..... 208-240 VAC at 50/60 Hz

--Full Load Amperes (FLA).....40 Amp maximum

--Locked Rotor Amperes (LRA)....180 Amp maximum

--Control (Coil) voltage (Y,C).....24 VAC at 50/60 Hz

### Recommended terminal torque values – L1, L2, T1, T2

#4 – 6 AWG.....45 in-lbs

#8 AWG.....40 in-lbs

#10 – 14 AWG.....35 in-lbs

### Dimensions

2-3/4"W x 3-2/3"H x 3-3/4"L

### Agency Approval

UL File #E253322

Alert code	Alert condition	Lockout indication
Solid green	Normal run	N/A
Green flash 1	Long run	N/A
Green flash 2	Compressor pressure trip	Red flash 2
Green flash 3	Pressure switch cycling	Red flash 3
Green flash 4	Locked rotor	Red flash 4
Green flash 5	Compressor mod. run trip	Red flash 5
Green flash 6	Low line voltage	Red flash 6
	Trip	Solid red



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For universal contactor replacement install SureSwitch electronic compressor control