



ICM870 9A/16A



Installation, Operation & Application Guide

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IMPORTANT SAFETY INFORMATION



HIGH VOLTAGE WARNING – Always turn off power at the main service panel before installing.

CAUTION: The ICM870 must be mounted in an area where it will not be exposed to water or the elements. Exposure of the ICM870 soft start to water can cause failure of the control and is a risk for fire or other electrical safety hazards.

Installation of any ICM870 soft start must be done by a certified HVAC technician or licensed electrician. All installations are to be done in accordance with local, state, and national electrical codes.

REPLACES

Dometic Smart Start: Models 340582 and 340583

FEATURES

- Starting current reduction & self-learning algorithm
- Built-in start capacitor
- Over/under voltage monitoring
- Over-current protection
- Diagnostic indicators
- Sealed enclosure

APPLICATION

The ICM870 is intended for Marine, Recreational Vehicle, and commercial applications. The ICM870 integrates compressor in-rush current over startup time, thus reducing peak current demand on a power supply source (generator or other). The ICM870 will monitor system health including voltage, current, compressor startup and self integrity. Upon a fault condition, the ICM870 will halt operation and initiate a 3 minute anti-short cycle routine while providing diagnostic fault information by means of an LED indicator.

INSTALLATION

When replacing an existing soft start or upon new installation, remove any existing start capacitor from the circuit.

Mount the ICM870 Soft Start inside the electrical box or in an area outside the box where it will not be exposed to water using double sided adhesive tape and the 4 mounting screws provided in the wiring kit. The ICM870 should be mounted and oriented in a position where the wire loom faces the bottom of the control.

Using the provided wiring kit, wire in the ICM870 as per the wiring diagram provided in this installation guide.

LED INDICATORS

Start = Green **Run** = Green **Fault** = Red (flashing)

FAULT CODES

Fault Code	Fault Condition
1	High or low voltage
2	Compressor not Sensed or open fuse
3	High current
4	Compressor start error
5	Invalid operating frequency

SPECIFICATIONS

Inputs: L1 & L2

- Nominal voltage: 90 VAC min, 264 VAC max
- Over voltage limits: – 115 VAC nominal = 140 VAC
– 240 VAC nominal = 250 VAC
- Under voltage limits: – 115 VAC nominal = 95 VAC
– 240 VAC nominal = 195 VAC

Outputs: Compressor

- Solid state/relay
- Current: – Maximum nominal = 9 A, 16A
– Absolute maximum = 22 FLA, 84 LRA
- Over current limits: ICM870-9A = 11.25A, ICM870-16A = 20A

Environmental:

- Operating temperature: -40°F to 131°F (-40°C to 55°C)
- Storage temperature: -40°F to 149°F (-40°C to 65°C)
- Humidity: 0-95% non-condensing
- Enclosure: IP65

WIRING DIAGRAM

