



CD1-024R

Compressor Defender™ Undervoltage, Surge, and Short Cycle Protective Device

CD1-024R

The Compressor Defender™ is the only all-in-one undervoltage and surge power protection device on the HVAC Market, providing protection for central A/C and heat pump condensing units and their associated motors, controls, and components—both electronic and mechanical. It can be installed inside the condensing unit or externally on the outdoor A/C disconnect.

Autosense voltage technology protects at any voltage from 120-240 VAC, making it an ideal solution for residential or light commercial installations. Trusted, state-of-the-art TPMOV® (Thermally Protected Metal Oxide Varistor) surge protection technology eliminates the potentially hazardous failure modes that are associated with standard MOV technology. The device is also designed with integrated, 3-minute short cycle time delay protection.

Applications

- 1 or 2-stage central air conditioners and heat pumps for residential and light commercial heating and cooling, or pool and spa heating systems

Features

- TPMOV® (Thermally Protected Metal Oxide Varistor) surge protection technology
- 3-year, \$7500 connected equipment warranty
- Auto-sense voltage technology
- Quick-reacting, 3-line cycle undervoltage response time
- 120-240 VAC universal input
- 24 VAC/VDC, 2 A control thermostat output
- 3-Minute short cycle time delay
- Two LED indicators provide real time status for quick and easy troubleshooting and functional visibility for end users
- Surge protection complies with the latest UL 1449 3rd Edition surge protective device requirements
- Undervoltage protection complies with AHRI standard 110-2012 Range B² Protective Device

Model	Enclosure
CD1-024R	Type 3 Outdoor



Ratings:		
Input Voltage	120-240 VAC, Single Phase, 60 Hz	
Thermostat Relay	Normally Closed Relay, 24 VAC	
SPD Type	Type 2 SPD	
Control Output Current Rating	2 A @ 24 VAC, isolated NC contact	
Max Continuous Overvoltage (MCOV)	L-N/G: 150V, L-L: 300V	
Voltage Protection Rating (VPR)	L-N/G: 700, L-L: 1200	
Nominal Discharge Rating	In (10 kA)	
SCCR (Short Circuit Current Rating)	20 kA	
Undervoltage Response Time	3 line cycles	
Short Cycle Delay	3 min	
Operating Temp	-40° F to 158° F (-40° C to 70° C)	
Enclosure	Type 3 Outdoor	
Wire Size	#10 AWG	
Shipping Weight	1.2 lbs	
Product Warranty	3-year limited	
Connected Equipment Warranty	3-year / \$7500	
Undervoltage Pickup Table	Nominal System Voltage	Range B ² Protection
	120 VAC	106 VAC
	208 VAC	184 VAC
	240 VAC	212 VAC

Specification

Furnish and install an Intermatic CD1-024R Compressor Defender™. The unit shall protect HVAC Compressors (Scroll & Reciprocating), and the electronics inside central air conditioners, heat pumps, light commercial packaged rooftop units, or pool and spa heating systems, from under/overvoltage conditions, surge events, and system short cycling caused from AC power interruptions. The unit shall be capable of opening up to a 2 A @ 24 VAC thermostat connection. The unit shall be compatible with 120, 208, and 240 VAC voltage systems. The unit shall provide Type 2 surge protection with a nominal discharge current rating of 10 kA, a short circuit current rating of 20 kA, and a voltage protection rating of L-N/G: 700, L-L: 1200. The unit shall have a 3-minute short cycle delay. The Compressor Defender™ shall have normally closed operation. If surge or voltage monitoring protection is lost, the unit shall continue normal compressor and thermostat operation without surge protection.