



CD1-024R



Ratings		
Input Voltage	120/208-240 VAC, Single Phase, 60 Hz	
Thermostat Relay	Normally Closed Relay, 24 VAC	
SPD Type	Type 2	
Modes of Protection	3 (L1-N, L2-N, L1-L2)	
Control Output	2 A @ 24 VAC, isolated NC contact	
Current Rating		
Max Continuous Overvoltage (MCOV)	L-N/G: 150, L-L: 300	
Voltage Protection Rating (VPR)	L-N/G: 700, L-L: 1200	
Nominal Discharge Rating (In)	20 kA	
SCCR (Short Circuit Current Rating)	100 kA	
Undervoltage Response Time	5 line cycles*	
Power Disruption Response Time	3 line cycles*	
Short Cycle Delay	3 min	
Operating Temperature	-40° F to 158° F (-40° C to 70° C)	
Enclosure	Outdoor Type 3	
Lead Gauge	#10 AWG, Tinned Copper	
Shipping Weight	1.198 (0.543 kg)	
Warranty	3-year limited	
Connected Equipment Warranty	3-year/\$7,500	
Undervoltage Pickup Table	Nominal System Voltage	Range B Protection
	120 VAC	104 VAC
	208 VAC	180 VAC
	240 VAC	208 VAC

*Typical Response Time

CD1-024R

Compressor Defender™ Undervoltage, Surge and Short Cycle Protective Device

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.
- Pool and Spa Heating Systems

Features

- TPMOV® surge protection technology
- 3-year, \$7500 connected equipment warranty
- Auto-sense voltage technology
- Quick-reacting, 5-line cycle undervoltage response time
- 120/208-240 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, 4th Edition, surge protective device requirements
- Undervoltage protection complies with AHRI standard 110-2016 Range B Protective Device
- Undervoltage Response Time: 5 line cycles*
- Power Disruption Response Time: 3 line cycles*
- Type 3 Outdoor, UV resistant plastic enclosure

*Typical Response Time

Model #	Enclosure
CD1-024R	Outdoor Type 3

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 disconnecting a 2 A, 24 VAC thermostat circuit during an under-voltage or power disruption event which initiates a 3 minute short cycle time delay event. 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 20 kA, a short circuit current rating of 100 kA, and a voltage protection rating of L-N/G: 700, L-L: 1200. If surge or voltage monitoring protection is lost, the unit shall continue normal compressor and thermostat operation without surge protection.