

DEFINITE PURPOSE CONTACTORS

series
280
non-reversing

series
290
reversing

SERIES 280 & 290 PRODUCT PROFILE



c3controls **Series 280 and Series 290 Definite Purpose Contactors** are designed to meet your power switching application, right down to the number of power poles. Commonly used in the HVAC industry, definite purpose contactors can help you save money and a premium panel space. Just look and see what our new line has to offer!



DELIVERING SUPERIOR PRODUCT QUALITY AND MANUFACTURING EXCELLENCE

| | |
|-------------------------------------|---|
| ✓ Proven | Our Series 280 and 290 Definite Purpose Contactors are UL Recognized, meeting essential standards requirements. |
| ✓ Compact Size | Reduced panel area for lower installed costs. Maximum three (3) frame sizes per pole for devices rated from 20A to 90A. |
| ✓ Lower Cost | Definite purpose contactors are a lower cost alternative when compared to 3-pole standard contactors. |
| ✓ Flexibility | Available in multiple pole configurations, up to 3 to meet your application needs. |
| ✓ Easy to Install | Panel-mountable with four screws, one in each corner, for fast and simple installation. |
| ✓ Visible Certifications | Our product certifications and electrical ratings are clearly marked on the outside of the device for easy reference during installation. |
| ✓ Environmentally Friendly | Environmentally friendly contacts are cadmium free and non-metallic materials are asbestos, halogen, and cadmium free. All c3controls products are compliant to the RoHS directives. |
| ✓ Added Safety | The durable, impact-resistant Class F-type contactor frame is insulated to guard against physical or electrical damage. |
| ✓ Limited Lifetime Warranty* | Every product is backed by our limited lifetime warranty—unmatched in the industry—bringing you quality components that perform in the most demanding applications. |
| ✓ Guaranteed Availability* | Any order for standard catalog items received by 6:00pm ET is guaranteed to ship same-day. NOTE: Not all items are available for guaranteed same-day shipping, consult factory for the details. |
| ✓ Advantage Pricing | Our approach to product development, manufacturing, and focus on servicing the OEM and Electrical Equipment Builder reduces cost. The result—the best value in the industry. |

*See c3controls Terms & Conditions

UNIQUE FEATURES

Multiple Pole Configurations

- With 1-, 2-, and 3-pole configurations available, a more accurate contactor can now be chosen, leading to cost savings and a smaller dimensional footprint compared to a 3-pole only contactor.

Single Pole Contactor with Shunt

- Single pole contactors include a shunt for termination and feed-through of Neutral line.

Added Safety

- The durable, impact-resistant Class F-type contactor frame is insulated to guard against physical and electrical damage.

Integrated Mechanical Interlock

- Series 290 Reversing Contactors include an Integrated Mechanical Interlock to avoid simultaneous switching of both the frames.

Ease of Connection

- Quick connect and box lug wire terminals will help reduce your installation costs and enhance the features and performance of your equipment.

Quick Identification

- Clear markings and visible labels ensure quick identification of the product, simplifying troubleshooting in panels with many devices.



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DEFINITE PURPOSE CONTACTORS

SPECIFICATIONS

| | UNITS | 1-, 2- & 3-POLE AND 3 + 3-POLE, DUAL FRAME | | | | | | | | | | | | 2- & 3-POLE | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------|---|-------|---------|--------|------|-------|--------------|--------|------|-------|---------|--------|---------------------------------------|-------|---------|--------|------|-------|---|--------|------|-------|---------|--------|------------|--|--|--|--|--|------------|--|--|--|--|--|
| | | 20A | | | 25A | | | 30A | | | 40A | | | 50A | | | 60A | | | 75A | | | 90A | | | | | | | | | | | | | | |
| KEY SPECIFICATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Load Amps (FLA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240/277V AC | A | 20 | | | 25 | | | 30 | | | 40 | | | 50 | | | 60 | | | 75 | | | 90 | | | | | | | | | | | | | | |
| 480V AC | A | 20 | | | 25 | | | 30 | | | 40 | | | 50 | | | 60 | | | 75 | | | 90 | | | | | | | | | | | | | | |
| 600V AC | A | 20 | | | 25 | | | 30 | | | 40 | | | 50 | | | 60 | | | 75 | | | 90 | | | | | | | | | | | | | | |
| Resistive Load Amps | A | 20 | | | 25 | | | 30 | | | 40 | | | 65 | | | 75 | | | 90 | | | 120 | | | | | | | | | | | | | | |
| Locked Rotor Amps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240/277V AC | A | 120 | | | 150 | | | 180 | | | 240 | | | 300 | | | 360 | | | 450 | | | 540 | | | | | | | | | | | | | | |
| 480V AC | A | 100 | | | 125 | | | 150 | | | 200 | | | 250 | | | 300 | | | 375 | | | 450 | | | | | | | | | | | | | | |
| 600V AC | A | 80 | | | 100 | | | 120 | | | 160 | | | 200 | | | 240 | | | 300 | | | 360 | | | | | | | | | | | | | | |
| Power Pole Wire Terminals (for all Line and Load Terminals) | | Phillips/Slotted/Socket Screw | | | | | | | | | | | | Box Lug with Hex Drive Box Lug Screws | | | | | | Box Lug with Slotted Drive Box Lug Screws | | | | | | | | | | | | | | | | | |
| Quick Connects per Terminal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coil Terminals (+/-) | Blades | 2/2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Poles | Blades | 4 (for 1- & 2-Pole devices) and 2 (for 3- & 3+3 Pole devices) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1-POLE | | | | | | 2-POLE | | | | | | 3-POLE | | | | | | 2- & 3-POLE | | | | | | | | | | | | | | | | | |
| | UNITS | Up to 40 FLA | | | | | | Up to 40 FLA | | | | | | 50A & 60A | | | | | | 75A & 90A | | | | | | | | | | | | | | | | | |
| COIL CHARACTERISTICS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal Coil Voltage | V | 24 | 120 | 208/240 | 277 | 24 | 120 | 208/240 | 277 | 24 | 120 | 208/240 | 277 | 24 | 120 | 208/240 | 277 | 24 | 120 | 208/240 | 277 | 24 | 120 | 208/240 | 277 | | | | | | | | | | | | |
| Maximum Pickup Voltage | V | 18 | 88 | 177 | 221 | 18 | 88 | 177 | 221 | 18 | 88 | 177 | 220 | 18 | 88 | 177 | 220 | 18 | 93 | 177 | 235 | 18 | 88 | 177 | 220 | | | | | | | | | | | | |
| Drop-Out Voltage Range | V | 6-15 | 20-70 | 40-140 | 50-165 | 6-15 | 20-70 | 40-140 | 50-165 | 6-15 | 20-70 | 40-140 | 65-185 | 6-15 | 20-70 | 40-140 | 65-185 | 6-15 | 20-70 | 40-135 | 50-180 | 6-15 | 20-70 | 40-110 | 65-185 | | | | | | | | | | | | |
| NOMINAL INRUSH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VA @ 50Hz | | 31 | 35 | 31 | | 22 | | | | 65 | | | | 65 | | | | 140 | | | | 285 | | | | | | | | | | | | | | | |
| VA @ 60Hz | | 28 | 32 | 28 | | 20 | | | | 60 | | | | 60 | | | | 132 | | | | 240 | | | | | | | | | | | | | | | |
| NOMINAL SEALED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VA @ 50Hz | | 6 | 7 | 6 | | 5.5 | | | | 7.5 | | | | 7.5 | | | | 20 | | | | 42 | | | | | | | | | | | | | | | |
| VA @ 60Hz | | 5 | 6 | 5 | | 4.5 | | | | 6 | | | | 6 | | | | 14 | | | | 27 | | | | | | | | | | | | | | | |
| Nominal Resistance | Ohms | 18 | 420 | 1800 | 2500 | 11 | 237 | 1000 | 1600 | 7 | 180 | 720 | 900 | 7 | 180 | 720 | 900 | 2.3 | 53 | 180 | 280 | 0.85 | 15.6 | 63.5 | 85 | | | | | | | | | | | | |
| Maximum Coil Voltage | V | 30 | 132 | 264 | 300 | 30 | 132 | 264 | 300 | 30 | 132 | 264 | 300 | 30 | 132 | 264 | 300 | 30 | 132 | 264 | 300 | 30 | 132 | 264 | 300 | | | | | | | | | | | | |
| OTHER CHARACTERISTICS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Line & Load Terminals | | #10-32 Screw | | | | | | Box Lug | | | | | | #10-32 Screw | | | | | | Box Lug | | | | | | | | | | | | | | | | | |
| Wire Size (Min.-Max.) | AWG | 16-8* | | | | | | 14-4 Cu/Al | | | | | | 16-8* | | | | | | 14-4 Cu/Al | | | | | | 14-2 Cu/Al | | | | | | 14-1 Cu/Al | | | | | |
| Tightening Torque (Recommended) | Lb-in. | 25 | | | | | | 40 | | | | | | 25 | | | | | | 40 | | | | | | 50 | | | | | | | | | | | |
| Insulation System | °C | 130 (Class B) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Permissible Ambient Temperature | °C | -40 to 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Altitude | m | 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ingress Protection | IP | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ROHS COMPLIANCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| For RoHS compliance documentation by product, refer to www.c3controls.com . | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

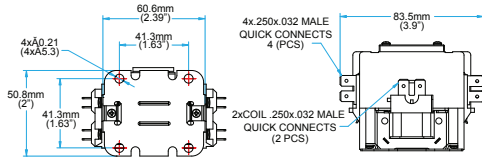
*Stranding must be split for #8 wire

For complete ratings and detailed specifications refer to www.c3controls.com.

DIMENSIONS

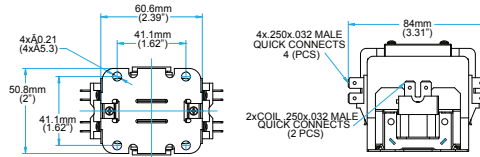
1 Pole Non-Reversing

280-D20N1N, 280-D25N1N & 280-D30N1N (20A - 30A)



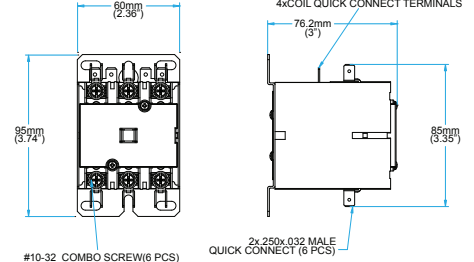
2 Pole Non-Reversing

280-D20N2, 280-D25N2 & 280-D30N2 (20A - 30A)



3 Pole Non-Reversing

280-D20N3, 280-D25N3 & 280-D30N3 (20A - 30A)



CERTIFICATIONS

Conformity to Standards:

UL 508
CSA C22.2 No. 14-10

Certifications:

UL File #: E236197 (Guide NLDX2, NLDX8)



Visit www.c3controls.com to download product certifications.



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