



Cutler-Hammer

***IT*. Electromechanical Contactors and Starters Catalog Numbering System**

Application Note

General

Constructing the catalog number for a complete *IT*. Contactor or Starter is very straightforward. A listing of the catalog numbering system is shown in **Table 1** on Page 2 for IEC products and **Table 2** on Page 3 for NEMA products.

The first step is to determine whether an IEC or NEMA product is desired. The prefix for an IEC product is "E" and for a NEMA product "N." This becomes position 1 of the 10-digit catalog number.

The next selection is for positions 2 through 4, which specify if the device will be a Non-Reversing or Reversing Contactor or Starter:

- Non-Reversing Contactor – "111."
- Reversing Contactor – "511."
- Non-Reversing Starter – "101."
- Reversing Starter – "501."

Next is the device size and current rating in positions 5 through 7. Here is where there is a difference in the selection method. IEC devices are chosen on the basis of the device current rating, where NEMA devices are chosen by standardized Sizes 00 through 5. For purpose of illustration, the selection here will be for an IEC device for a 20 ampere motor. Position 5 would be a "B." Position 6 and 7 would be a "25."

Position 8 would be an "X" for a Contactor. For a Starter, an Overload rating would be chosen for position 8, in the example case either a "G" or "J."

Note: The Overload chosen must have the same frame size as the basic device, in this example, 45 mm B-Frame.

Position 9 will be a "3" since all of the devices available are only 3-pole.

Position 10 uses an "A" for a Starter and an "N" for a Contactor.

Catalog numbers for components such as Contact Blocks, Coil Controllers or Overloads can be constructed in a like fashion from the other elements in the tables.

Additional examples of the catalog numbering system are shown in the bottom left corners of **Tables 1** and **2**.

17. Electromechanical Contactors and Starters Catalog Numbering System



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Table 1. IEC Device Catalog Numbering System

| Position 1 | | Position 2, 3, 4 | | Position 5 | | Position 6, 7 | | Position 8 | | | Position 9 | | Position 10 | | | | | |
|---|----------------|--|----------------|------------|----------------|-----------------|----------------|---|---------------|----------------|----------------|----------------|-----------------------|----------------|--------|----------|---|--|
| Standard | | Configuration (Open Type) | | Frame | | Designator | | Overload Range | | | Pole Selection | | Starter Overload Type | | | | | |
| Description | Catalog Number | Description | Catalog Number | Size | Catalog Number | Amperes | Catalog Number | Frame Size | Range | Catalog Number | No. | Catalog Number | Type | Catalog Number | | | | |
| IEC | E | Non-Reversing Coil Controller | 02N | 27 mm | A | 6 | 06 | 27 mm | Not Available | | 3 | 3 | Standard | A | | | | |
| | | Reversing Coil Controller | 03N | | | 9 | 09 | | | | N/A | N | Contactor or N/A | N | | | | |
| | | Contact Block | 04N | | | 12 | 12 | | | | | | | | | | | |
| | | Non-Reversing Solid-State Overload Relay | 05N | 45 mm | B | 18 | 18 | 45 mm | 0.25 – 0.8 | A | | | | | | | | |
| Reversing Solid-State Overload Relay | 06N | 0.59 – 1.9 | B | | | | | | | | | | | | | | | |
| Stand Alone Solid-State Overload Relay | 071 | 25 | 25 | | | 1.4 – 4.4 | C | | | | | | | | | | | |
| Full Voltage Non-Reversing (FVNR) Starter | 101 | | | | | 2.8 – 9.0 | D | | | | | | | | | | | |
| Full Voltage Non-Reversing (FVNR) Contactor | 111 | 32 | 32 | | | 6.3 – 20 | G | | | | | | | | | | | |
| Full Voltage Reversing (FVR) Starter | 501 | | | | | 10 – 32 | J | | | | | | | | | | | |
| Full Voltage Reversing (FVR) Contactor | 511 | | | 54 mm | C | 40 | 40 | 54 mm | 0.25 – 0.8 | A | | | | | | | | |
| | | | | | | | | | 0.59 – 1.9 | B | | | | | | | | |
| | | | | | | 50 | 50 | | 1.4 – 4.4 | C | | | | | | | | |
| | | | | | | | | | 2.8 – 9.0 | D | | | | | | | | |
| | | | | | | | | | 5.0 – 16 | F | | | | | | | | |
| | | | | | | | | | 8.4 – 27 | H | | | | | | | | |
| | | | | | | | | | 16 – 50 | L | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | 76 mm | D | | 65 | 65 | | | | | 76 mm | 5.0 – 16 | F | |
| | | | | | | | | | 85 | 85 | | | | | | 8.4 – 27 | H | |
| | | | | | | | | | 100 | 10 | | | | | | 14 – 45 | K | |
| | | | | | | | | | | | | | | | | 31 – 100 | N | |
| | | | | | | 105 mm | E | | 125 | 12 | | | | | 105 mm | 14 – 45 | K | |
| | | | | | | | | | 160 | 16 | | | | | | 28 – 90 | M | |
| | | | | | | | | | 200 | 20 | | | | | | 42 – 135 | P | |
| | | | | | | | | | | | | | | | | 63 – 200 | R | |
| | | | | | | 140 mm | F | | 250 | 25 | | | | | 140 mm | 42 – 135 | P | |
| | | | | | | | | | 315 | 31 | | | | | | 84 – 270 | S | |
| 400 | 40 | | 125 – 400 | T | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | Coil Controller | XC | Contact Block, Coil Controller, Contactor, or N/A | | X | | | | | | | | |
| | | | | | | Overload | XR | | | | | | | | | | | |

Examples: E101B32J3A — Full Voltage Non-Reversing, 32 ampere Starter with a 10 – 32 ampere overload range.
 E501D10K3A — Full Voltage Reversing, 100 ampere Starter with a 14 – 45 ampere overload range.
 E111F25X3N — Full Voltage Non-Reversing, 250 ampere Contactor.
 E05NCXRL3A — Non-Reversing Overload Relay with a 16 – 50 ampere overload range.
 E02NCXCXNN — Non-Reversing Coil Controller 54 mm.
 E04NB18X3N — Contact Block 45 mm, 18 ampere.

Table 2. /I. NEMA Device Catalog Numbering System

| Position 1 | | Position 2, 3, 4 | | Position 5 | | Position 6, 7 | | | Position 8 | | | Position 9 | | Position 10 | | | | | |
|-------------|----------------|---|----------------|------------|----------------|-----------------|-----------------------|----------------|---|------------|----------------|----------------|----------------|-----------------------|----------------|-----|---|------------------|---|
| Standard | | Configuration (Open Type) | | Frame | | Designator | | | Overload Range ① | | | Pole Selection | | Starter Overload Type | | | | | |
| Description | Catalog Number | Description | Catalog Number | Width | Catalog Number | Size | Maximum Ampere Rating | Catalog Number | Frame Width | Range | Catalog Number | No. | Catalog Number | Type | Catalog Number | | | | |
| NEMA | N | Non-Reversing Coil Controller | 02N | 45 mm | B | 00 | 9 | SA | 45 mm | 0.25 – 0.8 | A | 3 | 3 | Standard | A | | | | |
| | | Reversing Coil Controller | 03N | | | | | | | 0.59 – 1.9 | B | | | | | N/A | N | Contactor or N/A | N |
| | | Contact Block | 04N | | | | | | | 1.4 – 4.4 | C | | | | | | | | |
| | | Non-Reversing Solid-State Overload Relay | 05N | | | | | | | 2.8 – 9.0 | D | | | | | | | | |
| | | Reversing Solid-State Overload Relay | 06N | | | 0 | 18 | SO | | 6.3 – 20 ① | G ① | | | | | | | | |
| | | Stand Alone Solid-State Overload Relay | 071 | | | | | | | 10 – 32 ① | J ① | | | | | | | | |
| | | Full Voltage Non-Reversing (FVNR) Starter | 101 | 54 mm | C | 1 | 27 | S1 | 54 mm | 0.25 – 0.8 | A | | | | | | | | |
| | | Full Voltage Non-Reversing (FVNR) Contactor | 111 | | | | | | | 0.59 – 1.9 | B | | | | | | | | |
| | | Full Voltage Reversing (FVR) Starter | 501 | | | | | | | 1.4 – 4.4 | C | | | | | | | | |
| | | Full Voltage Reversing (FVR) Contactor | 511 | | | | | | | 2.8 – 9.0 | D | | | | | | | | |
| | | | | | | | | | | 5.0 – 16 | F | | | | | | | | |
| | | | 8.4 – 27 | | | | | | | H | | | | | | | | | |
| | | | 16 – 50 ① | | | | | | | L ① | | | | | | | | | |
| | | | 76 mm | | | | | | | D | 2 | 45 | S2 | 76 mm | 5.0 – 16 | F | | | |
| | | | | | | | | | | | | | | | 8.4 – 27 | H | | | |
| | | | | | | | | | | | | | | | 14 – 45 | K | | | |
| | | | | 31 – 100 ① | N ① | | | | | | | | | | | | | | |
| | | | 105 mm | E | 3 | 90 | S3 | 105 mm | 14 – 45 | K | | | | | | | | | |
| | | | | | | | | | 28 – 90 | M | | | | | | | | | |
| | | | | | 4 | 135 | S4 | | 42 – 135 ① | P ① | | | | | | | | | |
| | | | | | | | | | 63 – 200 ① | R ① | | | | | | | | | |
| | | | 140 mm | F | 5 | 270 | S5 | 140 mm | 42 – 135 | P | | | | | | | | | |
| | | | | | | | | | 84 – 270 | S | | | | | | | | | |
| | | | | | | | | | 125 – 400 ① | T ① | | | | | | | | | |
| | | | | | | Coil Controller | | XC | Contact Block, Coil Controller, Contactor, or N/A | | X | | | | | | | | |
| | | | | | | Overload | | XR | | | | | | | | | | | |

① The overload setting should not exceed the Starter's maximum current rating.

Examples: N101BS0J3A — Full Voltage Non-Reversing, Size 0 Starter with a 10 – 32 ampere overload range.

N111FS5X3N — Full Voltage Non-Reversing, Size 5 Contactor.

N501DS2K3A — Full Voltage Reversing, Size 2 Starter with a 14 – 45 ampere overload range.

N02NCXCXNN — Non-Reversing Coil Controller 54 mm.

N04NBSAX3N — Contact Block 45 mm, Size 00.

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