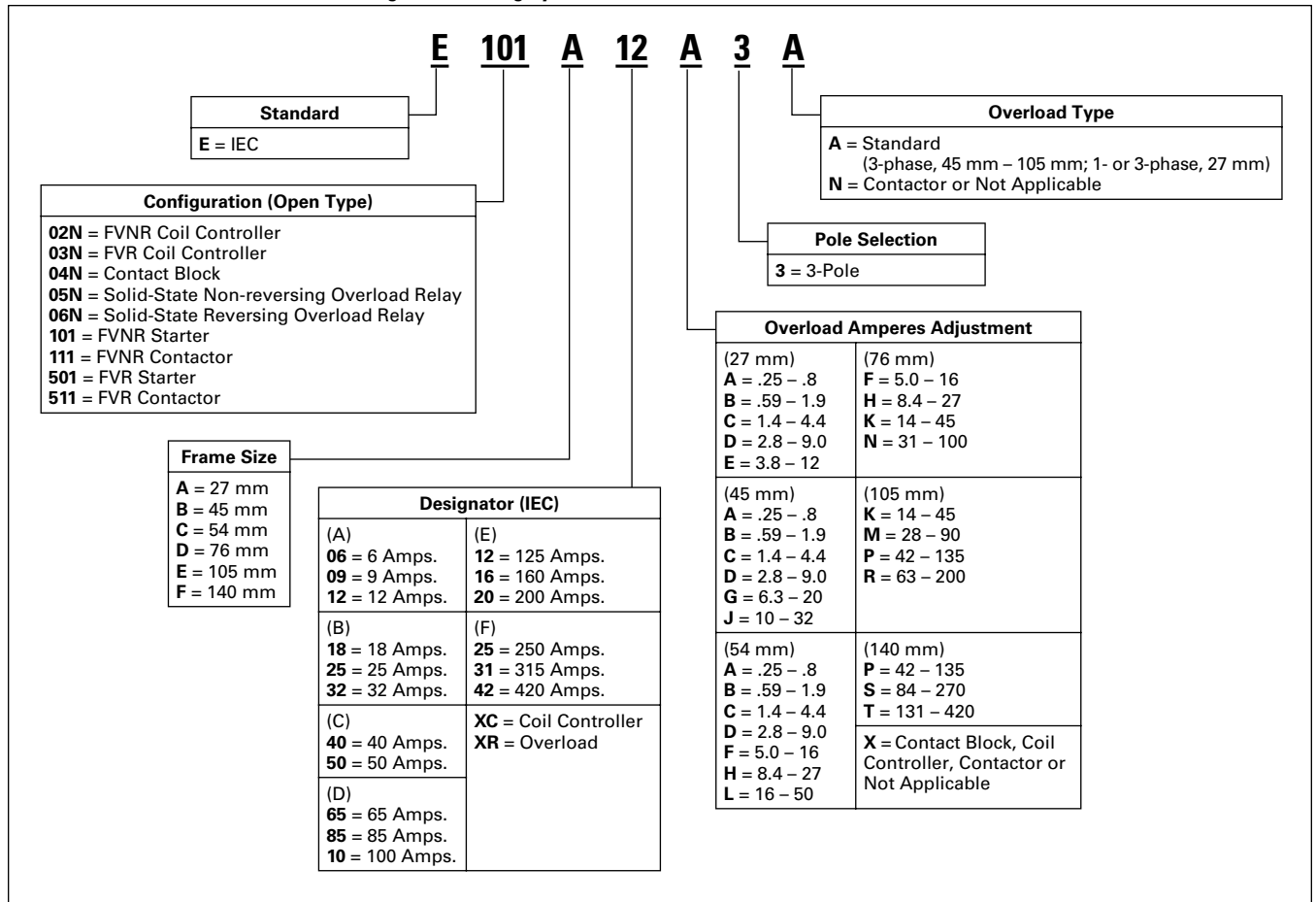


Catalogue Number Selection (Open Components)

Table B-206. IT. Electro-Mechanical Catalogue Numbering System



Note: When using the Catalogue Numbering System for Eaton's Cutler-Hammer IT. Electro-Mechanical products, care should be exercised to assure that the Catalogue Number for the Overload Relay aligns with the IT. Contact Block selected for type, frame size and ampacity, if purchased as separate components. **Example:** Select an **E05N_XR_3A** IT. Overload Relay for an IEC non-reversing application or an **E06N_XR_3A** for an IEC reversing application.

Examples:

- E02NCXCXNN — FVNR Coil Controller, 54 mm
- E04NB18X3N — Contact Block, 45 mm, 18 Amps
- E05NCXRL3A — Solid-State Non-reversing Overload Relay, 16 – 50 Amps
- E101B32J3A — FVNR B-Frame Starter, 32 Amps, with Solid-State Overload, 10 – 32 Amps
- E111F25X3N — FVNR F-Frame Contactor, 250 Amps
- E501D10K3A — FVR D-Frame Starter, 100 Amps, with Solid-State Overload, 14 – 45 Amps
- E511B18X3N — FVR B-Frame Contactor, 18 Amps

Contactors — Full Voltage, Non-reversing and Reversing

B

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Product Description

The Cutler-Hammer® Intelligent Technologies (IT.) Electro-Mechanical Contactor from Eaton's electrical business consists of an IT. Electro-Mechanical Contact Block and IT. Electro-Mechanical Coil Controller as a Full Voltage Non-reversing (FVNR) or Full Voltage Reversing (FVR) device. B-Frame (45 mm) to E-Frame (105 mm) Contact Blocks combined with Coil Controllers (factory or field assembled) are stand-alone Contactors. Only the A-Frame (27 mm) and F-Frame (140 mm) Contactors have internal factory assembled coil controllers.

Also available are the IT. Manual and Combination Motor Controllers which combine a Manual Motor Protector, Wiring Connector Link and IT. Contactor.

Application Description

When selecting an IEC Contactor, the user must consider the specific load, utilization category and required electrical life. Actual application life July vary depending on environmental conditions and duty cycle.

Features

- 115V AC – 600V AC, 1/4 – 350 hp/ 3/4 – 250 kW, 50/60 Hz
- 24V DC Coil Control — safe, reliable global standard
- Most compact DC operated contactors available — e.g., A-Frame 27 mm wide, 7-1/2 hp @ 12A, 460V
- Frame sizes (mm): 27, 45, 54, 76, 105, 140
- No laminations, shading coils or magnet noise
- -40 to 149°F (-40 to 65°C) operating temperature
- No seal in auxiliary contacts required — control wiring is not needed between the contactor and overload relay

- Unique Pulse Width Modulated (PWM) coil controller minimizes energy and coil power consumption
- Conformal coated PWM board (coil controller) for environmental toughness
- Microprocessor-based control
- 95% humidity non-condensing (99% consult factory)
- Easily accessible mounting feet for panel mounting
- High immunity to ESD, harmonics — minimal Total Harmonic Distortion
- Front and side mounted Auxiliary Contacts: 1NO, 1NC, 2NO, 2NC, 1NO/1NC and logic level
- Built-in logic to provide either 2- or 3-wire control, eliminating the need to provide and wire auxiliary contacts to seal in and interlock the contactor coils
- Easy field assembly of control wiring — plug and unplug lockable control connector
- DIN rail mounting, 6 – 100A (A – D Frames)
- Common accessories
- Long-life silver nickel (A – B Frames) and silver tin oxide (C – F Frames) contacts provide excellent conductivity and superior resistance to welding and arc erosion
- Environmentally friendly materials
- IP20 Finger Protection
- Low wattage coils and minimal heat dissipation

Reversing Contactors

- Includes Reversing Power Wiring and bus bars
- Mounting plates for B-Frame (45 mm) to E-Frame (105 mm)
- Exclusive internal electronic interlock for reversing
- Unique coil controller energizes both forward and reverse contactors — one control point for wiring



IEC Full Voltage Non-reversing Contactor, C-Frame
Cat. No. E111C50X3N



IEC Full Voltage Reversing Contactor, D-Frame
Cat. No. E511D10X3N

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Contactors — Full Voltage, Non-reversing and Reversing

Product Selection

When Ordering

Select required contactor by amp rating, frame size, kW/hp, voltage and non-reversing or reversing.

Non-reversing Contactors

Note:

- An **E111** (45 – 105 mm) consists of an **E04N** (Contact Block) and an **E02N** (FVNR Coil Controller), factory assembled.
- An **E111** (27 and 140 mm) has an internal coil controller, factory assembled.



IEC A-Frame FVNR Contactor
Cat. No. **E111A12X3N**



IEC B-Frame FVNR Contactor
Cat. No. **E111B32X3N**

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Table B-207. 3-Pole DC-Operated Full Voltage Non-reversing Contactors ① (A – F Frames)

Max. AC-3 Amp. Rating 480V AC (Ie)	IEC 60947-4-1 AC-1 Thermal Current 480V AC and (Ith)	Frame Size ②	Maximum kW Rating @ Ue (V) 50/60 Hz						Maximum UL Horsepower (hp) 50/60 Hz						3-Pole Open Type		
			3-Phase						1-Phase		3-Phase				Catalogue Number	Price	
			220V/240V	380V	400V/415V	440V/460V	500V	550V/575V	115V/120V	220V/230V	200V/208V	230V/240V	380V/415V	460V/480V			575V/600V
6	12	A	1.1	2.2	2.2	3	3	3	1/4	1/2	1	1-1/2	3	3	3	E111A06X3N	
9	16	A	2.2	4	4	4	4	4	1/3	1	2	2	3	5	5	E111A09X3N	
12	20	A	3	5.5	5.5	6.5	6.5	6.5	1/2	2	3	3	5	7-1/2	7-1/2	E111A12X3N	
18	25	B	4	7.5	9	9	10	11	1	3	5	5	10	10	10	E111B18X3N	
25	40	B	5.5	12.5	12.5	13	15	15	2	3	5	7-1/2	10	15	15	E111B25X3N	
32	50	B	9	15	15	18.5	18.5	18.5	2	5	7-1/2	10	15	20	20	E111B32X3N	
40	63	C	11	18.5	22	22	22	25	3	7-1/2	10	10	20	25	25	E111C40X3N	
50	85	C	12.5	22	25	30	30	33	3	10	15	15	25	30	30	E111C50X3N	
65	100	D	18.5	30	33	40	40	45	5	10	20	20	40	50	50	E111D65X3N	
85	115	D	25	45	45	51	51	55	7-1/2	15	25	30	50	60	60	E111D85X3N	
100	130	D	25	51	55	59	59	63	10	20	30	30	50	75	75	E111D10X3N	
125	200	E	33	63	63	80	80	80	10	25	40	40	60	100	100	E111E12X3N	
160	225	E	45	80	80	100	100	100	15	30	50	60	75	125	125	E111E16X3N	
200	250	E	59	100	110	110	110	132	—	40	60	75	100	150	150	E111E20X3N	
250	300	F	75	132	140	160	160	160	—	50	75	100	150	200	200	E111F25X3N	
315	375	F	90	160	160	200	200	200	—	—	100	125	150	250	250	E111F31X3N	
420	450	F	110	220	220	257	257	257	—	—	150	150	200	350	350	E111F42X3N	

① 24V DC coil voltage.

②

Frame Size

- A = 27 mm
- B = 45 mm
- C = 54 mm
- D = 76 mm
- E = 105 mm
- F = 140 mm

Note:

- If required, accessories are available starting on **Page B-194**.
- Integral solid-state auxiliary hold-in circuit.
- 3 main contacts.
- See **Table B-216** for 24V DC power supply requirements.
- Control inputs (P, F) are rated 24V DC (3 – 5 mA).

Accessories **Pages B-194 – B-197**
 Technical Data **Pages B-190 – B-193**
 Dimensions **Pages B-200 – B-202**
 Discount Symbol **MC7**