

# 6.1

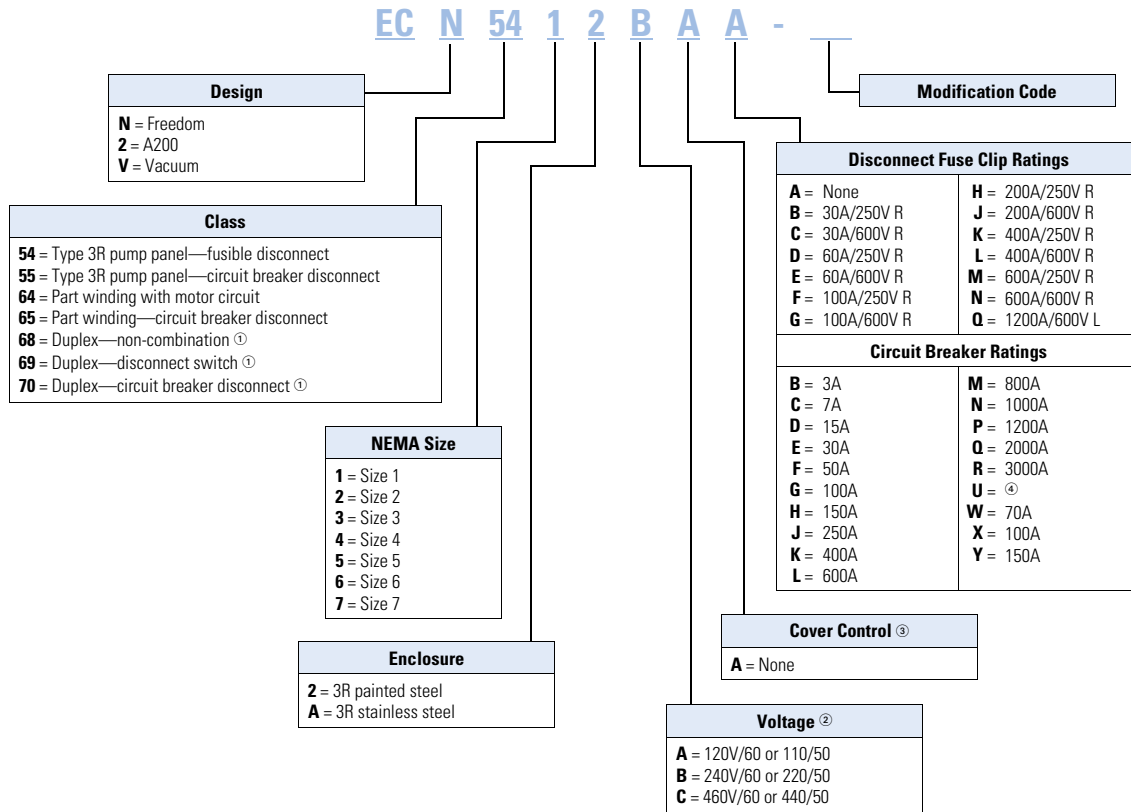
## Pump Panels

### Industrial Pump Panels

#### Catalog Number Selection

#### Pump Panel

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#### Notes

- ① More information on Type 1, 3R, 4X and 12 duplex pump panels is on **Page V10-T6-23**. Product Selection is on **Page V10-T6-26**.
- ② For other voltages and single-phase applications, consult your Eaton representative.
- ③ HOA selector switch and START pushbutton provided as standard.
- ④ Engineering determination depending on size, horsepower FLA, NEC or other considerations.

**Accessories**

**Kits**

**Kits for Field Mounting**

<b>Description</b>	<b>Catalog Number Suffix</b>	<b>Catalog Number</b>
Backspin timer—0.2 sec. to 3 min. (60 Hz)	<b>B12</b>	—
Control transformers 240/480V primary, 120V secondary		
Size 1	<b>C1</b>	—
Size 2	<b>C1</b>	—
Size 3	<b>C1</b>	—
Size 4	<b>C1</b>	—
Size 5	<b>C1</b>	—
Lightning arrester	<b>L3</b>	—
Control circuit fuse kit (600V)	<b>C31</b>	—
Electrical interlocks—Freedom line/vacuum		
NO	<b>A27</b>	—
NC	<b>A28</b>	<b>C320KGS2</b>
NO and NC	<b>A29</b>	<b>C320KGS3</b>
Time delay relay—3 minutes		
ON delay (unwired)	<b>T6</b>	—
OFF delay (unwired)	<b>T7</b>	—
24-hour programming clock	<b>P44</b>	—
Interchangeable hubs for enclosure. <sup>①</sup>		
Enclosure has removable top plate. If conduit hub is required, order:		
3/4 in conduit size	—	<b>DS075H1</b>
1-1/4 in conduit size	—	<b>DS125H1</b>
1-1/2 in conduit size	—	<b>DS150H1</b>
2 in conduit size	—	<b>DS200H1</b>
2-1/2 in conduit size	—	<b>DS250H2</b>
3 in conduit size	—	<b>DS300H2</b>
Power supply	<b>C34</b>	—

**Note**

<sup>①</sup> Does not apply to reduced voltage controllers.

**Overload Relays****Freedom Solid-State Overload Relays**

<b>NEMA Size</b>	<b>Full Load Current Adjustment Range (A)</b>	<b>Three-Phase without Ground Fault Auto/Manual Reset Overload Selectable Class 10/20/30</b>	<b>Three-Phase with Ground Fault Auto/Manual Reset Overload Selectable Class 10/20/30</b>
00	0.33–1.65 <sup>①</sup>	R63/A	R64/A
	1–5	R63/B	R64/B
	4–20	R63/C	R64/C
0 and 1	0.33–1.65 <sup>①</sup>	R63/A	R64/A
	1–5	R63/B	R64/B
	4–20	R63/C	R64/C
	9–45	R63/D	R64/D
2	9–45	R63/D	R64/D
3	20–100	R63/E	R64/E
4	28–135 <sup>②③</sup>	R63/F	R64/F
5	60–300 <sup>④</sup>	R63/G	R64/G
6	120–600 <sup>⑤</sup>	R63/H	R64/H

**Notes**

- ① Not UL Listed.
- ② NEMA Size 4 starter available with 30–150A panel mounted CTs and 1–5A C440 overload relay (C440A1A005SELAX or C440A2A005SELAX).
- ③ NEMA Size 4 direct mount contactor/overload (28–135A), available February 2012.
- ④ NEMA Size 5 starter available with 60–300A panel mounted CTs. Starter as an assembled unit with 1–5A C440 overload relay (C440A1A005SELAX or C440A2A005SELAX).
- ⑤ NEMA Size 6 starter available with 120–600A panel mounted CTs. Starter as an assembled unit with 1–5A C440 overload relay (C440A1A005SELAX or C440A2A005SELAX).

## Freedom—Circuit Breaker

### Product Description

- Three-phase magnetic
- Interchangeable heater OLR

These ECN55 pump controllers feature the Freedom line starters. They have a HAND/OFF/AUTO selector switch and START pushbutton mounted on the enclosure and a RESET button on the front—wiring is as illustrated in the wiring diagram on **Page V10-T6-8**.

Type 3R enclosure does not include top conduit hubs. Hubs are available in kit form—see table on **Page V10-T6-5**.

If branch circuit protective device is 45A or greater, C320FBR1 fuse kit (panel mounted) may be required for control circuit protection per NEC 430-72.

Stainless steel enclosure may be ordered by changing the seventh digit to **A**. Type 3R rating will still apply.

### Product Selection

#### Class ECN55—Combination Pump Panel—Circuit Breaker

NEMA Size	Motor Voltage	Max. hp 50/60 Hz	Circuit Breaker Size	Narrow Width <sup>①</sup> Catalog Number	Standard Width <sup>①</sup> Catalog Number
1	230	1	7A	ECN5512BAC-E14	ECN5512BAC
		3	15A	ECN5512BAD-E14	ECN5512BAD
		7-1/2	30A	ECN5512BAE-E14	ECN5512BAE
	460	1	3A	ECN5512CAB-E14	ECN5512CAB
		3	7A	ECN5512CAC-E14	ECN5512CAC
		5	15A	ECN5512CAD-E14	ECN5512CAD
2	230	10	50A	ECN5522BAF-E14	ECN5522BAF
		25		ECN5522CAF-E14	ECN5522CAF
3	230	30	100A	—	ECN5532BAG
	460	50		—	ECN5532CAG
4	230	50	150A	—	ECN5542BAH
	460	100		—	ECN5542CAH
5	230	60	250A	—	ECN5552BAJ
		100	400A	—	ECN5552BAK
	460	150	250A	—	ECN5552CAJ
		200	400A	—	ECN5552CAK
6	230	125	600A	—	ECN5562BAL
		200	800A	—	ECN5562BAM
	460	300	600A	—	ECN5562CAL
		400	800A <sup>②</sup>	—	ECN5562CAM
7 <sup>③</sup>	230	250	<sup>④</sup>	—	ECN5572BAU
		300		—	ECN5572BAU
	460	500		—	ECN5572CAU
		600		—	ECN5572CAU

#### For Other Volts and Hertz Applications

For other than listed volts and hertz, select required controller by catalog number and replace the magnet coil alpha designation, eighth digit in catalog number, with proper code suffix from the table below.

Example: For 600V 60 Hz coil, change ECN5512CAC to ECN5512DAC.

#### Coil Voltage

Coil Volts and Hertz	Suffix Code
120/60 or 110/50	<b>A</b>
240/60 or 220/50	<b>B</b>
480/60 or 440/50	<b>C</b>
600/60 or 550/50	<b>D</b>
208/60	<b>E</b>

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

- <sup>①</sup> To order without the START pushbutton, add modification code **P6**.
- <sup>②</sup> NEMA Size 4 direct mount contactor/overload (28–135A), available February 2012.
- <sup>③</sup> Consult factory in the event ground fault protection is required.
- <sup>④</sup> Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.

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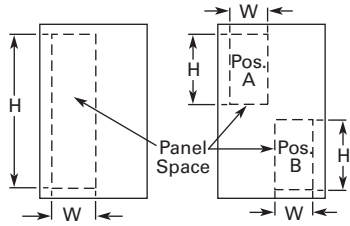
## Pump Panels

### Industrial Pump Panels

#### Dimensions

Approximate Dimensions in Inches (mm)

#### Panel Space



NEMA Sizes 1-4

NEMA Size 5

Panel Size	NEMA Size	Position (see figure above)	Width W	Height H
Narrow <sup>①</sup>	1-2	—	5.5 (140)	6.0 (152)
Standard	1-3	—	8.5 (216)	26.0 (660)
	4	—	8.5 (216)	39.0 (991)
	5	A	10.0 (254)	22.0 (559)
		B	15.0 (381)	12.0 (305)
Oversize	1-2	—	12.0 (318)	39.0 (991)
	3	—	11.0 (279)	39.0 (991)

#### Note

<sup>①</sup> Space is between disconnect switch or circuit breaker and starter.