

Enclosed Control

Numbering Reference Guide

Enclosed Control Freedom & Intelligent Technologies (IT) NEMA

ECN 22 2 1 A A F° -

NEMA Design
H = Freedom HVAC
N = Freedom
T = IT

NEMA Size
A=00 5=5
0=0 6=6
1=1 7=7
2=2 8=8
3=3 9=9
4=4

Modification Codes
See Chart 9

Cover Control (Starters Only)
See Charts 3 & 4

Coil Voltage and/or Control Transformer
See Charts 1 & 2

Class
01 = Contactor
02 = Reversing Contactor
05 = FVNR Starter, Non-Combination
06 = Reversing, Non-Combination
07 = FVNR Non-Combination, with CPT
08 = Single-Phase FVNR (Freedom Only)
16 = Combination with Disconnect Switch
17 = Reversing, Combination with Disconnect Switch
18 = Combination with Disconnect Switch, with CPT
22 = Combination with HMCP
23 = Reversing, Combination with HMCP
24 = Combination with HMCP with CPT
33 = Multispeed 2S2W Non-Combination
34 = Multispeed 2S1W CT or VT
35 = Multispeed 2S1W CH Non-Combination
36 = Multispeed with Disconnect Switch, 2S2W
37 = Multispeed with Disconnect Switch, 2S1W CT or VT
38 = Multispeed with Disconnect Switch, 2S1W CH
39 = Multispeed with HMCP, 2S2W
40 = Multispeed with HMCP, 2S1W CT or VT
41 = Multispeed with HMCP, 2S1W CH
42 = Autotransformer, Non-Combination
43 = Autotransformer, with Disconnect Switch
44 = Autotransformer, with HMCP
45 = Part-Winding, Non-Combination
46 = Part-Winding, with Disconnect Switch
47 = Part-Winding, with Thermal Magnetic Circuit Breakers
48 = Y-D, Open Transition, Non-Combination
49 = Y-D, Open Transition, with Disconnect Switch
50 = Y-D, Open Transition, with Thermal Magnetic Circuit Breakers
51 = Y-D, Closed Transition, Non-Combination
52 = Y-D, Closed Transition, with Disconnect Switch
53 = Y-D, Closed Transition, with Thermal Magnetic Circuit Breakers
62 = Autotransformer Pump Panel, Disconnect Switch
63 = Autotransformer Pump Panel, HMCP
64 = Part-Winding Pump Panel, Disconnect
65 = Part-Winding Pump Panel, HMCP
68 = Duplex, Non-Combination
69 = Duplex, with Disconnect Switch
70 = Duplex, with HMCP

Examples: ELN163ABG
Freedom combination with disconnect switch size 3, NEMA Type 3R enclosure, without CPT magnet coil of 120 V/60 Start/Stop pushbutton Fuse clips 100 A/600 V.

Class
01 = Contactor
02 = Reversing Contactor
05 = FVNR Starter, Non-Combination, Fixed Heater OLR (XT Compact Version)
06 = Reversing Starter, Non-Combination, Fixed Heater OLR (IT Only)
09 = FVNR Starter, Non-Combination, Fixed Heater OLR (XT Only)
10 = Reversing Starter, Non-Combination, Fixed Heater OLR (XT Only)
11 = FVNR Starter, Non-Combination, Fixed Heater OLR, with CPT (XT Only)
16 = Fusible Switch, Fixed Heater OLR, FVNR (IT Only)
17 = Fusible Switch, Fixed Heater OLR, FVR (IT Only)
19 = Fusible Switch, Fixed Heater OLR, FVNR (XT Only)
20 = Fusible Switch, Fixed Heater OLR, FVR (XT Only)
22 = HMCP, Fixed Heater OLR, FVNR (IT Only)
23 = HMCP, Fixed Heater OLR, FVR (IT Only)
25 = HMCP, Fixed Heater OLR, FVNR (IT Only)
26 = HMCP, Fixed Heater OLR, FVR (IT Only)
76 = Combination Motor Controller (XT Only)

Disconnect Fuse Clip Ratings
A = None K = 400 A/250 V R
B = 30 A/250 V R L = 400 A/600 V R
C = 30 A/600 V R M = 800 A
D = 60 A/250 V R N = 600 A/600 V R
E = 60 A/600 V R P = 800 A/600 V L
F = 100 A/250 V R Q = 1200 A/600 V L
G = 100 A/600 V R R = 1600 A/600 V L
H = 200 A/250 V S = 2000 A/600 V L
J = 200 A/600 V T = By Description

HMCP or Breaker Ratings
A = None K = 400 A
B = 3 A L = 600 A
C = 7 A M = 800 A
D = 15 A N = 1000 A
E = 30 A P = 1200 A
F = 50 A Q = 2000 A
G = 100 A R = 3000 A
H = 150 A S = 4000 A
J = 250 A T = By Description

Enclosure Type
1 = Type 1 - General Purpose
2 = Type 3R - Rainproof
3 = Type 4 - Watertight (Painted Steel)
4 = Type 4X - Watertight (Stainless Steel)
5 = Type 4X - Corrosion (Non-Metallic)
6 = Type 7/9 - Bolted Hazardous Location
7 = Type 7/9 - Threaded Hazardous Location
8 = Type 12 - Dust-Tight
9 = Type 4X - Stainless Steel (316-Grade)
A = Type 3R - Rainproof (304-Grade Stainless Steel)

NEMA Size Starter	Ampere Rating	Horsepower Rating					
		1-Phase 60 Hz		3-Phase 60 Hz			
		115 V	230 V	200 V	230 V	460 V	575 V
00	9	.33	1	1.5	1.5	2	2
0	18	1	2	3	3	5	5
1	27	2	3	7.5	7.5	10	10
2	45	3	7.5	10	15	25	25
3	90	7.5	15	25	30	50	50
4	135	—	—	40	50	100	100
5	270	—	—	75	100	200	200

IEC ECR 05 D 1 A A A -

IEC Design
X = XT
R = IT

Modification Codes
(Including Fixed Heaters for Classes 9, 10 & 11)
See Chart 9

Class
01 = Contactor
02 = Reversing Contactor
05 = FVNR Starter, Non-Combination, Fixed Heater OLR (XT Compact Version)
06 = Reversing Starter, Non-Combination, Fixed Heater OLR (IT Only)
09 = FVNR Starter, Non-Combination, Fixed Heater OLR (XT Only)
10 = Reversing Starter, Non-Combination, Fixed Heater OLR (XT Only)
11 = FVNR Starter, Non-Combination, Fixed Heater OLR, with CPT (XT Only)
16 = Fusible Switch, Fixed Heater OLR, FVNR (IT Only)
17 = Fusible Switch, Fixed Heater OLR, FVR (IT Only)
19 = Fusible Switch, Fixed Heater OLR, FVNR (XT Only)
20 = Fusible Switch, Fixed Heater OLR, FVR (XT Only)
22 = HMCP, Fixed Heater OLR, FVNR (IT Only)
23 = HMCP, Fixed Heater OLR, FVR (IT Only)
25 = HMCP, Fixed Heater OLR, FVNR (IT Only)
26 = HMCP, Fixed Heater OLR, FVR (IT Only)
76 = Combination Motor Controller (XT Only)

Disconnect Fuse Clip Ratings
A = None F = 60 A gG
B = 30 A/250 V R G = 100 A J
C = 30 A/600 V R H = 100 A gG
D = 60 A/250 V R
E = 60 A/600 V R

HMCP or Breaker Ratings
A = None W = 70 A
B = 3 A G = 100 A
C = 7 A H = 150 A
D = 15 A J = 250 A
E = 30 A

Cover Control (Starters Only)
See Charts 3 & 4

Coil Voltage and/or Control Transformer
See Charts 1 & 2

Enclosure Type
1 = Type 1 - General Purpose
2 = Type 3R - Rainproof
3 = Type 4 - Watertight (Painted Steel)
4 = Type 4X - Watertight (Stainless Steel)
5 = Type 4X - Corrosion (Non-Metallic)
6 = Type 7/9 - Bolted Hazardous Location
7 = Type 7/9 - Threaded Hazardous Location
8 = Type 12 - Dust-Tight
9 = Type 4X - Stainless Steel (316-Grade)

Ampere Rating (UL 600 V)
A = 7 A M = 85 A
B = 10 A N = 105 A
C = 12 A O = 140 A
D = 18 A P = 170 A
E = 25 A R = 200 A
F = 32 A S = 300 A
G = 37 A T = 430 A
H = 44 A U = 520 A
J = 60 A V = 550 A
K = 73 A

Enclosed Control Lighting Controllers

ECL 12 D 1 A 3 E -

Design
L = Lighting - CN35 and A202
C = Lighting - C30CN

Modification Codes
(Including Cover Control)
See Chart 9

Class
03 = Contactor - Electrically Held
04 = Contactor - Mechanically Held
12 = Combination, Fusible - Electrically Held
13 = Combination, Fusible - Mechanically/Magnetically Held
14 = Combination, Thermal Magnetic Circuit Breakers - Electrically Held
15 = Combination, Thermal Magnetic Circuit Breakers - Mechanically/Magnetically Held

Disconnect Fuse Clip Ratings
A = None
B = 30 A/250 V R
C = 30 A/600 V R
D = 60 A/250 V R
E = 60 A/600 V R
F = 100 A/250 V R
G = 100 A/600 V R
H = 200 A/250 V R
J = 200 A/600 V R
K = 400 A/250 V R
L = 400 A/600 V R
M = 600 A/250 V R
N = 600 A/600 V R
P = 800 A/600 V L
T = By Description

Thermal Magnetic Breaker Ratings
A = None
D = 20 A
E = 30 A
F = 60 A
G = 100 A
H = 200 A
J = 300 A
K = 400 A
L = 600 A
M = 800 A
T = By Description

Ampere Rating
A = 10 A F = 200 A
B = 20 A G = 300 A
C = 30 A H = 400 A
D = 60 A E = 100 A
C30CN = 30 Amperes Only

Enclosure Type
1 = Type 1 - General Purpose
2 = Type 3R - Rainproof
3 = Type 4 - Watertight (Painted Steel)
4 = Type 4X - Watertight (Stainless Steel)
5 = Type 4X - Corrosion (Non-Metallic)
6 = Type 7/9 - Bolted Hazardous Location
7 = Type 7/9 - Threaded Hazardous Location
8 = Type 12 - Dust-Tight
9 = Type 4X - Stainless Steel (316-Grade)

Total Number of Poles
2 = 2 Poles Required
3 = 3 Poles Required
4 = 4 Poles Required
5 = 5 Poles Required
6 = 6 Poles Required
7 = 7 Poles Required
8 = 8 Poles Required
9 = 9 Poles Required
A = 10 Poles
B = 12 Poles
C = 20 Poles
Z = Consult Factory
Combination Devices - 9-Pole Only
Other Poles - Consult Factory

Coil Voltage
See Charts 1 & 2

Enclosed Control Soft Starters

ECS 92 W 2 Q 7 K -

Design
S = Soft Starter

Modification Codes
See Chart 9

Class
90 = S801/S752 Non-Combination
91 = S801/S752 Disconnect Switch
92 = S801/S752 Breaker
93 = S811 Non-Combination
94 = S811 Disconnect Switch
95 = S811 Breaker

Disconnect Fuse Clip Ratings
A = None
B = 30 A/250 V R
C = 30 A/600 V R
D = 60 A/250 V R
E = 60 A/600 V R
F = 100 A/250 V R
G = 100 A/600 V R
H = 200 A/250 V R
J = 200 A/600 V R
K = 400 A/250 V R
L = 400 A/600 V R
M = 600 A/250 V R
N = 600 A/600 V R
P = 800 A/600 V L
S = 2000 A/600 V L
T = By Description

Ampere Rating
S752 S801/S811
J = 0.8 A Q = 37 A
K = 1.9 A S = 65 A
L = 4.4 A V = 105 A
M = 9.0 A W = 135 A
N = 16 A Y = 180 A
P = 27 A Z = 240 A
R = 50 A 1 = 304 A
2 = 360 A
3 = 420 A
4 = 500 A
5 = 650 A
6 = 720 A
7 = 850 A
8 = 1000 A

Enclosure Type
1 = Type 1 - General Purpose
2 = Type 3R - Rainproof
3 = Type 4 - Watertight (Painted Steel)
4 = Type 4X - Watertight (Stainless Steel)
6 = Type 7/9 - Bolted Hazardous Location
7 = Type 7/9 - Threaded Hazardous Location
8 = Type 12 - Dust-Tight
9 = Type 4X - Stainless Steel (316-Grade)

Control Power Transformer
See Chart 2

Cover Control
A = Use Modification Codes

Chart 1: Magnet Coil Codes (System Voltage)

A = 120/60	K = 240/50	U = 24/50
B = 240/60	L = 380/50	V = 32/50
C = 480/60	M = 415/50	W = 48/60
D = 575/60	P = 12 Vdc	X = 104 - 120/60
E = 208/60	Q = 24 Vdc	Y = 48/50
G = 550/50	R = 48 Vdc	Z = By Description
H = 277/60	S = 120/125 Vdc	
J = 208 - 240/60	T = 24/60	

Chart 2: Control Power Transformer Codes (System Voltage)

Code	Primary	Secondary
B	240/480 - 220/440 Wired for 240 V	120/60 - 110/50
C	240/480 - 220/440 Wired for 480 V	120/60 - 110/50
D	575/60 - 550/50	120/60 - 110/50
E	208/60	120/60
H	277/60	120/60
K	380/415 V	220 V
L	380/50	110/50
M	415/50	110/50
P	120/60	24
Q	208/60	24
R	240/480 - 220/440 Wired for 240 V	24
S	240/480 - 220/440 Wired for 480 V	24
T	575/60	24
U	277/60	24
V	380/50	24
W	415/50	24
X	240/480/600 Wired for 480 V	120
Y	240/480/600 Wired for 480 V	24
Z	By Description	

Chart 3: Cover Control - Non-Reversing

A = None
B = Start/Stop Pushbuttons
C = Start/Stop Pushbuttons, Run (R) Pilot Light
D = Start/Stop Pushbuttons, Run (R), Off (G) Pilot Lights
E = On/Off Pushbuttons
F = On/Off Pushbuttons, Run (R) Pilot Light
G = On/Off Pushbuttons, Run (R), Off (G) Pilot Lights
H = Hand/Off/Auto Selector Switch
J = Hand/Off/Auto Selector Switch, Run (R) Pilot Light
K = Hand/Off/Auto Selector Switch, Run (R), Off (G) Pilot Lights
L = Start Pushbutton
M = On Pushbutton
N = Off Pushbutton
P = Run-Red Pilot Light
Q = Off-Green Pilot Light
R = Run (R) - Off (G) Pilot Lights
S = Start/Stop Selector Switch
T = Start/Stop Selector Switch, Run (R) Pilot Light
U = Start/Stop Selector Switch, Run (R), Off (G) Pilot Lights
V = On/Off Selector Switch
W = On/Off Selector Switch, Run (R) Pilot Light
X = On/Off Selector Switch, Run (R), Off (G) Pilot Lights
Z = By Description

Chart 4: Cover Control - Reversing

A = None
B = Forward/Reverse/Stop Pushbuttons
C = Forward/Reverse/Stop Pushbuttons, 2 Red Pilot Lights
D = Forward/Reverse/Stop Pushbuttons, 2 Red, 1 Green Pilot Lights
E = Up/Stop/Down Pushbuttons
F = Up/Stop/Down Pushbuttons, 2 Red Pilot Lights
H = Forward/Off/Reverse Selector Switch
J = Forward/Off/Reverse Selector Switch, 2 Red Pilot Lights
K = Forward/Off/Reverse Selector Switch, 2 Red, 1 Green Pilot Lights
P = 2 Red Pilot Lights
Q = 1 Green Pilot Light
R = 2 Red, 1 Green Pilot Lights
V = Open/Off/Close Selector Switch
W = Open/Off/Close Selector Switch, 2 Red Pilot Lights
X = Open/Off/Close Selector Switch, 2 Red, 1 Green Pilot Lights
Z = By Description

Chart 5: Overload Size (IT, IEC)

FLA Range	A-Frame 27 mm		B-Frame 45 mm		C-Frame 54 mm		D-Frame 76 mm		E-Frame 105 mm		F-Frame 140 mm	
	A	B	C	D	E	F	G	H	J	K	L	M
25 - 8	A	—	—	B	—	—	—	—	—	—	—	—
59 - 1.9	B	—	—	A	—	—	—	—	—	—	—	—
1.4 - 4.4	C	—	—	C	—	—	—	—	—	—	—	—
2.8 - 9.0	D	—	—	—	—	—	—	—	—	—	—	—
2.8 - 9.0	D	—	—	—	—	—	—	—	—	—	—	—
5.0 - 16	—	—	—	—	—	—	—	—	—	—	—	—
6.3 - 20	—	—	—	G	G	—	—	—	—	—	—	—
8.4 - 27	—	—	—	—	—	—	—	H	—	—	—	—
14 - 45	—	—	—	—	—	—	—	J	J	—	—	—
14 - 45	—	—	—	—	—	—	—	—	—	—	—	—
16 - 50	—	—	—	—	—	—	—	—	—	—	—	—
31 - 100	—	—	—	—	—	—	—	—	—	—	—	—
42 - 135	—	—	—	—	—	—	—	—	—	—	—	—
63 - 200	—	—	—	—	—	—	—	—	—	—	—	—
84 - 270	—	—	—	—	—	—	—	—	—	—	—	—
131 - 420	—	—	—	—	—	—	—	—	—	—	—	—

Chart 6: Overload Size (XT, IEC)

FLA Ratings	B - D Frames 12 A	E - H Frames 32 A	J - L Frames 65 A
0.10 - 0.16	A	—	—
0.16 - 0.24	B	—	—
0.24 - 0.40	C	—	—
0.40 - 0.60	D	—	—
0.60 - 1.00	—	E	—
1.00 - 1.60	—	F	—
1.60 - 2.40	—	G	—
2.40 - 4.00	—	H	—
4 - 6	I	I	—
6 - 10	J	J	—
9 - 12	K	K	—
10 - 16	—	L	L
16 - 24	—	M	M
24 - 32	—	N	N
24 - 40	—	—	O
40 - 57	—	—	P
50 - 65	—	—	R

Chart 7: Overload Size (IT, NEMA)

FLA Range	00	0	1	2	3	4	5
25 - 8	A	A	—	—	—	—	—
59 - 1.9	B	B	—	—	—	—	—
1.4 - 4.4	C	C	—	—	—	—	—
2.8 - 9.0	D	D	—	—	—	—	—
5.0 - 16	—	—	F	—	—	—	—
6.3 - 20	—	—	G	—	—	—	—
8.4 - 27	—	—	—	H	—	—	—
14 - 45	—	—	—	—	K	—	—
28 - 90	—	—	—	—	—	M	—
42 - 135	—	—	—	—	—	—	P
84 - 270	—	—	—	—	—	—	S

Chart 8: Modification Codes - Solid-State Overload for Freedom Starters

NEMA Size	Full Load Current Adjustment Range (A)	3-Phase Manual Reset Overload		3-Phase Automatic/Manual Reset		Ground Fault
		Class 10	Class 20	Class 10	Class 20	
00	0.1 - 1.3	G101	G81	G141	G121	G221
	0.3 - 1.0	G102	G82	G142	G122	G222
	1.0 - 2.9	G103	G83	G143	G123	G223
	1.6 - 5.0	G104	G84	G144	G124	G224
	3.7 - 12	G105	G85	G145	G125	G225
0 & 1	0.1 - 1.3	G101	G81	G141	G121	G221
	0.3 - 1.0	G102	G82	G142	G122	G222