

Enclosed Control

Numbering Reference Guide

Enclosed Control Freedom & Intelligent Technologies (IT) NEMA IEC

Enclosed Control Lighting Controllers

Enclosed Control Soft Starters

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

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 R	S = 2000 A/600 V L
J = 200 A/600 V R	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	T = By Description
J = 250 A	

Class

- 01 = Contactors
- 02 = Reversing Contactors
- 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 Non-Combination
- 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

Enclosure Type

- Type 1 - General Purpose
- Type 3R - Rainproof
- Type 4 - Watertight (Painted Steel)
- Type 4X - Watertight (Stainless Steel)
- Type 4X - Corrosion (Non-Metallic)
- Type 7/9 - Bolted Hazardous Location
- Type 7/9 - Threaded Hazardous Location
- Type 12 - Dust-Tight
- Type 4X - Rainproof (304-Grade Stainless Steel)

Amperage Rating (UL 600 V)

NEMA Size	Amperage Rating	Horsepower Rating					
Starter		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

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.

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 = Contactors
- 02 = Reversing Contactors
- 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
- 26 = HMCP, Fixed Heater OLR FVR
- 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

- Type 1 - General Purpose
- Type 3R - Rainproof
- Type 4 - Watertight (Painted Steel)
- Type 4X - Watertight (Stainless Steel)
- Type 4X - Corrosion (Non-Metallic)
- Type 12 - Dust-Tight
- Type 4X - Stainless Steel (316-Grade)

Amperage 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 = 420 A
H = 44 A	U = 520 A
J = 60 A	V = 550 A
K = 73 A	

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 = Contactors - Electrically Held CN35/C30CN
- 04 = Contactors - Mechanically Held C30CN, Magnetic A202
- 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	F = 60 A/250 V R
B = 30 A/250 V R	G = 100 A/250 V R
C = 30 A/600 V R	H = 200 A/250 V R
D = 60 A/250 V R	I = 400 A/600 V R
E = 60 A/600 V R	J = 200 A/600 V R
F = 100 A/250 V R	K = 400 A/250 V R
G = 100 A/600 V R	L = 400 A/600 V R
H = 200 A/250 V R	M = 600 A/250 V R
I = 400 A/600 V R	N = 600 A/600 V R
J = 200 A/600 V R	P = 800 A/600 V L
K = 400 A/250 V R	T = By Description

Thermal Magnetic Breaker Ratings

A = None	D = 20 A
B = 12 Poles	E = 30 A
C = 20 Poles	F = 60 A
D = 20 A	G = 100 A
E = 30 A	H = 200 A
F = 60 A	I = 300 A
G = 100 A	J = 400 A
H = 200 A	K = 600 A
I = 300 A	L = 400 A
J = 400 A	M = 800 A
K = 600 A	T = By Description

Amperage 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

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- Type 4X - Watertight (Stainless Steel)
- Type 7/9 - Bolted Hazardous Location
- Type 7/9 - Threaded Hazardous Location
- Type 12 - Dust-Tight
- 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

Coil Voltage
See Charts 1 & 2

Control Power Transformer
See Chart 2

Cover Control
A = Use Modification Codes

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	F = 60 A/250 V R
B = 30 A/250 V R	G = 100 A/250 V R
C = 30 A/600 V R	H = 200 A/250 V R
D = 60 A/250 V R	I = 400 A/600 V R
E = 60 A/600 V R	J = 200 A/600 V R
F = 100 A/250 V R	K = 400 A/250 V R
G = 100 A/600 V R	L = 400 A/600 V R
H = 200 A/250 V R	M = 600 A/250 V R
I = 400 A/600 V R	N = 600 A/600 V R
J = 200 A/600 V R	P = 800 A/600 V L
K = 400 A/250 V R	Q = 1200 A/600 V L
L = 400 A/600 V R	R = 1600 A/600 V L
M = 600 A/250 V R	S = 2000 A/600 V L
N = 600 A/600 V R	T = By Description

Amperage Rating

Class	S752	S801/S811
J	9.0 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	X = 180 A
P	27 A	Y = 240 A
R	50 A	Z = 304 A
		1 = 360 A
		3 = 420 A
		4 = 500 A
		5 = 650 A
		6 = 720 A
		7 = 850 A
		8 = 1000 A

Enclosure Type

- Type 1 - General Purpose
- Type 3R - Rainproof
- Type 4 - Watertight (Painted Steel)
- Type 4X - Watertight (Stainless Steel)
- Type 7/9 - Bolted Hazardous Location
- Type 7/9 - Threaded Hazardous Location
- Type 12 - Dust-Tight
- 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	110/50	K = 240/50	U = 24/50
B = 240/60	220/50	L = 380/50	V = 32/50
C = 480/60	440/50	M = 415/50	W = 48/60
D = 575/60	550/50	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		

When control power transformer Modification Codes (CI - CII) are used, pick the system (primary) voltage from this chart. See Chart 2.

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	

Note: Use when ordering classes with CPT installed (i.e., ECN 18) and when using Modification Codes CI - CII.

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	

Note: Starters only - contactor cover control: use Modification Codes.

Chart 4: Cover Control - Reversing

Use for Class 06, 10, 17, 20, 23, 26

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
S = Start/Stop Selector Switch	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	

Note: Starters only - contactor cover control: use Modification Codes.

Chart 5: Overload Size (IT, IEC)

For IT, IEC Starters, Add an 11th Digit to Choose Overload Size

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	N	P	R	S	T
25 - 8	A	—	—	A	—	—	—	—	—	—	—	—	—	—	—	—	—
59 - 1.9	B	—	—	B	—	—	—	—	—	—	—	—	—	—	—	—	—
1.4 - 4.4	C	—	—	C	—	—	—	—	—	—	—	—	—	—	—	—	—
2.8 - 9.0	D	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—
2.8 - 9.0	D	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—
5.0 - 16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6.3 - 20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8.4 - 27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14 - 45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14 - 45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—
6 - 10	J	—	—
9 - 12	K	—	—
10 - 16	L	—	—
16 - 24	—	M	M
24 - 32	—	N	N
24 - 40	—	—	P
40 - 57	—	—	Q
50 - 65	—	—	R

Chart 7: Overload Size (IT, NEMA)

For IT, NEMA Starters, Add an 11th Digit to Choose Overload Size

FLA Range	00	0	1	2	3	4	5
25 - 8	A	A	—	—	—	—	—
59 - 1.9	B	B	—	—	—	—	