

Enclosed Control Freedom XT and 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 = 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/E
23 = Reversing, Combination with HMCP/E
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
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

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

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)

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

NEMA Size Starter	Amperage Rating	Horsepower Rating (Volts) 60 Hz					
		115	230	200	230	460	575
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	100
5	270	—	75	100	200	200	200

Amperage Rating (UL 600 V)
IT, IEC **XT, IEC**
A = 6 A **B** = 7 A
B = 9 A **C** = 9 A
C = 12 A **D** = 12 A
D = 18 A **E** = 15 A
E = 25 A **F** = 18 A
F = 32 A **G** = 25 A
G = 40 A **H** = 32 A
H = 50 A **J** = 40 A
J = 65 A **K** = 50 A
K = 85 A **L** = 65 A
L = 100 A **M** = 80 A
M = 125 A **N** = 95 A
N = 160 A **P** = 115 A
P = 200 A **Q** = 150 A
R = 250 A
S = 315 A
T = 400 A

Example: ECN1632ABG
 Freedom combination with disconnect switch Size 3, NEMA Type 3R enclosure, without CPT, magnet coil of 120 V Start/Stop pushbutton with 100 A/600 V fuse.

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

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)
G = 100 A (J)

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

Cover Control (Starters Only)
 See Charts 3 & 4

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

Class
01 = Contactors
02 = Reversing Contactors
05 = FVNR Starter, Non-Combination, Fixed Heater OLR (XT Compact Version)
06 = Reversing Starter, 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/E, Fixed Heater OLR, FVNR (IT, Only)
23 = HMCP/E, Fixed Heater OLR, FVR (IT, Only)
25 = HMCP/E, Fixed Heater OLR FVNR
26 = HMCP/E, Fixed Heater OLR FVR
76 = Combination Motor Controller (XT Only)
77 = Reversing Combination Motor Controller (XT 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)

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
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)

Amperage Rating (UL 600 V)
IT, IEC **XT, IEC**
A = 6 A **B** = 7 A
B = 9 A **C** = 9 A
C = 12 A **D** = 12 A
D = 18 A **E** = 15 A
E = 25 A **F** = 18 A
F = 32 A **G** = 25 A
G = 40 A **H** = 32 A
H = 50 A **J** = 40 A
J = 65 A **K** = 50 A
K = 85 A **L** = 65 A
L = 100 A **M** = 80 A
M = 125 A **N** = 95 A
N = 160 A **P** = 115 A
P = 200 A **Q** = 150 A
R = 250 A
S = 315 A
T = 400 A

Example: ECR05D1AAA
 Freedom combination with disconnect switch Size 3, IEC Type 3R enclosure, without CPT, magnet coil of 120 V Start/Stop pushbutton with 100 A/600 V fuse.

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

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

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

Cover Control (Starters Only)
 See Charts 3 & 4

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

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

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
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)

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)

Amperage Rating (UL 600 V)
IT, IEC **XT, IEC**
A = 6 A **B** = 7 A
B = 9 A **C** = 9 A
C = 12 A **D** = 12 A
D = 18 A **E** = 15 A
E = 25 A **F** = 18 A
F = 32 A **G** = 25 A
G = 40 A **H** = 32 A
H = 50 A **J** = 40 A
J = 65 A **K** = 50 A
K = 85 A **L** = 65 A
L = 100 A **M** = 80 A
M = 125 A **N** = 95 A
N = 160 A **P** = 115 A
P = 200 A **Q** = 150 A
R = 250 A
S = 315 A
T = 400 A

Example: ECL12D1A3E
 Freedom combination with disconnect switch Size 3, IEC Type 3R enclosure, without CPT, magnet coil of 120 V Start/Stop pushbutton with 100 A/600 V fuse.

Enclosed Control Soft Starters

ECS 92 W 2 Q A H -

Design
S = Soft Starter

Modification Codes
 See Chart 9

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

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

Cover Control
A = Use Modification Codes

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

Amperage Rating
S752 **S801/S811**
J = 0.8 A **Q** = 37 A
K = 1.9 A **S** = 66 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)

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)

Amperage Rating (UL 600 V)
IT, IEC **XT, IEC**
A = 6 A **B** = 7 A
B = 9 A **C** = 9 A
C = 12 A **D** = 12 A
D = 18 A **E** = 15 A
E = 25 A **F** = 18 A
F = 32 A **G** = 25 A
G = 40 A **H** = 32 A
H = 50 A **J** = 40 A
J = 65 A **K** = 50 A
K = 85 A **L** = 65 A
L = 100 A **M** = 80 A
M = 125 A **N** = 95 A
N = 160 A **P** = 115 A
P = 200 A **Q** = 150 A
R = 250 A
S = 315 A
T = 400 A

Example: ECS92W2QAH
 Freedom combination with disconnect switch Size 3, IEC Type 3R enclosure, without CPT, magnet coil of 120 V Start/Stop pushbutton with 100 A/600 V fuse.

Freedom HVAC Starters

ECH 22 0 1 A H -

Design
H = HVAC Control

Modification Codes
 See Chart 9

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

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

Cover Control
A = Use Modification Codes

Class
16 = Disconnect Switch
18 = Disconnect Switch with CPT
22 = HMCP/E
24 = HMCP/E with CPT

Amperage Rating
S752 **S801/S811**
J = 0.8 A **Q** = 37 A
K = 1.9 A **S** = 66 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
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4 = Type 4X – Watertight (Stainless Steel)
6 = Type 7/9 – Bolted Hazardous Location
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Enclosure Type
1 = Type 1 – General Purpose
2 = Type 3R – Rainproof
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9 = Type 4X – Stainless Steel (316-Grade)

Amperage Rating (UL 600 V)
IT, IEC **XT, IEC**
A = 6 A **B** = 7 A
B = 9 A **C** = 9 A
C = 12 A **D** = 12 A
D = 18 A **E** = 15 A
E = 25 A **F** = 18 A
F = 32 A **G** = 25 A
G = 40 A **H** = 32 A
H = 50 A **J** = 40 A
J = 65 A **K** = 50 A
K = 85 A **L** = 65 A
L = 100 A **M** = 80 A
M = 125 A **N** = 95 A
N = 160 A **P** = 115 A
P = 200 A **Q** = 150 A
R = 250 A
S = 315 A
T = 400 A

Example: ECH2201AH
 Freedom combination with disconnect switch Size 3, IEC Type 3R enclosure, without CPT, magnet coil of 120 V Start/Stop pushbutton with 100 A/600 V fuse.

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 =			