



NEMA (Freedom) — Advanced Design (Advantage) Three Phase Combination Starters

Unit Identification: _____

Cat. No. **EC** -
Table Reference 1 2 3 4 5 6 7 8

Wiring Diagram: _____ Figure: _____

Remarks: _____

1: Type of Starter

Catalog Letter	Design
N	NEMA (Freedom)
A	Advanced Design (Advantage)

2: Combination Classification

Class Number	Design
16	Non-Reversing with Disconnect Switch
17	Reversing with Disconnect Switch
18	Non-Reversing, Disconnect Sw, with CPT
22	Non-Rev. with HMCP Motor Circ. Protector
23	Reversing with HMCP
24	Non-Rev. with HMCP, with CPT

3: Size of Starter

Suffix	Design Type
0 1 2 3 4 5 6 7 8 9	NEMA (Freedom)
L 1 2 3 4 5 6	Advanced Design (Advantage)

4: Enclosure Type

Suffix Number	Rating
1	NEMA 1, General Purpose
2	NEMA 3R, Rainproof
4	NEMA 4X, Stainless Steel Waterproof
8	NEMA 12, Dusttight
9	NEMA 12, with Safety Door Interlock

5a: Magnet Coil: for Class 16,17, 22, 23 Only

Suffix Letter	Voltage / Hertz	Suffix Letter	Voltage / Hertz
A	120/60 - 110/50	F ①	120/60
B	240/60 - 220/50	H	277/60
C	480/60 - 440/50	L	380/50
D	600/60 - 550/50	T	24/60
E	208/60		

- ① Advantage only, 110/50 = N for Advantage
- ② All starters size 6 and above are furnished with a 120V coil and control transformer. Select primary voltage.

5b: Control Power Transformer: Class 16 & 24 Only

Suffix Letter	Pri. Volt/Hz	Sec. Volt/ Hz	Suffix Letter	Pri Volt/Hz	Sec Volt/ Hz
B	240/60	120/60	Q	208/60	24/60
C	480/60	120/60	R	240/60	24/60
D	600/60	120/60	S	480/60	24/60
E	208/60	120/60	T	600/60	24/60
H	277/60	120/60	U	277/60	24/60

5b: Control Power Transformer: Class 18 & 24 Only

Suffix Letter	Pri. Volt/Hz	Sec. Volt/ Hz	Suffix Letter	Pri Volt/Hz	Sec Volt/ Hz
L	380/50	110/50	Z	By Description	

6a: Cover Mounted Pilot Devices / Non-Reversing

Suffix Letter	Description	Suffix Letter	Description
A	None	N	Off pushbutton
B	Start / Stop	P	Red RUN pilot
C	with RUN pilot	Q	Green OFF pilot
D	with 2 pilots	R	RUN / OFF pilots
E	On / Off pushbutton	S	Start/Stop Sel. Sw
F	with RUN pilot	T	with RUN pilot
G	with 2 pilots	U	with 2 pilots
H	Hand/Off/Auto	V	On/Off Sel. Sw.
J	with RUN pilot	W	with RUN pilot
K	with 2 pilots	X	with 2 pilots
L	Start pushbutton	Y	Advantage ACM
M	On pushbutton	Z	By Description

6b: Cover Mounted Pilot Devices /Reversing (17, 23)

Suffix Letter	Description	Suffix Letter	Description
A	None	P	2 Red pilots
B	Forward / Reverse	Q	1 Green Pilot
C	with 2 pilots	R	2 Red, 1 Green
D	with 3 pilots	V	Open/Off/Close
E	Up / Stop / Down	W	with 2 pilots
F	with 2 pilots	X	with 3 pilots
H	For / Off / Rev	Y	Advantage ACM
J	with 2 pilots	Z	By Description
K	with 3 pilots		

7a: Disconnect Switch: Class 16, 17, 18 Only

Suffix Letter	Voltage/Amperes	Suffix Letter	Voltage/Amperes
A	Non-Fusible	H	200a/250V
B	30a/250V R	J	200a/600V
C	30a/600V R	K	400a/250V R
D	60a/250V R	L	400a/600V R
E	60a/600V R	M	600a/250V R
F	100a/250V R	N	600a/600V R
G	100a/600V R	T	By Description

7b: Motor Circuit Protector: Class 22, 23, 24 Only

Suffix Letter	Rating	Suffix Letter	Rating	Suffix Letter	Rating
A	None	F	50a	L	600a
B	3a	G	100a	M	800a
C	7a	H	150a	T	Describe
D	15a	J	250a		
E	30a	K	400a		

8: Additional Modifications

Suffix	Description

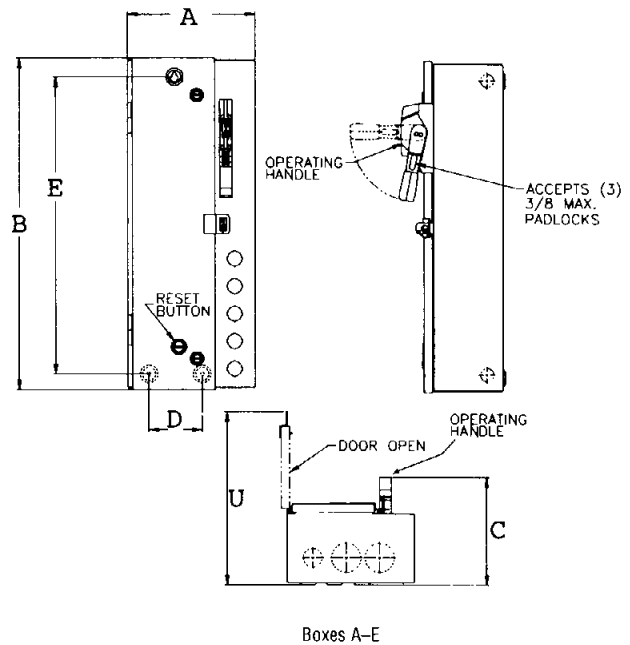


8: Additional Modifications

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NEMA 1 Enclosed Dimensions

NEMA Size (Device)	Box No.	Dimensions in Inches [mm]					Ship Wt. Lbs.
		Wide A	High B	Deep C	Mounting		
					Wide D	High E	
NON-REVERSING -							
with and without Control Power Transformers							
0	A	10.50 [267]	27.06 [687]	8.87 [225]	4.38 [111]	24.50 [622]	37
1	A	10.50 [267]	27.06 [687]	8.87 [225]	4.38 [111]	24.50 [622]	38
2	A	10.50 [267]	27.06 [687]	8.87 [225]	4.38 [111]	24.50 [622]	39
3	C	20.50 [521]	30.50 [775]	10.64 [270]	14.50 [368]	27.87 [708]	72
4 (HMCP)	C	20.50 [521]	30.50 [775]	10.64 [270]	14.50 [368]	27.87 [708]	90
4 (Disc. Sw)	D	29.50 [749]	35.00 [889]	10.95 [278]	24.00 [610]	32.37 [822]	150
5	E	28.00 [711]	61.75 [1569]	12.88 [327]	22.50 [572]	60.15 [1528]	180
6-9		Consult Cutler-Hammer for Availability					
REVERSING -							
with and without Control Power Transformers							
0	B	15.50 [394]	23.06 [586]	8.87 [225]	10.20 [259]	20.50 [521]	42
1	B	15.50 [394]	23.06 [586]	8.87 [225]	10.20 [259]	20.50 [521]	43
2	B	15.50 [394]	23.06 [586]	8.87 [225]	10.20 [259]	20.50 [521]	44
3	C	20.50 [521]	30.50 [775]	10.64 [270]	14.50 [368]	27.87 [708]	84
4	D	29.50 [749]	35.00 [889]	10.95 [278]	24.00 [610]	32.37 [822]	173
5-9		Consult Cutler-Hammer for Availability					
NON-REVERSING - Oversized							
0-1-2	B	15.50 [394]	23.06 [586]	8.87 [225]	10.20 [259]	20.50 [521]	44



NEMA 3R, 4/4X, 12 Enclosed Dimensions

NEMA Size (Device)	Box No.	Dimensions in Inches [mm]					Ship Wt. Lbs.
		Wide A	High B	Deep C	Mounting		
					Wide D	High E	
NON-REVERSING -							
with and without Control Power Transformers							
0	A	10.50 [267]	28.98 [736]	8.87 [225]	5.50 [140]	27.92 [709]	37
1	A	10.50 [267]	28.98 [736]	8.87 [225]	5.50 [140]	27.92 [709]	38
2	A	10.50 [267]	28.98 [736]	8.87 [225]	5.50 [140]	27.92 [709]	39
3	C	20.50 [521]	32.36 [822]	10.64 [270]	15.50 [394]	31.30 [795]	72
4 (HMCP)	C	20.50 [521]	32.36 [822]	10.64 [270]	15.50 [394]	31.30 [795]	90
4 (Disc. Sw)	D	29.50 [749]	38.09 [968]	10.95 [278]	22.50 [572]	36.50 [927]	150
5	E	28.00 [711]	61.75 [1569]	12.88 [327]	22.50 [572]	60.15 [1528]	180
6		Consult Cutler-Hammer for Availability					
REVERSING -							
with and without Control Power Transformers							
0	B	15.50 [394]	24.98 [635]	8.87 [225]	10.50 [267]	23.92 [608]	42
1	B	15.50 [394]	24.98 [635]	8.87 [225]	10.50 [267]	23.92 [608]	43
2	B	15.50 [394]	24.98 [635]	8.87 [225]	10.50 [267]	23.92 [608]	44
3	C	20.50 [521]	32.36 [822]	10.64 [270]	15.50 [394]	31.30 [795]	84
4	D	29.50 [749]	38.09 [968]	10.95 [278]	22.50 [572]	36.50 [927]	173
5-9		Consult Cutler-Hammer for Availability					
NON-REVERSING - Oversized							
0-1-2	B	15.50 [394]	24.98 [635]	8.87 [225]	10.50 [267]	23.92 [608]	44

