



1SXP133001C0201 Selection Guide

System proS Enclosed Starters

Power and productivity
for a better world™



System proS

Enclosed Starters it's as easy as ABB



The ABB *System proS* offer pre-wired ready to install non-reversing and reversing, non-combination and combination enclosed starters from your local distributor's stock. Choose from a wide variety of pilot device kits and control transformer kits pre-wired to connectors. In a few minutes your complete *System proS* starter is ready to install.

Across the line (D.O.L.) and 2 speeds starters

- Maximum horse power rating up to 125HP at 600VAC
- Nema rated, size 00 to 4
- Compact space saving design
- Easy access to components
- Conduit entry knockouts on all sides
- Padlockable cover
- Available with either Nema 1 general purpose, Nema 4/12 dust and water tight and Nema 4X enclosures
- Thermal overload relay class 10 and Electronic class 10, 20 & 30
- Single phase or three phase
- Non-reversing or reversing
- CSA approved

System proS starters are stocked at your local distributor. Order and install the same day!



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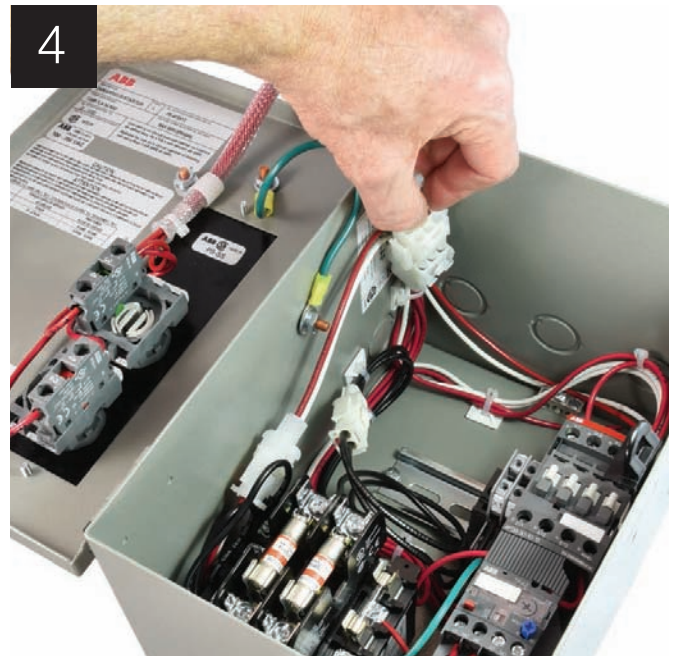
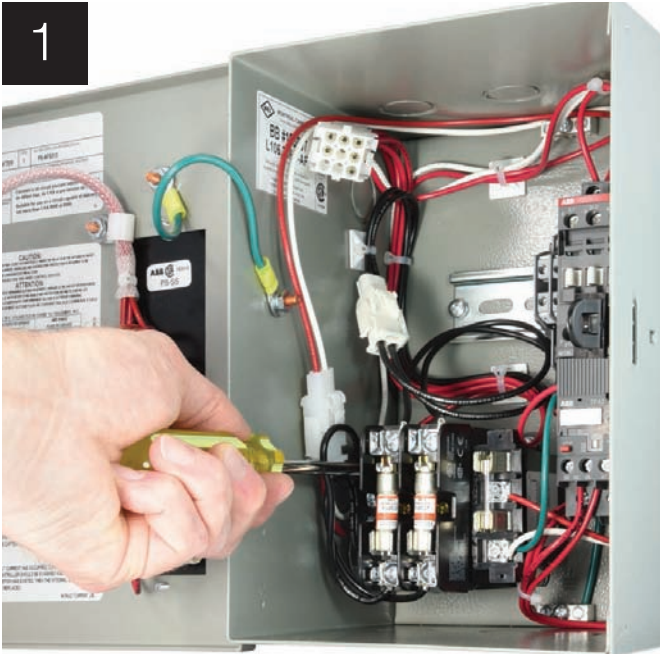
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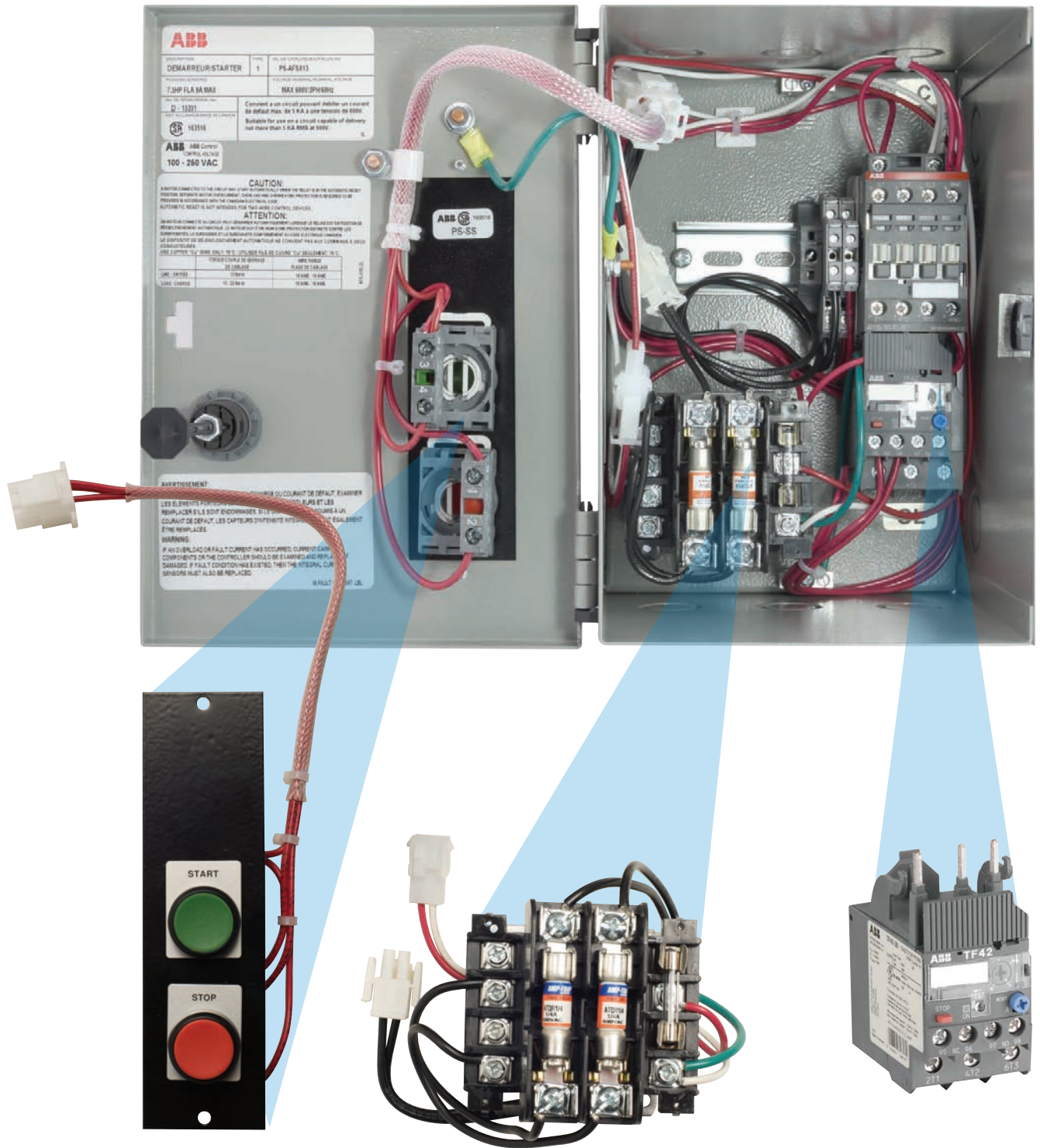


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Easy as ABB

- A. Install and secure your System proS on a wall
- B. Add overload relays
- C. Install control transformer if required (pictures 1, 2)
- D. Install pilot device kit if required (pictures 3, 4)
- E. Close the cover





System proS Pilot Device Kits

- Pre-wired, ready-to-operate
- One, two or three modules
- Pushbuttons, pilot lights and selector switches

Transformer Kits

- Fused on primary and secondary
- Primary voltage 120-208-240-347-416-480-600
- Secondary voltage 24-120
- Pre-wired and ready to install

O/L Relay

System proS

Basic Selection Guide



System proS

Enclosed Starters

Description

- Across the line (D.O.L.) and 2 speeds starters
- Maximum CSA/UL horsepower ratings 7,5 to 125 HP at 600 VAC
- Nema size rated 00 to 4
- Non-combination and combination types available
- Compact space saving design
- Pre-wired pilot device and control transformer kits allow for quick and easy field modification and installation
- Captive terminal screws
- Touch safe design: All connection terminals are protected against accidental touch
- External connections: all starters include necessary terminal blocks and wiring to control the starter by an external maintained contact when used with the appropriate pilot device kit

Enclosure Types

- Metal: Type 1, 4/12, 4X stainless steel type 304 # 4 (pages 8 to 19)
- Plastic: Type 4X (pages 42 to 44)

Overload Relay Protection

- All HP rated starters should use a class 10 adjustable overload relay
- All NEMA rated starters should use a class 10/20/30 adjustable electronic overload relay
- Generally, applications where NEMA-rated starters are required, customers would normally select the class 20 trip setting however each application is different

General Information

The extensive requirements for group motor circuits are:

- isolation and short circuit protection
- motor control: Starting and Stopping
- motor protection against overloads

Those functions are presented in this catalogue; the motor control and motor protection against overloads (See drawing below).

The isolation and short-circuit protection can be provided by disconnect switches: OS/OT range or by Tmax circuit breakers.

Use the recommended fuses.

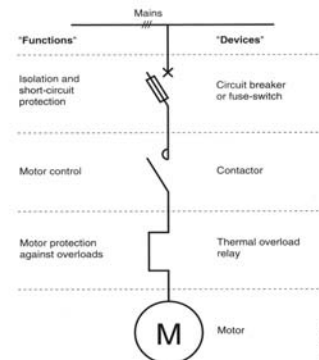
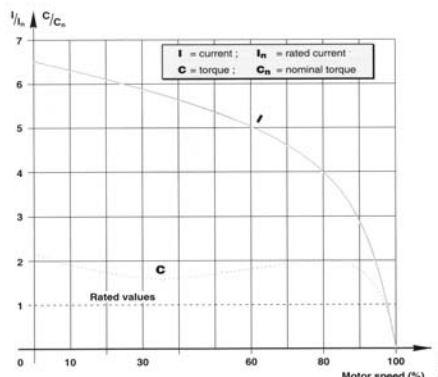
For detailed information please refer to coordination tables available on request.

The control is provided by the contactor of the starter and the protection against overloads by the associated overload relay.

As the supply circuit is normally rated for the motor full load current (FLC), the O/L relay protects both motor and supply circuit against overloads.

High starting torque, simple and low-price direct motor starting with full voltage (so called “direct-on-line” or d.o.l.) is the most common way of starting a motor.

Starting torque and current depend on the motor type. Starting torque is roughly equal to 1.9 to 2.1 times the motor’s full speed value and starting current 5.5 to 7 times the motor FLC value. Quick to reach the full speed due to its high starting torque, the d.o.l. starter requires a strong power supply to handle this high inrush current.



Technical specifications

Nominal voltage and frequency:

Up to 600V – 50-60Hz (standard range)

Connection:

- Single phase (1 pole and 2 poles)
- Three phase

Application configuration:

- Direct On Line (D.O.L)
- Reversing
- 2 Speeds – 1 winding
- 2 Speeds – 2 windings
- Contactor
- Reversing contactors

Main protection:

- Non-combination
- Combine with disconnect switch
- Combine with fusible disconnect switch
- Combine with circuit breaker (MCP for starters)
- Combine with circuit breaker (MCCB for contactors)

Operating coil voltage:

- Standard 110-120Volts / 50-60hz.
- Other voltage on request.

Auxiliary contacts:

- A.C. & D.C. rated voltage, 600 Volts
- A.C. thermal rated current, 10 Amp.
- D.C. thermal rated current, 5 Amp.

ProS starters complies with;

- CAN/CSA C22.2 No.14-05

Ambient temperature:

-20°C/+40°C

ProS starters factory tests:

- Insulation test.
- Functional test.

Enclosure colour:

Textured grey ASA61

Enclosure protection:

- General purpose Type 1
- Indoor Type 12
- Outdoor Type 4
- Outdoor Type 4X (Stainless Steel)

Installation:

Enclosure type 1 and 12;

- Wall mounting
- Top, bottom or side cable entry.

Approximate dimensions: (H x W x D)

- Non-Combination Type 1 (IEC style & NEMA rated)
 - 10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)
 - 17" x 12" x 7" (432 x 305 x 178mm)
 - 36" x 20" x 10" (915 x 508 x 254mm)
- Non-Combination Type 12-4-4X (IEC style & NEMA rated)
 - 10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)
 - 17" x 13-3/4" x 7" (432 x 350 x 178mm)
 - 36" x 21-3/4" x 10" (915 x 553 x 254mm)
- Combination Type 1 (IEC style)
 - 20" x 8-1/2" x 8" (508 x 216 x 204mm)
 - 28" x 12" x 8" (712 x 305 x 204mm)
 - 48" x 20" x 10" (1220 x 508 x 254mm)
- Combination Type 12-4-4X (IEC style)
 - 20" x 8-1/2" x 8" (508 x 216 x 204mm)
 - 28" x 13-3/4" x 7-1/2" (712 x 350 x 191mm)
 - 48" x 21-3/4" x 10" (1220 x 553 x 254mm)
- Combination Type 1 (NEMA rated)
 - 24" x 12" x 8" (610 x 305 x 204mm)
 - 28" x 18" x 8" (712 x 458 x 204mm)
 - 48" x 24" x 8" (1220 x 610 x 204mm)
- Combination Type 12-4-4X (NEMA rated)
 - 24" x 12" x 8" (610 x 305 x 204mm)
 - 28" x 18" x 8" (712 x 458 x 204mm)
 - 48" x 24" x 8" (1220 x 610 x 204mm)

Approximate weights:

- Non-Combination Type 1 (IEC style & NEMA rated)
 - 15-20 lbs (7-9 kg)
 - 30-45 lbs (14-2 kg)
 - 100-160 lbs (45-73 kg)
- Non-Combination Type 12-4-4X (IEC style & NEMA rated)
 - 20-25 lbs (9-12 kg)
 - 35-50 lbs (16-23 kg)
 - 110-170 lbs (50-77 kg)
- Combination Type 1 (IEC style)
 - 40-60 lbs (18-27 kg)
 - 60-90 lbs (27-41 kg)
 - 125- 150 lbs (57-68 kg)
- Combination Type 12-4-4X (IEC style)
 - 50-70 lbs (23-32 kg)
 - 70-100 lbs (32-45 kg)
 - 140- 175 lbs (64-80 kg)
- Combination Type 1 (NEMA rated)
 - 65-85 lbs (30-39 kg)
 - 90-120 lbs (41-55 kg)
 - 170- 205 lbs (77-93 kg)
- Combination Type 12-4-4X (NEMA rated)
 - 65-85 lbs (30-39 kg)
 - 90-120 lbs (41-55 kg)
 - 170- 205 lbs (77-93 kg)

System proS

Starter Catalog Number Explanation

PS-AFS X 1 1 - L 04 A 22

Starter style:

PS = HP Rated PSN = NEMA Rated

Contactor size:

AF = AF09 or AF09N00 2F = AF52 or AF40N2
 OF = AF16 or AF12N0 3F = AF80 or AF80N3
 1F = AF30 or AF26N1 4F = AF140 or AF140N4

Starter type:

S = Across the Line D.O.L. C = Contactor
 R = Reversing K = Reversing contactor
 T = 2 Speeds - 2 Windings A = Single phase (120 Volts / 1 Pole)
 V = 2 Speeds - 1 Winding B = Single phase (208-240 Volts / 2 Poles)
(D.O.L. starters "S", can be convert in to single phase starters "A" or "B", with additional parts)

Combination:

X = Not B = Breaker MCP (All starters)
 N = Non-Fusible disc. SW M = Breaker MCCB (All contactors)
 F = Fusible disc. SW L = Fusible disc. SW (NEMA at 480V and 600V only)
(IEC standard = Pistol handles, Nema rated = Flange handles)

Enclosure type:

1 = Type 1 4 = Type 4/12 X = Type 4X (stainless steel type 304 # 4)

Coil voltage:

1 = 24-60 Volts 3 = 100-250 Volts
 2 = 48-130 Volts 4 = 250-500 Volts

Overload selection:

HP Rated (thermal O/L) <i>Class 10 (AF09 - AF16 - AF30)</i>	NEMA Rated (electronic O/L) <i>Class 10/20/30 (AF09N, AF12N - AF26N)</i>
A = TF42-0.13 (0.10 ... 0.13A)	A = EF19-0.32
B = TF42-0.17 (0.13 ... 0.17A)	B = EF19-0.32
C = TF42-0.23 (0.17 ... 0.23A)	C = EF19-0.32
D = TF42-0.31 (0.23 ... 0.31A)	D = EF19-0.32
E = TF42-0.41 (0.31 ... 0.41A)	E = EF19-1.0
F = TF42-0.55 (0.41 ... 0.55A)	F = EF19-1.0
G = TF42-0.74 (0.55 ... 0.74A)	G = EF19-1.0
H = TF42-1.0 (0.74 ... 1.0A)	H = EF19-1.0
J = TF42-1.3 (1.0 ... 1.3A)	J = EF19-2.7
K = TF42-1.7 (1.3 ... 1.7A)	K = EF19-2.7
L = TF42-2.3 (1.7 ... 2.3A)	L = EF19-2.7
M = TF42-3.1 (2.3 ... 3.1A)	M = EF19-6.3
N = TF42-4.2 (3.1 ... 4.2A)	N = EF19-6.3
P = TF42-5.7 (4.2 ... 5.7A)	P = EF19-6.3
Q = TF42-7.6 (5.7 ... 7.6A)	Q = EF19-18.9
R = TF42-10 (7.6 ... 10A)	R = EF19-18.9
S = TF42-13 (10 ... 13A)	S = EF19-18.9
T = TF42-16 (13 ... 16A)	T = EF19-18.9
U = TF42-20 (16 ... 20A)	U = EF45-30
V = TF42-24 (20 ... 24A)	V = EF45-30
W = TF42-29 (24 ... 29A)	W = EF45-30
X = TF42-35 (29 ... 35A)	X = EF45-45

(for suffix selection with electronic overload, please refer to pages 19 and 21)

<i>Class 10 (AF52)</i>	<i>Class 10/20/30 (AF40N)</i>
A = TF65-28 (22 ... 28A)	A = EF65-56
B = TF65-33 (25 ... 33A)	B = EF65-56
C = TF65-40 (30 ... 40A)	C = EF65-56
D = TF65-47 (36 ... 47A)	D = EF65-56
E = TF65-53 (44 ... 53A)	E = EF65-56
F = TF65-60 (50 ... 60A)	F = EF65-70
G = TF65-67 (57 ... 67A)	G = EF65-70

<i>Class 10 (AF80)</i>	<i>Class 10/20/30 (AF80N)</i>
A = TF96-51 (40 ... 51A)	A = EF96-100
B = TF96-60 (48 ... 60A)	B = EF96-100
C = TF96-68 (57 ... 68A)	C = EF96-100
D = TF96-78 (65 ... 78A)	D = EF96-100
E = TF96-87 (75 ... 87A)	E = EF96-100
F = TF96-96 (84 ... 96A)	F = EF96-100

(Overload must be selected when used with combination breakers "MCP")

Overload selection for 2 Speeds - 1 Winding "V" & 2 Speeds - 2 Windings "T"

1 * = 2S1W 2 * = 2S2W
(Second overload must be ordered separately. See "Overload selection".)*

Auxiliary contacts:

22 = 2 N.O. + 2 N.C.
(Consult ABB for contact configuration)

Pilot device:

(Starter type "S" - "C" - "A" - "B")

A = PS-SS (P.B. "Start" + "Stop")
 B = PS-SSI (P.B. "Start" + "Stop" + P.L. "On")
 C = PS-SL2 (2 Positions "Off/On")
 D = PS-SL2I (2 Positions "Off/On" + P.L. "On")
 E = PS-SL3 (3 Positions "Hand/Off/Auto")
 F = PS-SL3I (3 Positions "Hand/Off/Auto" + P.L. "On")
 G = PS-PL (P.L. "On")
 H = PS-SS-F (P.B. "Marche" + "Arrêt")
 J = PS-SSI-F (P.B. "Marche" + "Arrêt" + P.L. "En service")
 K = PS-SL2-F (2 Positions "Hors/En")
 L = PS-SL2I-F (2 Positions "Hors/En" + P.L. "En service")
 M = PS-SL3-F (3 Positions "Man/Hors/Auto")
 N = PS-SL3I-F (3 Positions "Man/Hors/Auto" + P.L. "En service")
 P = PS-PL-F (P.L. "En service")
 Q = PS-SE (P.B. "Start" - "Emergency Stop")
 R = PS-SE-F (P.B. "Marche" - "Arrêt d'urgence")
 S = PS-SL2IO (2 Positions "Off/On" + P.L. "On" + "Fault")
 T = PS-SL2IO-F (2 Positions "Hors/En" + P.L. "En Service" + "Faute")
 U = PS-SL3IO (3 Positions "Hand/Off/Auto" + P.L. "On" + "Fault")
 V = PS-SL3IO-F (3 Positions "Man/Hors/Auto" + P.L. "En Service" + "Faute")
 W = PS-SL2IH** (2 Positions "Off/On" + P.L. "On" + "Off")
 X = PS-SL2IH-F** (2 Positions "Hors/En" + P.L. "En Service" + "Hors Service")
 Y = PS-SL3IH** (3 Positions "Hand/Off/Auto" + P.L. "On" + "Off")
 Z = PS-SL3IH-F** (3 Positions "Man/Hors/Auto" + P.L. "En Service" + "Hors Service")
 YA = PS-SSE (P.B. "Start" + "Stop" + Emergency Stop)
 YB = PS-SSE-F (P.B. "Marche" + "Arrêt" + Arrêt d'urgence)
 XA = PS-SL2K (2 Positions Key operated "Off/On")
 XB = PS-SL2KI (2 Positions Key operated "Off/On" + P.L. "On")
 XC = PS-SL3K (3 Positions Key operated "Hand/Off/Auto")
 XD = PS-SL3KI (3 Positions Key operated "Hand/Off/Auto" + P.L. "On")
 XE = PS-SL2KIO (2 Positions Key operated "Off/On" + P.L. "On" + "Fault")
 XF = PS-SL3KIO (3 Positions Key operated "Hand/Off/Auto" + P.L. "On" + "Fault")
 XG = PS-SL2KIH** (2 Positions Key operated "Off/On" + P.L. "On" + "Off")
 XH = PS-SL3KIH** (3 Positions Key operated "Hand/Off/Auto" + P.L. "On" + "Off")
 XJ = PS-SL2K-F (2 Positions à clé "Hors/En")
 XK = PS-SL2KI-F (2 Positions à clé "Hors/En" + P.L. "En service")
 XL = PS-SL3K-F (3 Positions à clé "Man/Hors/Auto")
 XM = PS-SL3KI-F (3 Positions à clé "Man/Hors/Auto" + P.L. "En service")
 XN = PS-SL2KIO-F (2 Positions à clé "Hors/En" + P.L. "En Service" + "Faute")
 XP = PS-SL3KIO-F (3 Positions à clé "Man/Hors/Auto" + P.L. "En Service" + "Faute")
 XQ = PS-SL2KIH-F** (2 Positions à clé "Hors/En" + P.L. "En Service" + "Hors Service")
 XR = PS-SL3KIH-F** (3 Positions à clé "Man/Hors/Auto" + P.L. "En Service" + "Hors Service")

**** = Factory installed pilot device kit ONLY**

(Starter type "R" - "K")

A = PS-FRS (P.B. "Forward" + "Reverse" + "Stop")
 B = PS-SL3R (3 Positions "Forward/Off/Reverse")
 C = PS-SL3RI (3 Positions "Forward/Off/Reverse" + P.L. "On")
 D = PS-FRS-F (P.B. "Avant" + "Arrière" + "Arrêt")
 E = PS-SL3R-F (3 Positions "Avant/Hors/Arrière")
 F = PS-SL3RI-F (3 Positions "Avant/Hors/Arrière" + P.L. "En service")

(Starter type "T" - "V")

A = PS-FSO (P.B. "Slow" + "Fast" + "Stop")
 B = PS-SL3F (3 Positions "Slow/Off/Fast")
 C = PS-SL3FI (3 Positions "Slow/Off/Fast" + P.L. "Slow" + "Fast")
 D = PS-FSO-F (P.B. "Lent" + "Rapide" + "Arrêt")
 E = PS-SL3F-F (3 Positions "Lent/Hors/Rapide")
 F = PS-SL3FI-F (3 Positions "Lent/Hors/Rapide" + P.L. "Lent" + "Rapide")
 G = PS-SL4F (4 Positions "Auto/Off/Slow/Fast")
 H = PS-SL4FI (4 Positions "Auto/Off/Slow/Fast" + P.L. "Slow" + "Fast")
 J = PS-SL4F-F (4 Positions "Auto/Hors/Lent/Rapide")
 K = PS-SL4FI-F (4 Positions "Auto/Hors/Lent/Rapide" + P.L. "Lent" + "Rapide")

Control transformer:

(AF09 - AF16 - AF30 - AF52 - AF80)

01 = PS-50-240/120 (240/120 Volts-50VA)
 02 = PS-50-347/120 (347/120 Volts-50VA)
 03 = PS-50-480/120 (480/120 Volts-50VA)
 04 = PS-50-600/120 (600/120 Volts-50VA)
 05 = PS-50-240/24 (240/24 Volts-50VA)
 06 = PS-50-480/24 (480/24 Volts-50VA)
 07 = PS-50-600/24 (600/24 Volts-50VA)
 08 = PS-50-208/120 (208/120 Volts-50VA)
 09 = PS-50-208/24 (208/24 Volts-50VA)
 12 = PS-50-120/24 (120/24 Volts-50VA)

(AF140)

01 = PS-100-240/120 (240/120 Volts-100VA)
 02 = PS-100-347/120 (347/120 Volts-100VA)
 03 = PS-100-480/120 (480/120 Volts-100VA)
 04 = PS-100-600/120 (600/120 Volts-100VA)
 05 = PS-100-240/24 (240/24 Volts-100VA)
 06 = PS-100-480/24 (480/24 Volts-100VA)
 07 = PS-100-600/24 (600/24 Volts-100VA)
 08 = PS-100-208/120 (208/120 Volts-100VA)
 09 = PS-100-208/24 (208/24 Volts-100VA)
 12 = PS-100-120/24 (120/24 Volts-100VA)

System proS Enclosed Contactors



Amp Rated, 3 pole Contactors

General Purpose Current	Contactor Size	Type 1	Type 4/12	Type 4X
		Catalog Number	Catalog Number	Catalog Number
25	AF09	PS-AFCX13	PS-AFCX43	PS-AFCXX3
30	AF16	PS-0FCX13	PS-0FCX43	PS-0FCXX3
50	AF30	PS-1FCX13	PS-1FCX43	PS-1FCXX3
80	AF52	PS-2FCX13	PS-2FCX43	PS-2FCXX3
105	AF80	PS-3FCX13	PS-3FCX43	PS-3FCXX3
200	AF140	PS-4FCX13	PS-4FCX43	PS-4FCXX3

Amp Rated, 3 pole, Mechanically Interlocked Contactors

General Purpose Current	Contactor Size	Type 1	Type 4/12	Type 4X
		Catalog Number	Catalog Number	Catalog Number
25	AF09	PS-AFKX13	PS-AFKX43	PS-AFKXX3
30	AF16	PS-0FKX13	PS-0FKX43	PS-0FKXX3
50	AF30	PS-1FKX13	PS-1FKX43	PS-1FKXX3
80	AF52	PS-2FKX13	PS-2FKX43	PS-2FKXX3
105	AF80	PS-3FKX13	PS-3FKX43	PS-3FKXX3
200	AF140	PS-4FKX13	PS-4FKX43	PS-4FKXX3

Nema, 3 pole Contactors

NEMA Size	Contactor Size	Continuous Current	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
00	AF09	9	PSN-AFCX13	PSN-AFCX43	PSN-AFCXX3
0	AF12	18	PSN-0FCX13	PSN-0FCX43	PSN-0FCXX3
1	AF26	27	PSN-1FCX13	PSN-1FCX43	PSN-1FCXX3
2	AF40	45	PSN-2FCX13	PSN-2FCX43	PSN-2FCXX3
3	AF80	90	PSN-3FCX13	PSN-3FCX43	PSN-3FCXX3
4	AF140	135	PSN-4FCX13	PSN-4FCX43	PSN-4FCXX3

Nema, 3 pole, Mechanically Interlocked Contactors

NEMA Size	Contactor Size	Continuous Current	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
00	AF09	9	PSN-AFKX13	PSN-AFKX43	PSN-AFKXX3
0	AF12	18	PSN-0FKX13	PSN-0FKX43	PSN-0FKXX3
1	AF26	27	PSN-1FKX13	PSN-1FKX43	PSN-1FKXX3
2	AF40	45	PSN-2FKX13	PSN-2FKX43	PSN-2FKXX3
3	AF80	90	PSN-3FKX13	PSN-3FKX43	PSN-3FKXX3
4	AF140	135	PSN-4FKX13	PSN-4FKX43	PSN-4FKXX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 contactor: use PS-AFCX11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

1 Pilot device kits and control transformers must be ordered separately (see pages 23 to 27)

System proS Combination, Enclosed Contactors



HP Rated



Nema

Amp Rated, Combination Contactors, 3 pole, Fusible Disconnect

General Purpose Current	Contactor Size	Type 1	Type 4/12	Type 4X
		Catalog Number	Catalog Number	Catalog Number
25	AF09	PS-AFCF13	PS-AFCF43	PS-AFCFX3
30	AF16	PS-0FCF13	PS-0FCF43	PS-0FCFX3
50	AF30	PS-1FCF13	PS-1FCF43	PS-1FCFX3
80	AF52	PS-2FCF13	PS-2FCF43	PS-2FCFX3
105	AF80	PS-3FCF13	PS-3FCF43	PS-3FCFX3
200	AF140	PS-4FCF13	PS-4FCF43	PS-4FCFX3

Amp Rated, Combination Contactors, 3 pole, Mechanically interlock Fusible Disconnect

General Purpose Current	Contactor Size	Type 1	Type 4/12	Type 4X
		Catalog Number	Catalog Number	Catalog Number
25	AF09	PS-AFKF13	PS-AFKF43	PS-AFKFX3
30	AF16	PS-0KF13	PS-0KF43	PS-0KFX3
50	AF30	PS-1KF13	PS-1KF43	PS-1KFX3
80	AF52	PS-2KF13	PS-2KF43	PS-2KFX3
105	AF80	PS-3KF13	PS-3KF43	PS-3KFX3
200	AF140	PS-4KF13	PS-4KF43	PS-4KFX3

Nema, Combination Contactors, 3 pole, Fusible Disconnect

NEMA Size	Contactor Size	Continuous Current	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
00	AF09	9	PSN-AFCF13	PSN-AFCF43	PSN-AFCFX3
0	AF12	18	PSN-0FCF13	PSN-0FCF43	PSN-0FCFX3
1	AF26	27	PSN-1FCF13	PSN-1FCF43	PSN-1FCFX3
2	AF40	45	PSN-2FCF13	PSN-2FCF43	PSN-2FCFX3
3	AF80	90	PSN-3FCF13	PSN-3FCF43	PSN-3FCFX3
4	AF140	135	PSN-4FCF13	PSN-4FCF43	PSN-4FCFX3

Nema, Combination Contactors, 3 pole, Mechanically interlock, Fusible Disconnect

NEMA Size	Contactor Size	Continuous Current	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
00	AF09	9	PSN-AFKF13	PSN-AFKF43	PSN-AFKFX3
0	AF12	18	PSN-0FKF13	PSN-0FKF43	PSN-0FKFX3
1	AF26	27	PSN-1FKF13	PSN-1FKF43	PSN-1FKFX3
2	AF40	45	PSN-2FKF13	PSN-2FKF43	PSN-2FKFX3
3	AF80	90	PSN-3FKF13	PSN-3FKF43	PSN-3FKFX3
4	AF140	135	PSN-4FKF13	PSN-4FKF43	PSN-4FKFX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 contactor: use PS-AFCF11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

1 Pilot device kits and control transformers must be ordered separately (see pages 23 to 27)

System proS

Single Phase Starters, Non-Combination¹



HP Rated, Non-Reversing

CSA Motor Switching Current	Contactor Size	Maximum Motor HP ratings 120V	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
13.8	AF09	0.75	PS-AFAX13	PS-AFAX43	PS-AFAXX3
20	AF16	1.5	PS-0FAX13	PS-0FAX43	PS-0FAXX3
24	AF30	2	PS-1FAX13	PS-1FAX43	PS-1FAXX3
34	AF52	3	PS-2FAX13	PS-2FAX43	PS-2FAXX3
80	AF80	7.5	PS-3FAX13	PS-3FAX43	PS-3FAXX3

HP Rated, Non-Reversing

CSA Motor Switching Current	Contactor Size	Maximum Motor HP ratings 240V	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
10	AF09	1.5	PS-AFBX13	PS-AFBX43	PS-AFBXX3
17	AF16	3	PS-0FBX13	PS-0FBX43	PS-0FBXX3
28	AF30	5	PS-1FBX13	PS-1FBX43	PS-1FBXX3
50	AF52	10	PS-2FBX13	PS-2FBX43	PS-2FBXX3
68	AF80	15	PS-3FBX13	PS-3FBX43	PS-3FBXX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFAX11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

System proS

Single Phase Combination Starters¹



HP Rated

HP Rated, Combination Fused Disconnect Switch, Non-Reversing

CSA Motor Switching Current	Contactor Size	Maximum Motor HP ratings 120V	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
13.8	AF09	0.75	PS-AFAF13	PS-AFAF43	PS-AFAFX3
20	AF16	1.5	PS-0FAF13	PS-0FAF43	PS-0FAFX3
24	AF30	2	PS-1FAF13	PS-1FAF43	PS-1FAFX3
34	AF52	3	PS-2FAF13	PS-2FAF43	PS-2FAFX3
80	AF80	7.5	PS-3FAF13	PS-3FAF43	PS-3FAFX3

HP Rated, Combination Fused Disconnect Switch, Non-Reversing

CSA Motor Switching Current	Contactor Size	Maximum Motor HP ratings 240V	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
10	AF09	1.5	PS-AFBF13	PS-AFBF43	PS-AFBFX3
17	AF16	3	PS-0FBF13	PS-0FBF43	PS-0FBFX3
28	AF30	5	PS-1FBF13	PS-1FBF43	PS-1FBFX3
50	AF52	10	PS-2FBF13	PS-2FBF43	PS-2FBFX3
68	AF80	15	PS-3FBF13	PS-3FBF43	PS-3FBFX3

HP Rated, Combination Starters, Non-Fusible Disconnect, Non-Reversing

CSA Motor Switching Current	Contactor Size	Maximum Motor HP ratings 120V	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
13.8	AF09	0.75	PS-AFAN13	PS-AFAN43	PS-AFANX3
20	AF16	1.5	PS-0FAN13	PS-0FAN43	PS-0FANX3
24	AF30	2	PS-1FAN13	PS-1FAN43	PS-1FANX3
34	AF52	3	PS-2FAN13	PS-2FAN43	PS-2FANX3
80	AF80	7.5	PS-3FAN13	PS-3FAN43	PS-3FANX3

HP Rated, Combination Starters, Non-Fusible Disconnect, Non-Reversing

CSA Motor Switching Current	Contactor Size	Maximum Motor HP ratings 240V	Type 1	Type 4/12	Type 4X
			Catalog Number	Catalog Number	Catalog Number
10	AF09	1.5	PS-AFBN13	PS-AFBN43	PS-AFBNX3
17	AF16	3	PS-0FBN13	PS-0FBN43	PS-0FBNX3
28	AF30	5	PS-1FBN13	PS-1FBN43	PS-1FBNX3
50	AF52	10	PS-2FBN13	PS-2FBN43	PS-2FBNX3
68	AF80	15	PS-3FBN13	PS-3FBN43	PS-3FBNX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil. To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFAN11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

System proS

3 Phase Starters, Non-Combination¹



HP Rated, Non-Reversing, 3 Phase Starters

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFSX13	PS-AFSX43	PS-AFSXX3
17	AF16	5	5	10	15	PS-0FSX13	PS-0FSX43	PS-0FSXX3
27	AF30	10	10	20	25	PS-1FSX13	PS-1FSX43	PS-1FSXX3
52	AF52	15	20	40	50	PS-2FSX13	PS-2FSX43	PS-2FSXX3
77	AF80	25	30	60	75	PS-3FSX13	PS-3FSX43	PS-3FSXX3
125	AF140	40	50	100	125	PS-4FSX13	PS-4FSX43	PS-4FSXX3

HP Rated, Reversing, 3 Phase Starters

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFRX13	PS-AFRX43	PS-AFRXX3
17	AF16	5	5	10	15	PS-0FRX13	PS-0FRX43	PS-0FRXX3
27	AF30	10	10	20	25	PS-1FRX13	PS-1FRX43	PS-1FRXX3
52	AF52	15	20	40	50	PS-2FRX13	PS-2FRX43	PS-2FRXX3
77	AF80	25	30	60	75	PS-3FRX13	PS-3FRX43	PS-3FRXX3
125	AF140	40	50	100	125	PS-4FRX13	PS-4FRX43	PS-4FRXX3

NEMA, Non-Reversing, 3 Phase Starters

CSA Motor Switching Current	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFSX13	PSN-AFSX43	PSN-AFSXX3
0	AF12	18	3	3	5	PSN-0FSX13	PSN-0FSX43	PSN-0FSXX3
1	AF26	27	7.5	7.5	10	PSN-1FSX13	PSN-1FSX43	PSN-1FSXX3
2	AF40	45	10	15	25	PSN-2FSX13	PSN-2FSX43	PSN-2FSXX3
3	AF80	90	25	30	50	PSN-3FSX13	PSN-3FSX43	PSN-3FSXX3
4	AF140	135	40	50	100	PSN-4FSX13	PSN-4FSX43	PSN-4FSXX3

NEMA, Reversing, 3 Phase Starters

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFRX13	PSN-AFRX43	PSN-AFRXX3
0	AF12	18	3	3	5	PSN-0FRX13	PSN-0FRX43	PSN-0FRXX3
1	AF26	27	7.5	7.5	10	PSN-1FRX13	PSN-1FRX43	PSN-1FRXX3
2	AF40	45	10	15	25	PSN-2FRX13	PSN-2FRX43	PSN-2FRXX3
3	AF80	90	25	30	50	PSN-3FRX13	PSN-3FRX43	PSN-3FRXX3
4	AF140	135	40	50	100	PSN-4FRX13	PSN-4FRX43	PSN-4FRXX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFSX11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

² Ratings listed are at 600V AC

System proS

3 Phase Starters, Combination Fusible Disconnect Switch¹



HP Rated



Nema

HP Rated, Combination Starters, Fusible Disconnect, Non-Reversing

CSA Motor Switching Current ³	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFSF13	PS-AFSF43	PS-AFSFX3
17	AF16	5	5	10	15	PS-0FSF13	PS-0FSF43	PS-0FSFX3
27	AF30	10	10	20	25	PS-1FSF13	PS-1FSF43	PS-1FSFX3
52	AF52	15	20	40	50	PS-2FSF13	PS-2FSF43	PS-2FSFX3
77	AF80	25	30	60	75	PS-3FSF13	PS-3FSF43	PS-3FSFX3
125	AF140	40	50	100	125	PS-4FSF13	PS-4FSF43	PS-4FSFX3

HP Rated, Combination Starters, Fusible Disconnect, Reversing

CSA Motor Switching Current ³	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFRF13	PS-AFRF43	PS-AFRFX3
17	AF16	5	5	10	15	PS-0FRF13	PS-0FRF43	PS-0FRFX3
27	AF30	10	10	20	25	PS-1FRF13	PS-1FRF43	PS-1FRFX3
52	AF52	15	20	40	50	PS-2FRF13	PS-2FRF43	PS-2FRFX3
77	AF80	25	30	60	75	PS-3FRF13	PS-3FRF43	PS-3FRFX3
125	AF140	40	50	100	125	PS-4FRF13	PS-4FRF43	PS-4FRFX3

Nema, Combination Starters, Fusible Disconnect, Non-Reversing²

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFSF13	PSN-AFSF43	PSN-AFSFX3
0	AF12	18	3	3	5	PSN-0FSF13	PSN-0FSF43	PSN-0FSFX3
1	AF26	27	7.5	7.5	10	PSN-1FS(F/L)13	PSN-1FS(F/L)43	PSN-1FS(F/L)X3
2	AF40	45	10	15	25	PSN-2FS(F/L)13	PSN-2FS(F/L)43	PSN-2FS(F/L)X3
3	AF80	90	25	30	50	PSN-3FS(F/L)13	PSN-3FS(F/L)43	PSN-3FS(F/L)X3
4	AF140	135	40	50	100	PSN-4FSF13	PSN-4FSF43	PSN-4FSFX3

Nema, Combination Starters, Fusible Disconnect, Reversing²

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFRF13	PSN-AFRF43	PSN-AFRFX3
0	AF12	18	3	3	5	PSN-0FRF13	PSN-0FRF43	PSN-0FRFX3
1	AF26	27	7.5	7.5	10	PSN-1FR(F/L)13	PSN-1FR(F/L)43	PSN-1FR(F/L)X3
2	AF40	45	10	15	25	PSN-2FR(F/L)13	PSN-2FR(F/L)43	PSN-2FR(F/L)X3
3	AF80	90	25	30	50	PSN-3FR(F/L)13	PSN-3FR(F/L)43	PSN-3FR(F/L)X3
4	AF140	135	40	50	100	PSN-4FRF13	PSN-4FRF43	PSN-4FRFX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFSF11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)
² Use code "L" for Nema-rated combination starters (Nema sizes 1, 2 and 3) being used at 480VAC or 600VAC
³ Ratings listed are at 600V AC

System proS

3 Phase Starters, Combination Non-Fusible Disconnect Switch¹



HP Rated

HP Rated, Combination Starters, Non-Fusible Disconnect, Non Reversing

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFSN13	PS-AFSN43	PS-AFSNX3
17	AF16	5	5	10	15	PS-0FSN13	PS-0FSN43	PS-0FSNX3
27	AF30	10	10	20	25	PS-1FSN13	PS-1FSN43	PS-1FSNX3
52	AF52	15	20	40	50	PS-2FSN13	PS-2FSN43	PS-2FSNX3
77	AF80	25	30	60	75	PS-3FSN13	PS-3FSN43	PS-3FSNX3
125	AF140	40	50	100	125	PS-4FSN13	PS-4FSN43	PS-4FSNX3

HP Rated, Combination Starters, Non-Fusible Disconnect, Reversing

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFRN13	PS-AFRN43	PS-AFRNX3
17	AF16	5	5	10	15	PS-0FRN13	PS-0FRN43	PS-0FRNX3
27	AF30	10	10	20	25	PS-1FRN13	PS-1FRN43	PS-1FRNX3
52	AF52	15	20	40	50	PS-2FRN13	PS-2FRN43	PS-2FRNX3
77	AF80	25	30	60	75	PS-3FRN13	PS-3FRN43	PS-3FRNX3
125	AF140	40	50	100	125	PS-4FRN13	PS-4FRN43	PS-4FRNX3



Nema

Nema, Combination Starters, Non-Fusible Disconnect, Non-Reversing

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFSN13	PSN-AFSN43	PSN-AFSNX3
0	AF12	18	3	3	5	PSN-0FSN13	PSN-0FSN43	PSN-0FSNX3
1	AF26	27	7.5	7.5	10	PSN-1FSN13	PSN-1FSN43	PSN-1FSNX3
2	AF40	45	10	15	25	PSN-2FSN13	PSN-2FSN43	PSN-2FSNX3
3	AF80	90	25	30	50	PSN-3FSN13	PSN-3FSN43	PSN-3FSNX3
4	AF140	135	40	50	100	PSN-4FSN13	PSN-4FSN43	PSN-4FSNX3

Nema, Combination Starters, Non-Fusible Disconnect, Reversing

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFRN13	PSN-AFRN43	PSN-AFRNX3
0	AF12	18	3	3	5	PSN-0FRN13	PSN-0FRN43	PSN-0FRNX3
1	AF26	27	7.5	7.5	10	PSN-1FRN13	PSN-1FRN43	PSN-1FRNX3
2	AF40	45	10	15	25	PSN-2FRN13	PSN-2FRN43	PSN-2FRNX3
3	AF80	90	25	30	50	PSN-3FRN13	PSN-3FRN43	PSN-3FRNX3
4	AF140	135	40	50	100	PSN-4FRN13	PSN-4FRN43	PSN-4FRNX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFSN11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

² Ratings listed are at 600V AC

System proS

3 Phase Starters, Combination MCP^{1,3}



HP Rated

HP-Rated, Combination Starters, MCP, Non-Reversing

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFSB13	PS-AFSB43	PS-AFSBX3
17	AF16	5	5	10	15	PS-0FSB13	PS-0FSB43	PS-0FSBX3
27	AF30	10	10	20	25	PS-1FSB13	PS-1FSB43	PS-1FSBX3
52	AF52	15	20	40	50	PS-2FSB13	PS-2FSB43	PS-2FSBX3
77	AF80	25	30	60	75	PS-3FSB13	PS-3FSB43	PS-3FSBX3
125	AF140	40	50	100	125	PS-4FSB13	PS-4FSB43	PS-4FSBX3

HP Rated, Combination Starters, MCP, Reversing

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFRB13	PS-AFRB43	PS-AFRBX3
17	AF16	5	5	10	15	PS-0FRB13	PS-0FRB43	PS-0FRBX3
27	AF30	10	10	20	25	PS-1FRB13	PS-1FRB43	PS-1FRBX3
52	AF52	15	20	40	50	PS-2FRB13	PS-2FRB43	PS-2FRBX3
77	AF80	25	30	60	75	PS-3FRB13	PS-3FRB43	PS-3FRBX3
125	AF140	40	50	100	125	PS-4FRB13	PS-4FRB43	PS-4FRBX3

Nema, Combination Starters, MCP, Non-Reversing

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFSB13	PSN-AFSB43	PSN-AFSBX3
0	AF12	18	3	3	5	PSN-0FSB13	PSN-0FSB43	PSN-0FSBX3
1	AF26	27	7.5	7.5	10	PSN-1FSB13	PSN-1FSB43	PSN-1FSBX3
2	AF40	45	10	15	25	PSN-2FSB13	PSN-2FSB43	PSN-2FSBX3
3	AF80	90	25	30	50	PSN-3FSB13	PSN-3FSB43	PSN-3FSBX3
4	AF140	135	40	50	100	PSN-4FSB13	PSN-4FSB43	PSN-4FSBX3

Nema, Combination Starters, MCP, Reversing

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFRB13	PSN-AFRB43	PSN-AFRBX3
0	AF12	18	3	3	5	PSN-0FRB13	PSN-0FRB43	PSN-0FRBX3
1	AF26	27	7.5	7.5	10	PSN-1FRB13	PSN-1FRB43	PSN-1FRBX3
2	AF40	45	10	15	25	PSN-2FRB13	PSN-2FRB43	PSN-2FRBX3
3	AF80	90	25	30	50	PSN-3FRB13	PSN-3FRB43	PSN-3FRBX3
4	AF140	135	40	50	100	PSN-4FRB13	PSN-4FRB43	PSN-4FRBX3



Nema

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFSB11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

1 Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

2 Ratings listed are at 600V AC

3 MCP combination starters MUST have the overload relay installed by ABB or at the very least, the customer must specify the motor's FLA so that we may size the breaker according to CSA guidelines. See Note 2 on bottom of page 20.

System proS

3 Phase Starters, 2S-2W, Non-Combination¹



HP Rated, Non-Reversing, 2 Speeds - 2 Windings

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFTX13	PS-AFTX43	PS-AFTXX3
17	AF16	5	5	10	15	PS-0FTX13	PS-0FTX43	PS-0FTXX3
27	AF30	10	10	20	25	PS-1FTX13	PS-1FTX43	PS-1FTXX3
52	AF52	15	20	40	50	PS-2FTX13	PS-2FTX43	PS-2FTXX3
77	AF80	25	30	60	75	PS-3FTX13	PS-3FTX43	PS-3FTXX3
125	AF140	40	50	100	125	PS-4FTX13	PS-4FTX43	PS-4FTXX3

NEMA, Non-Reversing, 2 Speeds - 2 Windings

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFTX13	PSN-AFTX43	PSN-AFTXX3
0	AF12	18	3	3	5	PSN-0FTX13	PSN-0FTX43	PSN-0FTXX3
1	AF26	27	7.5	7.5	10	PSN-1FTX13	PSN-1FTX43	PSN-1FTXX3
2	AF40	45	10	15	25	PSN-2FTX13	PSN-2FTX43	PSN-2FTXX3
3	AF80	90	25	30	50	PSN-3FTX13	PSN-3FTX43	PSN-3FTXX3
4	AF140	135	40	50	100	PSN-4FTX13	PSN-4FTX43	PSN-4FTXX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFTX11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

² Ratings listed are at 600V AC

System proS

3 Phase Starters, 2S-2W, Combination¹



HP Rated, Combination Fusible Disconnect, Non-Reversing, 2S-2W

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFTF13	PS-AFTF43	PS-AFTFX3
17	AF16	5	5	10	15	PS-0FTF13	PS-0FTF43	PS-0FTFX3
27	AF30	10	10	20	25	PS-1FTF13	PS-1FTF43	PS-1FTFX3
52	AF52	15	20	40	50	PS-2FTF13	PS-2FTF43	PS-2FTFX3
77	AF80	25	30	60	75	PS-3FTF13	PS-3FTF43	PS-3FTFX3
125	AF140	40	50	100	125	PS-4FTF13	PS-4FTF43	PS-4FTFX3

Nema, Combination Fusible Disconnect, Non-Reversing, 2S-2W

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFTF13	PSN-AFTF43	PSN-AFTFX3
0	AF12	18	3	3	5	PSN-0FTF13	PSN-0FTF43	PSN-0FTFX3
1	AF26	27	7.5	7.5	10	PSN-1FTF13	PSN-1FTF43	PSN-1FTFX3
2	AF40	45	10	15	25	PSN-2FTF13	PSN-2FTF43	PSN-2FTFX3
3	AF80	90	25	30	50	PSN-3FTF13	PSN-3FTF43	PSN-3FTFX3
4	AF140	135	40	50	100	PSN-4FTF13	PSN-4FTF43	PSN-4FTFX3



HP Rated, Combination Non-Fusible Disconnect, Non-Reversing, 2S-2W

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFTN13	PS-AFTN43	PS-AFTNX3
17	AF16	5	5	10	15	PS-0FTN13	PS-0FTN43	PS-0FTNX3
27	AF30	10	10	20	25	PS-1FTN13	PS-1FTN43	PS-1FTNX3
52	AF52	15	20	40	50	PS-2FTN13	PS-2FTN43	PS-2FTNX3
77	AF80	25	30	60	75	PS-3FTN13	PS-3FTN43	PS-3FTNX3
125	AF140	40	50	100	125	PS-4FTN13	PS-4FTN43	PS-4FTNX3

Nema, Combination Non-Fusible Disconnect, Non-Reversing, 2S-2W

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFTN13	PSN-AFTN43	PSN-AFTNX3
0	AF12	18	3	3	5	PSN-0FTN13	PSN-0FTN43	PSN-0FTNX3
1	AF26	27	7.5	7.5	10	PSN-1FTN13	PSN-1FTN43	PSN-1FTNX3
2	AF40	45	10	15	25	PSN-2FTN13	PSN-2FTN43	PSN-2FTNX3
3	AF80	90	25	30	50	PSN-3FTN13	PSN-3FTN43	PSN-3FTNX3
4	AF140	135	40	50	100	PSN-4FTN13	PSN-4FTN43	PSN-4FTNX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter PS-AFTF11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

² Ratings listed are at 600V AC

System proS

3 Phase 2S-1W Starters, Non-Combination¹



HP Rated, Non-Reversing, 2 Speeds - 1 Windings

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFVX13	PS-AFVX43	PS-AFVXX3
17	AF16	5	5	10	15	PS-0FVX13	PS-0FVX43	PS-0FVXX3
27	AF30	10	10	20	25	PS-1FVX13	PS-1FVX43	PS-1FVXX3
52	AF52	15	20	40	50	PS-2FVX13	PS-2FVX43	PS-2FVXX3
77	AF80	25	30	60	75	PS-3FVX13	PS-3FVX43	PS-3FVXX3
125	AF140	40	50	100	125	PS-4FVX13	PS-4FVX43	PS-4FVXX3

NEMA, Non-Reversing, 2 Speeds - 1 Windings

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFVX13	PSN-AFVX43	PSN-AFVXX3
0	AF12	18	3	3	5	PSN-0FVX13	PSN-0FVX43	PSN-0FVXX3
1	AF26	27	7.5	7.5	10	PSN-1FVX13	PSN-1FVX43	PSN-1FVXX3
2	AF40	45	10	15	25	PSN-2FVX13	PSN-2FVX43	PSN-2FVXX3
3	AF80	90	25	30	50	PSN-3FVX13	PSN-3FVX43	PSN-3FVXX3
4	AF140	135	40	50	100	PSN-4FVX13	PSN-4FVX43	PSN-4FVXX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFVX11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

² Ratings listed are at 600V AC

System proS

3 Phase 2S-1W Starters, Combination¹



HP Rated

HP Rated, Combination Fusible Disconnect, Non-Reversing, 2S-1W

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFVF13	PS-AFVF43	PS-AFVFX3
17	AF16	5	5	10	15	PS-0FVF13	PS-0FVF43	PS-0FVFX3
27	AF30	10	10	20	25	PS-1FVF13	PS-1FVF43	PS-1FVFX3
52	AF52	15	20	40	50	PS-2FVF13	PS-2FVF43	PS-2FVFX3
77	AF80	25	30	60	75	PS-3FVF13	PS-3FVF43	PS-3FVFX3
125	AF140	40	50	100	125	PS-4FVF13	PS-4FVF43	PS-4FVFX3

Nema, Combination Fusible Disconnect, Non-Reversing, 2S-1W

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFVF13	PSN-AFVF43	PSN-AFVFX3
0	AF12	18	3	3	5	PSN-0FVF13	PSN-0FVF43	PSN-0FVFX3
1	AF26	27	7.5	7.5	10	PSN-1FVF13	PSN-1FVF43	PSN-1FVFX3
2	AF40	45	10	15	25	PSN-2FVF13	PSN-2FVF43	PSN-2FVFX3
3	AF80	90	25	30	50	PSN-3FVF13	PSN-3FVF43	PSN-3FVFX3
4	AF140	135	40	50	100	PSN-4FVF13	PSN-4FVF43	PSN-4FVFX3



Nema

HP Rated, Combination Non-Fusible Disconnect, Non-Reversing, 2S-1W

CSA Motor Switching Current ²	Contactor Size	Maximum Motor HP ratings				Type 1	Type 4/12	Type 4X
		200/208V	220/240V	460/480V	575/600V	Catalog Number	Catalog Number	Catalog Number
9	AF09	2	2	5	7.5	PS-AFVN13	PS-AFVN43	PS-AFVNX3
17	AF16	5	5	10	15	PS-0FVN13	PS-0FVN43	PS-0FVNX3
27	AF30	10	10	20	25	PS-1FVN13	PS-1FVN43	PS-1FVNX3
52	AF52	15	20	40	50	PS-2FVN13	PS-2FVN43	PS-2FVNX3
77	AF80	25	30	60	75	PS-3FVN13	PS-3FVN43	PS-3FVNX3
125	AF140	40	50	100	125	PS-4FVN13	PS-4FVN43	PS-4FVNX3

Nema, Combination Non-Fusible Disconnect, Non-Reversing, 2S-1W

NEMA Size	Contactor Size	Continuous Current	Maximum Motor HP ratings			Type 1	Type 4/12	Type 4X
			200V	230V	460/575V	Catalog Number	Catalog Number	Catalog Number
00	AF09	9	1.5	1.5	2	PSN-AFVN13	PSN-AFVN43	PSN-AFVNX3
0	AF12	18	3	3	5	PSN-0FVN13	PSN-0FVN43	PSN-0FVNX3
1	AF26	27	7.5	7.5	10	PSN-1FVN13	PSN-1FVN43	PSN-1FVNX3
2	AF40	45	10	15	25	PSN-2FVN13	PSN-2FVN43	PSN-2FVNX3
3	AF80	90	25	30	50	PSN-3FVN13	PSN-3FVN43	PSN-3FVNX3
4	AF140	135	40	50	100	PSN-4FVN13	PSN-4FVN43	PSN-4FVNX3

Coil Voltage Selection

All AC operated catalogue numbers include a 100 - 250V ac coil.
To select other coil voltages, substitute the code from the coil voltage selection chart for the last digit in the catalogue number.

Ex.: A 24 - 60V ac coil is required for an AF09 starter: use PS-AFVF11

Hz	Volts			
	24 - 60	48 - 130	100 - 250	250 - 500
50/60	1	2	3	4

¹ Overload relays, pilot device kits and control transformers must be ordered separately (see pages 19 to 27)

² Ratings listed are at 600V AC

System proS Overload Relays



Overload Relay Selection

Contactor Size	Current Setting Range	Thermal Catalog Number	Electronic Catalog Number	Suffix Code
AF09 to AF30	0.10 ... 0.13	TF42-0.13	EF19-0.32	A
	0.13 ... 0.17	TF42-0.17	EF19-0.32	B
	0.17 ... 0.23	TF42-0.23	EF19-0.32	C
	0.23 ... 0.31	TF42-0.31	EF19-0.32	D
	0.31 ... 0.41	TF42-0.41	EF19-1.0	E
	0.41 ... 0.55	TF42-0.55	EF19-1.0	F
	0.55 ... 0.74	TF42-0.74	EF19-1.0	G
	0.74 ... 1.0	TF42-1.0	EF19-1.0	H
	1.0 ... 1.3	TF42-1.3	EF19-2.7	J
	1.3 ... 1.7	TF42-1.7	EF19-2.7	K
	1.7 ... 2.3	TF42-2.3	EF19-2.7	L
	2.3 ... 3.1	TF42-3.1	EF19-6.3	M
	3.1 ... 4.2	TF42-4.2	EF19-6.3	N
	4.2 ... 5.7	TF42-5.7	EF19-6.3	P
	5.7 ... 7.6	TF42-7.6	EF19-18.9	Q
	7.6 ... 10	TF42-10	EF19-18.9	R
	10 ... 13	TF42-13	EF19-18.9	S
	13 ... 16	TF42-16	EF19-18.9	T
16 ... 20	TF42-20	EF45-30	U	
20 ... 24	TF42-24	EF45-30	V	
24 ... 29	TF42-29	EF45-30	W	
29 ... 35	TF42-35	EF45-45	X	
AF52	22 ... 28	TF65-28	EF65-56	A
	25 ... 33	TF65-33	EF65-56	B
	30 ... 40	TF65-40	EF65-56	C
	36 ... 47	TF65-47	EF65-56	D
	44 ... 53	TF65-53	EF65-56	E
	50 ... 60	TF65-60	EF65-70	F
	57 ... 67	TF65-67	EF65-70	G
AF80	40 ... 51	TF96-51	EF96-100	A
	48 ... 60	TF96-60	EF96-100	B
	57 ... 68	TF96-68	EF96-100	C
	65 ... 78	TF96-78	EF96-100	D
	75 ... 87	TF96-87	EF96-100	E
	84 ... 96	TF96-96	EF96-100	F
AF140	66 ... 90	TF140DU-90	EF146-150	A
	80 ... 110	TF140DU-110	EF146-150	B
	100 ... 135	TF140DU-135	EF146-150	C
	110 ... 142	TF140DU-142	EF146-150	D

1 Thermal overload relays can be factory-mounted on IEC HP rated starters. Please consult the configuration table on page 6.

2 Electronic overload relays can be factory-mounted on NEMA rated starters. Electronic overload relays cannot be used in single-phase applications.

In some instances, the same overload relay part number might be repeated even though the suffix code is different. This is only applicable when using NEMA rated combination breaker starters where the customer must specify the exact FLA or HP of the motor. Please consult the configuration table on page 6.

System proS

Thermal Overload Relay Sizing Chart



Correct sizing of overload relays as per motor HP for IEC-rated starters

1-phase		3-phase				Thermal Overload Relay Class 10	Suffix for factory installation
120V	240V	208V	240V	480V	600V		
-	-	-	-	-	-	TF42-0.13 (0.10 ... 0.13)	A
-	-	-	-	-	-	TF42-0.17 (0.13 ... 0.17)	B
-	-	-	-	-	-	TF42-0.23 (0.17 ... 0.23)	C
-	-	-	-	-	-	TF42-0.31 (0.23 ... 0.31)	D
-	-	-	-	-	-	TF42-0.41 (0.31 ... 0.41)	E
-	-	-	-	-	-	TF42-0.55 (0.41 ... 0.55)	F
-	-	-	-	-	-	TF42-0.74 (0.55 ... 0.74)	G
-	-	-	-	-	1/2	TF42-1.0 (0.74 ... 1.0)	H
-	-	-	-	1/2	3/4	TF42-1.3 (1.0 ... 1.3)	J
-	1/10	-	-	3/4	1	TF42-1.7 (1.3 ... 1.7)	K
-	1/8, 1/6	-	1/2	1	-	TF42-2.3 (1.7 ... 2.3)	L
1/10	1/4	1/2	-	1.5	1.5, 2	TF42-3.1 (2.3 ... 3.1)	M
1/8	1/3	3/4	1	2	3	TF42-4.2 (3.1 ... 4.2)	N
1/6	1/2	1	-	3	-	TF42-5.7 (4.2 ... 5.7)	P
1/4, 1/3	3/4	1.5, 2	1.5, 2	5	5	TF42-7.6 (5.7 ... 7.6)	Q
1/2	1	-	3	-	7.5	TF42-10 (7.6 ... 10)	R
-	1.5, 2	3	-	7.5	10	TF42-13 (10 ... 13)	S
3/4	-	-	5	10	-	TF42-16 (13 ... 16)	T
1	3	5	-	-	15	TF42-20 (16 ... 20)	U
1.5, 2	-	-	7.5	15	20	TF42-24 (20 ... 24)	V
-	5	7.5	10	20	25	TF42-29 (24 ... 29)	W
-	-	10	-	-	-	TF42-35 (29 ... 35)	X
-	-	-	-	-	-	TF65-28 (22 ... 28)	A
-	-	-	-	-	30	TF65-33 (25 ... 33)	B
3	7.5	-	-	25	-	TF65-40 (30 ... 40)	C
-	-	-	15	30	40	TF65-47 (36 ... 47)	D
-	10	15	-	40	50	TF65-53 (44 ... 53)	E
-	-	-	20	-	-	TF65-60 (50 ... 60)	F
-	-	-	-	-	-	TF65-67 (57 ... 67)	G
-	-	-	-	-	-	TF96-51 (40 ... 51)	A
5	-	-	-	-	-	TF96-60 (48 ... 60)	B
-	-	20	-	50	60	TF96-68 (57 ... 68)	C
-	15	25	25	60	75	TF96-78 (65 ... 78)	D
7.5	-	-	30	-	-	TF96-87 (75 ... 87)	E
-	-	-	-	-	-	TF96-96 (84 ... 96)	F
-	-	30	-	-	-	TF140DU-90 (66 ... 90)	A
-	-	-	40	75	100	TF140DU-110 (80 ... 110)	B
-	-	40	50	-	125	TF140DU-135 (100 ... 135)	C
-	-	-	-	100	-	TF140DU-142 (110 ... 142)	D

* It is the client's responsibility to confirm whether the overload relay suggested is appropriate for their application. Please verify correct overload required for each specific application with the motor's name plate.

System proS

Electronic Overload Relay Sizing Chart

Correct sizing of overload relays as per motor HP for NEMA-rated starters



3-phase				Electronic Overload Relay Class 10, 20, 30	Suffix for factory installation
208V	240V	480V	600V		
-	-	-	-	EF19-0.32 (0.10 ... 0.13)	A
-	-	-	-	EF19-0.32 (0.13 ... 0.17)	B
-	-	-	-	EF19-0.32 (0.17 ... 0.23)	C
-	-	-	-	EF19-0.32 (0.23 ... 0.32)	D
-	-	-	-	EF19-1.0 (0.30 ... 0.41)	E
-	-	-	-	EF19-1.0 (0.41 ... 0.55)	F
-	-	-	-	EF19-1.0 (0.55 ... 0.74)	G
-	-	-	1/2	EF19-1.0 (0.74 ... 1.0)	H
-	-	1/2	3/4	EF19-2.7 (0.8 ... 1.3)	J
-	-	3/4	1	EF19-2.7 (1.3 ... 1.7)	K
-	1/2	1	-	EF19-2.7 (1.7 ... 2.7)	L
1/2	-	1.5	1.5, 2	EF19-6.3 (1.9 ... 3.1)	M
3/4	1	2	3	EF19-6.3 (3.1 ... 4.2)	N
1	-	3	-	EF19-6.3 (4.2 ... 6.3)	P
1.5, 2	1.5, 2	5	5	EF19-18.9 (5.7 ... 7.6)	Q
-	3	-	7.5	EF19-18.9 (7.6 ... 10)	R
3	-	7.5	10	EF19-18.9 (10 ... 13)	S
-	5	10	-	EF19-18.9 (13 ... 18.9)	T
5	-	-	-	EF45-30 (9 ... 20)	U
7.5	7.5	-	-	EF45-30 (20 ... 24)	V
-	-	-	-	EF45-30 (24 ... 30)	W
-	-	-	-	EF45-45 (15 ... 45)	X
-	-	15	20	EF65-56 (20 ... 28)	A
10	10	20	25	EF65-56 (25 ... 33)	B
-	15	25	-	EF65-56 (30 ... 40)	C
-	-	-	-	EF65-56 (36 ... 47)	D
-	-	-	-	EF65-56 (44 ... 53)	E
-	-	-	-	EF65-70 (50 ... 60)	F
-	-	-	-	EF65-70 (57 ... 70)	G
15	15	30	40	EF96-100 (36 ... 51)	A
-	20	40	50	EF96-100 (48 ... 60)	B
20	-	50	-	EF96-100 (57 ... 68)	C
25	25	-	-	EF96-100 (65 ... 78)	D
-	30	-	-	EF96-100 (75 ... 87)	E
-	-	-	-	EF96-100 (84 ... 100)	F
30	-	60	60, 75	EF146-150 (54 ... 90)	A
-	40	75	100	EF146-150 (80 ... 110)	B
40	50	-	-	EF146-150 (100 ... 135)	C
-	-	100	-	EF146-150 (110 ... 150)	D

* It is the client's responsibility to confirm whether the overload relay suggested is appropriate for their application. Please verify correct overload required for each specific application with the motor's name plate.

System proS

Overload Relay Sizing



Overload relay selection

HP rated magnetic starters

- Generally require a class 10 overload relay
- Please choose the appropriate thermal OLR (TF42 to TF140) for these applications
- ABB can install the thermal overload relay on HP rated starters at the factory
- Thermal OLR's can be used in single phase (120V or 240V) applications

NEMA rated magnetic starters

- Generally require a class 20 or 30 overload relay (for heavy-duty applications)
- Please choose the appropriate electronic OLR (EF19 to EF146) for these applications
- ABB can install the electronic overload relay on NEMA rated starters at the factory
- Electronic OLR's can not be used in single phase (120V or 240V) applications



* It is the client's responsibility to confirm whether the overload relay suggested is appropriate for their application. Please verify correct overload required for each specific application with the motor's name plate.

System proS

Pilot Device Kits for D.O.L. Starters



Customer or factory installed pilot device kits for D.O.L starters or enclosed contactors

Pilot Light	# of Devices	Description	Nameplate Language	Nameplate Text	Suffix for factory installation	Catalog Number
130V	1	Pilot Light	English	ON	G	PS-PL
130V	3	Push buttons + Pilot light	English	START / STOP / ON	B	PS-SSI
130V	2	2 Position Switch + Pilot Light	English	OFF-ON / ON	D	PS-SL2I
130V	2	2 Position Keyed Switch + Pilot light	English	OFF-ON / ON	XB	PS-SL2KI
130V	2	3 Position Switch + Pilot Light	English	HAND-OFF-AUTO / ON	F	PS-SL3I
130V	2	3 Position Keyed Switch + Pilot light	English	HAND-OFF-AUTO / ON	XD	PS-SL3KI
130V	1	Pilot Light	French	EN SERVICE	P	PS-PL-F
130V	3	Push buttons + Pilot light	French	MARCHE / ARRET / EN SERVICE	J	PS-SSI-F
130V	2	2 Position Switch + Pilot Light	French	HORS-EN / EN SERVICE	L	PS-SL2I-F
130V	2	2 Position Keyed Switch + Pilot light	French	HORS-EN / EN SERVICE	XK	PS-SL2KI-F
130V	2	3 Position Switch + Pilot Light	French	MAN-HORS-AUTO / ON	N	PS-SL3I-F
130V	2	3 Position Keyed Switch + Pilot light	French	MAN-HORS-AUTO / EN SERVICE	XM	PS-SL3KI-F
24V	1	Pilot Light	English	ON	G	PS-PLF
24V	3	Push buttons + Pilot light	English	START / STOP / ON	B	PS-SSIF
24V	2	2 Position Switch + Pilot Light	English	OFF-ON / ON	D	PS-SL2IF
24V	2	2 Position Keyed Switch + Pilot light	English	OFF-ON / ON	XB	PS-SL2KIF
24V	2	3 Position Switch + Pilot Light	English	HAND-OFF-AUTO / ON	F	PS-SL3IF
24V	2	3 Position Keyed Switch + Pilot light	English	HAND-OFF-AUTO / ON	XD	PS-SL3KIF
24V	1	Pilot Light	French	EN SERVICE	P	PS-PLF-F
24V	3	Push buttons + Pilot light	French	MARCHE / ARRET / EN SERVICE	J	PS-SSIF-F
24V	2	2 Position Switch + Pilot Light	French	HORS-EN / EN SERVICE	L	PS-SL2IF-F
24V	2	2 Position Keyed Switch + Pilot light	French	HORS-EN / EN SERVICE	XK	PS-SL2KIF-F
24V	2	3 Position Switch + Pilot Light	French	MAN-HORS-AUTO / ON	N	PS-SL3IF-F
24V	2	3 Position Keyed Switch + Pilot light	French	MAN-HORS-AUTO / EN SERVICE	XM	PS-SL3KIF-F
--	2	Push buttons	English	START / STOP	A	PS-SS
--	2	Push buttons	English	START / EMERGENCY STOP	Q	PS-SE
--	3	Push buttons	English	START / STOP / EMERGENCY STOP	YA	PS-SSE
--	1	2 Position Switch	English	OFF-ON	C	PS-SL2
--	1	2 Position Keyed Switch	English	OFF-ON	XA	PS-SL2K
--	1	3 Position Switch	English	HAND-OFF-AUTO	E	PS-SL3
--	1	3 Position Keyed Switch	English	HAND-OFF-AUTO	XC	PS-SL3K
--	2	Push buttons	French	MARCHE / ARRET	H	PS-SS-F
--	2	Push buttons	French	MARCHE / ARRET D'URGENCE	R	PS-SE-F
--	3	Push buttons	French	MARCHE / ARRET / ARRET D'URGENCE	YB	PS-SSE-F
--	1	2 Position Switch	French	HORS-EN	K	PS-SL2-F
--	1	3 Position Switch	French	MAN-HORS-AUTO	M	PS-SL3-F
--	1	2 Position Keyed Switch	French	HORS-EN	XJ	PS-SL2K-F
--	1	3 Position Keyed Switch	French	MAN-HORS-AUTO	XL	PS-SL3K-F

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Pilot Device Kits for D.O.L. Starters



Factory installed pilot device kits for D.O.L starters or enclosed contactors

Pilot Light	# of Devices	Description	Nameplate Language	Nameplate Text	Suffix for factory installation	Catalog Number
130V	3	2 Position Switch + Pilot lights	English	OFF-ON / ON / FAULT	S	PS-SL2IO
130V	3	2 Position Keyed Switch + Pilot lights	English	OFF-ON / ON / FAULT	XE	PS-SL2KIO
130V	3	2 Position Switch + Pilot lights	English	OFF-ON / ON / OFF	W	PS-SL2IH**
130V	3	2 Position Keyed Switch + Pilot lights	English	OFF-ON / ON / OFF	XG	PS-SL2KIH**
130V	3	3 Position Switch + Pilot lights	English	HAND-OFF-AUTO / ON / FAULT	U	PS-SL3IO
130V	3	3 Position Keyed Switch + Pilot lights	English	HAND-OFF-AUTO / ON / FAULT	XF	PS-SL3KIO
130V	3	3 Position Switch + Pilot lights	English	HAND-OFF-AUTO / ON / OFF	Y	PS-SL3IH**
130V	3	3 Position Keyed Switch + Pilot lights	English	HAND-OFF-AUTO / ON / OFF	XH	PS-SL3KIH**
130V	3	2 Position Switch + Pilot lights	French	HORS-EN / EN SERVICE / FAUTE	T	PS-SL2IO-F
130V	3	2 Position Keyed Switch + Pilot lights	French	HORS-EN / EN SERVICE / FAUTE	XN	PS-SL2KIO-F
130V	3	2 Position Switch + Pilot lights	French	HORS-EN / EN SERVICE / HORS SERVICE	X	PS-SL2IH-F**
130V	3	2 Position Keyed Switch + Pilot lights	French	HORS-EN / EN SERVICE / HORS SERVICE	XQ	PS-SL2KIH-F**
130V	3	3 Position Switch + Pilot lights	French	MAN-HORS-AUTO / ON / FAUTE	V	PS-SL3IO-F
130V	3	3 Position Keyed Switch + Pilot lights	French	MAN-HORS-AUTO / EN SERVICE / FAUTE	XP	PS-SL3KIO-F
130V	3	3 Position Switch + Pilot lights	French	HORS-EN / EN SERVICE / HORS SERVICE	Z	PS-SL3IH-F**
130V	3	3 Position Keyed Switch + Pilot lights	French	MAN-HORS-AUTO / EN SERVICE / HORS SERVICE	XR	PS-SL3KIH-F**
24V	3	2 Position Switch + Pilot lights	English	OFF-ON / ON / FAULT	S	PS-SL2IOF
24V	3	2 Position Keyed Switch + Pilot lights	English	OFF-ON / ON / FAULT	XE	PS-SL2KIOF
24V	3	2 Position Switch + Pilot lights	English	OFF-ON / ON / OFF	W	PS-SL2IHF**
24V	3	2 Position Keyed Switch + Pilot lights	English	OFF-ON / ON / OFF	XG	PS-SL2KIHf**
24V	3	3 Position Switch + Pilot lights	English	HAND-OFF-AUTO / ON / FAULT	U	PS-SL3IOF
24V	3	3 Position Keyed Switch + Pilot lights	English	HAND-OFF-AUTO / ON / FAULT	XF	PS-SL3KIOF
24V	3	3 Position Switch + Pilot lights	English	HAND-OFF-AUTO / ON / OFF	Y	PS-SL3IHF**
24V	3	3 Position Keyed Switch + Pilot lights	English	HAND-OFF-AUTO / ON / OFF	XH	PS-SL3KIHf**
24V	3	2 Position Switch + Pilot lights	French	HORS-EN / EN SERVICE / FAUTE	T	PS-SL2IOF-F
24V	3	2 Position Keyed Switch + Pilot lights	French	HORS-EN / EN SERVICE / FAUTE	XN	PS-SL2KIOF-F
24V	3	2 Position Switch + Pilot lights	French	HORS-EN / EN SERVICE / HORS SERVICE	X	PS-SL2IHF-F**
24V	3	2 Position Keyed Switch + Pilot lights	French	HORS-EN / EN SERVICE / HORS SERVICE	XQ	PS-SL2KIHf-F**
24V	3	3 Position Switch + Pilot lights	French	MAN-HORS-AUTO / ON / FAUTE	V	PS-SL3IOF-F
24V	3	3 Position Keyed Switch + Pilot lights	French	MAN-HORS-AUTO / EN SERVICE / FAUTE	XP	PS-SL3KIOF-F
24V	3	3 Position Switch + Pilot lights	French	HORS-EN / EN SERVICE / HORS SERVICE	Z	PS-SL3IHF-F**
24V	3	3 Position Keyed Switch + Pilot lights	French	MAN-HORS-AUTO / EN SERVICE / HORS SERVICE	XR	PS-SL3KIHf-F**

** = Factory installed pilot device kit ONLY

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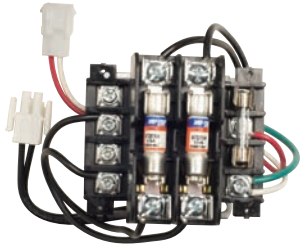
Pilot Device Kits for 2-Speed and Reversing Starters

Customer or factory installed pilot device kits for 2-speed and reversing starters



Starter Type	Pilot Light	# of Devices	Description	Nameplate Language	Nameplate Text	Suffix for factory installation	Catalog Number
Rev.	130V	3	3 Position Switch + Pilot Lights	English	FOR-OFF-REV / FORWARD / REVERSE	C	PS-SL3RI
	130V	3	3 Position Switch + Pilot Lights	French	AVANT-HORS-ARR. / AVANT / ARRIERE	F	PS-SL3RI-F
	24V	3	3 Position Switch + Pilot Lights	English	FOR-OFF-REV / FORWARD / REVERSE	C	PS-SL3RIF
	24V	3	3 Position Switch + Pilot Lights	French	AVANT-HORS-ARR. / AVANT / ARRIERE	F	PS-SL3RIF-F
	--	3	Push buttons	English	FORWARD-REVERSE-STOP	A	PS-FRS
	--	1	3 Position Switch	English	FOR-OFF-REV	B	PS-SL3R
	--	3	Push buttons	French	AVANT-ARRIERE-ARRET	D	PS-FRS-F
	--	1	3 Position Switch	French	AVANT-HORS-ARR.	E	PS-SL3R-F
2-Speed	130V	3	3 Position Switch + Pilot Lights	English	SLOW-OFF-FAST / SLOW / FAST	C	PS-SL3FI
	130V	3	4 Position Switch + Pilot Lights	English	AUTO-OFF-SLOW-FAST / SLOW / FAST	H	PS-SL4FI
	130V	3	3 Position Switch + Pilot Light	French	LENT-HORS-RAPIDE / EN SERVICE	F	PS-SL3FI-F
	130V	3	4 Position Switch + Pilot Lights	French	AUTO-HORS-LENT-RAPIDE / LENT / RAPIDE	K	PS-SL4FI-F
	24V	3	3 Position Switch + Pilot Lights	English	SLOW-OFF-FAST / SLOW / FAST	C	PS-SL3FIF
	24V	3	3 Position Switch + Pilot Light	French	LENT-HORS-RAPIDE / EN SERVICE	F	PS-SL3FIF-F
	24V	3	4 Position Switch + Pilot Lights	English	AUTO-OFF-SLOW-FAST / SLOW / FAST	H	PS-SL4FIF
	24V	3	4 Position Switch + Pilot Lights	French	AUTO-HORS-LENT-RAPIDE / LENT / RAPIDE	K	PS-SL4FIF-F
	--	3	Push buttons	English	FAST-SLOW-STOP	A	PS-FSO
	--	1	3 Position Switch	English	SLOW-OFF-FAST	B	PS-SL3F
	--	1	4 Position Switch	English	AUTO-OFF-SLOW-FAST	G	PS-SL4F
	--	3	Push buttons	French	RAPIDE-LENT-ARRET	D	PS-FSO-F
	--	1	3 Position Switch	French	LENT-HORS-RAPIDE	E	PS-SL3F-F
	--	1	4 Position Switch	French	AUTO-HORS-LENT-RAPIDE	J	PS-SL4F-F

System proS Transformer Kits



Transformer kits

For Contactor Sizes	VA Rating	Primary Voltage	Secondary Voltage	Suffix for factory installation	Catalog Number		
PS(N)-AF, 0F, 1F, 2F, 3F	50	240	120	01	PS-50-240/120		
		347	120	02	PS-50-347/120		
		480	120	03	PS-50-480/120		
		600	120	04	PS-50-600/120		
		240	24	05	PS-50-240/24		
		480	24	06	PS-50-480/24		
		600	24	07	PS-50-600/24		
		208	120	08	PS-50-208/120		
		208	24	09	PS-50-208/24		
		120	24	12	PS-50-120/24		
		PS(N)-4F	100	240	120	01	PS-100-240/120
				347	120	02	PS-100-347/120
480	120			03	PS-100-480/120		
600	120			04	PS-100-600/120		
240	24			05	PS-100-240/24		
480	24			06	PS-100-480/24		
600	24			07	PS-100-600/24		
208	120			08	PS-100-208/120		
208	24			09	PS-100-208/24		
120	24			12	PS-100-120/24		

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Transformer Kit Cross-Reference Sheet

Transformer Kits

VA Rating	Primary Voltage	Secondary Voltage	Old Catalog Number	New Catalog Number
50	240	120	PS-50-80/84	PS-50-240/120
	347	120	PS-50-47/84	PS-50-347/120
	480	120	PS-50-51/84	PS-50-480/120
	600	120	PS-50-55/84	PS-50-600/120
	240	24	PS-50-80/81	PS-50-240/24
	480	24	PS-50-51/81	PS-50-480/24
	600	24	PS-50-55/81	PS-50-600/24
	208	120	PS-50-34/84	PS-50-208/120
	208	24	PS-50-34/81	PS-50-208/24
	120	24	PS-50-84/81	PS-50-120/24
100	240	120	PS-100-80/84	PS-100-240/120
	347	120	PS-100-47/84	PS-100-347/120
	480	120	PS-100-51/84	PS-100-480/120
	600	120	PS-100-55/84	PS-100-600/120
	240	24	PS-100-80/81	PS-100-240/24
	480	24	PS-100-51/81	PS-100-480/24
	600	24	PS-100-55/81	PS-100-600/24
	208	120	PS-100-34/84	PS-100-208/120
	208	24	PS-100-34/81	PS-100-208/24
	120	24	PS-100-84/81	PS-100-120/24

Note:
Old transformer kits can be used with the new Pro-S

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Technical Data

Standard selection for Non-combination Contactors and Starters

Table #1

ProS Starters	Main Protection	Contactor	Maximum overload	Combination kA	AC1	AC3	Single phase (HP)			Three Phases (HP)			
					600V	600V	120V	208V	240V	208V	240V	480V	600V
PS-AF_X...	N/A	AF09	TF42-16	5	25 Amp	9 Amp	0.75 HP	1 HP	1.5 HP	2 HP	2 HP	5 HP	7.5 HP
PS-0F_X...	N/A	AF16	TF42-24	5	30 Amp	17 Amp	1.5 HP	2 HP	3 HP	5 HP	5 HP	10 HP	15 HP
PS-1F_X...	N/A	AF30	TF42-35	5	50 Amp	27 Amp	2 HP	3 HP	5 HP	10 HP	10 HP	20 HP	25 HP
PS-2F_X...	N/A	AF52	TF65-60	5	80 Amp	52 Amp	3 HP	7.5 HP	10 HP	15 HP	20 HP	40 HP	50 HP
PS-3F_X...	N/A	AF80	TF96-87	10	105 Amp	77 Amp	7.5 HP	15 HP	15 HP	25 HP	30 HP	60 HP	75 HP
PS-4F_X...	N/A	AF140	TF140DU-142	10	200 Amp	125 Amp	-	-	-	40 HP	50 HP	100 HP	125 HP
PSN-AF_X...	N/A	AF09N	EF19-18.9	5	-	9 Amp	-	-	-	1.5 HP	1.5 HP	2 HP	2 HP
PSN-0F_X...	N/A	AF12N	EF19-18.9	5	-	18 Amp	-	-	-	3 HP	3 HP	5 HP	5 HP
PSN-1F_X...	N/A	AF26N	EF45-45	5	-	27 Amp	-	-	-	7.5 HP	7.5 HP	10 HP	10 HP
PSN-2F_X...	N/A	AF40N	EF65-70	5	-	45 Amp	-	-	-	10 HP	15 HP	25 HP	25 HP
PSN-3F_X...	N/A	AF80N	EF96-100	10	-	90 Amp	-	-	-	25 HP	30 HP	50 HP	50 HP
PSN-4F_X...	N/A	AF140N	EF146-150	10	-	135 Amp	-	-	-	40 HP	50 HP	100 HP	100 HP

Standard cable range for Non-combination Contactors and Starters

Table #1a

HP ProS Starters	Contactor	Incoming lugs	NEMA ProS Starters	Contactor	Incoming lugs
PS-AF_X...	AF09	2 x (#16AWG - #10AWG)	PSN-AF_X...	AF09N	2 x (#16AWG - #10AWG)
PS-0F_X...	AF16	2 x (#16AWG - #10AWG)	PSN-0F_X...	AF12N	2 x (#16AWG - #10AWG)
PS-1F_X...	AF30	2 x (#14AWG - #8AWG)	PSN-1F_X...	AF26N	2 x (#14AWG - #8AWG)
PS-2F_X...	AF52	2 x (#10AWG - #2AWG)	PSN-2F_X...	AF40N	2 x (#10AWG - #2AWG)
PS-3F_X...	AF80	2 x (#6AWG - #1AWG)	PSN-3F_X...	AF80N	2 x (#6AWG - #1AWG)
PS-4F_X...	AF140	2 x (#6AWG - #3/0AWG)	PSN-4F_X...	AF140N	2 x (#6AWG - #3/0AWG)

Standard selection for Combination Contactors and Starters (Disconnect Switches)

Table #2

ProS Starters	Main Protection	Contactor	Maximum overload	Combination kA	AC1	AC3	Single phase (HP)			Three Phases (HP)			
					600V	600V	120V	208V	240V	208V	240V	480V	600V
PS-AF_N...	OT30F3	AF09	TF42-16	5	25 Amp	9 Amp	0.75 HP	1 HP	1.5 HP	2 HP	2 HP	5 HP	7.5 HP
PS-0F_N...	OT30F3	AF16	TF42-24	5	30 Amp	17 Amp	1.5 HP	2 HP	3 HP	5 HP	5 HP	10 HP	15 HP
PS-1F_N...	OT60F3	AF30	TF42-35	5	50 Amp	27 Amp	2 HP	3 HP	5 HP	10 HP	10 HP	20 HP	25 HP
PS-2F_N...	OT100F3	AF52	TF65-60	5	80 Amp	52 Amp	3 HP	7.5 HP	10 HP	15 HP	20 HP	40 HP	50 HP
PS-3F_N...	OT200U12	AF80	TF96-87	10	105 Amp	77 Amp	7.5 HP	15 HP	15 HP	25 HP	30 HP	60 HP	75 HP
PS-4F_N...	OT200U12	AF140	TF140DU-142	10	200 Amp	125 Amp	-	-	-	40 HP	50 HP	100 HP	125 HP
PSN-AF_N...	OT30F3	AF09N	EF19-18.9	5	-	9 Amp	-	-	-	1.5 HP	1.5 HP	2 HP	2 HP
PSN-0F_N...	OT30F3	AF12N	EF19-18.9	5	-	18 Amp	-	-	-	3 HP	3 HP	5 HP	5 HP
PSN-1F_N...	OT60F3	AF26N	EF45-45	5	-	27 Amp	-	-	-	7.5 HP	7.5 HP	10 HP	10 HP
PSN-2F_N...	OT100F3	AF40N	EF65-70	5	-	45 Amp	-	-	-	10 HP	15 HP	25 HP	25 HP
PSN-3F_N...	OT200U12	AF80N	EF96-100	10	-	90 Amp	-	-	-	25 HP	30 HP	50 HP	50 HP
PSN-4F_N...	OT200U12	AF140N	EF146-150	10	-	135 Amp	-	-	-	40 HP	50 HP	100 HP	100 HP

Standard cable range for Combination Contactors and Starters (Disconnect Switches)

Table #2a

HP ProS Starters	Disconnect Switch	Incoming lugs	NEMA ProS Starters	Disconnect Switch	Incoming lugs
PS-AF_N...	OT30F3	1 x (#14AWG - #4AWG)	PSN-AF_N...	OT30F3	1 x (#14AWG - #4AWG)
PS-0F_N...	OT30F3	1 x (#14AWG - #4AWG)	PSN-0F_N...	OT30F3	1 x (#14AWG - #4AWG)
PS-1F_N...	OT60F3	1 x (#14AWG - #4AWG)	PSN-1F_N...	OT60F3	1 x (#14AWG - #4AWG)
PS-2F_N...	OT100F3	1 x (#8AWG - #1/0AWG)	PSN-2F_N...	OT100F3	1 x (#8AWG - #1/0AWG)
PS-3F_N...	OT200U12	1 x (#4AWG - #300MCM)	PSN-3F_N...	OT200U12	1 x (#4AWG - #300MCM)
PS-4F_N...	OT200U12	1 x (#4AWG - #300MCM)	PSN-4F_N...	OT200U12	1 x (#4AWG - #300MCM)

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Technical Data

Standard selection for Combination Contactors and Starters (Fuse Disconnect Switches)

Table #3

ProS Starters	Main Protection	Contactor	Maximum overload	Combination kA	AC1	AC3	Single phase (HP)			Three Phases (HP)			
					600V	600V	120V	208V	240V	208V	240V	480V	600V
PS-AF_F...	OS30FAJ12	AF09	TF42-16	Contact ABB	25 Amp	9 Amp	0.75 HP	1 HP	1.5 HP	2 HP	2 HP	5 HP	7.5 HP
PS-0F_F...	OS30FAJ12	AF16	TF42-24	Contact ABB	30 Amp	17 Amp	1.5 HP	2 HP	3 HP	5 HP	5 HP	10 HP	15 HP
PS-1F_F...	OS60GJ12	AF30	TF42-35	Contact ABB	50 Amp	27 Amp	2 HP	3 HP	5 HP	10 HP	10 HP	20 HP	25 HP
PS-2F_F...	OS100GJ12	AF52	TF65-60	Contact ABB	80 Amp	52 Amp	3 HP	7.5 HP	10 HP	15 HP	20 HP	40 HP	50 HP
PS-3F_F...	OS200J12	AF80	TF96-87	Contact ABB	105 Amp	77 Amp	7.5 HP	15 HP	15 HP	25 HP	30 HP	60 HP	75 HP
PS-4F_F...	OS200J12	AF140	TF140DU-142	Contact ABB	200 Amp	125 Amp	-	-	-	40 HP	50 HP	100 HP	125 HP
PSN-AF_F...	OS30FAJ12	AF09N	EF19-18.9	Contact ABB	-	9 Amp	-	-	-	1.5 HP	1.5 HP	2 HP	2 HP
PSN-0F_F...	OS30FAJ12	AF12N	EF19-18.9	Contact ABB	-	18 Amp	-	-	-	3 HP	3 HP	5 HP	5 HP
PSN-1F_L...	OS30FAJ12	AF26N	EF45-45	Contact ABB	-	27 Amp	-	-	-	-	-	10 HP	10 HP
PSN-1F_F...	OS60GJ12	AF26N	EF45-45	Contact ABB	-	27 Amp	-	-	-	7.5 HP	7.5 HP	-	-
PSN-2F_L...	OS60GJ12	AF40N	EF65-70	Contact ABB	-	45 Amp	-	-	-	-	-	25 HP	25 HP
PSN-2F_F...	OS100GJ12	AF40N	EF65-70	Contact ABB	-	45 Amp	-	-	-	10 HP	15 HP	-	-
PSN-3F_L...	OS100GJ12	AF80N	EF96-100	Contact ABB	-	90 Amp	-	-	-	15-20 HP	20-25 HP	50 HP	50 HP
PSN-3F_F...	OS200J12	AF80N	EF96-100	Contact ABB	-	90 Amp	-	-	-	25 HP	30 HP	-	-
PSN-4F_F...	OS200J12	AF140N	EF146-150	Contact ABB	-	135 Amp	-	-	-	40 HP	50 HP	100 HP	100 HP

Standard cable range for Combination Contactors and Starters (Disconnect Switches)

Table #2a

HP ProS Starters	Fuse Disconnect	Incoming lugs	NEMA ProS Starters	Fuse Disconnect	Incoming lugs
PS-AF_F...	OS30FAJ12	1 x (#18AWG - #8AWG)	PSN-AF_F...	OS30FAJ12	1 x (#18AWG - #8AWG)
PS-0F_F...	OS30FAJ12	1 x (#18AWG - #8AWG)	PSN-0F_F...	OS30FAJ12	1 x (#18AWG - #8AWG)
PS-1F_F...	OS60GJ12	1 x (#14AWG - #4AWG)	PSN-1F_L...	OS30FAJ12	1 x (#18AWG - #8AWG)
PS-2F_F...	OS100GJ12	1 x (#8AWG - #2/0AWG)	PSN-1F_F...	OS60GJ12	1 x (#14AWG - #4AWG)
PS-3F_F...	OS200J12	1 x (#4AWG - #300MCM)	PSN-2F_L...	OS60GJ12	1 x (#14AWG - #4AWG)
PS-4F_F...	OS200J12	1 x (#4AWG - #300MCM)	PSN-2F_F...	OS100GJ12	1 x (#14AWG - #8AWG)
			PSN-3F_L...	OS100GJ12	1 x (#14AWG - #8AWG)
			PSN-3F_F...	OS200J12	1 x (#4AWG - #300MCM)
			PSN-4F_F...	OS200J12	1 x (#4AWG - #300MCM)

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Technical Data

Standard selection for Combination Starters (MCP Breakers)

Table #4

ProS Starters	Main Protection	Contactor	Maximum overload	Combination kA	AC1	AC3	Single phase (HP)			Three Phases (HP)			
					600V	600V	120V	208V	240V	208V	240V	480V	600V
PS-AF_B...	TS3L025MW	AF09	TF42-16	Contact ABB	25 Amp	9 Amp	0.75 HP	1 HP	1.5 HP	2 HP	2 HP	5 HP	7.5 HP
PS-0F_B...	TS3L050MW	AF16	TF42-24	Contact ABB	30 Amp	17 Amp	1.5 HP	2 HP	3 HP	5 HP	5 HP	10 HP	15 HP
PS-1F_B...	TS3L050MW	AF30	TF42-35	Contact ABB	50 Amp	27 Amp	2 HP	3 HP	5 HP	10 HP	10 HP	20 HP	25 HP
PS-2F_B...	TS3L100MW	AF52	TF65-60	Contact ABB	80 Amp	52 Amp	3 HP	7.5 HP	10 HP	15 HP	20 HP	40 HP	50 HP
PS-3F_B...	TS3L150MW	AF80	TF96-87	Contact ABB	105 Amp	77 Amp	7.5 HP	15 HP	15 HP	25 HP	30 HP	60 HP	75 HP
PS-4F_B...	T4S250E5W	AF140	TF140DU-142	Contact ABB	200 Amp	125 Amp	-	-	-	40 HP	50 HP	100 HP	125 HP
PSN-AF_B...	TS3L025MW	AF09N	EF19-18.9	Contact ABB	-	9 Amp	-	-	-	1.5 HP	1.5 HP	2 HP	2 HP
PSN-0F_B...	TS3L050MW	AF12N	EF19-18.9	Contact ABB	-	18 Amp	-	-	-	3 HP	3 HP	5 HP	5 HP
PSN-1F_B...	TS3L050MW	AF26N	EF45-45	Contact ABB	-	27 Amp	-	-	-	7.5 HP	7.5 HP	10 HP	10 HP
PSN-2F_B...	TS3L100MW	AF40N	EF65-70	Contact ABB	-	45 Amp	-	-	-	10 HP	15 HP	25 HP	25 HP
PSN-3F_B...	TS3L150MW	AF80N	EF96-100	Contact ABB	-	90 Amp	-	-	-	25 HP	30 HP	50 HP	50 HP
PSN-4F_B...	T4S250E5W	AF140N	EF146-150	Contact ABB	-	135 Amp	-	-	-	40 HP	50 HP	100 HP	100 HP

Standard cable range for Combination Starters (MCP Breakers)

Table #4a

HP ProS Starters	Breaker MCP	Incoming lugs		NEMA ProS Starters	Breaker MCP	Incoming lugs
PS-AF_B...	TS3L025MW	1 x (#14AWG - #2AWG)		PSN-AF_B...	TS3L025MW	1 x (#14AWG - #2AWG)
PS-0F_B...	TS3L050MW	1 x (#14AWG - #2AWG)		PSN-0F_B...	TS3L050MW	1 x (#14AWG - #2AWG)
PS-1F_B...	TS3L050MW	1 x (#14AWG - #2AWG)		PSN-1F_B...	TS3L050MW	1 x (#14AWG - #2AWG)
PS-2F_B...	TS3L100MW	1 x (#14AWG - #1/0AWG)		PSN-2F_B...	TS3L100MW	1 x (#14AWG - #1/0AWG)
PS-3F_B...	TS3L150MW	1 x (#2AWG - #4/0AWG)		PSN-3F_B...	TS3L150MW	1 x (#2AWG - #4/0AWG)
PS-4F_B...	T4S250E5W	1 x (#6AWG - #350MCM)		PSN-4F_B...	T4S250E5W	1 x (#6AWG - #350MCM)

System proS

Technical Data

Enclosures dimensions for IEC Non-combination Contactors and Starters

Table #7

ProS Starters	Type 1 (H x W x D)	Type 12-4-4X (H x W x D)	AC1	AC3	Single phase (HP)			Three Phases (HP)				
			600V	600V	120V	208V	240V	208V	240V	480V	600V	
PS-AFS... PS-AFR... PS-AFC... PS-AFK... PS-AFA... PS-AFB...	...X...	10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	25 Amp	9 amp	0.75HP	1HP	1.5HP	2HP	2HP	5HP	7.5HP
PS-AFT... PS-AFV...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PS-0FS... PS-0FR... PS-0FC... PS-0FK... PS-0FA... PS-0FB...	...X...	10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	30 Amp	17 Amp	1.5 HP	2 HP	3 HP	5 HP	5 HP	10 HP	15 HP
PS-0FT... PS-0FV...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PS-1FS... PS-1FR... PS-1FC... PS-1FK... PS-1FA... PS-1FB...	...X...	10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	50 Amp	27 Amp	2 HP	3 HP	5 HP	10 HP	10 HP	20 HP	25 HP
PS-1FT... PS-1FV...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PS-2F_...	...X...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)	80 Amp	52 Amp	3 HP	7.5 HP	10 HP	15 HP	20 HP	40 HP	50 HP
PS-3F_...	...X...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)	105 Amp	77 Amp	7.5 HP	15 HP	15 HP	25 HP	30 HP	60 HP	75 HP
PS-4F_...	...X...	36" x 20" x 10" (915 x 508 x 254mm)	36" x 21-3/4" x 10" (915 x 553 x 254mm)	200 Amp	125 Amp	-	-	-	40 HP	50 HP	100 HP	125 HP

Enclosures dimensions for IEC Combination Contactors and Starters (Pistol handles)

Table #8

ProS Starters	Type 1 (H x W x D)	Type 12-4-4X (H x W x D)	AC1	AC3	Single phase (HP)			Three Phases (HP)				
			600V	600V	120V	208V	240V	208V	240V	480V	600V	
PS-AFS... PS-AFR... PS-AFC... PS-AFK... PS-AFA... PS-AFB...	...N... ...F... ...B... ...M...	10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	25 Amp	9 amp	0.75HP	1HP	1.5HP	2HP	2HP	5HP	7.5HP
PS-AFT... PS-AFV...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PS-0FS... PS-0FR... PS-0FC... PS-0FK... PS-0FA... PS-0FB...	...N... ...F... ...B... ...M...	10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	30 Amp	17 Amp	1.5 HP	2 HP	3 HP	5 HP	5 HP	10 HP	15 HP
PS-0FT... PS-0FV...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PS-1FS... PS-1FR... PS-1FC... PS-1FK... PS-1FA... PS-1FB...	...N... ...F or L... ...B... ...M...	10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	50 Amp	27 Amp	2 HP	3 HP	5 HP	10 HP	10 HP	20 HP	25 HP
PS-1FT... PS-1FV...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PS-2F_...	...X...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)	80 Amp	52 Amp	3 HP	7.5 HP	10 HP	15 HP	20 HP	40 HP	50 HP
PS-3F_...	...X...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)	105 Amp	77 Amp	7.5 HP	15 HP	15 HP	25 HP	30 HP	60 HP	75 HP
PS-4F_...	...N... ...F... ...B... ...M...	36" x 20" x 10" (915 x 508 x 254mm)	36" x 21-3/4" x 10" (915 x 553 x 254mm)	200 Amp	125 Amp	-	-	-	40 HP	50 HP	100 HP	125 HP

System proS

Technical Data

Enclosures dimensions for NEMA size Non-combination Contactors and Starters

Table #9

ProS Starters		Type 1 (H x W x D)	Type 12/4-4X (H x W x D)	NEMA Size	AC3	Single phase (HP)				Three Phases (HP)			
					600V	120V	208V	240V	208V	240V	480V	600V	
PSN-AFS... PSN-AFR... PSN-AFC... PSN-AFK... ...X...		10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	00	9 amp	-	-	-	1.5HP	1.5HP	2HP	2HP	
PSN-AFT... PSN-AFV...		17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PSN-OFS... PSN-OFR... PSN-OfC... PSN-OfK... ...X...		10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	0	18 Amp	-	-	-	3 HP	3 HP	5 HP	5 HP	
PSN-OfT... PSN-OfV...		17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PSN-1FS... PSN-1FR... PSN-1FC... PSN-1FK... ...X...		10" x 6-3/4" x 6-1/2" (254 x 172 x 165mm)	10" x 8-1/2" x 6-1/2" (254 x 216 x 165mm)	1	27 Amp	-	-	-	7.5 HP	7.5 HP	10 HP	10 HP	
PSN-1FT... PSN-1FV...		17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)										
PSN-2F_...	...X...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)	2	45 Amp	-	-	-	10 HP	15 HP	25 HP	25 HP	
PSN-3F_...	...X...	17" x 12" x 7" (432 x 305 x 178mm)	17" x 13-3/4" x 7" (432 x 350 x 178mm)	3	90 Amp	-	-	-	25 HP	30 HP	50 HP	50 HP	
PSN-4F_...	...X...	36" x 20" x 10" (915 x 508 x 254mm)	36" x 21-3/4" x 10" (915 x 553 x 254mm)	4	135 Amp	-	-	-	40 HP	50 HP	100 HP	100 HP	

Enclosures dimensions for NEMA size Combination Contactors and Starters (Flange handles)

Table #10

ProS Starters		Type 1 (H x W x D)	Type 12/4-4X (H x W x D)	NEMA Size	AC3	Single phase (HP)				Three Phases (HP)			
					600V	120V	208V	240V	208V	240V	480V	600V	
PSN-AFS... PSN-AFC... ...N... ...F... PSN-AFR... ...B... PSN-AFK... ...M... PSN-AFT... PSN-AFV...		24" x 12" x 8" (610 x 305 x 204mm)	24" x 12" x 8" (610 x 305 x 204mm)	00	9 amp	-	-	-	1.5HP	1.5HP	2HP	2HP	
PSN-OfS... PSN-OfC... ...N... ...F... PSN-OfR... ...B... PSN-OfK... ...M... PSN-OfT... PSN-OfV...		24" x 12" x 8" (610 x 305 x 204mm)	24" x 12" x 8" (610 x 305 x 204mm)	0	18 Amp	-	-	-	3 HP	3 HP	5 HP	5 HP	
PSN-1FS... PSN-1FC... ...N... ...F... PSN-1FR... ...L... PSN-1FK... ...B... PSN-1FT... ...M...		24" x 12" x 8" (610 x 305 x 204mm)	24" x 12" x 8" (610 x 305 x 204mm)	1	27 Amp	-	-	-	7.5 HP	7.5 HP	10 HP	10 HP	
PS-2F_...		28" x 18" x 8" (712 x 458 x 204mm)	28" x 18" x 8" (712 x 458 x 204mm)	2	45 Amp	-	-	-	10 HP	15 HP	25 HP	25 HP	
PS-3F_...		28" x 18" x 8" (712 x 458 x 204mm)	28" x 18" x 8" (712 x 458 x 204mm)	3	90 Amp	-	-	-	25 HP	30 HP	50 HP	50 HP	
PS-4F_...	...N... ...F... ...B... ...M...	48" x 24" x 8" (1220 x 610 x 204mm)	48" x 24" x 8" (1220 x 610 x 204mm)	4	135 Amp	-	-	-	40 HP	50 HP	100 HP	100 HP	

Standard cable range for Overload Relays

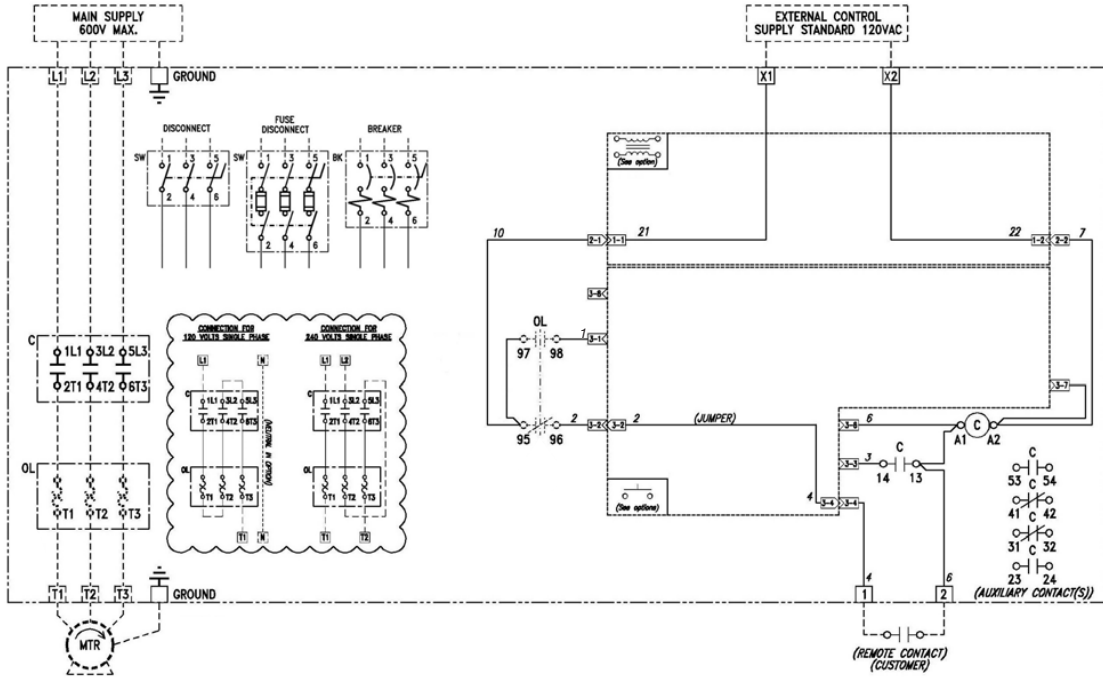
Table#11 & 12

Suffix Code	Thermal Catalog Number	Current Setting Range	Cable Range	Electronic Catalog Number	Current Setting Range	Cable range
A	TF42-0.13	0.10 ... 0.13	2 x (#18AWG - #10AWG)	EF19-0.32	0.10 ... 0.32	2 x (#16AWG - #10AWG)
B	TF42-0.17	0.13 ... 0.17	2 x (#18AWG - #10AWG)	EF19-0.32	0.10 ... 0.32	2 x (#16AWG - #10AWG)
C	TF42-0.23	0.17 ... 0.23	2 x (#18AWG - #10AWG)	EF19-0.32	0.10 ... 0.32	2 x (#16AWG - #10AWG)
D	TF42-0.31	0.23 ... 0.31	2 x (#18AWG - #10AWG)	EF19-0.32	0.10 ... 0.32	2 x (#16AWG - #10AWG)
E	TF42-0.41	0.31 ... 0.41	2 x (#18AWG - #10AWG)	EF19-1.0	0.30 ... 1.0	2 x (#16AWG - #10AWG)
F	TF42-0.55	0.41 ... 0.55	2 x (#18AWG - #10AWG)	EF19-1.0	0.30 ... 1.0	2 x (#16AWG - #10AWG)
G	TF42-0.74	0.55 ... 0.74	2 x (#18AWG - #10AWG)	EF19-1.0	0.30 ... 1.0	2 x (#16AWG - #10AWG)
H	TF42-1.0	0.74 ... 1.0	2 x (#18AWG - #10AWG)	EF19-1.0	0.30 ... 1.0	2 x (#16AWG - #10AWG)
J	TF42-1.3	1.0 ... 1.3	2 x (#18AWG - #10AWG)	EF19-2.7	0.8 ... 2.7	2 x (#16AWG - #10AWG)
K	TF42-1.7	1.3 ... 1.7	2 x (#18AWG - #10AWG)	EF19-2.7	0.8 ... 2.7	2 x (#16AWG - #10AWG)
L	TF42-2.3	1.7 ... 2.3	2 x (#18AWG - #10AWG)	EF19-2.7	0.8 ... 2.7	2 x (#16AWG - #10AWG)
M	TF42-3.1	2.3 ... 3.1	2 x (#18AWG - #10AWG)	EF19-6.3	1.9 ... 6.3	2 x (#16AWG - #10AWG)
N	TF42-4.2	3.1 ... 4.2	2 x (#18AWG - #10AWG)	EF19-6.3	1.9 ... 6.3	2 x (#16AWG - #10AWG)
P	TF42-5.7	4.2 ... 5.7	2 x (#18AWG - #10AWG)	EF19-6.3	1.9 ... 6.3	2 x (#16AWG - #10AWG)
Q	TF42-7.6	5.7 ... 7.6	2 x (#18AWG - #10AWG)	EF19-18.9	5.7 ... 18.9	2 x (#16AWG - #10AWG)
R	TF42-10	7.6 ... 10	2 x (#18AWG - #10AWG)	EF19-18.9	5.7 ... 18.9	2 x (#16AWG - #10AWG)
S	TF42-13	10 ... 13	2 x (#18AWG - #10AWG)	EF19-18.9	5.7 ... 18.9	2 x (#16AWG - #10AWG)
T	TF42-16	13 ... 16	2 x (#18AWG - #10AWG)	EF19-18.9	5.7 ... 18.9	2 x (#16AWG - #10AWG)
U	TF42-20	16 ... 20	2 x (#14AWG - #6AWG)	EF45-30	9 ... 30	2 x (#14AWG - #6AWG)
V	TF42-24	20 ... 24	2 x (#14AWG - #6AWG)	EF45-30	9 ... 30	2 x (#14AWG - #6AWG)
W	TF42-29	24 ... 29	2 x (#14AWG - #6AWG)	EF45-30	9 ... 30	2 x (#14AWG - #6AWG)
X	TF42-35	29 ... 35	2 x (#14AWG - #6AWG)	EF45-45	15 ... 45	2 x (#14AWG - #6AWG)
A	TF65-28	22 ... 28	2 x (#12AWG - #6AWG)	EF65-56	25 ... 56	2 x (#10AWG - #2AWG)
B	TF65-33	25 ... 33	2 x (#12AWG - #6AWG)	EF65-56	25 ... 56	2 x (#10AWG - #2AWG)
C	TF65-40	30 ... 40	2 x (#12AWG - #6AWG)	EF65-56	25 ... 56	2 x (#10AWG - #2AWG)
D	TF65-47	36 ... 47	2 x (#12AWG - #6AWG)	EF65-56	25 ... 56	2 x (#10AWG - #2AWG)
E	TF65-53	44 ... 53	2 x (#12AWG - #6AWG)	EF65-56	25 ... 56	2 x (#10AWG - #2AWG)
F	TF65-60	50 ... 60	2 x (#12AWG - #6AWG)	EF65-70	25 ... 70	2 x (#10AWG - #2AWG)
G	TF65-67	57 ... 67	2 x (#12AWG - #6AWG)	EF65-70	25 ... 70	2 x (#10AWG - #2AWG)
A	TF96-51	40 ... 51	2 x (#8AWG - #3AWG)	EF96-100	36 ... 100	2 x (#8AWG - #2AWG)
B	TF96-60	48 ... 60	2 x (#8AWG - #3AWG)	EF96-100	36 ... 100	2 x (#8AWG - #2AWG)
C	TF96-68	57 ... 68	2 x (#8AWG - #3AWG)	EF96-100	36 ... 100	2 x (#8AWG - #2AWG)
D	TF96-78	65 ... 78	2 x (#8AWG - #3AWG)	EF96-100	36 ... 100	2 x (#8AWG - #2AWG)
E	TF96-87	75 ... 87	2 x (#8AWG - #3AWG)	EF96-100	36 ... 100	2 x (#8AWG - #2AWG)
F	TF96-96	84 ... 96	2 x (#8AWG - #3AWG)	EF96-100	36 ... 100	2 x (#8AWG - #2AWG)
A	TF140DU-90	66 ... 90	2 x (#6AWG - #2/0AWG)	EF146-150	54 ... 150	2 x (#6AWG - #2AWG)
B	TF140DU-110	80 ... 110	2 x (#6AWG - #2/0AWG)	EF146-150	54 ... 150	2 x (#6AWG - #2AWG)
C	TF140DU-135	100 ... 135	2 x (#6AWG - #2/0AWG)	EF146-150	54 ... 150	2 x (#6AWG - #2AWG)
D	TF140DU-142	110 ... 142	2 x (#6AWG - #2/0AWG)	EF146-150	54 ... 150	2 x (#6AWG - #2AWG)

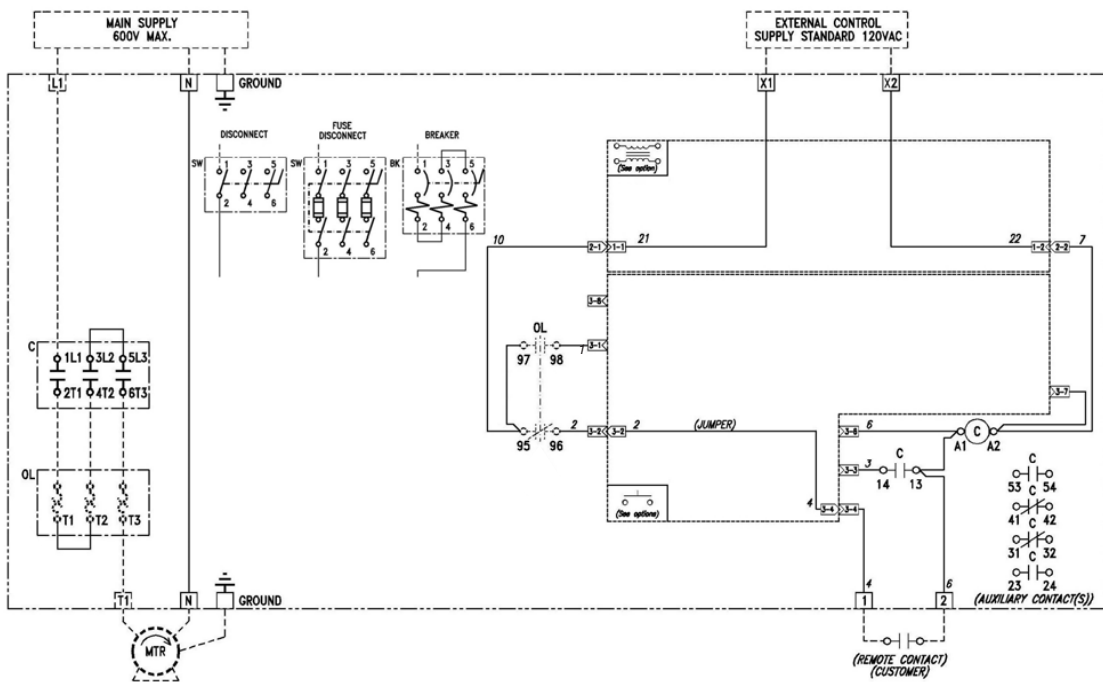
System proS Electrical Diagrams

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Across the Line Starter



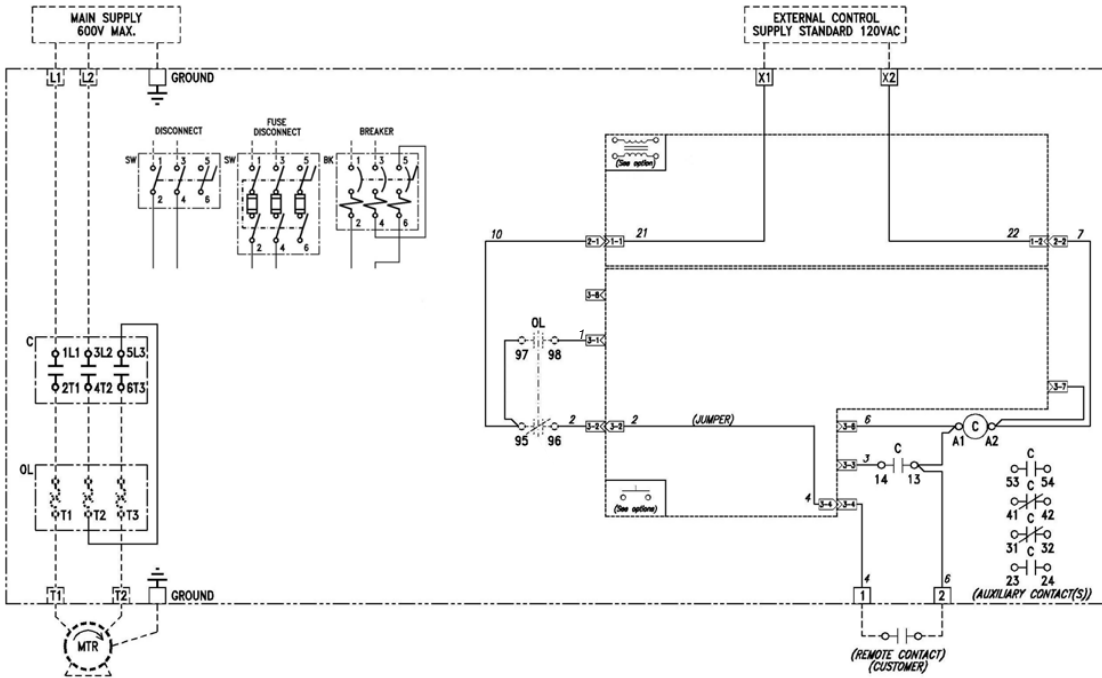
Single Phase 120Volts Starter



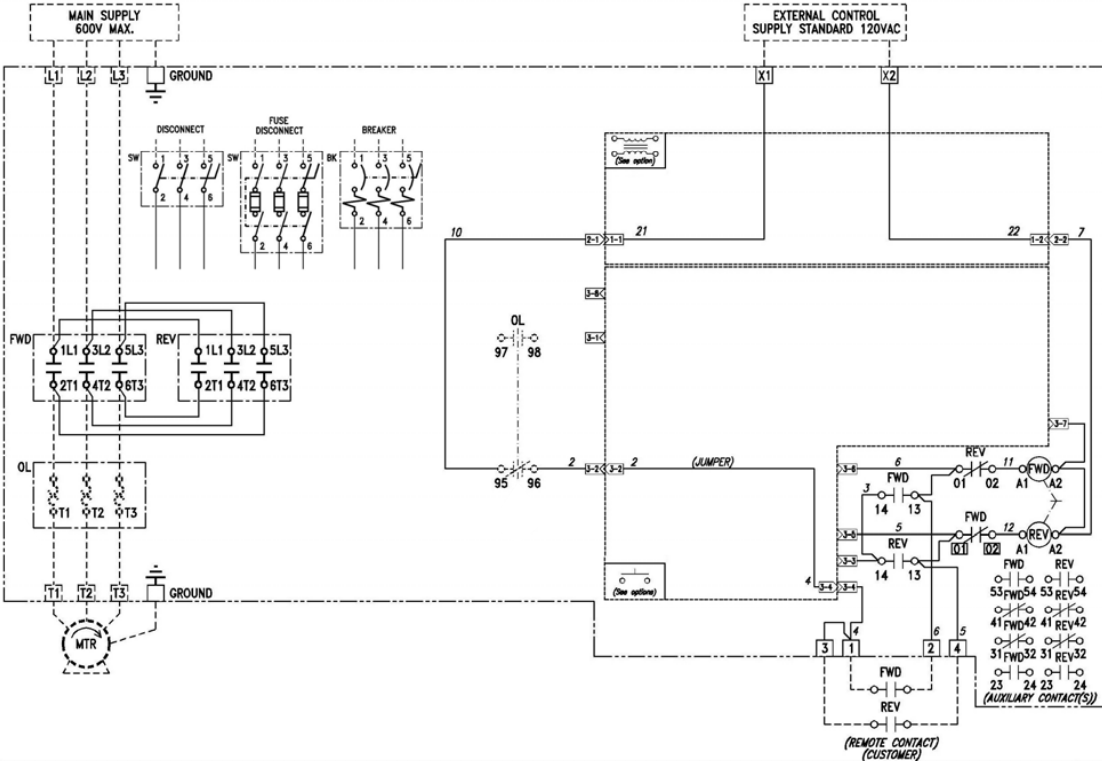
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Single Phase 2 poles Starter

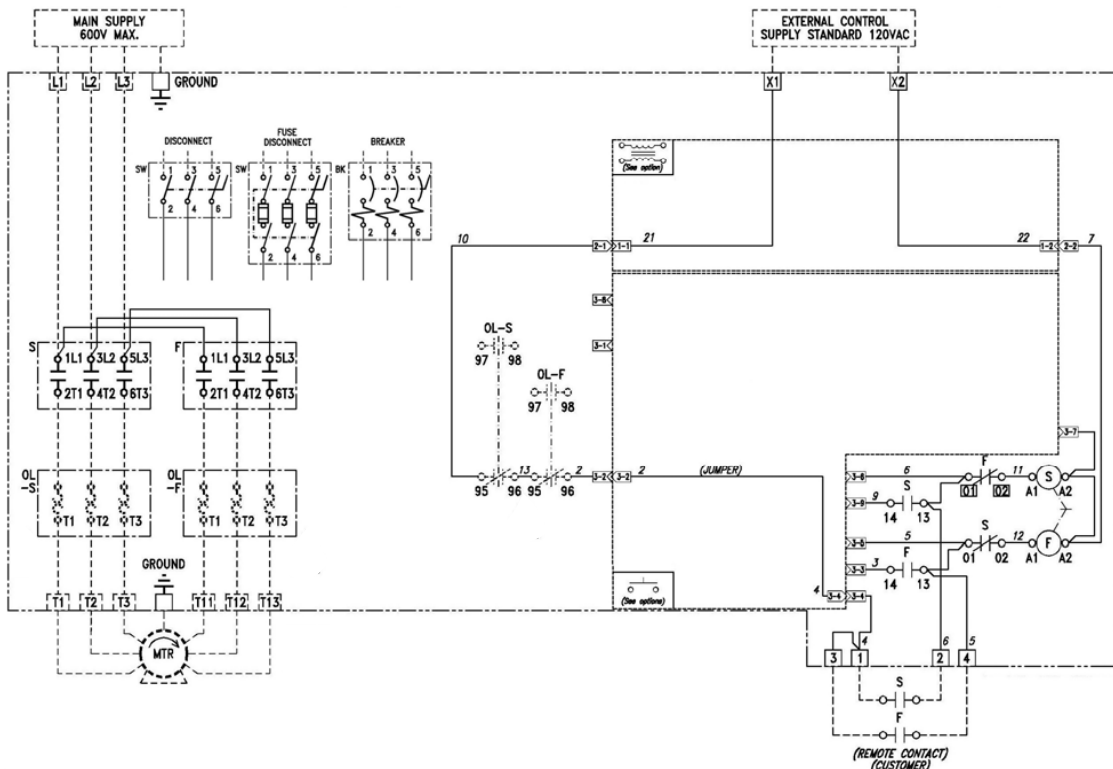


Reversing Starter

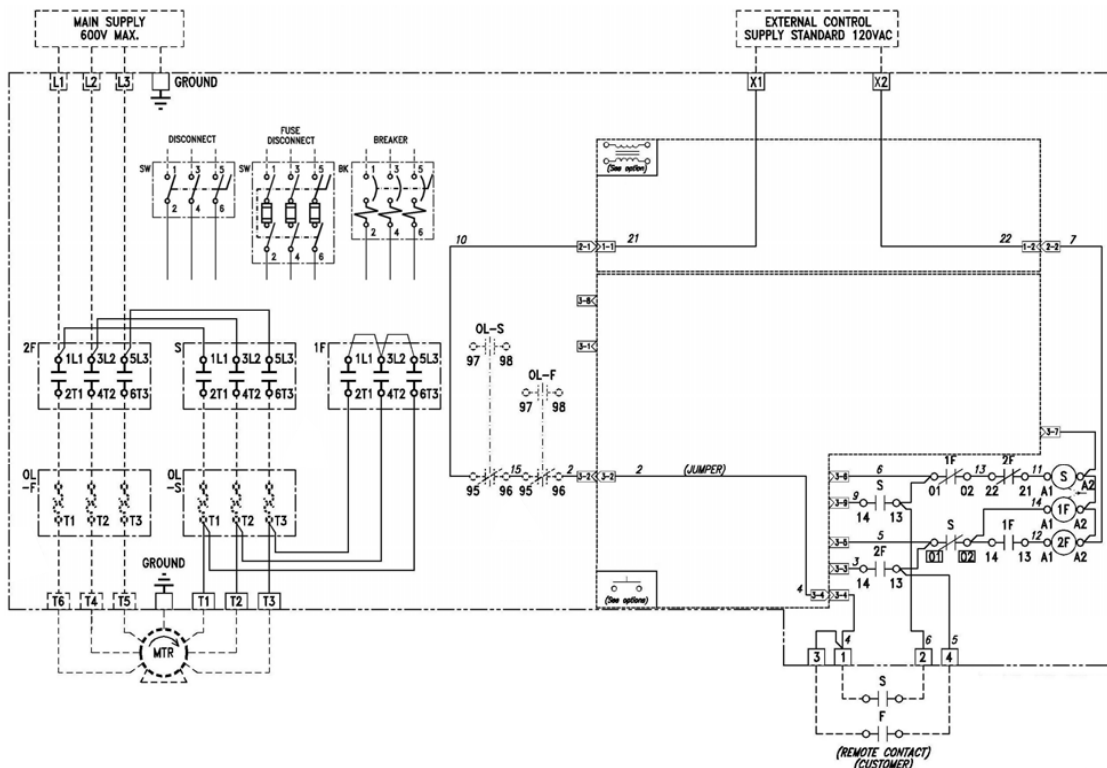


System proS Electrical Diagrams

2 Speeds – 2 Windings Starter

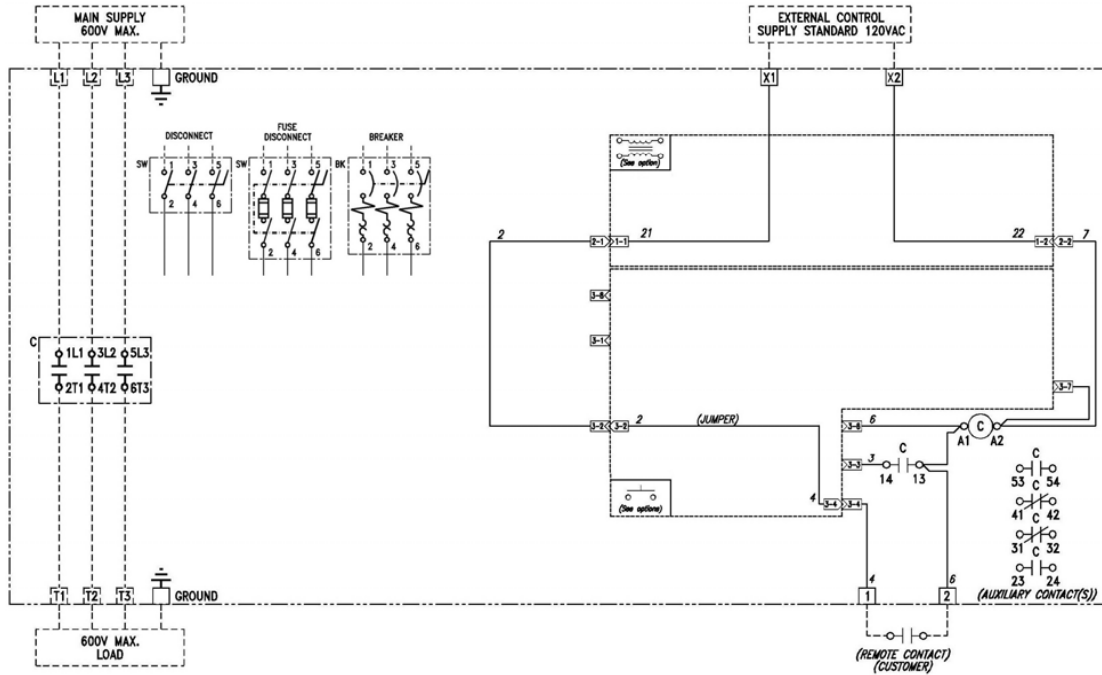


2 Speeds – 1 Winding Starter

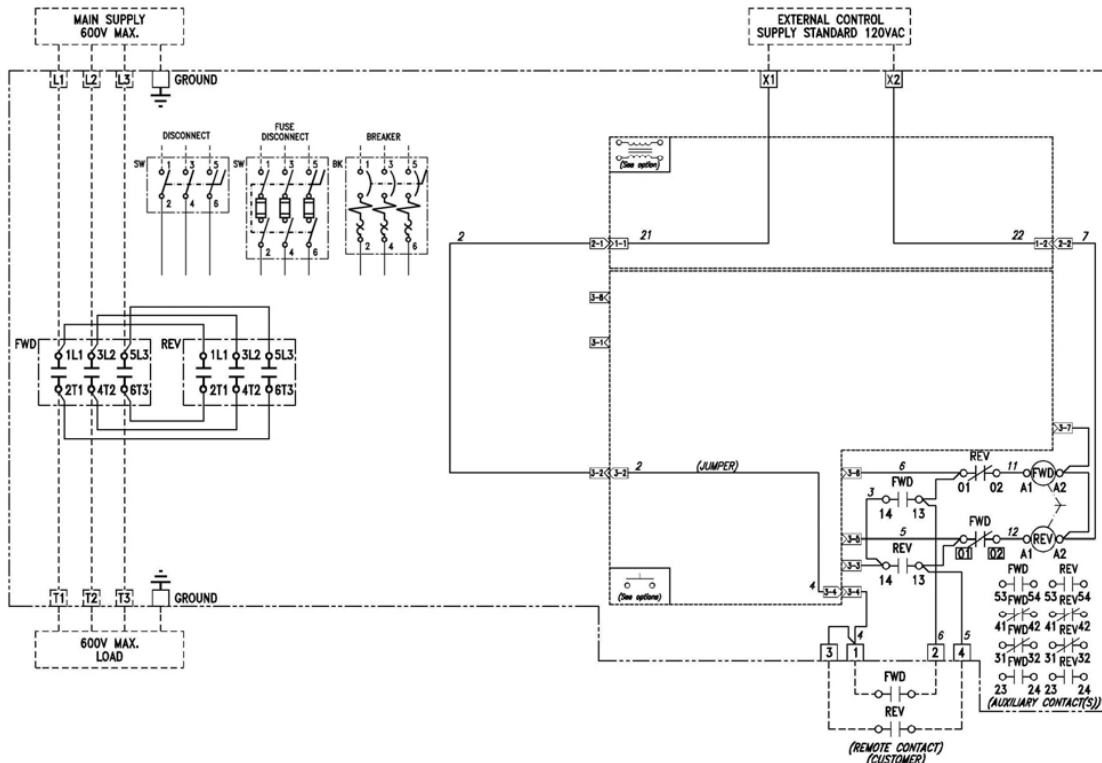


System proS Electrical Diagrams

Contactor


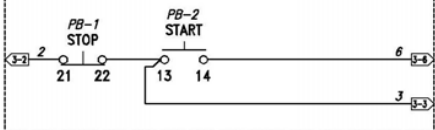
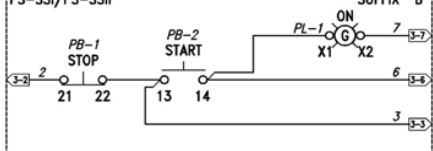

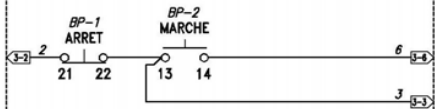
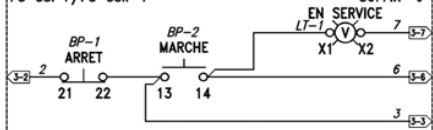
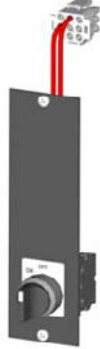
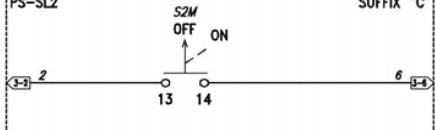
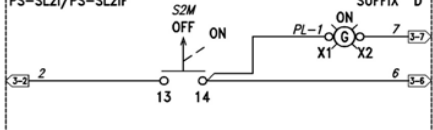

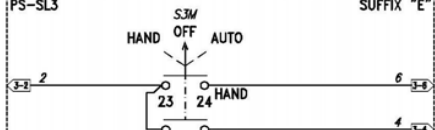
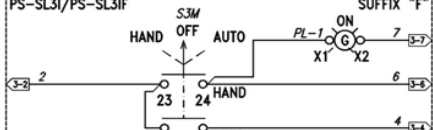

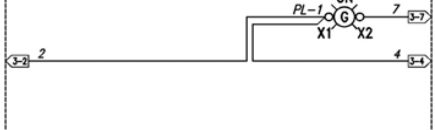
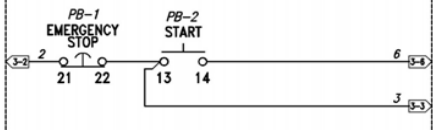

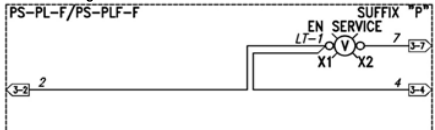
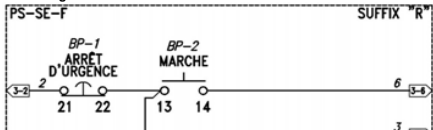







Reversing Contactors



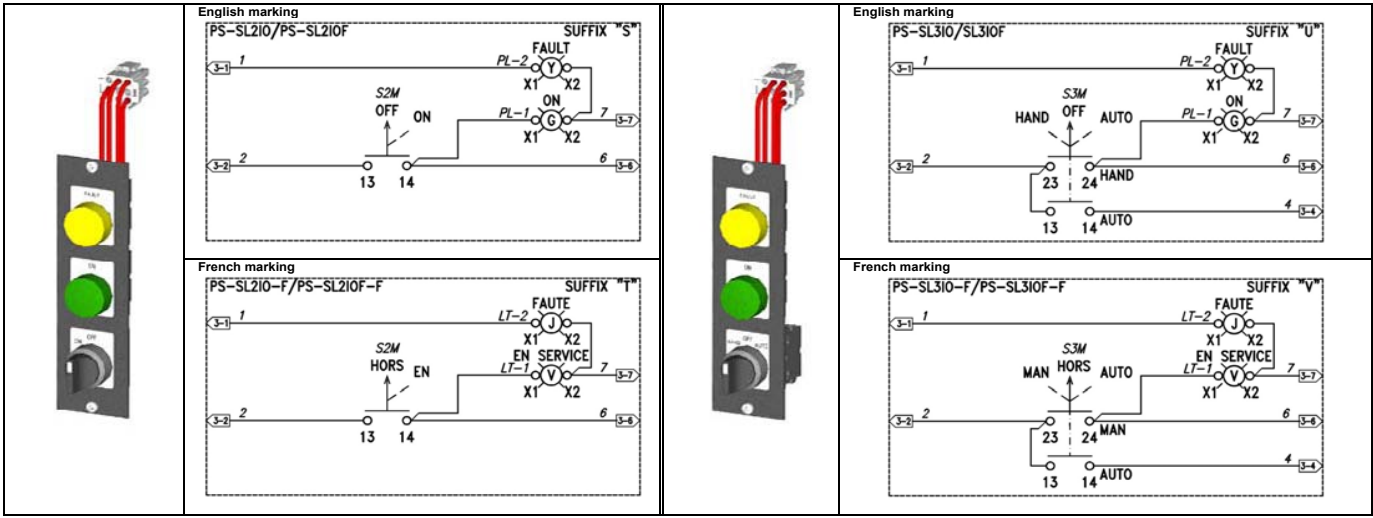
System proS

Pilot Device Kits (For Across the line Starters)

	<p>English marking PS-SS SUFFIX "A"</p> 	<p>English marking PS-SSI/PS-SSIF SUFFIX "B"</p> 
	<p>French marking PS-SS-F SUFFIX "H"</p> 	<p>French marking PS-SSI-F/PS-SSIF-F SUFFIX "J"</p> 
	<p>English marking PS-SL2 SUFFIX "C"</p> 	<p>English marking PS-SL2I/PS-SL2IF SUFFIX "D"</p> 
	<p>French marking PS-SL2-F SUFFIX "K"</p> 	<p>French marking PS-SL2I-F/PS-SL2IF-F SUFFIX "L"</p> 
	<p>English marking PS-SL3 SUFFIX "E"</p> 	<p>English marking PS-SL3I/PS-SL3IF SUFFIX "F"</p> 
	<p>French marking PS-SL3-F SUFFIX "M"</p> 	<p>French marking PS-SL3I-F/PS-SL3IF-F SUFFIX "N"</p> 
	<p>English marking PS-PL/PS-PLF SUFFIX "G"</p> 	<p>English marking PS-SE SUFFIX "Q"</p> 
	<p>French marking PS-PL-F/PS-PLF-F SUFFIX "P"</p> 	<p>French marking PS-SE-F SUFFIX "R"</p> 


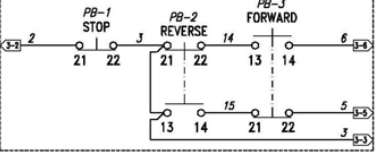

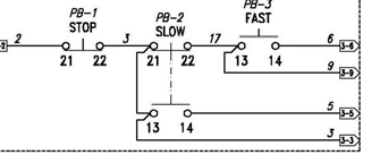

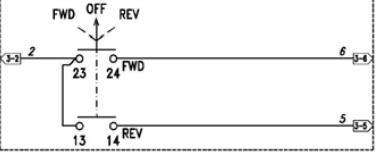

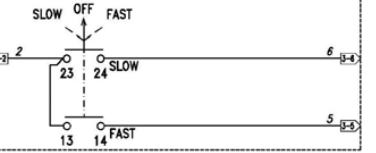

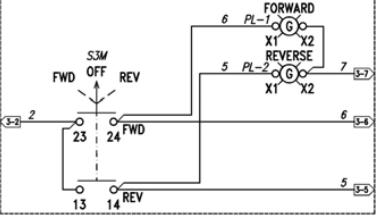

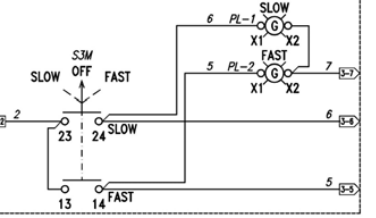

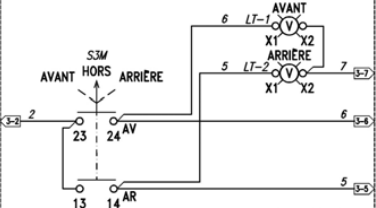

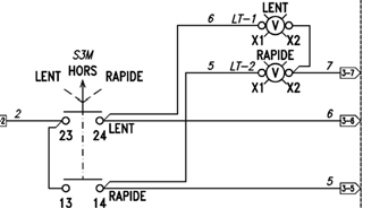
System proS

Pilot Device Kits (For Across the Line Starters)



System proS

Pilot Device Kits (For Reversing & 2 Speed Starters)

<p>Reversing</p> 	<p>English marking</p> <p>PS-FRS SUFFIX "A"</p> 	<p>2 Speeds</p> 	<p>English marking</p> <p>PS-FSO SUFFIX "A"</p> 
<p>Reversing</p> 	<p>English marking</p> <p>PS-SL3R SUFFIX "B"</p> 	<p>2 Speeds</p> 	<p>English marking</p> <p>PS-SL3S SUFFIX "B"</p> 
<p>Reversing</p> 	<p>English marking</p> <p>PS-SL3RI/PS-SL3RIF SUFFIX "C"</p> 	<p>2 Speeds</p> 	<p>English marking</p> <p>PS-SL3SI/PS-SL3SIF SUFFIX "C"</p> 
<p>Reversing</p> 	<p>French marking</p> <p>PS-SL3RI-F/PS-SL3RIF-F SUFFIX "F"</p> 	<p>2 Speeds</p> 	<p>French marking</p> <p>PS-SL3SI-F/PS-SL3SIF-F SUFFIX "F"</p> 

System proS

Type 4X Plastic Enclosed Starters



DR AF09 - 13 M

Starter style:

DR = Direct on line starter or enclosed contactor, type 4X plastic enclosure

Contactor size:

AF09 = AF09 contactor
 AF12 = AF12 contactor
 AF16 = AF16 contactor
 AF09Z = AF09Z contactor
 AF12Z = AF12Z contactor
 AF16Z = AF16Z contactor

Coil voltage:

AF

11 = 24...60V ac/dc coil
 13 = 100...250V ac/dc coil
 14 = 250...500V ac/dc coil

AF..Z

20 = 12...20V dc coil
 21 = 24...60V ac/dc coil
 23 = 100...250V ac/dc coil

Overload selection:

U = No factory-mounted overload*
 A = TF42-0.13 (0.10 ... 0.13)
 B = TF42-0.17 (0.13 ... 0.17)
 C = TF42-0.23 (0.17 ... 0.23)
 D = TF42-0.31 (0.23 ... 0.31)
 E = TF42-0.41 (0.31 ... 0.41)
 F = TF42-0.55 (0.41 ... 0.55)
 G = TF42-0.74 (0.55 ... 0.74)
 H = TF42-1.0 (0.74 ... 1.00)
 J = TF42-1.3 (1.00 ... 1.30)
 K = TF42-1.7 (1.30 ... 1.70)
 L = TF42-2.3 (1.70 ... 2.30)
 M = TF42-3.1 (2.30 ... 3.10)
 N = TF42-4.2 (3.10 ... 4.20)
 P = TF42-5.7 (4.20 ... 5.70)
 Q = TF42-7.6 (5.70 ... 7.60)
 R = TF42-10 (7.60 ... 10.0)
 S = TF42-13 (10.0 ... 13.0)
 T = TF42-16 (13.0 ... 16.0)
 V = TF42-20 (16.0 ... 20.0)

* = Starters without overload relays will be kept in stock at ABB

System proS

Type 4X Plastic Enclosed Starters



Description

Each starter is delivered with a contactor, a green START and red STOP/RESET pushbuttons.

These starters are CSA approved and include all accessories necessary for assembly. The enclosure is type 4X approved for outdoor applications.

The thermal O/L relay for the motor protection must be ordered separately and is to be assembled and wired by customer. Select the type of thermal O/L relay as per the selection chart. Alternately, you can order the starter with the overload relay already installed by ABB using the Suffix codes at the end of the starter part number.

To select the required starter, follow these 4 simple steps:

- 1) Refer to the "Starter Selection Table" and select the basic starter part number based on the motor's horsepower
- 2) Select the required coil voltage code as per "Coil Voltage Selection Guide"
- 3) Select the proper overload relay
- 4) Follow the wiring diagrams included with the starter for proper connection if your application is for single-phase motors

Starter Selection Table

1 phase horsepower		3 phase horsepower				STARTER SIZE
120V	240V	208V	240V	480V	600V	
0.75	1.5	2	2	5	7.5	DRAF09(Z)
1	2	3	3	7.5	10	DRAF12(Z)
1.5	3	5	5	10	15	DRAF16(Z)



Coil Voltage Selection Guide

Type	Volts			
	12...20V dc	24...60 V ac 20...60V dc	100...250V ac / dc	250...500V ac / dc
DRAF	-	11	13	14
* DRAF.Z	20	21	23	-

* = Low consumption coil

Generally, ABB will stock the following enclosed starters with standard coils and without overload relays already installed:

DRAF09-11U	DRAF12-11U	DRAF16-11U
DRAF09-13U	DRAF12-13U	DRAF16-13U

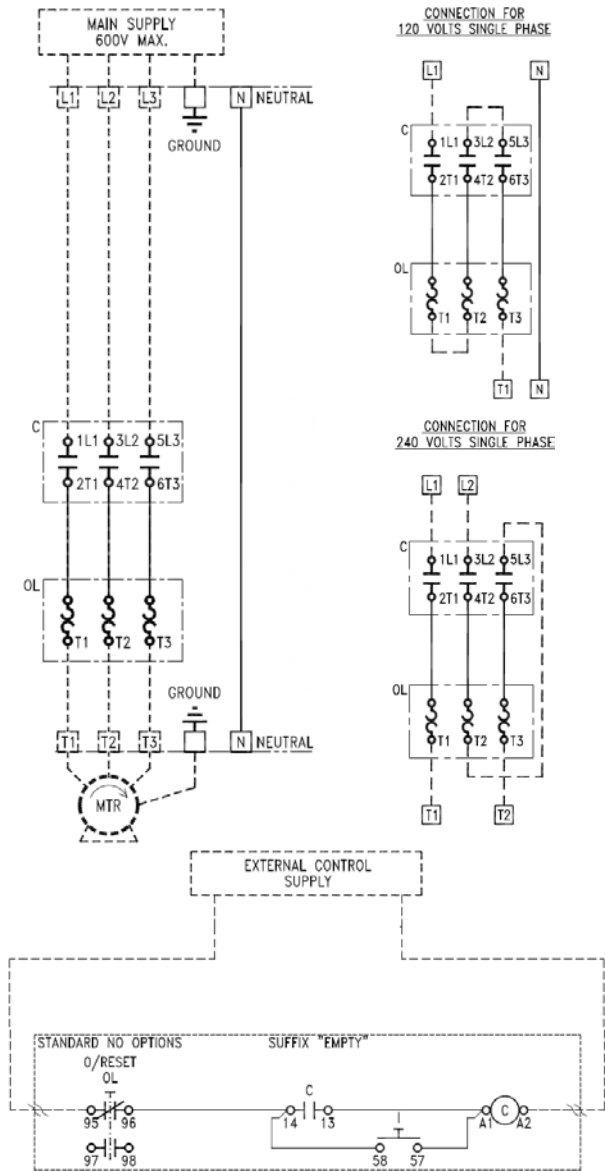
Overload Relay Selection Guide

Starter Size	Setting Range (A)	Suffix for factory install	Part Number
DRAF09(Z) to DRAF16(Z)	0.10 ... 0.13	A	TF42-0.13
	0.13 ... 0.17	B	TF42-0.17
	0.17 ... 0.23	C	TF42-0.23
	0.23 ... 0.31	D	TF42-0.31
	0.31 ... 0.41	E	TF42-0.41
	0.41 ... 0.55	F	TF42-0.55
	0.55 ... 0.74	G	TF42-0.74
	0.74 ... 1.00	H	TF42-1.0
	1.00 ... 1.30	J	TF42-1.3
	1.30 ... 1.70	K	TF42-1.7
	1.70 ... 2.30	L	TF42-2.3
	2.30 ... 3.10	M	TF42-3.1
	3.10 ... 4.20	N	TF42-4.2
	4.20 ... 5.70	P	TF42-5.7
	5.70 ... 7.60	Q	TF42-7.6
	7.60 ... 10.0	R	TF42-10
	10.0 ... 13.0	S	TF42-13
13.0 ... 16.0	T	TF42-16	
16.0 ... 20.0	V	TF42-20	

System proS

Type 4X Plastic Enclosed Starters

Wiring Diagram



Customer installed pilot device kits for DRAF starters

Voltage	Description	Nameplate Language	Nameplate Text	Catalog Number
--	Emergency stop push button	--	--	DY-ESTOP
24V	Red Pilot light	English	OFF	DY-PLH1
24V	Red Pilot Light	French	HORS SERVICE	DY-PLH1-F
48V	Red Pilot light	English	OFF	DY-PLH2
48V	Red Pilot Light	French	HORS SERVICE	DY-PLH2-F
130V	Red Pilot light	English	OFF	DY-PLH3
130V	Red Pilot Light	French	HORS SERVICE	DY-PLH3-F
230V	Red Pilot light	English	OFF	DY-PLH4
230V	Red Pilot Light	French	HORS SERVICE	DY-PLH4-F
415V	Red Pilot light	English	OFF	DY-PLH5
415V	Red Pilot Light	French	HORS SERVICE	DY-PLH5-F
24V	Green Pilot light	English	ON	DY-PLI1
24V	Green Pilot Light	French	EN SERVICE	DY-PLI1-F
48V	Green Pilot light	English	ON	DY-PLI2
48V	Green Pilot Light	French	EN SERVICE	DY-PLI2-F
130V	Green Pilot light	English	ON	DY-PLI3
130V	Green Pilot Light	French	EN SERVICE	DY-PLI3-F
230V	Green Pilot light	English	ON	DY-PLI4
230V	Green Pilot Light	French	EN SERVICE	DY-PLI4-F
415V	Green Pilot light	English	ON	DY-PLI5
415V	Green Pilot Light	French	EN SERVICE	DY-PLI5-F
--	2 Position Switch	English	HAND - AUTO	DY-SL2
--	2 Position Switch	French	MAN - AUTO	DY-SL2-F

Technical Information

Enclosure: cULus listed, Type 4X suitable for outdoor use
Starter: CSA approved

Terminal	Wire Type	Wire Gauge	Tightening Torque
Power	Cu, Stranded 75°C	10 - 16 AWG	13 lb-in
Auxiliary	Cu, solid or stranded	14 - 18 AWG	11 lb-in
Coil			

Auxiliary contact: NO or NC, rated A600 and Q600
In addition, may be rated as follows: Breaking All Lines

Part No.	AC Ballast, A at 600V AC	AC Incandescent A at 600V AC	AC Heating, A at 600V AC (note 1)
DRAF09(Z)		20	
DRAF12(Z)		25	
DRAF16(Z)		30	

Note 1: Endurance test was conducted for 250,000 cycles

System proS

MSSP Single Phase - Manual Starters

MSSP

Starting and overload protection of small 1Ø AC/DC motors used on the following:

- Unit heater stokers • Refrigeration compressors • Fans • Pumps

MSSP manual switches consist of a snap switch combined with a thermal overload device operating on the solder-ratchet principle. The switch is designed to prevent being held closed under a sustained motor overload. To reset the overload mechanism, the switch lever is moved to the OFF position. The motor can be restarted by pushing the switch lever to the ON position. Applications include compressors, fans and pumps.



MSSP1-T2P

Standards Compliance and Certifications

UL Listed — Enclosed Products (File No E137861; Guide No. NLRV)

UL – Open Style Products (File No. E137861; Guide No. NLRV2)

CSA Certified LR 1234 American Bureau of Shipping

CE Marked (Per 60947)

Product selection

Your order must include:

- Cat. No. of the switch
- Cat. No. of the heater element(s)
- If required, Cat. No. of any accessories.



MSSP-T2P

Ratings

Single pole 1 HP 115...230V AC, 1 HP 277V AC, Open type without enclosure or type 1 general purpose enclosure

Two pole 1 Hp 115...230V AC, 1 HP 277 AC, Open type without enclosure or type 1 general purpose enclosure, 3/4 HP 115...230V DC



MSSP-PL



MSSP-LA

Description		Open Type without Enclosure Includes Legend Plate	Type 1 General Purpose Enclosure Surface Mount	Type 1 General Purpose Enclosure Flush Mounting Includes Flush Plate but not Switch Box
		Catalog Number	Catalog Number	Catalog Number
Switch Only				
Toggle Type	1 pole	MSSP-T1	MSSP1-T1	MSSP-T1S
	2 pole	MSSP-T2	MSSP1-T2	MSSP-T2S
Key Type	2 pole	MSSP-K2	MSSP1-K2	MSSP-K2S
Lever Type	1 pole	MSSP-L1	MSSP1-L1	-
Switch with Neon Pilot Light (115 or 230V)				
Toggle Type	1 pole	MSSP-T1P	MSSP1-T1P	MSSP-T1PS
	2 pole	MSSP-T2P	MSSP1-T2P	MSSP-T2PS
Key Type	2 pole	MSSP-K2P	MSSP1-K2P	MSSP-K2PS
Switch and "Hand-OFF-Auto" Selector Switch (for use on AC Only)				
Toggle Type	2 pole	-	MSSP1-T2H	MSSP1-T2HS
Switch with Neon Pilot Light and "Hand-OFF-Auto" Selector Switch (115 or 230V AC Only)				
Toggle Type	2 pole	-	MSSP1-T2HP	MSSP1-T2HPS
Key Type	2 pole	-	MSSP1-K2HP	-
Two Switch Units in One Enclosure				
Toggle Type	2 pole	-	MSSP1-T2T2	-
Two Switch Units in One Enclosure with Neon Pilot Light on Both Units (115 or 230V)				
Toggle Type	2 pole	-	MSSP1-T2PT2P	MSSP-T2PT2P
Two Speed Switch				
Toggle Type	2 pole	-	MSSP1-22	-
Two Speed Switch with Neon Pilot Lights (115 or 230V)				
Toggle Type	2 pole	-	MSSP1-22P	MSSP-22P

System proS

MSSP Single Phase - Heater Element Section

Accessories

Description	Catalog Number
Pilot light replacement bulb incandescent	MSSP-PL
Locking attachment (for toggle operated only)	MSSP-LA

Note: Pilot lights as used on MSSP switches indicate whether the motor is running only if the switch is used to control the motor directly. If a thermostat, pressure switch, or some other pilot device controls the operation of the motor, the light on the MSSP switch merely indicates whether the power is ON or OFF.

Heater element selection

The "Full Load Amperes" listed in the table is to be used for heater element selection.

The rating of the relay in amperes at +40°C (+104°F) is 115% of the "Full Load Amperes" listed for the "Heater".

Refer to the motor nameplate for the full load current, the service factor, and/or the motor classification by application and temperature rise.

Use this motor nameplate information, the application rules, and the "Full Load Amperes" listed to determine the "Heater Type Number".

The following is for motors rated for continuous duty: For motors with marked service factor of not less than 1.15, or motors with a marked temperature rise not over +40°C (+104°F), apply application rules 1 through 3. Apply application rules 2 and 3 when the temperature difference does not exceed +10°C (+18°F).

When the temperature difference is greater, see below.

1. The same temperature at the controller and the motor - Select the "Heater" with the listed "Full Load Amperes" nearest the full load value shown on the motor nameplate.
2. Higher temperature at the controller than at the motor - If the full load current value shown on the motor nameplate is between the listed "Full Load Amperes", select the "Heater" with the higher value.
3. Lower temperature at the controller than at the motor - If the full load current value shown on the motor nameplate is between the listed "Full Load Amperes", select the "Heater" with the lower value.

For motors with marked service factor of less than 1.15, select the heater one rating smaller than determined by the rules in paragraphs 1, 2 and 3.

Motors rated for intermittent duty - Consult your local ABB distributors.

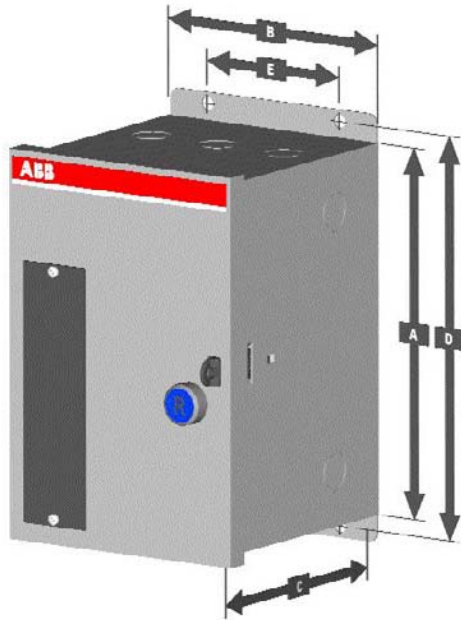
Heater element selection procedure - When temperature at controller is more than ±10°C (±18°F) different than temperature at motor - Consult your local ABB distributors.

Full Load Amperes	Catalog Number
0.17	MSSP-P1
0.21	MSSP-P2
0.25	MSSP-P3
0.32	MSSP-P4
0.39	MSSP-P5
0.46	MSSP-P6
0.57	MSSP-P7
0.71	MSSP-P8
0.79	MSSP-P9
0.87	MSSP-P10
0.98	MSSP-P11
1.08	MSSP-P12
1.19	MSSP-P13
1.3	MSSP-P14
1.43	MSSP-P15
1.58	MSSP-P16
1.75	MSSP-P17
1.88	MSSP-P18
2.13	MSSP-P19
2.4	MSSP-P20
2.58	MSSP-P21
2.92	MSSP-P22
3.09	MSSP-P23
3.32	MSSP-P24
3.37	MSSP-P25
4.16	MSSP-P26
4.51	MSSP-P27
4.93	MSSP-P28
5.43	MSSP-P29
6.03	MSSP-P30
6.83	MSSP-P31
7.72	MSSP-P32
8.24	MSSP-P33
8.9	MSSP-P34
9.6	MSSP-P35
10.8	MSSP-P36
12	MSSP-P37
13.5	MSSP-P38
15.2	MSSP-P39

Dimensions

Metal-Enclosed Starters

Type 1 enclosure for non-combination starters

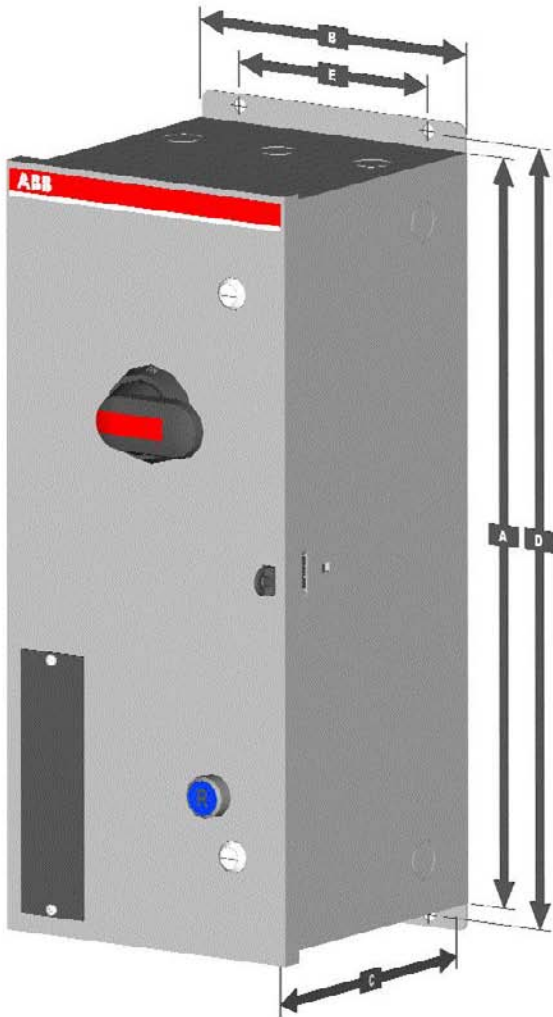


Starter Type	Dimension				
	A	B	C	D	E
PS(N)-AFS	X 10" (254mm)	6-3/4" (172mm)	6-1/2" (165mm)	10-7/8" (276.26mm)	4-1/4" (107.95mm)
PS(N)-AFR					
PS(N)-AFC					
PS(N)-AFK					
PS(N)-AFA					
PS(N)-AFB	X 17" (432mm)	12" (305mm)	7" (178mm)	17-7/8" (454.03mm)	9-1/2" (241.3mm)
PS(N)-AFT					
PS(N)-AFV					
PS(N)-0FS	X 10" (254mm)	6-3/4" (172mm)	6-1/2" (165mm)	10-7/8" (276.26mm)	4-1/4" (107.95mm)
PS(N)-0FR					
PS(N)-0FC					
PS(N)-0FK					
PS(N)-0FA					
PS(N)-0FB	X 17" (432mm)	12" (305mm)	7" (178mm)	17-7/8" (454.03mm)	9-1/2" (241.3mm)
PS(N)-0FT					
PS(N)-0FV					
PS(N)-1FS	X 10" (254mm)	6-3/4" (172mm)	6-1/2" (165mm)	10-7/8" (276.26mm)	4-1/4" (107.95mm)
PS(N)-1FR					
PS(N)-1FC					
PS(N)-1FK					
PS(N)-1FA					
PS(N)-1FB	X 17" (432mm)	12" (305mm)	7" (178mm)	17-7/8" (454.03mm)	9-1/2" (241.3mm)
PS(N)-1FT					
PS(N)-1FV					
PS(N)-2F_	X 17" (432mm)	12" (305mm)	7" (178mm)	17-7/8" (454.03mm)	9-1/2" (241.3mm)
PS(N)-3F_	X 17" (432mm)	12" (305mm)	7" (178mm)	17-7/8" (454.03mm)	9-1/2" (241.3mm)
PS(N)-4F_	X 36" (915mm)	20" (508mm)	10" (254mm)	36-7/8" (936.63mm)	17-1/2" (444.5mm)

Dimensions

Metal-Enclosed Starters

Type 1 enclosure for IEC-rated combination starters

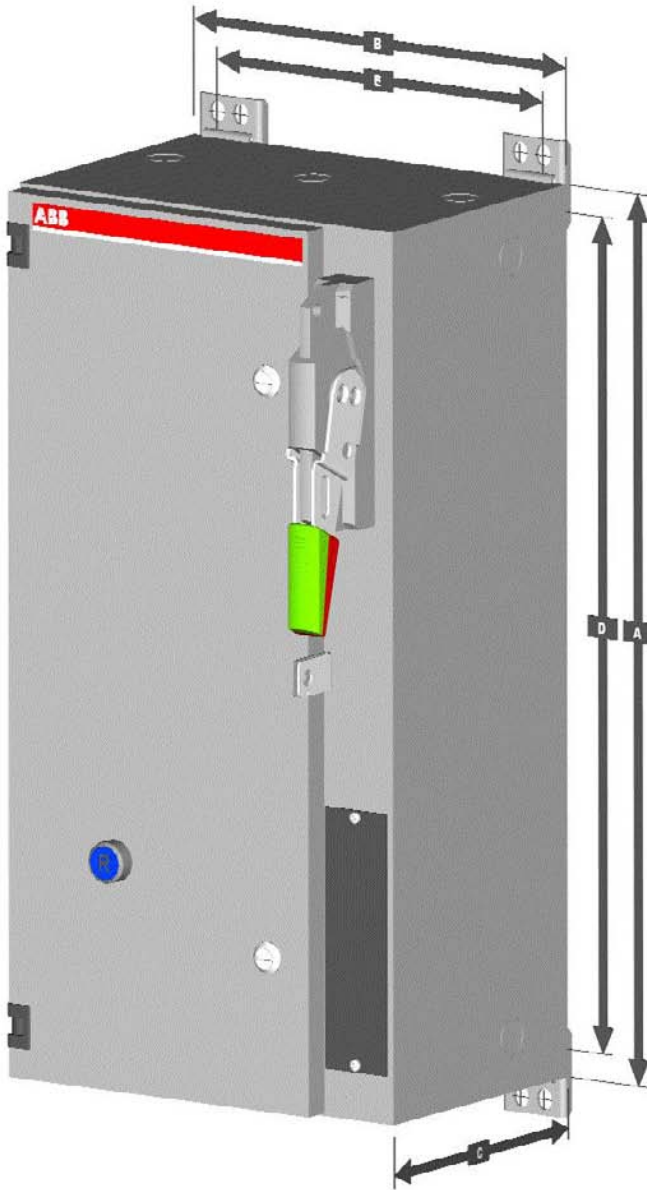


Starter Type	Dimension				
	A	B	C	D	E
PS-AFS					
PS-AFR					
PS-AFC					
PS-AFK					
PS-AFA					
PS-AFB					
PS-AFT					
PS-AFV					
PS-0FS					
PS-0FR					
PS-0FC					
PS-0FK					
PS-0FA					
PS-0FB					
PS-0FT					
PS-0FV					
PS-1FS					
PS-1FR					
PS-1FC					
PS-1FK					
PS-1FA					
PS-1FB					
PS-1FT					
PS-1FV					
PS-2F_					
PS-3F_					
PS-4F_					

Dimensions

Metal-Enclosed Starters

Type 1 enclosure for NEMA-rated combination starters

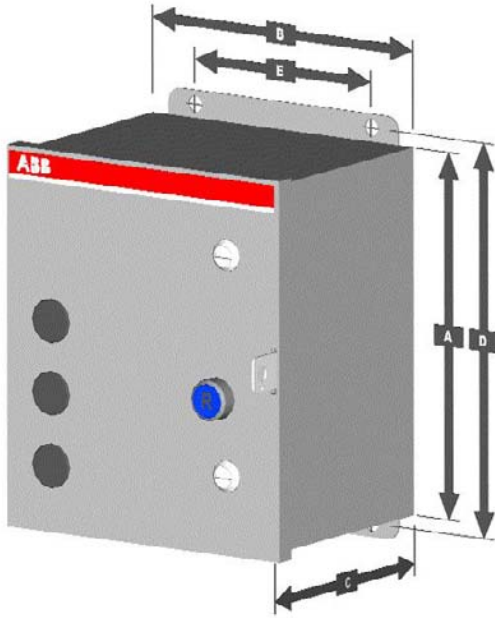


Starter Type		Dimension				
		A	B	C	D	E
PSN-AFS	N	24"	12"	8"	25-1/2"	10-1/2"
PSN-AFC	F	(610mm)	(305mm)	(204mm)	(647.7mm)	(266.7mm)
PSN-AFR						
PSN-AFK	N	28"	18"	8"	29-1/2"	16-1/2"
PSN-AFA	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
PSN-AFT						
PSN-AFV						
PSN-0FS	N	24"	12"	8"	25-1/2"	10-1/2"
PSN-0FC	F	(610mm)	(305mm)	(204mm)	(647.7mm)	(266.7mm)
PSN-0FR						
PSN-0FK	N	28"	18"	8"	29-1/2"	16-1/2"
PSN-0FA	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
PSN-0FB						
PSN-0FT						
PSN-0FV						
PSN-1FS	N	24"	12"	8"	25-1/2"	10-1/2"
PSN-1FC	F	(610mm)	(305mm)	(204mm)	(647.7mm)	(266.7mm)
PSN-1FR						
PSN-1FK	N	28"	18"	8"	29-1/2"	16-1/2"
PSN-1FA	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
PSN-1FB	L					
PSN-1FT						
PSN-1FV						
PSN-2F_	N	28"	18"	8"	29-1/2"	16-1/2"
	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
	L					
PSN-3F_	N	28"	18"	8"	29-1/2"	16-1/2"
	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
	L					
PSN-4F_	N	48"	24"	8"	49-1/2"	22-1/2"
	F	(1220mm)	(610mm)	(204mm)	(1257.3mm)	(571.5mm)

Dimensions

Metal-Enclosed Starters

Type 4/12 and 4X enclosure for non-combination starters



Starter Type	Dimension					
	A	B	C	D	E	
PS(N)-AFS						
PS(N)-AFR						
PS(N)-AFC	X	10" (254mm)	8-1/2" (216mm)	6-1/2" (165mm)	10-3/4" (273.05mm)	5-3/4" (146.05mm)
PS(N)-AFK						
PS(N)-AFA						
PS(N)-AFB						
PS(N)-AFT	X	17" (432mm)	13-3/4" (350mm)	7" (178mm)	17-3/4" (450.85mm)	11" (279.4mm)
PS(N)-AFV						
PS(N)-0FS						
PS(N)-0FR						
PS(N)-0FC	X	10" (254mm)	8-1/2" (216mm)	6-1/2" (165mm)	10-3/4" (273.05mm)	5-3/4" (146.05mm)
PS(N)-0FK						
PS(N)-0FA						
PS(N)-0FB						
PS(N)-0FT	X	17" (432mm)	13-3/4" (350mm)	7" (178mm)	17-3/4" (450.85mm)	11" (279.4mm)
PS(N)-0FV						
PS(N)-1FS						
PS(N)-1FR						
PS(N)-1FC	X	10" (254mm)	8-1/2" (216mm)	6-1/2" (165mm)	10-3/4" (273.05mm)	5-3/4" (146.05mm)
PS(N)-1FK						
PS(N)-1FA						
PS(N)-1FB						
PS(N)-1FT	X	17" (432mm)	13-3/4" (350mm)	7" (178mm)	17-3/4" (450.85mm)	11" (279.4mm)
PS(N)-1FV						
PS(N)-2F_	X	17" (432mm)	13-3/4" (350mm)	7" (178mm)	17-3/4" (450.85mm)	11" (279.4mm)
PS(N)-3F_	X	17" (432mm)	13-3/4" (350mm)	7" (178mm)	17-3/4" (450.85mm)	11" (279.4mm)
PS(N)-4F_	X	36" (915mm)	21-3/4" (535mm)	10" (254mm)	36-3/4" (933.45mm)	19" (482.6mm)

Dimensions

Metal-Enclosed Starters

Type 4/12 and 4X enclosure for IEC-rated combination starters



Starter Type	Dimension				
	A	B	C	D	E
PS-AFS PS-AFR PS-AFC PS-AFK PS-AFA PS-AFB	N F B M 20" (508mm)	8-1/2" (216mm)	8" (204mm)	20-3/4" (527.05mm)	5-3/4" (146.05mm)
PS-AFT PS-AFV	N F B M 28" (712mm)	13-3/4" (350mm)	7-1/2" (191mm)	28-3/4" (730.25mm)	11" (279.4mm)
PS-0FS PS-0FR PS-0FC PS-0FK PS-0FA PS-0FB	N F B M 20" (508mm)	8-1/2" (216mm)	8" (204mm)	20-3/4" (527.05mm)	5-3/4" (146.05mm)
PS-0FT PS-0FV	N F B M 28" (712mm)	13-3/4" (350mm)	7-1/2" (191mm)	28-3/4" (730.25mm)	11" (279.4mm)
PS-1FS PS-1FR PS-1FC PS-1FK PS-1FA PS-1FB	N F B M 20" (508mm)	8-1/2" (216mm)	8" (204mm)	20-3/4" (527.05mm)	5-3/4" (146.05mm)
PS-1FT PS-1FV	N F B M 28" (712mm)	13-3/4" (350mm)	7-1/2" (191mm)	28-3/4" (730.25mm)	11" (279.4mm)
PS-2F_	N F B M 28" (712mm)	13-3/4" (350mm)	7-1/2" (191mm)	28-3/4" (730.25mm)	11" (279.4mm)
PS-3F_	N F B M 28" (712mm)	13-3/4" (350mm)	7-1/2" (191mm)	28-3/4" (730.25mm)	11" (279.4mm)
PS-4F_	N F B M 48" (1220mm)	21-3/4" (553mm)	10" (254mm)	48-3/4" (1238.25mm)	19" (482.6mm)

Dimensions

Metal-Enclosed Starters

Type 4/12 and 4X enclosure for NEMA-rated combination starters

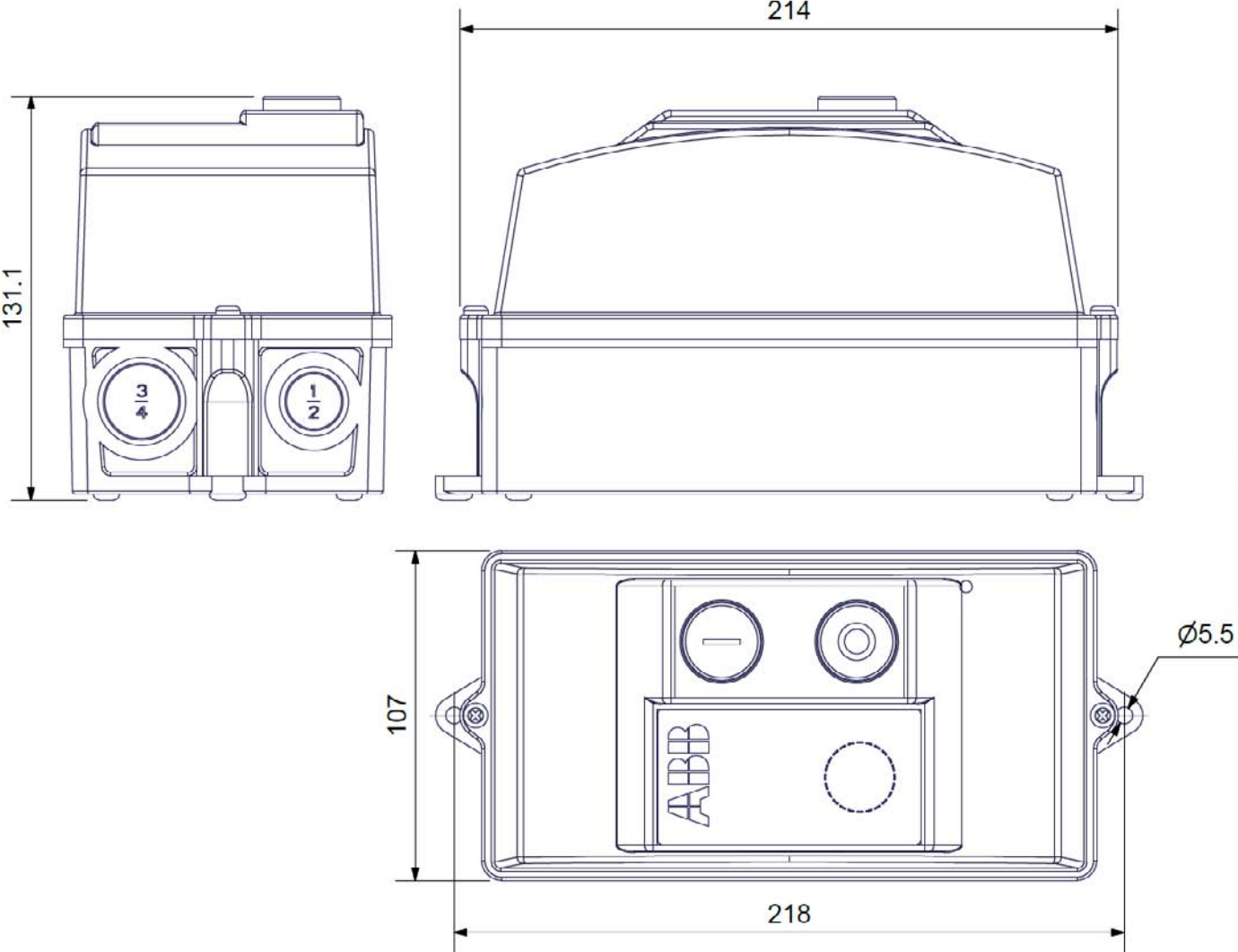


Starter Type	Dimension					
	A	B	C	D	E	
PSN-AFS	N	24"	12"	8"	25-1/2"	10-1/2"
PSN-AFC	F	(610mm)	(305mm)	(204mm)	(647.7mm)	(266.7mm)
PSN-AFR						
PSN-AFK	N	28"	18"	8"	29-1/2"	16-1/2"
PSN-AFA	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
PSN-AFB						
PSN-AFT						
PSN-AFV						
PSN-0FS	N	24"	12"	8"	25-1/2"	10-1/2"
PSN-0FC	F	(610mm)	(305mm)	(204mm)	(647.7mm)	(266.7mm)
PSN-0FR						
PSN-0FK	N	28"	18"	8"	29-1/2"	16-1/2"
PSN-0FA	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
PSN-0FB						
PSN-0FT						
PSN-0FV						
PSN-1FS	N	24"	12"	8"	25-1/2"	10-1/2"
PSN-1FC	F	(610mm)	(305mm)	(204mm)	(647.7mm)	(266.7mm)
PSN-1FR						
PSN-1FK	N	28"	18"	8"	29-1/2"	16-1/2"
PSN-1FA	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
PSN-1FB	L					
PSN-1FT						
PSN-1FV						
PSN-2F_	N	28"	18"	8"	29-1/2"	16-1/2"
	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
	L					
PSN-3F_	N	28"	18"	8"	29-1/2"	16-1/2"
	F	(712mm)	(458mm)	(204mm)	(749.3mm)	(419.1mm)
	L					
PSN-4F_	N	48"	24"	8"	49-1/2"	22-1/2"
	F	(1220mm)	(610mm)	(204mm)	(1257.3mm)	(571.5mm)
	L					

Dimensions

Plastic-Enclosed Starters

All dimensions listed on this page are in millimeteres.

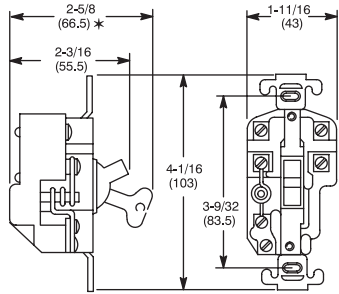


Dimensions

Single-Phase MSSP Starters (Approximate Dimensions)

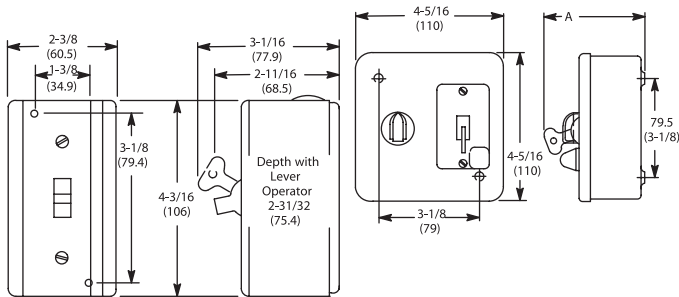
Dimensions are shown in inches (millimeters). Dimensions are not intended to be used for manufacturing purposes.

Open Type without Enclosure



Catalog Number		
MSSP-T1	MSSP-T2P	MSSP-T1P
MSSP-T2	MSSP-K2P	
MSSP-K2	MSSP-L2	

Type 1 General Purpose Enclosure Surface Mounting

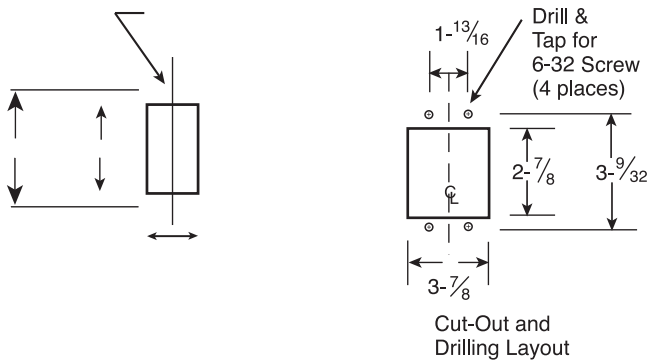


Catalog Number		
MSSP1-T1	MSSP1-T2P	MSSP1-T1P
MSSP1-T2	MSSP1-K2P	MSSP1-K2HP
MSSP1-K2	MSSP1-L1	
MSSP1-T2H	MSSP1-T2HP	
MSSP1-T2T2	MSSP1-T2PT2P	

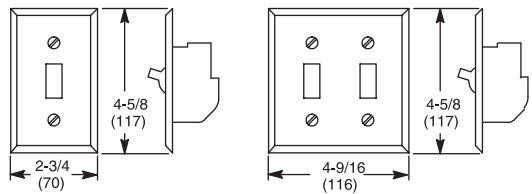
Dimension A in inches (millimeters)

Key Inserted	1-1/8 (79.5)
Selector Switch	2-3/4 (70)
Toggle Operator	2-9/16 (65)

Type 1 General Purpose Enclosure Flush Mounting



Catalog Number	
MSSP-T1S	MSSP-T2PS
MSSP-T2S	MSSP-K2PS
MSSP-K2S	MSSP-T1PS
MSSP-T2SH	MSSP-T2PT2P
MSSP-T2SHP	



System proS

Motor Rating and Rated Current

The currents shown in the table below are those given for standard three phase squirrel-cage motors. 1800 r.p.m. 60 Hz. Values quoted are for guidance only, they can vary depending on the number of poles and design.

Ampere ratings of 3 phase, AC induction motors

Horse Power	110-120V			220-240V ^{1 2}			380-415V		440-480V			550-600V		
	Single Phase	Two Phase	Three Phase	Single Phase	Two Phase	Three Phase	Single Phase	Three Phase	Single Phase	Two Phase	Three Phase	Single Phase	Two Phase	Three Phase
1/10	3.0	-	-	1.5	-	-	1.0	-	-	-	-	-	-	-
1/8	3.8	-	-	1.9	-	-	1.2	-	-	-	-	-	-	-
1/6	4.4	-	-	2.2	-	-	1.4	-	-	-	-	-	-	-
1/4	5.8	-	-	2.9	-	-	1.8	-	-	-	-	-	-	-
1/3	7.2	-	-	3.6	-	-	2.3	-	-	-	-	-	-	-
1/2	9.8	4.0	4.0	4.9	2.0	2.0	3.2	1.3	2.5	1.0	1.0	2.0	0.8	0.8
3/4	13.8	4.8	5.6	6.9	2.4	2.8	4.5	1.8	3.5	1.2	1.4	2.8	1.0	1.1
1	16	6.4	7.2	8	3.2	3.6	5.1	2.3	4	1.6	1.8	3.2	1.3	1.4
1-1/2	20	9.0	10.4	10	4.5	5.2	6.4	3.3	5	2.3	2.6	4	1.8	2.1
2	24	11.8	13.6	12	5.9	6.8	7.7	4.3	6	3	3.4	4.8	2.4	2.7
3	34	16.6	19.2	17	8.3	9.6	10.9	6.1	8.5	4.2	4.8	6.8	3.3	3.9
5	56	26.4	30.4	28	13.2	15.2	17.9	9.7	14	6.6	7.6	11.2	5.3	6.1
7-1/2	80	38	44	40	19	22	27	14	21	9	11	16	8	9
10	100	48	56	50	24	28	33	18	26	12	14	20	10	11
15	135	72	84	68	36	42	44	27	34	18	21	27	14	17
20	-	94	108	88	47	54	56	34	44	23	27	35	19	22
25	-	118	136	110	59	68	70	44	55	29	34	44	24	27
30	-	138	160	136	69	80	87	51	68	35	40	54	28	32
40	-	180	208	176	90	104	112	66	88	45	52	70	36	41
50	-	226	260	216	113	130	139	83	108	56	65	86	45	52
60	-	-	-	-	133	145	-	103	-	67	77	-	53	62
75	-	-	-	-	166	192	-	128	-	83	96	-	66	77
100	-	-	-	-	218	248	-	165	-	109	124	-	87	99
125	-	-	-	-	-	312	-	208	-	135	156	-	108	125
150	-	-	-	-	-	360	-	240	-	156	180	-	125	144
200	-	-	-	-	-	480	-	320	-	208	240	-	167	192
250	-	-	-	-	-	602	-	403	-	-	302	-	-	242
300	-	-	-	-	-	-	-	482	-	-	361	-	-	289
350	-	-	-	-	-	-	-	560	-	-	414	-	-	336
400	-	-	-	-	-	-	-	636	-	-	477	-	-	382
500	-	-	-	-	-	-	-	786	-	-	590	-	-	472

The information in this chart was derived from Table 44 & 45 of the CEC.

The voltages listed are rated motor voltages.

The full-load current values are for motors running at usual speeds and motors with normal torque characteristics.

Motors built for especially low speeds or high torques may have higher full-load currents, and multi-speed motors will have full-load currents varying with speed.

In these cases, the nameplate current ratings shall be used.

¹ To obtain full load currents for 200V and 208V motors, increase corresponding 220-240V ratings by 15% and 10%

² To obtain full load currents for 265V and 277V motors, decrease corresponding 220-240V ratings by 13% and 17%

Caution: The actual motor amps may be higher or lower than the average values listed above.

For more reliable motor protection, use the actual motor current as listed on the motor nameplate.

Use this table as a guide only

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