



EXCP Combination Enclosed Line Starters

EXCP Combination Enclosed Line Starters, offered by Spike Electric Controls, are cutting-edge electrical devices designed to ensure safe and efficient motor control. These starters are meticulously crafted to meet the highest industry standards, providing reliable operation and protection for a wide range of industrial applications. With a focus on quality and innovation, Spike Electric Controls' EXCP line starters are an essential component for optimizing electrical systems and enhancing operational safety.





EXCP

Combination Enclosed Line Starters

EATON

BY **SPiKE** ELECTRIC CONTROLS



Standard Materials:

- Body & cover - Copper free aluminum
- Gasket - Neoprene
- Cover bolts
- Hinges - Aluminum

Electrical Ratings Range:

- Motor starters - NEMA/EEMAC sizes 0-6
- Circuit breakers - 100, 150, 225, 250, 400, 600, 800, 1200 ampere frame sizes
- Motor circuit protectors - 150, 250, 400 ampere frame sizes 1000 Ampere Frame (max. 800 ampere trip)

Features, Benefits & Functions:

- Rugged, corrosion resistant, cast copper-free aluminum construction
- Circuit breaker handle with lock out tag out (for combo starters only)
- Total compliance to the wiring bend room requirements of the National Electrical Code*/Canadian Electrical Code
- Circuit breaker motor circuit protector external operating handle can be padlocked in either "ON" or "OFF" positions
- NEMA 4 watertight cover gasket permanently attached to the cover seals out moisture
- Bodies have top & bottom drilled & tapped entrances for power conduits plus one at the bottom for control conduit.
- Tap-on mounting feet - Retro fit mounting hardware kits are made for the EXCP line enclosures to mount directly in the same footprint as the listed manufacturer.
- Optional EXCP control devices may be added to enclosure cover
- Designed specifically for use in applications requiring NEMA ratings. Contactors meet or exceed NEMA standards ICS 2-1993
- Long life twin break, silver cadmium oxide contacts—provide excellent conductivity & superior resistance to welding & arc erosion
- Designed to 3,000,000 electrical operations at maximum hp ratings up through 25 hp at 600V

Applications:

EXCP hinged cover motor control enclosures are used:

1. For general motor control & circuit protection - indoors & outdoors - in damp, wet, dirty, dusty hazardous locations without the need for a protective shelter
2. In areas where frequent wash-downs are necessary or where heavy rain or water spray is prevalent
3. For across-the-line starting, stopping, speed changing & reversing of polyphase AC induction motors
4. To provide line disconnect means & short circuit protection
5. To provide motor overload & under voltage protection
6. For service entrance, feeder or branch circuit protection for lighting, heating, appliance & motor circuits
7. On switchracks or other assemblies where it's desired that motor control be centrally located

Certifications & Compliances:

- NEC/CEC:
- Class I, Division 1 & 2, Groups B, C, D
- Class II, Division 1 & 2, Groups E, F, G
- Class III
- cUL & UL Standard 1203
- NEMA Type 3, 3R, 4, 7BCD, 9EFG
- Standard: designed to meet or exceed UL, NEMA, IEC, cUL, VDE & BS

EXCP series motor control enclosures with combination line starters:

When specifying any one of the following options with EXCP Motor Controls (J1, J3, PB23, RR2, RR3), we will put standard industry legend plates. If there is a specific legend plate you require it is necessary to Specify Legend Plates for identification & marking on the end of your part number see page 8

Ordering Information:

To order a complete combination starter insert the manufacturer's symbols in the ❶ & ❷ of the catalog number. Select from the manufacture listings below. Instantaneous magnetic trip circuit breakers (magnetic circuit interrupters) can be supplied. Consult factory. For combination starters with motor circuit protectors for single speed, non-reversing & reversing motors insert MCP before the ❷ circuit breaker manufacturer. The standard coil voltage is 120V if not specified. *All EXCP combination starters will have CPT rated 480v-120/240v.



* National Electrical Code is a Registered Trademark of the National Fire Protection Association.



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Catalog Number System

EXCP-B-1-WT-FTPS50-MCP-3A-34-SSOL-A

Enclosure

Cat #	Description
B	Size 0-1 combo
B	Size 2 combo compact
D	Size 2 combo
G	Size 3 combo
E	Size 4 combo
M	Size 5 combo
OB	Size 0-1 oversized
OD	Size 2 oversized
OE	Size 3-4 oversized

* 0 - FOR ROOM TO ADD FUTURE COMPONENTS IN THE FIELD

Adder For Other Disconnects:

MCP	Motor circuit protector
FC	Fused disconnect
NF	Non fused disconnect

* STANDARD DISCONNECT IS THERMAL MAG BREAKER

Motor Starters Accessories Suffix

* PLACE A DASH (-) BETWEEN EACH OPTION IN THE ORDER LISTED BELOW

Less overload relays (lighting contactor)	CL
Less overload relays (motor contactor)	CM
Starter w/ electronic ground fault overload relay	GF
Additional control contacts, N.O.	S779
Additional control contacts, N.C.	S780
Auxiliary contacts on starter 1 N.O. & 1 N.C	S781
Auxiliary contacts on starter 2 N.O. & 2 N.C	S782
Auxiliary contacts on starter 3 N.O. & 3 N.C	S783
Solid state overload relay	SSOL
Bl metallic overload relay	BI
Electronic thermal overload relay	ETOR



NEMA Size

1	4
2	5
3	6

Disconnect AMP Rating

3AMP - 600 AMP

EXCP - B - 1 - WT - FTSP50 - MCP - 3A - 34 - SSOL - A

Brand Suffix

* PLACE A DASH (-) BETWEEN EACH OPTION IN THE ORDER LISTED BELOW

Cutler-Hammer	WT
Square D	D

Additions to Circuit Breaker of Fused Non-Fused

Ambient compensated circuit breaker trip setting	AC
Auxiliary switch on Circuit Breaker	S784
1A & 1B contacts	S785
Auxiliary switch on Circuit Breaker	S785
2A & 2B contacts	S785
Shunt trip on Circuit Breaker	S87
Bell Alarm on Circuit Breaker	S88

Enclosure Modifications & Accessories

* PLACE A DASH (-) BETWEEN EACH OPTION IN THE ORDER LISTED BELOW

Control circuit transformer, 50VA for NEMA/EEMAC sizes 0-2, 600/480/240-120, 50 / 60 Hertz, with provision for fusing both primary leads & one secondary lead	FTPS50
Control circuit transformer, 100VA for NEMA/EEMAC sizes 0-2, 600/480/240-120, 50 / 60 Hertz, with provision for fusing both primary leads & one secondary lead	FTPS100
Control circuit transformer, 200VA for NEMA/EEMAC size 3-4 600/480/240-120, 50 / 60 Hertz, with provision for fusing both primary leads & one secondary lead	FTPS200
Control circuit transformer, 300VA for NEMA/EEMAC size 5 600/480/240-120, 50 / 60 Hertz, with provision for fusing both primary leads & one secondary lead	FTPS300
Pilot light, 120VAC, red jewel, w/blank indicating plate	J1
Pilot light, 120VAC, green jewel, w/blank indicating plate	J3
LED pilot lights (in place of standard incandescent lamps)	LED
Pilot light push to test, 120VAC, Red or Green *R or G	J3PT
Start-stop pushbuttons	PB23
Red pushbutton	PB24
Green pushbutton	PB25
On-off selector switch	RR2
Hand-off-auto selector switch	RR3
Emergency stop maintained	EMS
Space heater, 120 Volt, 25 Watts	R11
Space heater, 240 Volt, 25 Watts	R22
Space heater, 480 Volt, 25 Watts	R44
Automatic reset overload relay	S1
Insulated neutral w/2 connectors	S146
Std. drain, class 1, B,C & D; class 11, E, F & G; class 111	S756
Std. breather & drain, class 1, B, C & D; class 11, E, F & G; class 111	S756V
External epoxy finish	S752
Internal & external epoxy finish	S753
12 Point term. block - 30 amp, 300V	S786
General purpose control relay, 4 pole N.O., contacts rated 10A, 600V, coil 120VAC	GCR
Bell alarm on circuit breaker	BA

Wiring Systems

- 3 - 3 Phase
- 1 - Single Phase

Breaker Voltage

- 2 - 240V
- 4 - 480V
- 6 - 600V

AC Coil Suffix symbol

* PLACE A DASH (-) BETWEEN EACH OPTION IN THE ORDER LISTED BELOW

WT	
120/60 or 110/50	A
240/60 or 220/50	B
480/60 or 440/50	C
600/60 or 550/50	D

DC Coil Suffix Symbol

12VDC	F
24VDC	G
48VDC	M
120VDC	P

Legend Plates

* SEE PAGE 8

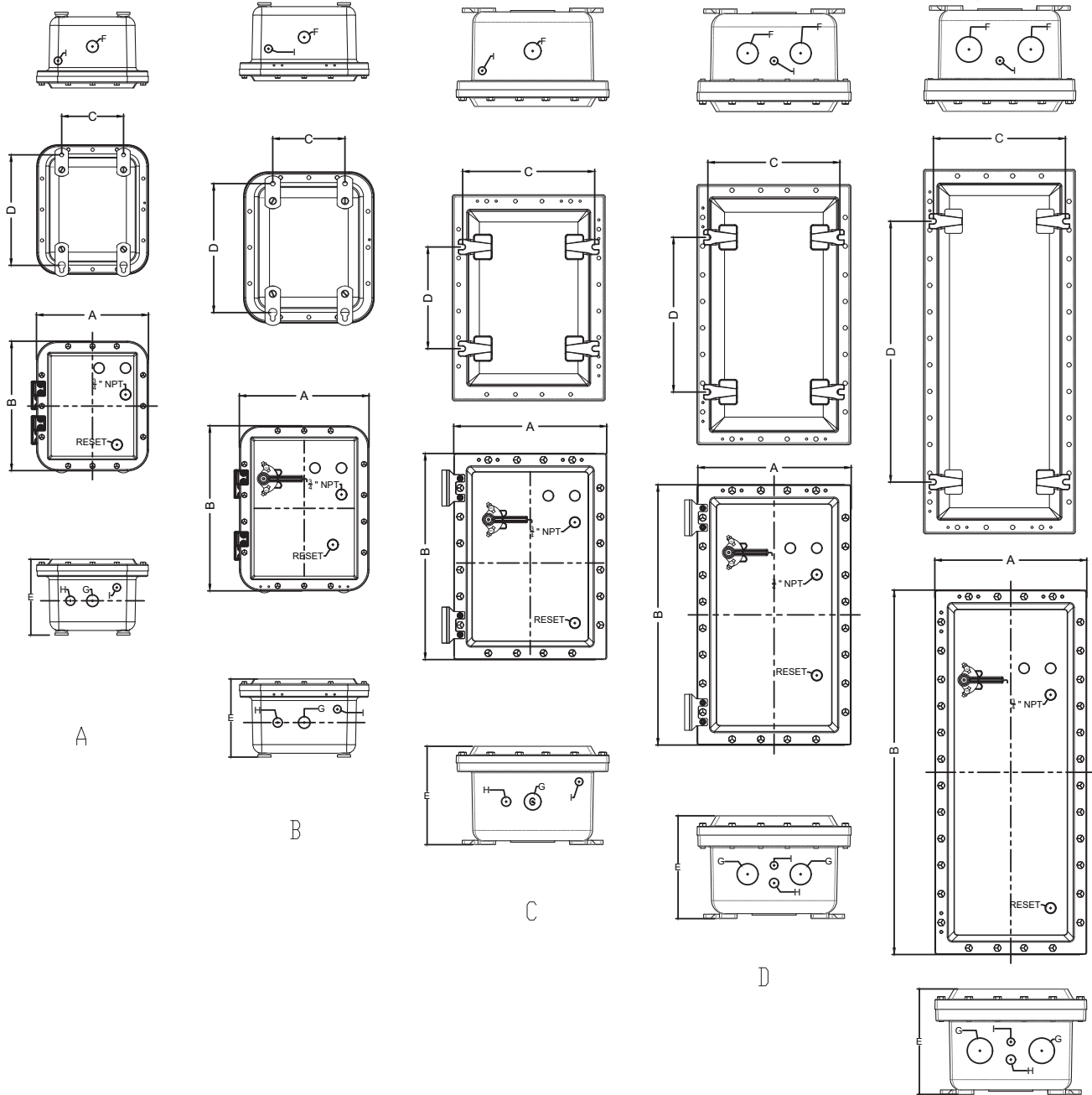


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Size/Type	Enclosure Cat #	FIG#	Nominal inside dimensions			Nominal dimensions in inches					Conduit sizes		
			W	H	D	A	B	C	D	E	F&G	H	I
SIZE 0-1 COMBO		B	10	14	6	14-21/32	18-21/32	13-1/8	13	8-15/32	1"	3/4"	1/2"
SIZE 2 COMBO COMPACT		B	10	14	6	14-7/11	18-21/33	13-1/8	13	8-15/32	1"	3/4"	1/2"
SIZE 2 COMBO		C	12	18	8	17-1/8	23-1/8	14-15/16	12	11-1/8	1-1/2"	3/4"	1/2"
SIZE 3 COMBO		C	12	18	8	17-1/8	23-1/8	14-15/16	12	11-1/8	2-1/2"	3/4"	1/2"
SIZE 4 COMBO		D	12	24	8	17-1/4	29-1/4	14-15/16	18	11-5/8	(2) 2"	3/4"	1/2"
SIZE 5 COMBO		E	18	36	8	23-21/32	41-21/32	22-3/8	30	12-39/64	(2) 2-1/2"	3/4"	1/2"
SIZE 0-1 STARTER		A	8	10	6	12-21/32	14-21/32	11-1/8	9	8-9/16	1"	3/4"	1/2"
SIZE 2 STARTER		A	8	10	6	12-21/32	14-21/32	11-1/8	9	8-9/16	1"	3/4"	1/2"
SIZE 3-4 STARTER		C	12	18	8	17-1/8	23-1/8	14-15/16	12	11-1/8	1-1/2"	3/4"	1/2"
SIZE 5 STARTER		D	12	24	8	17-1/4	29-1/4	14-15/16	18	11-5/8	(2) 2"	3/4"	1/2"
SIZE 0-1 REVERSING STARTER		B	10	14	6	14-21/32	18-21/32	13-1/8	13	8-15/32	1"	3/4"	1/2"
SIZE 2 REVERSING STARTER		B	10	14	6	14-21/32	18-21/32	13-1/8	13	8-15/32	1"	3/4"	1/2"
SIZE 3-4 REVERSING STARTER		D	12	24	8	17-1/4	29-1/4	14-15/16	18	11-5/8	(2) 2"	3/4"	1/2"
SIZE 5 REVERSING STARTER		F	12	36	8	17-1/5	41-2/9	14-7-9	30	12	(2) 2-1/2"	3/4"	1/2"



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**Single-Speed Non-Reversing & Reversing with Circuit Breakers
3-Pole 60 hertz, 600VAC Maximum**

Motor Starter		Circuit Breaker				Enclosure	
Max. Hp	Line	Nema	Amp	Frame	Frame	Without Breaker	With Breaker
Polyphase	Volts	Size	Rating	Volts	Types	& Starter Cat. #	& Starter Cat. #
2	120	0	30	240	EGE	EXCPB	EXCPB0 130 232 3-4
2	120	0	30	480	EGE	EXCPB	EXCPB0 130 234 3-4
2	120	0	30	600	EGE	EXCPB	EXCPB0 130 236 3-4
3	240	0	20	240	EGE	EXCPB	EXCPB0 120 232 3-4
3	240	0	20	480	EGE	EXCPB	EXCPB0 120 234 3-4
3	240	0	20	600	EGE	EXCPB	EXCPB0 120 236 3-4
5	480	0	15	480	EGE	EXCPB	EXCPB0 115 234 3-4
5	480	0	15	600	EGE	EXCPB	EXCPB0 115 236 3-4
5	600	0	15	600	EGE	EXCPB	EXCPB0 115 236 3-4
5	240	1	30	240	EGE	EXCPB	EXCPB1 130 232 3-4
5	240	1	30	480	EGE	EXCPB	EXCPB1 130 234 3-4
5	240	1	30	600	EGE	EXCPB	EXCPB1 130 236 3-4
7 1/2	240	1	50	240	EGE	EXCPB	EXCPB1 150 232 3-4
7 1/2	240	1	50	480	EGE	EXCPB	EXCPB1 150 234 3-4
7 1/2	240	1	50	600	EGE	EXCPB	EXCPB1 150 236 3-4
10	480	1	30	480	EGE	EXCPB	EXCPB1 130 234 3-4
10	480	1	30	600	EGE	EXCPB	EXCPB1 130 236 3-4
10	600	1	30	600	EGE	EXCPB	EXCPB1 130 236 3-4
10	240	2	50	240	EGE	EXCPB	EXCPD2 150 232 3-4
10	240	2	50	480	EGE	EXCPB	EXCPD2 150 234 3-4
10	240	2	50	600	EGE	EXCPB	EXCPD2 150 236 3-4
15	240	2	70	240	EGE	EXCPB	EXCPD2 170 232 3-4
15	240	2	70	480	EGE	EXCPB	EXCPD2 170 234 3-4
15	240	2	70	600	EGE	EXCPB	EXCPD2 170 236 3-4
15	480	2	40	480	EGE	EXCPB	EXCPD2 150 234 3-4
15	480	2	40	600	EGE	EXCPB	EXCPD2 150 236 3-4
15	600	2	40	600	EGE	EXCPB	EXCPD2 150 236 3-4
20	480	2	50	480	EGE	EXCPB	EXCPD2 150 234 3-4
20	480	2	50	600	EGE	EXCPB	EXCPD2 150 236 3-4
20	600	2	50	600	EGE	EXCPB	EXCPD2 150 236 3-4
25	480	2	70	480	EGE	EXCPB	EXCPD2 170 234 3-4
25	480	2	70	600	EGE	EXCPB	EXCPD2 170 236 3-4
25	600	2	70	600	EGE	EXCPB	EXCPD2 170 236 3-4
20	240	3	90	240	EGE	EXCPG	EXCPG3 190 232 3-4
25	240	3	100	240	EGE	EXCPG	EXCPG3 1100 232 3-4
30	240	3	125	480	EGE	EXCPG	EXCPG3 1125 234 3-4
30	480	3	70	480	EGE	EXCPG	EXCPG3 170 234 3-4
30	480	3	70	600	EGE	EXCPG	EXCPG3 170 236 3-4
30	600	3	70	600	EGE	EXCPG	EXCPG3 170 236 3-4
40	480	3	90	480	EGE	EXCPG	EXCPG3 190 234 3-4
40	480	3	90	600	EGE	EXCPG	EXCPG3 190 236 3-4
40	600	3	90	600	EGE	EXCPG	EXCPG3 190 236 3-4
50	480	3	100	480	EGE	EXCPG	EXCPG3 1100 234 3-4
50	480	3	100	600	EGE	EXCPG	EXCPG3 1100 236 3-4
50	600	3	100	600	EGE	EXCPG	EXCPG3 1100 236 3-4
40	240	4	175	600	FD	EXCPE	EXCPE4 1175 236 3-4
50	240	4	200	600	FD	EXCPE	EXCPE4 1200 236 3-4
60	480	4	125	600	EGE	EXCPE	EXCPE4 1125 236 3-4
60	600	4	100	600	EGE	EXCPE	EXCPE4 1100 236 3-4
75	480	4	150	600	FD	EXCPE	EXCPE4 1150 236 3-4
75	600	4	125	600	EGE	EXCPE	EXCPE4 1125 236 3-4
100	480	4	200	600	FD	EXCPE	EXCPE4 1200 236 3-4
100	600	4	150	600	FD	EXCPE	EXCPE4 1150 236 3-4
125	480	5	225	600	FD	EXCPM	EXCPM5 1225 236 3-4
150	480	5	250	600	KD	EXCPM	EXCPM5 1250 236 3-4
200	480	5	400	600	KD	EXCPM	EXCPM5 1400 236 3-4



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NOTE: EXCP is available up to 200 HP. For HP over 200 contact Spike Electric Controls factory assistance.

Motor Starter Fused Disconnect			Fusible Disconnect Switch			
Max. Hp Polyphase	Line Volts	NEMA Size	Amp Rating	Max. Volts	Switch Type	With Disconnect Switch & Starter Cat. #
5	600	0	30	600	3710-3003	EXCP0FD 1FD30J 236 3-4
10	600	1	30	600	3710-3003	EXCP1FD 1FD30J 236 3-4
25	600	2	60	600	3861-3005	EXCP2FD 1FD60J 236 3-4
30	600	3	100	600	3861-3010	EXCP3FD 1FD100J 236 3-4
100	600	4	200	600	3861-3020	EXCP4FD 1FD200J 236 3-4
150	600	5	400	600	3851-3038	EXCP5FD 1FD400J 236 3-4
200	600	5	400	600	3850-3038	EXCP5FD 1FD400J 236 3-4

Motor Starter Non-Fused Disconnect			Non-Fused Disconnect Switch			
Max. HP Polyphase	Line Volts	NEMA Size	Amp Rating	Max. Volts	Switch Type	With Disconnect Switch & Starter Cat. #
5	600	0	30	600	22013003	EXCPB0NF 130J 236 3-4
10	600	1	30	600	22013002	EXCPB1NF 130J 236 3-4
25	600	2	60	600	22013006	EXCPD2NF 160J 236 3-4
30	600	3	100	600	22003010	EXCP3NF 1100J 236 3-4
100	600	4	200	600	27003021	EXCP4NF 1200J 236 3-4
150	600	5	400	600	27003041	EXCP5NF 1400J 236 3-4
200	600	5	400	600	27003080	EXCP5NF 1400J 236 3-4

NEMA Size	Without Non-Fused Switch & Starter Cat. #
0	EXCPB NF
1	EXCPB NF
2	EXCPB NF
3	EXCPG NF

Non-Fused Disconnect Switch			With Disconnect Switch & Starter Cat. #	
Amp Rating	Max. Volts	Switch Type		
30	600	22013003	EXCPB0NF 130J 236 3-4	
30	600	22013002	EXCPB1NF 130J 236 3-4	
60	600	22013006	EXCPD2NF 160J 236 3-4	
100	600	22003010	EXCP3NF 1100J 236 3-4	
200	600	27003021	EXCP4NF 1200J 236 3-4	
400	600	27003041	EXCP5NF 1400J 236 3-4	
800	600	27003080	EXCP5NF 1800J 236 3-4	

NEMA Size	Without Switch & Starter Cat. #
0	EXCPEGB FD
1	EXCPEGB FD
2	EXCPEGB FD
3	EXCPFG FD

NOTE: EXCPS is available up to 400 HP contact Spike Electric Controls factory assistance.





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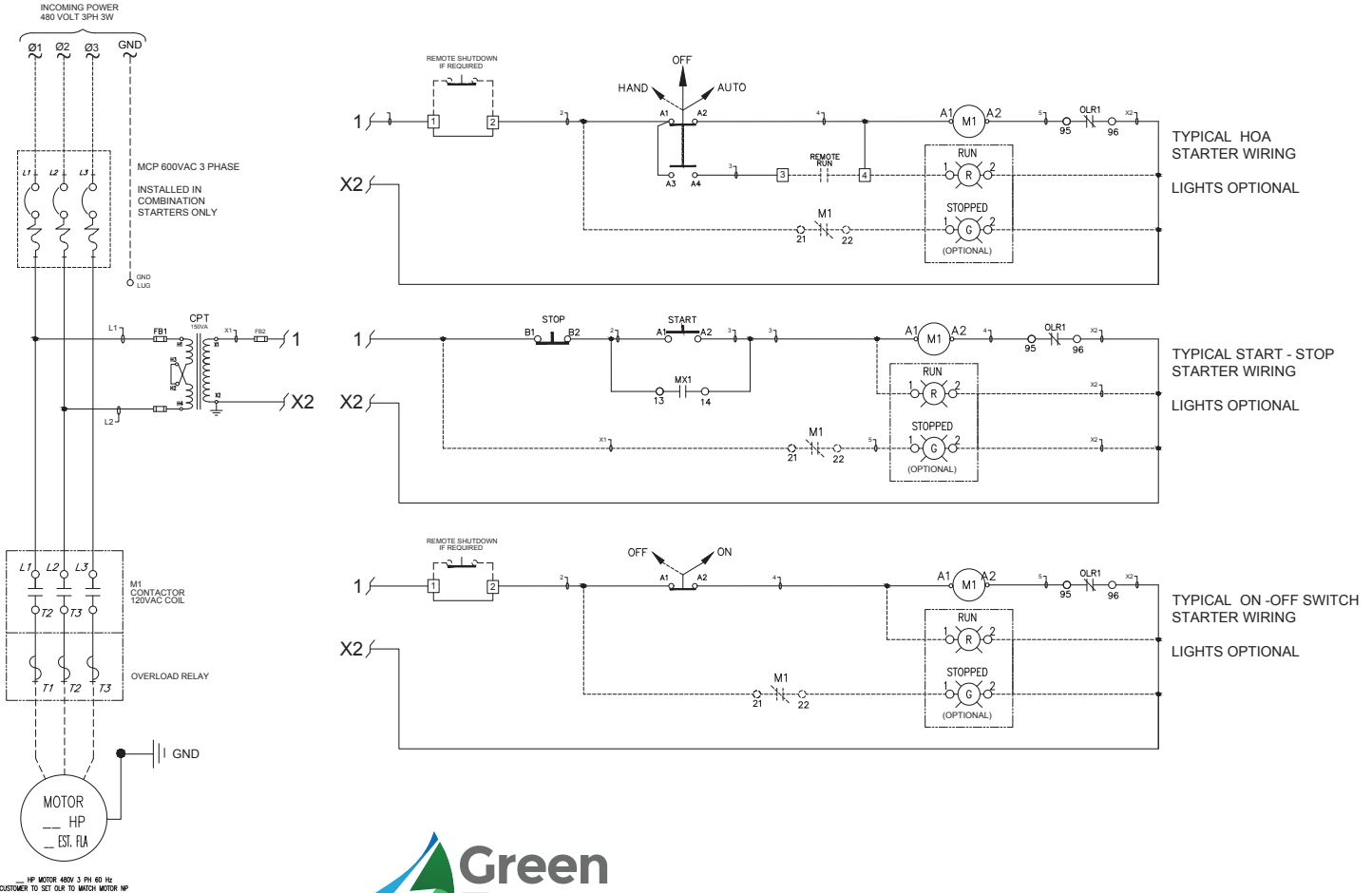
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Standard Wiring Schematic:

NOTES:

- 1) All power wiring/cable will be 600 VAC type THW / THWN or equal.
- 2) All power wiring to be minimum #12 AWG & color to be Black
- 3) All ground conductors to be Green #12 AWG minimum Type THW / THWN
- 4) All control wiring to be sized per the drawings & to be 600 va. Type MTW / THNN or equal minimum #14 AWG. Control wires to be red or gray in color.
- 5) Panel to include grounding lug for customer ground connections. Customer to size grounding conductor per NEC regulations.
- 6) Installer MUST set Overload Relay to match Motor NP Data.



Green Energy Efficient: EXCP Combination Enclosed Line Starters by Spike Electric Controls are renowned for their green energy efficiency. These line starters incorporate advanced technologies and designs that minimize energy wastage during motor control operations. They are equipped with energy-saving features such as efficient contactors and thermal overload relays, which reduce power consumption and heat generation. Additionally, their precise control capabilities result in smoother motor operation, further enhancing energy efficiency. By promoting energy conservation and reducing carbon footprint, these line starters contribute to a greener, more sustainable electrical infrastructure, making them a preferred choice for environmentally-conscious industries and applications.



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Legend Plates:

If desired markings on indicating plates may be added to catalog number after the coil voltage designation. Put a – after the coil voltage & any legend plates that are selected. Select from the list of standard markings below.

Single Function Legend Plates

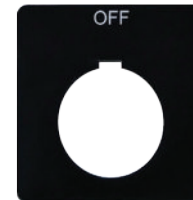
Marking	Cat. #
Automatic	DSL16
Blank	DSL01
Blank with single field	DSL02
Close	DSL21
Down	DSL23
Emerg. Stop	DSL17
Fast	DSL46
Forward	DSL18
Hand	DSL15
In	DSL24
Jog	DSL10
Lower	DSL27
On	DSL07
Off	DSL08
Open	DSL20
Out	DSL25
Power On	DSL14
Raise	DSL26
Reset	DSL12
Reverse	DSL19
Run	DSL09
Safe	DSL85
Slow	DSL47
Start	DSL05
Stop	DSL06
Test	DSL13
Trip	DSL11
Up	DSL22

TWO Function Legend Plates

Marking	Cat. #
Blank with 2 fields	DSL03
For –Rev	DSL30
Hand-Auto	DSL29
In-Out	DSL35
Off-On	DSL48
Open-Close	DSL32
Raise Lower	DSL36
Run-Jog	DSL28
Safe-Run	DSL86
Start-Stop	DSL37
Slow-Fast	DSL65
Up-Down	DSL33

Three Function Legend Plates

Marking	Cat. #
Auto-Off-Hand	DSL49
Blank with 3 fields	DSL04
Fast-Off-Slow	DSL41
For-Off-Rev	DSL40
Hand-Off-Auto	DSL39
Run-Off-Jog	DSL38
Open-Off-Close	DSL43
Raise-Off-Lower	DSL87
Slow-Off-Fast	DSL88
Up-Off-Down	DSL44
1-Off-2	DSL42



Background color for all legend plates is black with the following exceptions:

Marking	Cat. #
Start	Green
Stop	Red
Emerg.Stop	Red





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RFQ Questionnaire

Customer: _____

End User: _____

Project: _____

Location: _____

Prepared By: _____

Date: ____/____/____

Quotation For: ____ Estimate/Budget ____ Immediate Buy

Quotation Date Required: ____/____/____

Material Date Required: ____/____/____

Notes: _____

For Motor Starters:

System Voltage

480 V

Motor HP _____

240 V

Three Phase

Other: _____

Single Phase

Control Voltage

120

Other: _____

Enclosure Types:

NEMA 7/9

NEMA 7/9 (with gasketed cover)

Class 1 Div 1 or 2 Groups B, C & D

Class 1 Div 1 or 2 Groups E, F & F

ATEX & IECEX must consult factory

Zone 1 Zone 2

Main Disconnects:

Manufacturer: _____

Disconnect Switch

Circuit Breaker T/M

Fused Disconnect Switch

C/B Amp Rating ____AMP

Motor Circuit Protector

Standard products for hazardous areas:

Manual Motor Starters

Circuit Breaker Disconnects

FVNR & FVR Motor Starters

Custom Distribution Panels

Motor Soft Starters

Standard Distribution Panels

Manual Disconnect Switches

Starter(s):

Manufacturer: _____

Type: NEMA IEC

CPT for 120 volt Control Power _____ VA

Optional Controls:

Start / Stop Push Button

RVSS Reduced Voltage Solid State Starter

Hand - Off _ Auto Selector Switch

FVR Full Voltage REVERSING Starter

Pilot Light

Two Speed Motor (2S2W/2S1W)

FVNR Full Voltage Non Reversing Starter

Other: _____

Soft Start: _____

Manufacturer: _____

Soft Start: _____

Manufacturer: _____

