

Pow-R-Xpress

Pow-R-Xpress quick selector reference guide

Frequently used distribution and control products available from distributor stock



Powering Business Worldwide





Pow-R-Xpress panelboards

Application considerations for proper selection	4
Catalog numbering system—Pow-R-Xpress panelboard interiors.....	4
Branch circuit breakers	4
Pow-R-Xpress unassembled panelboards—EZ Box™ and EZ Trim™.....	5
Lug kits and accessories	6
Convertible main circuit breaker kits—single-phase or three-phase	6
Pow-R-Xpress pilot program distributor actions	7



Safety switches/disconnects

Application considerations for proper selection	8
Catalog numbering system—safety switches.....	8
General-duty safety switches (disconnects)	8
Heavy-duty safety switches (disconnects)	9
Safety switch kits	9



Transformers

Application considerations for proper selection	10
Catalog numbering system—DOE 2016 ventilated transformers	10
Catalog numbering system—encapsulated transformers.....	10
General-purpose transformers.....	11
General-purpose transformers sizing tables.....	11



Enclosed control

Application considerations for proper selection	12
Catalog numbering system—non-combination and combination NEMA enclosed starters	12
Starters	12
Catalog numbering system—enclosed lighting contactors	13
Lighting contactors	13



Pushbutton stations and pushbuttons

Application considerations for proper selection	14
30 mm pushbutton stations	14
22 mm pushbutton stations	14
Pushbutton components	14



Manual starters

Application considerations for proper selection	15
Manual starters	15



Three-phase loadcenters

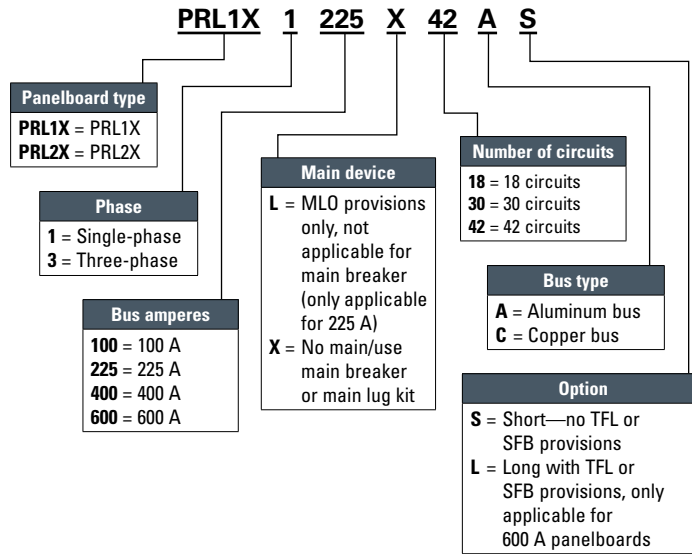
Application considerations for proper selection	16
CH Legacy loadcenters	16
CH Legacy indoor covers (ordered separately)	16
Single-phase and three-phase legacy loadcenters	16
120/208 Vac three-phase, four-wire applications	16

Pow-R-Xpress panelboards

Application considerations for proper selection

- What is your panelboard type, voltage and phase?
 - PRL1X = 120/240 V single-phase, three-wire
 - PRL1X = 208/120 V three-phase, four-wire
 - PRL2X = 480/277 V three-phase, four-wire
- Bus amperes?
 - 100 A
 - 225 A
 - 400 A
 - 600 A
- Main lugs only (MLO) or main circuit breaker?
 - MLO
 - MCB (choose amperage and top or bottom)
- What is the number of “branch” circuits?
 - 18
 - 30
 - 42
- What is your bus type?
 - Aluminum
 - Copper
- Other options?
 - Short
 - Long (with TFL or SFB provisions)

Catalog numbering system—Pow-R-Xpress panelboard interiors



Branch circuit breakers

Summary of branch breakers available

Breaker	No. of poles	Ampere rating	Voltage	kAIC rating	Example	Panelboard type
BAB ①②	1	15–70	120	10	BAB1020	PRL1X
	2	15–100	120/240	10	BAB2020	PRL1X
	2	15–100	240	10	BAB2040H	PRL1X
	3	15–100	240	10	BAB3030H	PRL1X
QBAF	1	15–20	120	10	QBAF1020	PRL1X
QB-AFGF	1	15–20	120	10	QB1015AFGF	PRL1X
QB-CAF	1	15–20	120	22	QB1020CAF	PRL1X
QBH-CAF	1	15–20	120	10	QBH1020CAF	PRL1X
QB-GF	1	15–20	120	22	QB1020GF	PRL1X
QBGFT	1	15–40	120	10	QBGFT1020	PRL1X
	2	15–50	120/240	10	QBGFT2040	PRL1X
QBHGFT	1	15–30	120	22	QBHGFT1020	PRL1X
	2	15–30	120/240	22	QBHGFT2020	PRL1X
QBGFEP	2	15–50	120/240	10	QBGFEP2020	PRL1X
QBH-EP	1	15–30	120	22	QBH1020EP	PRL1X
QBHGFEF	2	15–30	120/240	22	QBHGFEF2020	PRL1X
QBHW ①	1	15–70	120	22	QBHW1020	PRL1X
	2	15–100	120/240	22	QBHW2020	PRL1X
	2	15–100	240	22	QBHW2040H	PRL1X
	3	15–100	240	22	QBHW3030H	PRL1X
GHQ ①	1	15–20	277	14	GHQ1020	PRL2X
GHB ①②	1	15–100	277	14	GHB1020	PRL2X
	2	15–100	480Y/277	14	GHB2040	PRL2X
	3	15–100	480Y/277	14	GHB3060	PRL2X

① BAB, QBHW, GHQ and GHB breakers installed in PRL1X and PRL2X are available with shunt trip, i.e., BAB1020S.

② BAB-H, QBHW-H and GHB 50–100 A available as chassis-mounted main device.

Pow-R-Xpress unassembled panelboards—EZ Box™ and EZ Trim™

Box, interior and trim color match the grouping in the chart.

Capability						Catalog numbers					
Ampere rating	Max. number of poles	Main lugs	Main breaker	Through-feed ugs	Sub-feed breaker (225 A max.)	Interiors (less main device)		Boxes	Trims (NEMA® 1)		NEMA 3R enclosures
						Aluminum bus	Copper bus	NEMA 1	Surface	Flush	
Single-phase, three-wire 120/240 Vac											
100	18	■	■	■	N/A	PRL1X1100X18A	PRL1X1100X18C	EZB2036RBS	EZT2036S	EZT2036F	GWPBQ2036PR
100	30	■	■	■	100	PRL1X1100X30A	PRL1X1100X30C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
100	42	■	■	■	N/A	PRL1X1100X42A	PRL1X1100X42C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	30	■	■	■	100, 125, 150, 175, 200, 225	PRL1X1225X30A	PRL1X1225X30C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	42	■	■	N/A	N/A	PRL1X1225X42AS ①	PRL1X1225X42CS ①	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	42	■	■	■	100, 125, 150, 175, 200, 225	PRL1X1225X42A	PRL1X1225X42C	EZB2060RBS	EZT2060S	EZT2060F	GWPBQ2060PR
400	42	■	■	N/A	N/A	PRL1X1400X42AS ①	PRL1X1400X42CS ①	EZB2060RBS	EZT2060S	EZT2060F	GWPBQ2060PR
400	42	■	■	■	100, 125, 150, 175, 200, 225	PRL1X1400X42A	PRL1X1400X42C	EZB2072RBS	EZT2072S	EZT2072F	GWPBQ2072PR
600	42	■	■	■	N/A	—	PRL1X1600X42C	EZB2072RBS	EZT2072R	EZT2072F	GWPBQ2072PR
600	42	■	■	■	100, 125, 150, 175, 200, 225, 250, 300, 350, 400	—	PRL1X1600X42CL	EZB2090RBS	EZT2090S	EZT2090F	GWPBQ2090PR
Three-phase, four-wire 208Y/120 Vac											
100	18	■	■	■	N/A	PRL1X3100X18A	PRL1X3100X18C	EZB2036RBS	EZT2036S	EZT2036F	GWPBQ2036PR
100	30	■	■	■	100	PRL1X3100X30A	PRL1X3100X30C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
100	42	■	■	■	N/A	PRL1X3100X42A	PRL1X3100X42C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	30	■	■	■	100, 125, 150, 175, 200, 225	PRL1X3225X30A	PRL1X3225X30C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	42	■	N/A	N/A	N/A	PRL1X3225L42AS ①	PRL1X3225L42CS ①	EZB2042RBS	EZT2042S	EZT2042F	GWPBQ2042PR
225	42	■	■	N/A	N/A	PRL1X3225X42AS ①	PRL1X3225X42CS ①	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	42	■	■	■	100, 125, 150, 175, 200, 225	PRL1X3225X42A	PRL1X3225X42C	EZB2060RBS	EZT2060S	EZT2060F	GWPBQ2060PR
400	42	■	■	N/A	N/A	PRL1X3400X42AS ①	PRL1X3400X42CS ①	EZB2060RBS	EZT2060S	EZT2060F	GWPBQ2060PR
400	42	■	■	■	100, 125, 150, 175, 200, 225	PRL1X3400X42A	PRL1X3400X42C	EZB2072RBS	EZT2072S	EZT2072F	GWPBQ2072PR
600	42	■	■	■	N/A	—	PRL1X3600X42C	EZB2072RBS	EZT2072R	EZT2072F	GWPBQ2072PR
600	42	■	■	■	110, 125, 150, 175, 200, 225, 250, 300, 350, 400	—	PRL1X3600X42CL	EZB2090RBS	EZT2090S	EZT2090F	GWPBQ2090PR
Three-phase, four-wire 480Y/277 Vac											
100	18	■	■	■	N/A	PRL2X3100X18	PRL2X3100X18C	EZB2036RBS	EZT2036S	EZT2036F	GWPBQ2036PR
100	30	■	■	■	100	PRL2X3100X30A	PRL2X3100X30C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
100	42	■	■	■	N/A	PRL2X3100X42A	PRL2X3100X42C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	30	■	■	■	100, 125, 150, 175, 200, 225	PRL2X3225X30A	PRL2X3225X30C	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	42	■	N/A	N/A	N/A	PRL2X3225L42AS ①	PRL2X3225L42CS ①	EZB2042RBS	EZT2042S	EZT2042F	GWPBQ2042PR
225	42	■	■	N/A	N/A	PRL2X3225X42AS ①	PRL2X3225X42CS ①	EZB2048RBS	EZT2048S	EZT2048F	GWPBQ2048PR
225	42	■	■	■	100, 125, 150, 175, 200, 225	PRL2X3225X42A	PRL2X3225X42C	EZB2060RBS	EZT2060S	EZT2060F	GWPBQ2060PR
400	42	■	■	N/A	N/A	PRL2X3400X42AS ①	PRL2X3400X42CS ①	EZB2060RBS	EZT2060S	EZT2060F	GWPBQ2060PR
400	42	■	■	■	100, 125, 150, 175, 200, 225	PRL2X3400X42A	PRL2X3400X42C	EZB2072RBS	EZT2072S	EZT2072F	GWPBQ2072PR
600	42	■	■	■	N/A	—	PRL2X3600X42C	EZB2072RBS	EZT2072R	EZT2072F	GWPBQ2072PR
600	42	■	■	■	110, 125, 150, 175, 200, 225, 250, 300, 350, 400	—	PRL2X3600X42CL	EZB2090RBS	EZT2090S	EZT2090F	GWPBQ2090PR

① S = Short—no TFL or SFB provisions.

Note: Series ratings available for main lug only interiors with selected upstream main devices.

Lug kits and accessories

Main/through-feed lug kits

Ampere rating	Wire range Al/Cu	Catalog number
100	(1) #14–1/0	LUGKIT100
225	(1) #6–300 kcmil	LUGKIT225
400	(2) #2–500 kcmil	LUGKIT400
600	(2) #2–500 kcmil	LUGKIT600

Kits

Description	Catalog number		
	100 A	225 A	400/600 A
Service entrance kit—MLO	SEK1/2 ❶	SEK1/2 ❶	SEK4/6 ❶
Service entrance kit—MCB	SEKB ❷❹ SEKG ❸❹	SEPD2 ❹❺	SEPD3 ❹❻
200% neutral kit	2NK100	2NK225	1NK400

- ❶ Applicable for use with MLO, SE panelboards only.
- ❷ Only applicable for SE PRL1X with chassis-mounted BAB, QBH main breaker.
- ❸ Only applicable for SE PRL2X with chassis-mounted GHB main breaker.
- ❹ Main breaker panelboards only—includes barrier kit and bonding jumper.
- ❺ To be used with PDG2-frame main breaker.
- ❻ To be used with PDG3-frame main breaker.

Sub-feed breaker covers—used when adding a sub-feed breaker to 400 A or 600 A panelboard

Minimum quantity of 5

Panelboard ampere rating	Sub-feed breaker max. ampere rating	Catalog number
400	225	SFBCVR225ATOP ❶
		SFBCVR225ABOT ❶
600	225	SFBCVR225BTOP ❷
		SFBCVR225BBOT ❷
600	400	SFBCVR400ATOP ❷
		SFBCVR400ABOT ❷

- ❶ Must be used in conjunction with the 400 A panelboard only when adding a sub-feed breaker.
- ❷ Must be used in conjunction with the 600 A panelboard only when adding a sub-feed breaker.

Accessories

Description	Catalog number
Isolated ground bar kit	ISOGROUND
Copper ground bar kit	CUGROUND
1P filler plate ❶	5155C62H01
Series rating kit ❷	SRK

- ❶ Each PRX panelboard comes with 50% filler plates, e.g., 18 circuit interior contains 9 filler plates.
- ❷ Series rating kit includes series rating book and adhesive sleeve and series rating sticker. If panelboard is being series rated higher than the base rating, an SRK is required.

Convertible main circuit breaker kits—single-phase or three-phase

Kits include circuit breaker, line terminals and load bus connectors

Max. voltage	Ampere rating	kAIC rating	Breaker type	Wire range Al/Cu	Catalog number
240	100	35	PDD23F0100TFFL	(1) #14–1/0	BKD2F100
	125	35	PDD23F0125TFFL	(1) #4–4/0	BKD2F125
	150	35	PDD23F0150TFFL	(1) #4–4/0	BKD2F150
	175	35	PDD23F0175TFFL	(1) #4–4/0	BKD2F175
	200	35	PDD23F0200TFFL	(1) #4–4/0	BKD2F200
	225	35	PDD23F0225TFFL	(1) #4–4/0	BKD2F225
240	100	65	PDD23G0100TFFL	(1) #14–1/0	BKD2G100
	125	65	PDD23G0125TFFL	(1) #4–4/0	BKD2G125
	150	65	PDD23G0150TFFL	(1) #4–4/0	BKD2G150
	175	65	PDD23G0175TFFL	(1) #4–4/0	BKD2G175
	200	65	PDD23G0200TFFL	(1) #4–4/0	BKD2G200
	225	65	PDD23G0225TFFL	(1) #4–4/0	BKD2G225
240	250	65	PDD33G0250TFAN	(1) 250–500 kcmil	BKD3G250
	300	65	PDD33G0300TFAN	(1) 250–500 kcmil	BKD3G300
	350	65	PDD33G0350TFAN	(1) 250–500 kcmil	BKD3G350
	400	65	PDD33G0400TFAN	(2) 3/0–250 kcmil or (1) 3/0–500 kcmil	BKD3G400
480	100	35	PDG23G0100TFFL	(1) #14–1/0	BKG2G100
	110	35	PDG23G0110TFFL	(1) #4–4/0	BKG2G110
	125	35	PDG23G0125TFFL	(1) #4–4/0	BKG2G125
	150	35	PDG23G0150TFFL	(1) #4–4/0	BKG2G150
	175	35	PDG23G0175TFFL ❶	(1) #4–4/0	BKG2G175
	200	35	PDG23G0200TFFL ❶	(1) #4–4/0	BKG2G200
480	225	35	PDG23G0225TFFL ❶	(1) #4–4/0	BKG2G225
	100	65	PDG23M0100TFFL	(1) #14–1/0	BKG2M100
	110	65	PDG23M0110TFFL	(1) #4–4/0	BKG2M110
	125	65	PDG23M0125TFFL	(1) #4–4/0	BKG2M125
	150	65	PDG23M0150TFFL	(1) #4–4/0	BKG2M150
	175	65	PDG23M0175TFFL ❶	(1) #4–4/0	BKG2M175
480	200	65	PDG23M0200TFFL ❶	(1) #4–4/0	BKG2M200
	225	65	PDG23M0225TFFL ❶	(1) #4–4/0	BKG2M225
	250	35	PDG33G0250TFAN	(1) 250–500 kcmil	BKG3G250
	300	35	PDG33G0300TFAN	(1) 250–500 kcmil	BKG3G300
	350	35	PDG33G0350TFAN	(1) 250–500 kcmil	BKG3G350
	400	35	PDG33G0400TFAN	(2) 3/0–250 kcmil or (1) 3/0–500 kcmil	BKG3G400
480	250	65	PDG33M0250TFAN	(1) 250–500 kcmil	BKG3M250
	300	65	PDG33M0300TFAN	(1) 250–500 kcmil	BKG3M300
	350	65	PDG33M0350TFAN	(1) 250–500 kcmil	BKG3M350
	400	65	PDG33M0400TFAN	(2) 3/0–250 kcmil or (1) 3/0–500 kcmil	BKG3M400
480	500	35	PDG33G0500TFAN	(2) #2–500 kcmil	BKG3G500
	600	35	PDG33G0600TFAN	(2) #2–500 kcmil	BKG3G600

- ❶ Order optional lug kit catalog number 3TA225FDK for 175 A to 225 A PDG2-frame three-pole circuit breakers to provide terminations for (1) #6–300 kcmil.

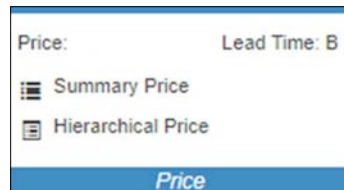
Assembled power panelboards

Power panelboards can be a critical part of the complete small project or light commercial (LCOM) job. Pow-R-Xpress (PRX) distributors have access to additional support capabilities through Eaton's satellite network where the PRX distributor will be able to provide a complete package including power panelboards. By partnering with the local satellite, PRX distributors can get simple, **Lead Time: B**, power panelboards, fully assembled, in LCOM competitive lead times. This offering is available to distributors who are committed PRX program members. The balance of the materials will be provided by the PRX distributor through their stock.

PRX materials required through distributor stock include:

- PRL1X/PRL2X unassembled panelboards via Pow-R-Xpress program
- Safety switches
- Transformers
- Box for power panelboard (strongly recommended)

Lead Time: B can be seen in the Bid Manager Panelboard Take-off on the price ribbon tab or within the summary or hierarchical price detail.



PRL3X



Maximum voltage

600 Vac
250 Vdc, 2 W

Maximum amperage

600 A main, 800 A MLO
225 A branch
400 A sub-feed

Standard provisions

No—must be manually added

Product type

Panelboard

Features

- Standard chassis accepts Power Defense™ molded case circuit breakers
- Can include PRL1X or PRL2X sub-chassis for miniature circuit breakers
- EZ Box and EZ Trim standard
- Surge options are available up to 200 kA
- Integral customer metering options are available

The bottom line: The PRL3X is a hybrid lighting and power panelboard for lighting/appliance and small power distribution and motor applications.

Pow-R-Xpress assembled offering can include the following:

Maximum voltage ①

480 Vac

Maximum amperage

600 A main breaker/MLO
225 A branch ①
400 A sub-feed ①

Standard features

- PRL1X and PRL2X sub-chassis for miniature circuit breakers
- EZ Box and EZ Trim with no modifications
- Enclosures NEMA 1 and NEMA 3R
- Standard accessories 1a/1b auxiliary, 120 Vac shunt trip, etc. ①

PRL4X



Maximum voltage

600 Vac
600 Vdc, 2 W

Maximum amperage

1200 A main
1200 A branch

Standard provisions

No—must be manually added

Product type

Panelboard

Features

- Standard chassis accepts Power Defense molded case circuit breakers
- Can include PRL1X or PRL2X sub-chassis for miniature circuit breakers
- BX type can, DFC only standard
- Complete line of Power Xpert metering options are available
- GFCI on the main circuit breaker is available
- Surge options are available up to 400 kA with integral breaker

The bottom line: The PRL4X is designed for 1200 A and below, service entrance, power distribution and motor applications.

Pow-R-Xpress assembled offering can include the following:

Maximum voltage ①

480 Vac

Maximum amperage

1200 A main breaker/MLO ①
1200 A branch ①
1200 A through-feed

Standard features

- PRL1X and PRL2X sub-chassis for miniature circuit breakers
- BX type can, DFC only standard
- Enclosures NEMA 1 and NEMA 3R
- Standard accessories 1a/1b auxiliary, 120 Vac shunt trip, etc. ①

① Lead Time: B code may vary with specific selection. PRX assembled offering includes Lead Time: B selections as identified in Bid Manager Panelboard Take-off on the price ribbon tab or within the summary or hierarchical price detail.

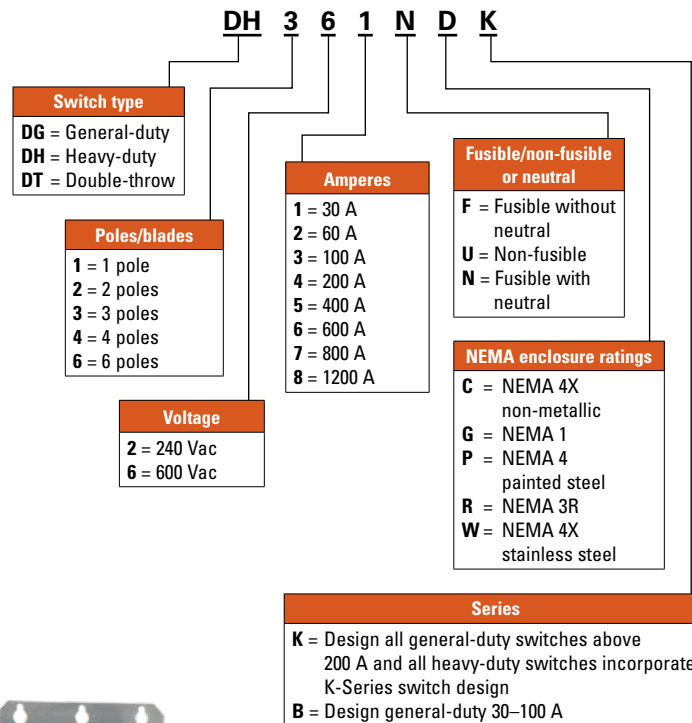
Note: For power panelboards outside of these Pow-R-Xpress parameters, contact your local satellite for price and availability.

Safety switches/disconnects

Application considerations for proper selection

- Which type of switch do you need?
 - General-duty
 - Heavy-duty
 - Double-throw
- How many poles?
 - 1, 2, 3, 4, 6
- Choose the maximum circuit voltage.
 - 240 Vac
 - 600 Vac
- What current (ampere) rating do you need?
 - 30 A, 60 A, 100 A, 200 A, 400 A, 600 A, 800 A, 1200 A
- Should it be fused, non-fused or fusible with neutral?
 - Fusible without neutral
 - Non-fusible
 - Fusible with neutral
- What type of enclosure do you need?
 - NEMA 4X non-metallic
 - NEMA 1
 - NEMA 4 painted steel
 - NEMA 3R
 - NEMA 4X stainless steel

Catalog numbering system—safety switches



General-duty safety switches (disconnects)

Two-pole—240 Vac (suitable for service entrance use with a neutral or ground kit)

Current rating (amps)	Type	Enclosure type	Max. hp ratings ①		Catalog number
			Single-phase 120 Vac	240 Vac	
30	Fusible with neutral	NEMA 1	—	1.5–3	DG221NGB
30	Non-fusible	NEMA 1	2	3	DG221UGB
30	Fusible with neutral	NEMA 3R	—	1.5–3	DG221NRB
30	Non-fusible	NEMA 3R	2	3	DG221URB
60	Fusible with neutral	NEMA 1	—	3–10	DG222NGB
60	Non-fusible	NEMA 1	3	10	DG222UGB
60	Fusible with neutral	NEMA 3R	—	3–10	DG222NRB
60	Non-fusible	NEMA 3R	3	10	DG222URB
100	Fusible with neutral	NEMA 1	—	7.5–15	DG223NGB
100	Non-fusible	NEMA 1	—	15	DG223UGB
100	Fusible with neutral	NEMA 3R	—	7.5–15	DG223NRB
100	Non-fusible	NEMA 3R	—	15	DG223URB

① Maximum hp ratings for fusible units apply only when dual element time-delay fuses are used.

Three-pole—240 Vac (suitable for service entrance use with a neutral or ground lug kit)

Current rating (amps)	Type	Enclosure type	Max. hp ratings ①		Catalog number
			Single-phase 240 Vac	Three-phase 240 Vac	
30	Fusible with neutral	NEMA 1	1.5–3	3–7.5	DG321NGB
30	Non-fusible	NEMA 1	3	7.5	DG321UGB
30	Fusible with neutral	NEMA 3R	1.5–3	3–7.5	DG321NRB
30	Non-fusible	NEMA 3R	3	7.5	DG321URB
60	Fusible with neutral	NEMA 1	3–10	7.5–15	DG322NGB
60	Non-fusible	NEMA 1	10	15	DG322UGB
60	Fusible with neutral	NEMA 3R	3–10	7.5–15	DG322NRB
60	Non-fusible	NEMA 3R	10	15	DG322URB
100	Fusible with neutral	NEMA 1	7.5–15	15–30	DG323NGB
100	Non-fusible	NEMA 1	15	30	DG323UGB
100	Fusible with neutral	NEMA 3R	7.5–15	15–30	DG323NRB
100	Non-fusible	NEMA 3R	15	30	DG323URB

① Maximum hp ratings for fusible units apply only when dual element time-delay fuses are used.

General-duty safety switches (disconnects) (continued)

Neutral and ground lug kits (general duty)

Description	Catalog number
Neutral kit for 30 A switches	DG030NB
Neutral kit for 60–100 A switches	DG100NB
Ground lug kit for 30–100 A switches	DG030GB

Class R fuse adapter kits

Ampere rating	Type	Voltage	Catalog number
30	General-duty	240	DG030RB
60	General-duty	240	DS16FK
100	General-duty	240	DG100RB

Heavy-duty safety switches (disconnects)

Three-pole – 480–600 Vac (suitable for service entrance use with a neutral or ground lug kit below)

Current rating (amps)	Type	Enclosure type	Max. hp ratings with time delay fuses				Catalog number
			Single-phase		Three-phase		
			480 V	600 V	480 V	600 V	
30	Fusible	NEMA 1	7.5	10	15	20	DH361FGK ①
30	Non-fusible	NEMA 1	7.5	10	20	30	DH361UGK
30	Fusible	NEMA 3R	7.5	10	15	20	DH361FRK ①
30	Non-fusible	NEMA 3R	7.5	10	20	30	DH361URK
30	Fusible	NEMA 4X	7.5	10	15	20	DH361FWK ①
30	Non-fusible	NEMA 4X	7.5	10	20	30	DH361UWK
60	Fusible	NEMA 1	20	25	30	50	DH362FGK
60	Non-fusible	NEMA 1	20	25	50	60	DH362UGK
60	Fusible	NEMA 3R	20	25	30	50	DH362FRK
60	Non-fusible	NEMA 3R	20	25	50	60	DH362URK
60	Fusible	NEMA 4X	20	25	30	50	DH362FWK
60	Non-fusible	NEMA 4X	20	25	50	60	DH362UWK
100	Fusible	NEMA 1	30	40	60	75	DH363FGK
100	Non-fusible	NEMA 1	40	50	75	100	DH363UGK
100	Fusible	NEMA 3R	30	40	60	75	DH363FRK
100	Non-fusible	NEMA 3R	40	50	75	100	DH363URK
100	Fusible	NEMA 4X	30	40	60	75	DH363FWK
100	Non-fusible	NEMA 4X	40	50	75	100	DH363UWK
200	Fusible	NEMA 1	50	50	125	150	DH364FGK
200	Non-fusible	NEMA 1	50	50	125	150	DH364UGK
200	Fusible	NEMA 3R	50	50	125	150	DH364FRK
200	Non-fusible	NEMA 3R	50	50	125	150	DH364URK
200	Fusible	NEMA 4X	50	50	125	150	DH364FWK
200	Non-fusible	NEMA 4X	50	50	125	150	DH364UWK

① For 30 A switches requiring Class J fusing, switch must be ordered with the Class J clips from the factory by adding a suffix “J” on the end.

Note: For fuses, please consider Bussmann fuses. For fuse selection assistance, please visit <https://disconnectfuseselector.bussmann.com/>

Safety switch kits

Neutral and ground lug kits ①

Description	Catalog number
Neutral kit for 30–60 A switches	DH030NK
Neutral kit for 100 A switches	DH100NK
Neutral kit for 200 A switches (NEMA 1 & NEMA 3R)	DH200NK
Ground lug kit for 30–100 A switches	DS100GK
Ground lug kit for 200 A switches	DS200GK

① A factory-installed ground lug is supplied on all NEMA 4, 4X and 12 safety switches, as well as all 400 A and higher NEMA 1 and 3R safety switches. A factory-installed ground lug is also supplied on all heavy-duty NEMA 1 and 3R 30–200 A switches that do not have a factory-installed neutral.

Class R fuse adapter kits

Ampere rating	Type	Voltage	Catalog number
30	Heavy-duty	600	DS16FK
60	Heavy-duty	600	DS26FK
100	Heavy-duty	600	DS36FK
200	Heavy-duty	600	DS46FK

Class J fuse adapter kit ①

Ampere rating	Type	Voltage	Catalog number
60	Heavy-duty	600	DS26JK

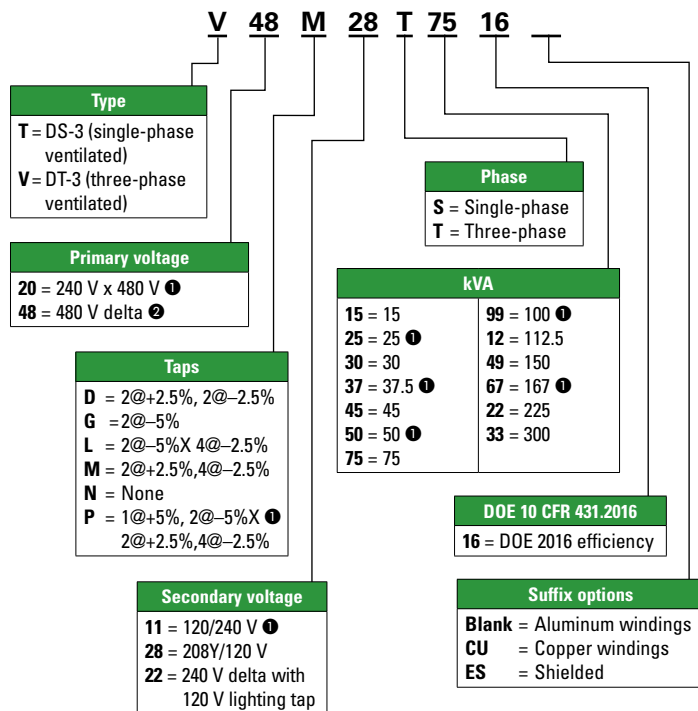
① 30 A switches must be ordered from the factory with Class J fuse provisions by adding suffix “J” at the end of the switch catalog number. 100 A and 200 A switches can be field modified by moving the load side fuse base.

Transformers

Application considerations for proper selection

- What type of enclosure is required?
 - Ventilated
 - Encapsulated
- What is the primary voltage? (input voltage)
 - 240 V x 480 V (single-phase)
 - 480 V delta (three-phase, three-wire)
- What is the secondary voltage? (output voltage)
 - 120/240 V (single-phase)
 - 208Y/120 V (three-phase, four-wire)
 - 240 V delta with 120 V lighting tap
- How many phases?
 - Single-phase
 - Three-phase
- What kVA transformer is required?
 - If single-phase encapsulated, kVAs are: 0.05, 0.075, 0.10, 0.15, 0.25, 0.50, 0.75, 1, 1.5, 2, 3, 5, 7.5, 10, 15, 25, 37.5
 - If single-phase ventilated, kVAs are: 15, 25, 37.5, 50, 75, 100, 167
 - If three-phase encapsulated, kVAs are: 3, 6, 9, 15, 30, 45, 75
 - If three-phase ventilated, kVAs are: 15, 30, 45, 75, 112.5, 150, 225, 300
- If a ventilated transformer was selected
 - Field kits: lug kits or weathershields
 - Select from selection tables

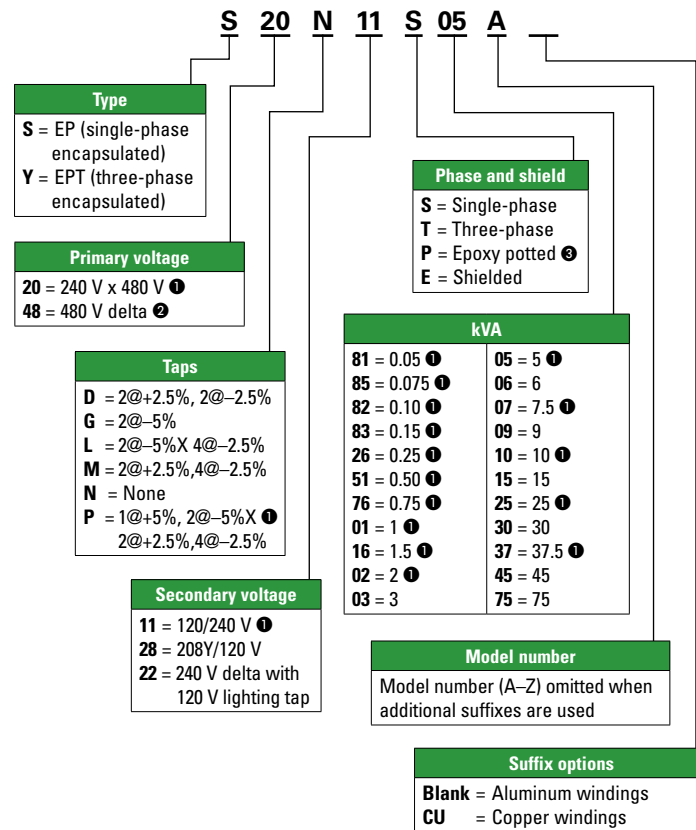
Catalog numbering system—DOE 2016 ventilated transformers



- ❶ Typically used with single-phase transformers.
- ❷ Three-phase, three-wire.



Catalog numbering system—encapsulated transformers



- ❶ Typically used with single-phase transformers.
- ❷ Three-phase, three-wire.
- ❸ Single-phase 0.25–2 kVA encapsulated transformers only.

General-purpose transformers

Three-phase ventilated, 480 delta–208 Y/120, 150 °C rise, aluminum windings, DOE 2016

kVA	Frame number	Wiring diagram	Weathershield	Typical lug kit	Catalog number
15	939	280B	WS57	LKS1	V48M28T1516 ①
30	940	280B	WS58	LKS1	V48M28T3016 ①
45	940	280B	WS58	LKS1	V48M28T4516 ①
75	942	280B	WS59	LKS2	V48M28T7516 ②
112.5	943	280B	WS60	LKS2	V48M28T1216 ②
150	943	280B	WS60	LKS3	V48M28T4916 ②
225	944	280B	WS61	LKS3	V48M28T2216
300	945	280B	WS62	LKS3	V48M28T3316

① Suitable for use with wall-mounted bracket WMB05.

② Suitable for use with wall-mounted bracket WMB04.

Three-phase ventilated, 480 delta–240/120 lighting tap, 150 °C rise, aluminum windings, DOE 2016

kVA	Frame number	Wiring diagram	Weathershield	Typical lug kit	Catalog number
15	939	282B	WS57	LKS1	V48M22T1516 ①
30	940	282B	WS58	LKS1	V48M22T3016 ①
45	940	282B	WS58	LKS1	V48M22T4516 ①
75	942	282B	WS59	LKS2	V48M22T7516 ②
112.5	943	282B	WS60	LKS2	V48M22T1216 ②
150	943	282B	WS60	LKS3	V48M22T4916 ②
225	944	282B	WS61	LKS3	V48M22T2216
300	945	282B	WS62	LKS3	V48M22T3316

① Suitable for use with wall-mounted bracket WMB05.

② Suitable for use with wall-mounted bracket WMB04.

Three-phase encapsulated, 480 delta–208 Y/120, 115 °C rise

kVA	Frame number	Wiring diagram	Catalog number
3	201	70A	Y48G28T03N
6	200	70A	Y48G28T06N
9	103	70A	Y48G28T09N
15	95	72B	Y48D28T15N
30	243	84A	Y48M28T30N
45	244	84A	Y48M28T45N
75	245	84A	Y48M28T75N

Note: For frame drawings and wiring diagrams, refer to www.eaton.com/transformers.

Single-phase ventilated, 240 x 480–120/240, 150 °C rise, aluminum windings, DOE 2016

kVA	Frame number	Wiring diagram	Weathershield	Typical lug kit	Catalog number
15	842	3XA	WS45	LKS1	T20P11S1516 ①
25	842	3XA	WS45	LKS1	T20P11S2516 ①
37.5	843	3XA	WS43	LKS1	T20P11S3716
50	843	3XA	WS43	LKS2	T20P11S5016
75	844	3XA	WS44	LKS2	T20P11S7516
100	844	3XA	WS44	LKS3	T20P11S9916
167	814	288A	WS13	LKS3	T48P11S6716 ②

① Suitable for use with wall-mounted bracket WMB01.

② 480 V primary only.

Single-phase encapsulated 240 x 480–120/240, 115 °C rise

kVA	Frame number	Wiring diagram	Catalog number
0.05	52	3A	S20N11S81N
0.075	53	3A	S20N11S85N
0.1	54	3A	S20N11S82N
0.15	55	3A	S20N11S83N
0.25	57P	3A	S20N11P26P
0.5	57P	3A	S20N11P51P
0.75	58P	3A	S20N11P76P
1	67P	3A	S20N11P01P
1.5	67P	3A	S20N11P16P
2	68P	3A	S20N11P02P
3	176	3A	S20N11S03N
5	177	3A	S20N11S05N
7.5	178	3A	S20N11S07N
10	179	3A	S20N11S10N
15	180	3A	S20N11S15N
25	182	23A	S20L11S25N
37.5	300A	248A	S20L11S37

Note: For frame drawings and wiring diagrams, refer to www.eaton.com/transformers.

General-purpose transformers sizing tables

Three-phase transformer full load current

kVA	Rated line-line voltage						
	208	240	480	600	2400	4160	4800
3	8.3	7.2	3.6	2.9	0.7	0.4	0.4
6	16.7	14.4	7.2	5.8	1.4	0.8	0.7
9	25.0	21.7	10.8	8.7	2.2	1.2	1.1
15	41.6	36.1	18.0	14.4	3.6	2.1	1.8
30	83.3	72.2	36.1	28.9	7.2	4.2	3.6
45	124.9	108.3	54.1	43.3	10.8	6.2	5.4
75	208.2	180.4	90.2	72.2	18.0	10.4	9.0
112.5	312.3	270.6	135.3	108.3	27.1	15.6	13.5
150	416.4	360.9	180.4	144.3	36.1	20.8	18.0
225	624.6	541.3	270.6	216.5	54.1	31.2	27.1
300	832.7	721.7	360.9	288.7	72.2	41.6	36.1
500	1387.9	1202.8	601.4	481.1	120.3	69.4	60.1
750	2081.9	1804.3	902.1	721.7	180.4	104.1	90.2
1000	2775.8	2405.7	1202.8	962.3	240.6	138.8	120.3

Note: Line current = (kVA x 1000) / (line voltage x 1.732).

Single-phase transformer full load current

kVA	Rated line-line voltage								
	120	208	240	277	480	600	2400	4160	4800
0.5	4.2	2.4	2.1	1.8	1.0	0.8	0.2	0.1	0.1
1	8.3	4.8	4.2	3.6	2.1	1.7	0.4	0.2	0.2
1.5	12.5	7.2	6.3	5.4	3.1	2.5	0.6	0.4	0.3
2	16.7	9.6	8.3	7.2	4.2	3.3	0.8	0.5	0.4
3	25.0	14.4	12.5	10.8	6.3	5.0	1.3	0.7	0.6
5	41.7	24.0	20.8	18.1	10.4	8.3	2.1	1.2	1.0
7.5	62.5	36.1	31.3	27.1	15.6	12.5	3.1	1.8	1.6
10	83.3	48.1	41.7	36.1	20.8	16.7	4.2	2.4	2.1
15	125.0	72.1	62.5	54.2	31.3	25.0	6.3	3.6	3.1
25	208.3	120.2	104.2	90.3	52.1	41.7	10.4	6.0	5.2
37.5	312.5	180.3	156.3	135.4	78.1	62.5	15.6	9.0	7.8
50	416.7	240.4	208.3	180.5	104.2	83.3	20.8	12.0	10.4
75	625.0	360.6	312.5	270.8	156.3	125.0	31.3	18.0	15.6
100	833.3	480.8	416.7	361.0	208.3	166.7	41.7	24.0	20.8
167	1391.7	802.9	695.8	602.9	347.9	278.3	69.6	40.1	34.8
250	2083.3	1201.9	1041.7	902.5	520.8	416.7	104.2	60.1	52.1
333	2775.0	1601.0	1387.5	1202.2	693.8	555.0	138.8	80.0	69.4

Note: Line current = (kVA x 1000) / line voltage.

Enclosed control

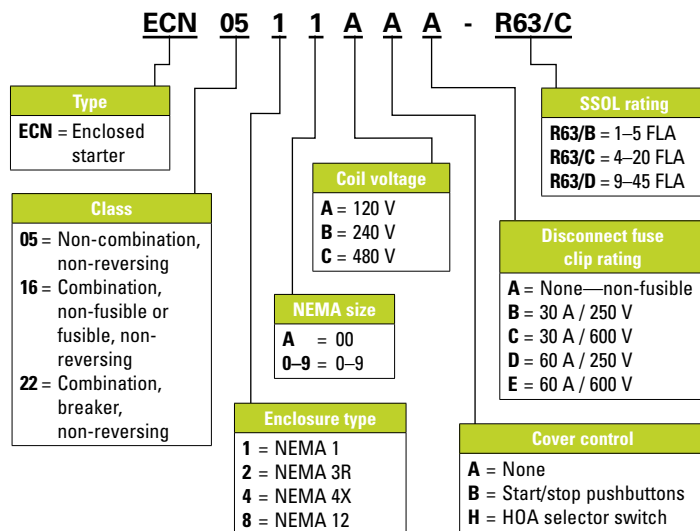
Application considerations for proper selection

- What class of starter do you need?
 - Non-combination, non-reversing
 - Combination, non-fusible or fusible, non-reversing
 - Combination, breaker, non-reversing
- What type of enclosure do you need?
 - NEMA 1
 - NEMA 3R
 - NEMA 4X
 - NEMA 12
- What is the horsepower and voltage of the motor?

Note: This will determine the NEMA starter size.

 - Horsepower: 1, 5, 10, 25 hp, etc.
 - Motor voltage: 200, 230, 460, 575 V
- What is the control voltage for the coil?
 - 120 V
 - 240 V
 - 480 V
- What additional accessories do you need?
 - Cover control kits, such as HAND/OFF/AUTO selector switch or STOP/START pushbuttons
 - CPT kits
 - Fuse kits
- What size overload relay is needed?
 - 1–5 FLA
 - 4–20 FLA
 - 9–45 FLA

Catalog numbering system—non-combination and combination NEMA enclosed starters



Starters

NEMA non-combination, non-reversing starters, Type 1

NEMA size	Motor voltage	Maximum hp rating	Magnet coil voltage	SSOL range	Catalog number
00	200, 230	1-1/2	120	1–5	ECN05A1AAA-R63/B
	460	2	120	1–5	ECN05A1AAA-R63/B
0	200, 230	3	120	1–5	ECN0501AAA-R63/B
	460	5	120	1–5	ECN0501AAA-R63/B
	200, 230	3	120	4–20	ECN0501AAA-R63/C
1	200, 230	7-1/2	120	4–20	ECN0511AAA-R63/C
	460	10	120	4–20	ECN0511AAA-R63/C
2	200, 230	10	120	9–45	ECN0521AAA-R63/D
	460	25	120	9–45	ECN0521AAA-R63/D

NEMA combination, non-reversing starters, non-fusible disconnect Type 1

NEMA size	Motor voltage	Maximum hp rating	Magnet coil voltage	SSOL range	Catalog number
00	200, 230	1-1/2	120	1–5	ECN16A1AAA-R63/B
	460	2	120	1–5	ECN16A1AAA-R63/B
0	200, 230	3	120	1–5	ECN1601AAA-R63/B
	460	5	120	1–5	ECN1601AAA-R63/B
	200, 230	3	120	4–20	ECN1601AAA-R63/C
1	200, 230	7-1/2	120	4–20	ECN1611AAA-R63/C
	460	10	120	4–20	ECN1611AAA-R63/C
2	200, 230	10	120	9–45	ECN1621AAA-R63/D
	460	25	120	9–45	ECN1621AAA-R63/D

NEMA enclosures with CPT modifications

To order an enclosure with CPT:

1. Change ECN05 to ECN07 for non-combination units, and ECN16 to ECN18 for combination units.
2. Change the "A" in the 7th catalog string to the correct letter based on the below table

Catalog string letter	Primary	Secondary
E	208/60	120/60
B	240/480–220/440 wired for 240 V	120/60–110/50
C	240/480–220/440 wired for 480 V	120/60–110/50

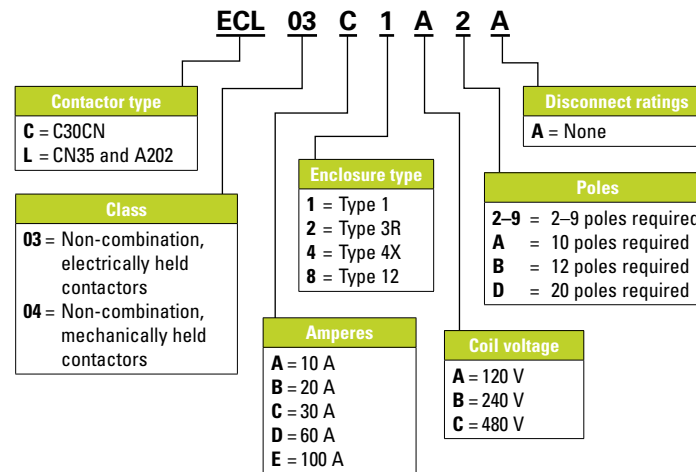
NEMA accessories—CPT and fuse kits

Description	Catalog number
100 VA CPT kit (208/277 V primary, 120 V secondary)	C341CE
100 VA CPT kit (240/480 V primary, 120 V secondary)	C341CC
Fuse clip kit for combination starter—30 A / 250 V	C351KC21
Fuse clip kit for combination starter—30 A / 600 V and 60 A / 250 V	C351KD22-61

NEMA accessories—cover control kits

Description	Catalog number		
	Non-combination Type 1, size 00–2	Non-combination Type 1, size 3–5	Combination Type 1 and all Type 3R, 12, 4X
STOP/START pushbuttons	C600M1	C400GK1	C400T1
STOP/START pushbuttons with red RUN light (85–264 Vac)	C600M101A	C400GK12	—
HAND/OFF/AUTO selector switch	C600M12	C400GK3	C400T12
HAND/OFF/AUTO selector switch with red RUN light (85–264 Vac)	C600M121A	C400GK32	—

Catalog numbering system—enclosed lighting contactors



Lighting contactors

Lighting non-combination contactors, Type 1

Contactor type	Number of poles	Ampere rating	Coil voltage	Catalog number
C30CN, electrically held	2	30	120	ECC03C1A2A
C30CN, electrically held	4	30	120	ECC03C1A4A
C30CN, electrically held	6	30	120	ECC03C1A6A
CN35, electrically held	2	20	120	ECL03B1A2A
CN35, electrically held	4	20	120	ECL03B1A4A
CN35, electrically held	6	20	120	ECL03B1A6A

Pushbutton stations and pushbuttons

Application considerations for proper selection

- Do you need an assembled pushbutton station or loose components in clam-shell packaging?
 - Assembled pushbutton station
 - Loose components in clam-shell package

For pushbutton stations

- What size pushbutton station do you need?
 - 22 mm
 - 30 mm
- How many elements (operators) do you want?
 - 1, 2, or 3

For loose components

- What type of operator do you need?
 - Emergency stop operator
 - Momentary pushbutton
 - Indicating light
 - Illuminated pushbutton
 - Selector switch



30 mm pushbutton stations

Description	Catalog number
Single-element	
Emergency Off—break glass pushbutton station, NC	10250TGR
Man-Off-Auto selector switch pushbutton station, 2NO	10250T3524
Stop mushroom head pushbutton station, 1NC	10250T3519
Two-element	
Start-Stop pushbutton station, 1NO-2NC	10250T3525
Start-Stop rectangular pushbutton station, 1NO-1NC	10250H5200
Three-element	
Open-Close-Stop pushbutton station, 2NO-3NC	10250T3614
Up-Down-Stop rectangular pushbutton station, 2NO-1NC	10250H5301

22 mm pushbutton stations

Description	Catalog number
Single-element	
40 mm mushroom head push-pull emergency stop operator, NC	M22-C1-M1H
40 mm illuminated mushroom head push-pull emergency stop operator, 85–264 Vac, NO-NC	M22-C1-M2H
Two-element	
Flush pushbutton, Start-Stop, NO-NC	M22-C2-M2V
Flush pushbutton, Forward-Reverse, 2NO	M22-C2-M3V
Three-element	
Flush pushbutton, Open-Stop-Close, 2NO-1NC	M22-C3-M4V
Flush pushbutton, Forward-Stop-Reverse, 2NO-1NC	M22-C3-M5V
Flush pushbutton, Up-Stop-Down, 2NO-NC	M22-C3-M6V

Pushbutton components

Individually packaged 30 mm pushbuttons and operators NEMA 4, 4X, 12 13

Description	Catalog number
Emergency stop operator	
Red non-illuminated push-pull, 1NO-1NC, includes 2 legend plates: EMERG. STOP and STOP	10250T5B62-1-POP
Jumbo mushroom pushbutton, 1NO-1NC, button engraved EMERG. STOP (button is engraved—no legend plate provided)	10250T33-POP
Red mushroom pushbutton engraved EMERG. STOP, 1NO-1NC, includes 2 legend plates: EMERG. STOP and STOP	10250T32R-POP
Momentary pushbutton	
Black flush pushbutton, 1NO-1NC, includes 2 legend plates: START and JOG	10250T30B-POP
Red extended pushbutton, 1NO-1NC, includes 1 legend plate: STOP	10250T31R-POP
Indicating light	
Red indicating light transformer 120 Vac with two extra lenses (green and amber), 1NO-1NC, includes 2 legend plates: RUN and JOG	10250T34R-POP
Illuminated pushbutton	
Red illuminated pushbutton (120 Vac/Vdc), with 2 extra lenses (green and amber), 1NO-1NC, includes 1 legend plate: Power On	10250T411C21-1-POP
Selector switch	
Two-position selector switch, 1NO-1NC, includes 3 legend plates: Off/On, Hand/Auto and Run/Jog	10250T20KB-POP
Three-position selector switch, 2NO-2NC, includes 1 legend plate: Hand/Off/Auto	10250T22KB-POP
Three-position selector switch, 1NO-1NC, includes 1 legend plate: Hand/Off/Auto	10250T21KB-POP

Manual starters

Application considerations for proper selection

- What is the motor nameplate information?
 - System (AC or DC) and voltage?
 - If AC, is the motor single-phase or three-phase?
 - What is the motor horsepower?
- What type of enclosure is needed?
 - No enclosure (will be mounted in separate enclosure)
 - NEMA 1 enclosure
- Is overload protection required?
 - No
 - Yes. If yes, what is the motor full load amperes (FLA)?
- What type of operator does the customer want?
 - Button
 - Toggle



Manual starters

Manual motor switches without overload

Type	Pole config.	Maximum motor (hp)				Catalog number	
		120 V	240 V	480 V	230 V	Open	Enclosed
B230A	Two-pole	2	5	—	—	B230AN	B230AG
B230B	Two-pole	2	5	10	15	B230BND	B230BGD
	Three-pole	3	7.5	15	20	B330AND	B330AGD

Single-phase manual starters with overload protection—Type MS series starters ❶

Pole config.		Maximum motor (hp)						Catalog number	
		AC voltage			DC voltage			Open	Enclosed ❷
		120 Vac	240 Vac	277 Vac	120 Vdc	240 Vdc	32 Vdc		
Single-pole	1	1	1		1/4	1/4	1/4	MST01	MST01SN1P
Two-pole	1	1	1		1/4	1/4	1/4	MST02	MST02SN1P

❶ Use MSH heaters for MS series starters.

❷ With pilot light.

Single-phase and three-phase manual starters with overload protection—Type B100 ❶

Pole config.	NEMA size	Maximum motor (hp)				DC voltage		Catalog number	
		AC voltage				115 Vdc	230 Vdc	Open	Enclosed ❷
		120 Vac	208-240 Vac	480-600 Vac					
Two-pole (single-phase)	0	1	2	—	1	1-1/2	B100M0B	B100S0B	
	1	2	3	—	1-1/2	2	B100M1B	B100S1B	
Three-pole (three-phase)	0	2	3	5	—	—	B100M0C	B100S0C	
	1	3	7-1/2	10	—	—	B100M1C	B100S1C	

❶ Use FH heaters for Type B100 starters.

❷ NEMA 1.

Three-phase loadcenters

Application considerations for proper selection

Select an interior

- What is the number of branch circuits/poles?
 - 30
 - 42

Enclosure type

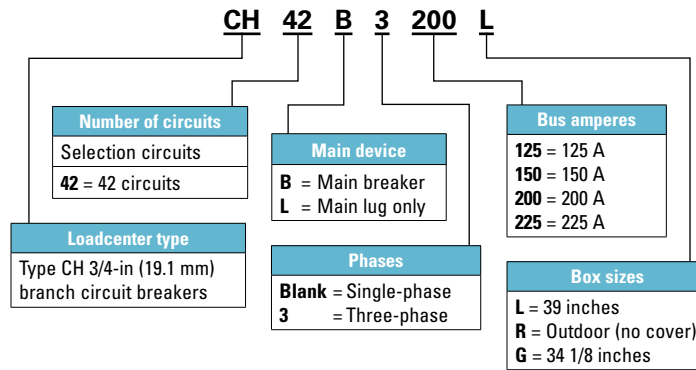
- What enclosure is required?
 - NEMA 1 indoor
 - NEMA 3R outdoor
- Is aluminum or copper bus required?
 - Aluminum
 - Copper

Main device

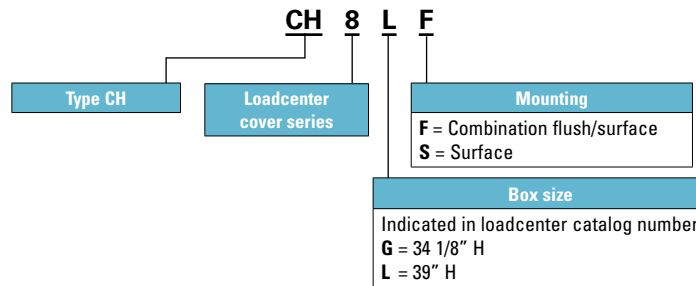
- Main lugs only (MLO) or main circuit breaker
 - MLO
 - MCB (choose amperage)



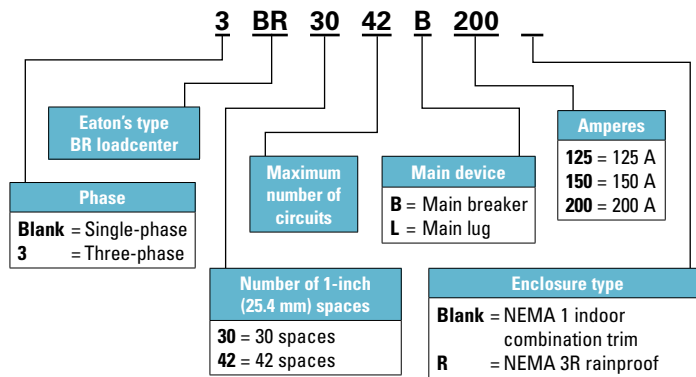
CH legacy loadcenters



CH legacy indoor covers (ordered separately)



Single-phase and three-phase legacy loadcenters



120/208 Vac three-phase, four-wire applications

Aluminum bus	Spaces	Main	Ampere rating	Enclosure type	Copper bus
BR style					BR style
3BR3042B125	30	Main breaker	125	Indoor	—
3BR3042B150	30	Main breaker	150	Indoor	—
3BR3042B200	30	Main breaker	200	Indoor	—
3BR4242B200	42	Main breaker	200	Indoor	CH42B3200L
3BR4242B225	42	Main breaker	225	Indoor	—
3BR3042B200R	30	Main breaker	200	Outdoor	—
3BR4242B200R	42	Main breaker	200	Outdoor	CH42B3200R
3BR3042L200	30	Main lug	200	Indoor	—
3BR4242L200	42	Main lug	200	Indoor	—
3BR4242L225	42	Main lug	225	Indoor	CH42L3225G

Note: All combinations are not valid, refer to the catalog section.





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