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Lake Shore Electric's QCB (Quick Connect with Breaker) blends the overcurrent protection of a breaker with the convenience of camlock connections, to bring both new and existing systems up to NEC 700.3(F) code. The QCB is available in ampacities ranging from 150A to 4000A, up to 480VAC, and interrupting ratings starting at 35kAIC @480VAC.

Standard Features: _____○

- UL 489 Breaker
- 100% Rated Copper Bus
- Color-Coded Camlock Receptacles
- Source Available Aux Contact & Indicating Lights
- Grounded Dead Front Covers
- Engine Start Terminations
- 120VAC Shunt Trip
- NEMA 5-20R GFCI Receptacle
- NEMA 3R Enclosure with Gray Powder Coat Finish

Optional Features: _____○

- Phase Rotation Monitor
- Space Heater
- 304 or 316 Stainless Steel Enclosure
- Optional Leg Kit (150A-400A)

Technical Data

Molded Case & Insulated Case

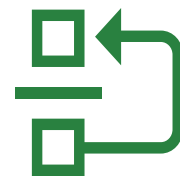


Table 1: QCB Switching Device – Molded Case Technical Details

kAIC @ 480V	Rated Current (A)	Disconnect Breaker		
		2 Pole †	3 Pole	4 Pole
35	150	PDG22G0150TFF	PDG23G0150TFF	PDG24G0150TFF
	400	PDG32G0400TFA	PDG33G0400TFA	PDG34G0400TFA
50	800	PDG52K0800E2M	PDG53K0800E2M	PDG54K0800E2M
	1200	PDG52K1200E5M	PDG53K1200E5m	PDG54K1200E5M
65	150	PDG22M0150TFF	PDG23M0150TFF	PDG24M0150TFF
	400	PDG32M0400TFA	PDG33M0400TFA	PDG34M0400TFA
	800	PDG52M0800E2M	PDG53M0800E2M	PDG54M0800E2M
	1200	PDG52M1200E5M	PDG53M1200E5M	PDG54MK1200E5M

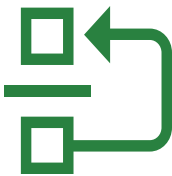
Table 2: QCB Switching Device – Insulated Case Technical Details

kAIC @ 480V	Rated Current (A)	Source Disconnect Breaker	
		3 Pole	4 Pole
65	1600	MPS6163HEA162F	MPS6164HEA162F
	2000	MPS6203HEA202F	MPS6204HEA202F
	3200	MPS6323HEA322F	MPS6324HEA322F
100	1600	MPSC163HEA162F	MPSC164HEA162F
	2000	MPSC203HEA202F	MPSC204HEA202F
	3200	MPSC323HEA322F	MPSC324HEA322F
	4000	MPSC4N3HEA402F	MPSC4N4HEA402F

- Models 150A - 1200A are Eaton Power Defense Molded Case Breakers
- Models stated above are Eaton® Magnum PXR® Low Voltage Power Circuit Breakers
- An electronic trip unit may be used in place of thermal-magnetic trip unit at LSE discretion
- † 3-pole variant with the center phase open may be used in place of a 2-pole at LSE discretion
- Arcflash Reduction Maintenance System™ (ARMST™) is included on all breakers 1000A and greater
- A higher withstand rating and/or frame rating may be used in place of a lesser rating at LSE discretion
- Contact factory for technical information on switching devices or withstand ratings not listed in Table 1 or Table 2
- Data subject to change without notice

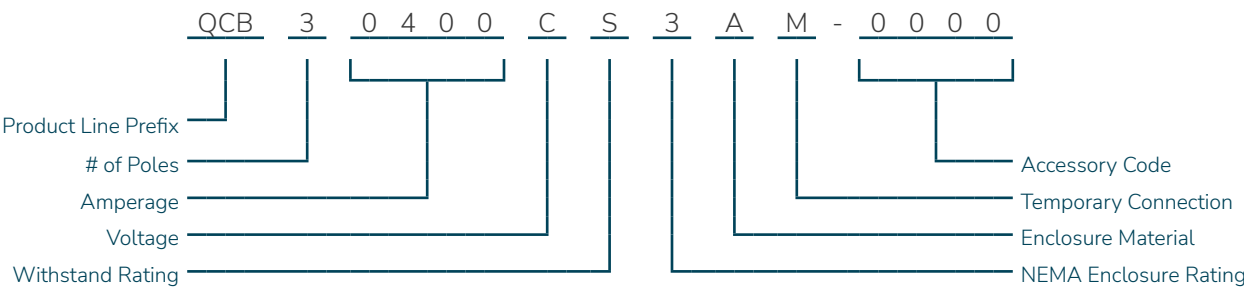
QCB Selection Guide

Characters & Designations



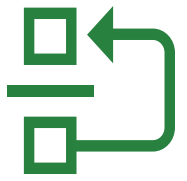
The QCB product line has a structured, smart-style model code ordering system. The complete model code is built up of 17 customer selected characters. Each character identifies features or functions that can be incorporated into the design. The first thirteen characters of the model code define the basic configuration, followed by four characters that identify any accessories.

Sample Model Code:



QCB Selection Guide

Model Code Configuration



Number of Poles

Following the QCB prefix of the model code is the number of poles. Available in configurations of 2-pole, 3-pole, and 4-pole, this selection is dependent on the system voltage.

Table 3: Number of Poles

Poles	Alpha Numeric
2	2
3	3
4	4

Amperage

With the exception of the 150A model, standard sizes of the QCB are available in 400A increments through 4000A. Contact the factory for alternate amperages.

Table 4: Amperage Codes

Amperage	Alpha Numeric
150A	0150
400A	0400
800A	0800
1200A	1200
1600A	1600
2000A	2000
3200A	3200
4000A	4000

Voltage Code

Identification of the voltage determines the color of camlock receptacles (per NEC standard), as well as control voltage circuits and service entrance requirements (when applicable).

Table 5: Voltage Codes

Voltage	Phase/Wire	Alpha Numeric
120/240VAC	1 Ph 3W	A
208Y/120VAC	3 Ph 4W	B
480Y/277VAC	3 Ph 4W	C
120/240VAC	3 Ph 4W	G
480VAC	3 Ph 3W	K

Withstand Rating

The below tables are based on UL 489 & 1066 Switching Device Ratings at 480VAC; Lower voltages offer higher kAIC ratings within the same alphanumeric code. Contact the factory for these ratings.

Table 6: Molded Case Withstand Code

Amperage	kAIC	Alpha Numeric
150A – 400A	35kAIC @ 480V	S
800A – 1200A	50kAIC @ 480V	S
150A – 1200A	65kAIC @480V	H

Table 7: Insulated Case Withstand Code

Amperage	kAIC	Alpha Numeric
1600A – 3200A	65kAIC @ 480V	S
4000A	100kAIC @ 480V	S
1600A – 3200A	100kAIC @480V	H

NEMA Enclosure Rating

The QCB is built with a minimum enclosure rating of NEMA 3R. Additional ratings are listed below.

Table 8: NEMA Code

Environmental Rating	Alpha Numeric
NEMA 3R	3

Enclosure Material

The standard enclosure material of the QCB is hot rolled steel with a textured ANSI 61 gray powder coat finish. Additional materials are listed below.

Table 9: Enclosure Code

Material	Alpha Numeric
Hot Rolled Steel – ANSI 61 Gray Powder Coat	A
Stainless Steel – 304 (#4 Brushed Finish)	C
Stainless Steel – 316 (#4 Brushed Finish)	D

Camlock Connection Style

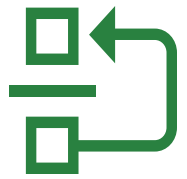
The selection of the camlock style allows for the QCB to be configured with female or male 400A single pole UL 1691 listed receptacles.

Table 10: Camlock Style Code

Connection Type	Ampacity	Alpha Numeric
Female	400A	F
Male	400A	M

QCB Selection Guide

Accessory Code Configuration



Accessory Code Position 1

The first position of the four-digit accessory code is reserved for future expansion to the QCB product line with 0 being the only available character at this time.

Table 11: Accessory Code 1

Description	Alpha Numeric
No Option (For Future Use)	0

Accessory Code Position 2

The second position of the four-digit accessory code offers a Phase Rotation Monitor.

- Phase Rotation Monitor uses a blue indicator light for confirmation of proper phasing when connecting a portable power source (Alternate Source).

Table 12: Accessory Code 2

Description	Alpha Numeric
No Option	0
Phase Rotation Monitor	2

Accessory Code Position 3

The third position of the four-digit accessory code provides the options for a Space Heater and Kirk Key on Breaker.

- The Space Heater operate on 120VAC and may include a control power transformer when necessary. Overcurrent protection is also provided.
- Kirk Key on Breaker accessory consists of a mounting plate and cylinder. The Kirk serial number will be provided at the time of shipment.

Table 13: Accessory Code 3

Description	Alpha Numeric
No Option	0
Space Heater	1
Kirk Key on Breaker	2
Space Heater, Kirk Key on Breaker	3

Accessory Code Position 4

The fourth position of the four-digit accessory code is a fixed manufacturer code with 0 being the only available character at this time.

Table 14: Accessory Code 4

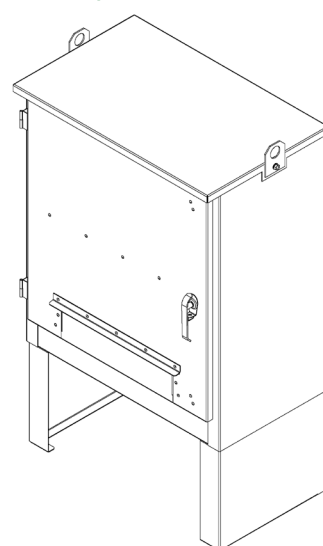
Description	Alpha Numeric
No Option (Fixed Code)	0

Optional Leg Kit

A leg kit is available for QCB wall mount enclosures, which allows the unit to become free-standing. This kit is sold separately and can be purchased by using the part number below that corresponds to the enclosure material of the QCB.

Table 15: Leg Kit

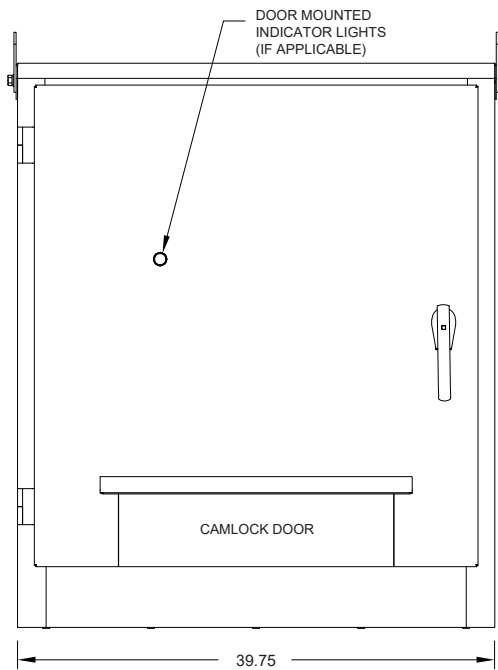
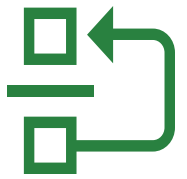
Description	Part Number
Hot Rolled Steel – ANSI 61 Gray Powder Coat	QC-LK-474025-3A
Stainless Steel – 304 (#4 Brushed Finish)	QC-LK-474025-3C
Stainless Steel – 316 (#4 Brushed Finish)	QC-LK-474025-3D



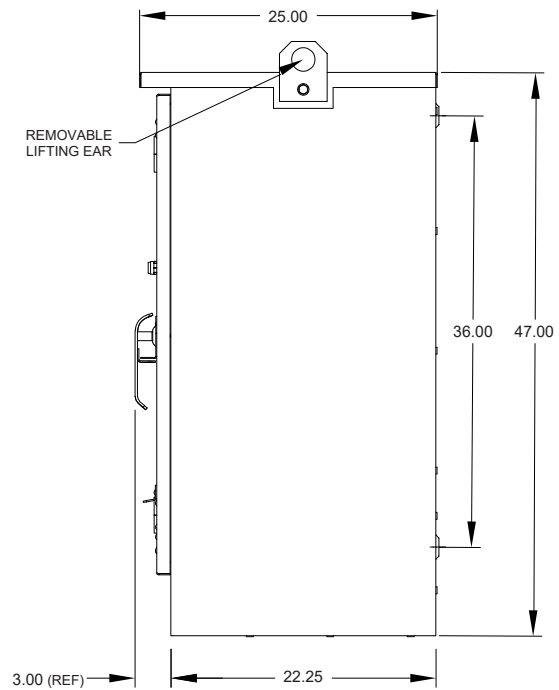
CONNECT

Weights & Dimensions

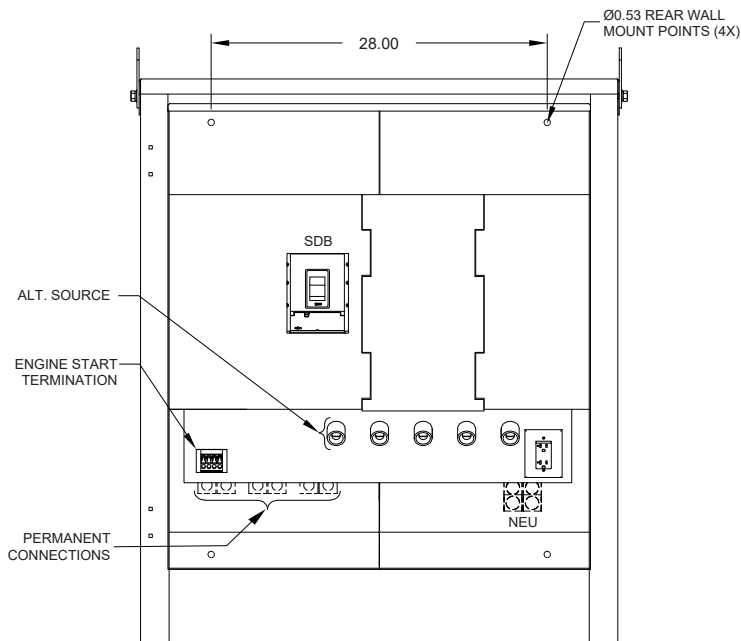
Molded Case (150A - 400A)



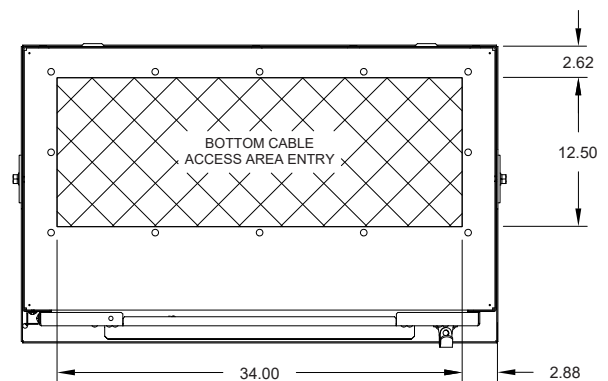
FRONT ELEVATION



SIDE ELEVATION



FRONT ELEVATION
DOOR REMOVED

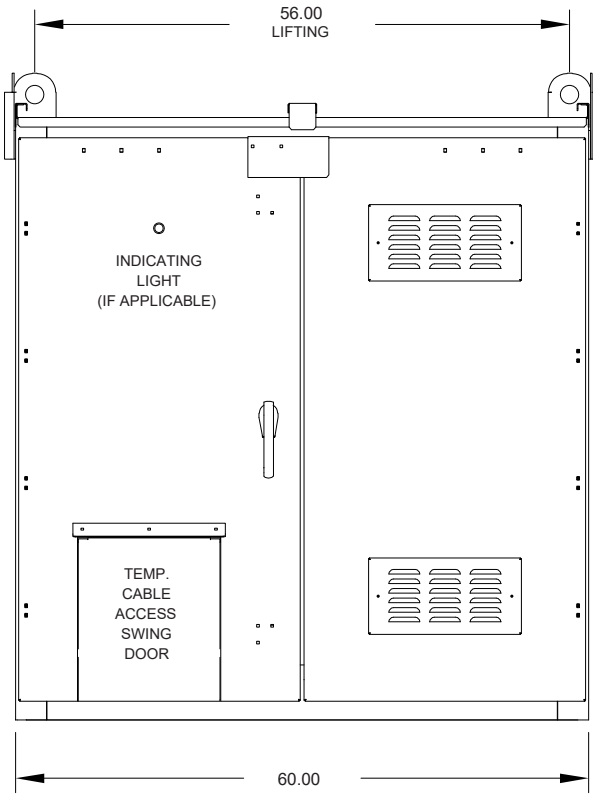
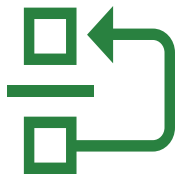


PLAN VIEW
FRONT

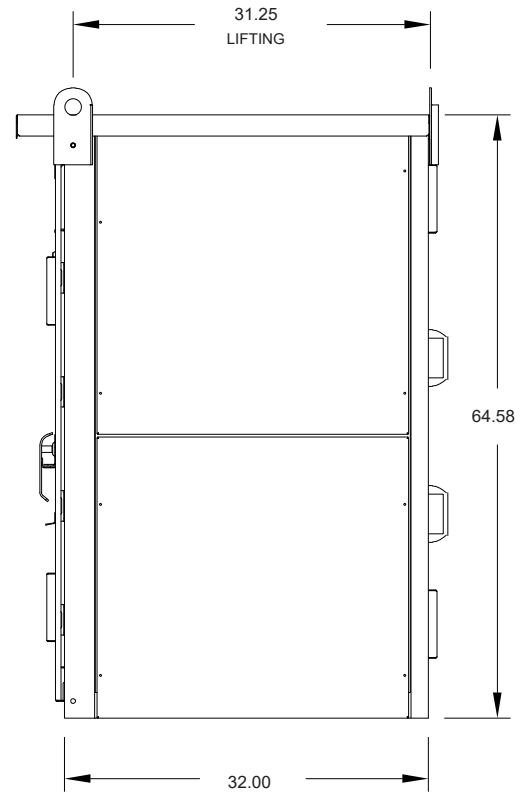
CONNECT

Weights & Dimensions

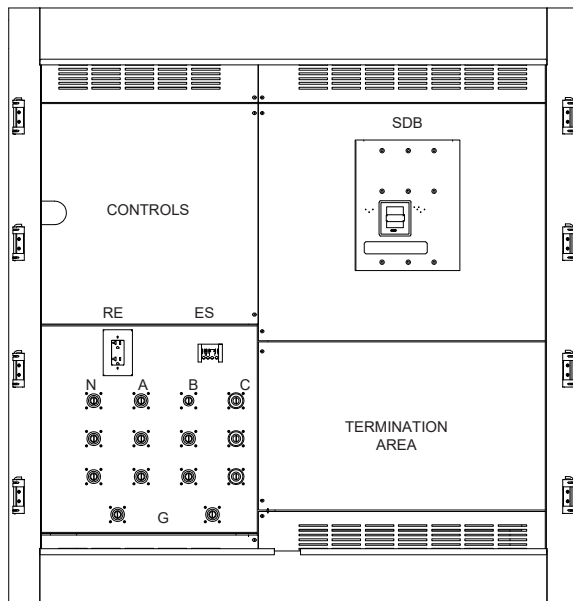
Molded Case (800A - 1200A)



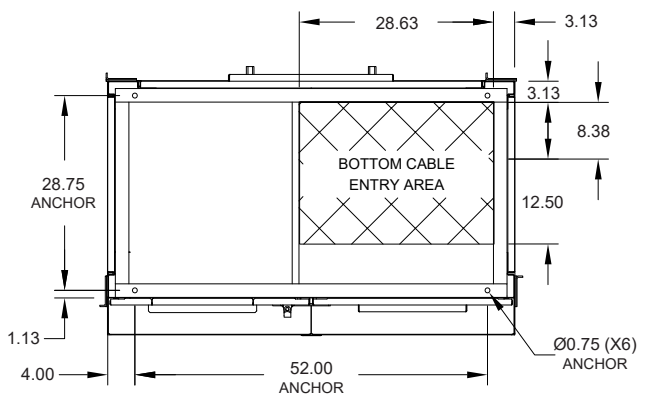
FRONT ELEVATION



SIDE ELEVATION



FRONT ELEVATION
DOOR REMOVED

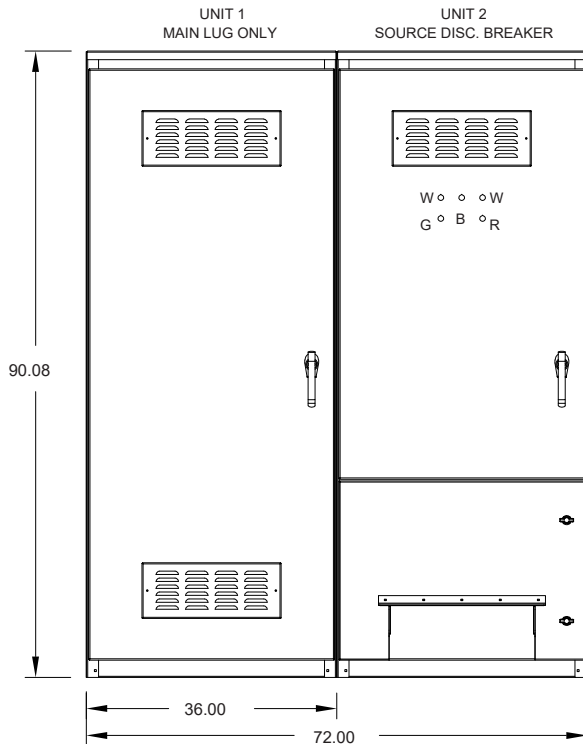
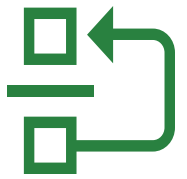


PLAN VIEW
FRONT

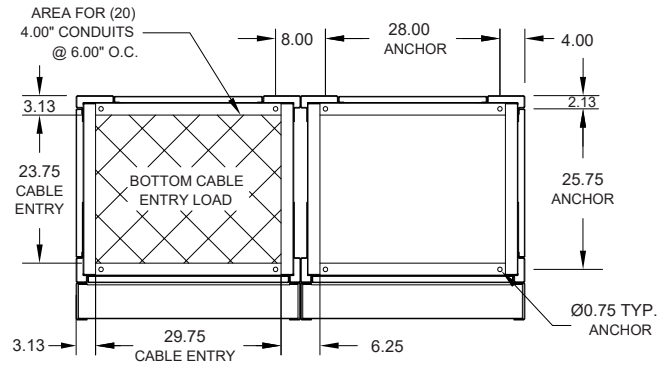
CONNECT

Weights & Dimensions

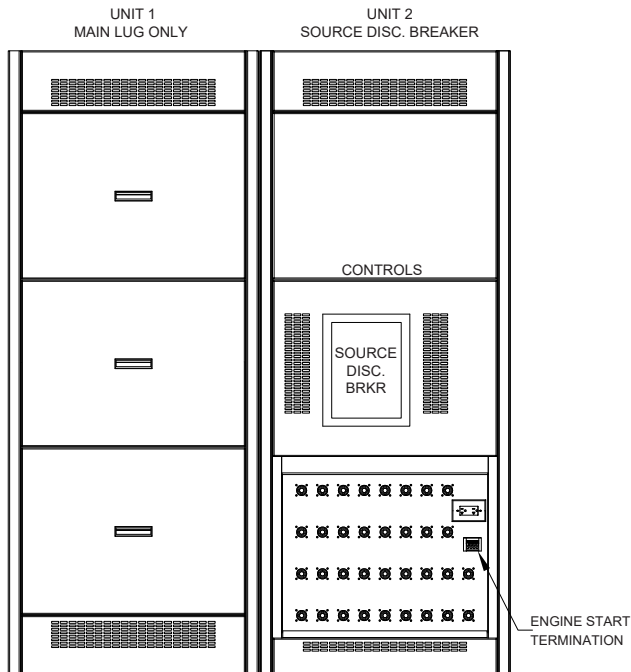
Insulated Case (1600A - 3200A)



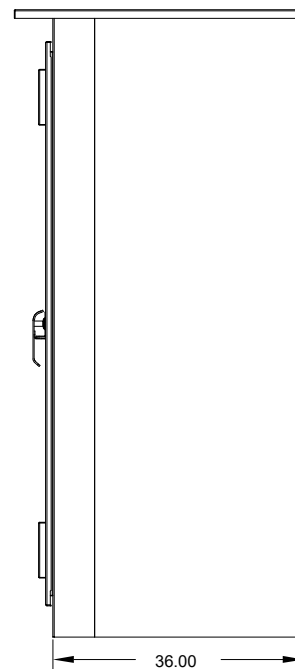
FRONT ELEVATION



PLAN VIEW
FRONT



FRONT ELEVATION
DOOR REMOVED



SIDE ELEVATION

CONNECT

Connection Information

Lug Size & Quantity

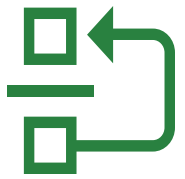
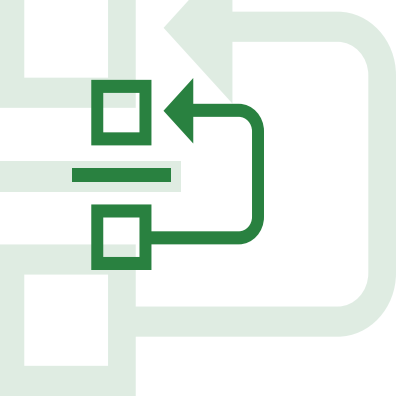


Table 19: Permanent Cable Termination Data

Ampacity	Location	Standard Lugs: Qty. & Range	Ground
150A	Disconnect Breaker	(1) #6 – 350MCM	(1) #14 – 1/0
	Neutral	(1) #6 – 350MCM	
400A	Disconnect Breaker	(2) #2 – 600MCM	(1) #14 – 1/0
	Neutral	(2) #2 – 600MCM	
800A	Disconnect Breaker	(4) 300 – 750MCM	(1) #6 – 350MCM
	Neutral	(4) 300 – 750MCM	
1200A	Disconnect Breaker	(4) 300 – 750MCM	(1) #6 – 350MCM
	Neutral	(4) 300 – 750MCM	
1600A	Disconnect Breaker	(5) 300 – 750MCM	(4) #6 – 350MCM
	Neutral	(5) 300 – 750MCM	
2000A	Disconnect Breaker	(6) 300 – 750MCM	(4) #6 – 350MCM
	Neutral	(6) 300 – 750MCM	
3200A	Disconnect Breaker	(8) 300 – 750MCM	(4) #6 – 350MCM
	Neutral	(8) 300 – 750MCM	
4000A	Disconnect Breaker	(12) 300 – 750MCM	(4) #6 – 350MCM
	Neutral	(12) 300 – 750MCM	



LSE

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E L E C T R I C

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