

SELECTION & APPLICATION GUIDE

NEC® 2020 and NEC® 2023 changes for Residential Construction

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Your new residential builds need to up to code, but where do you start?

This Siemens Selection & Application Guide aims to provide you with electrical products to meet your residential construction needs. In this guide, you will find a catalog of Siemens offerings designed specifically with recent National Electrical Code (NEC®) changes in mind including

- Single Family Construction
- Multi-family Construction
- Surge protection devices for all residential applications

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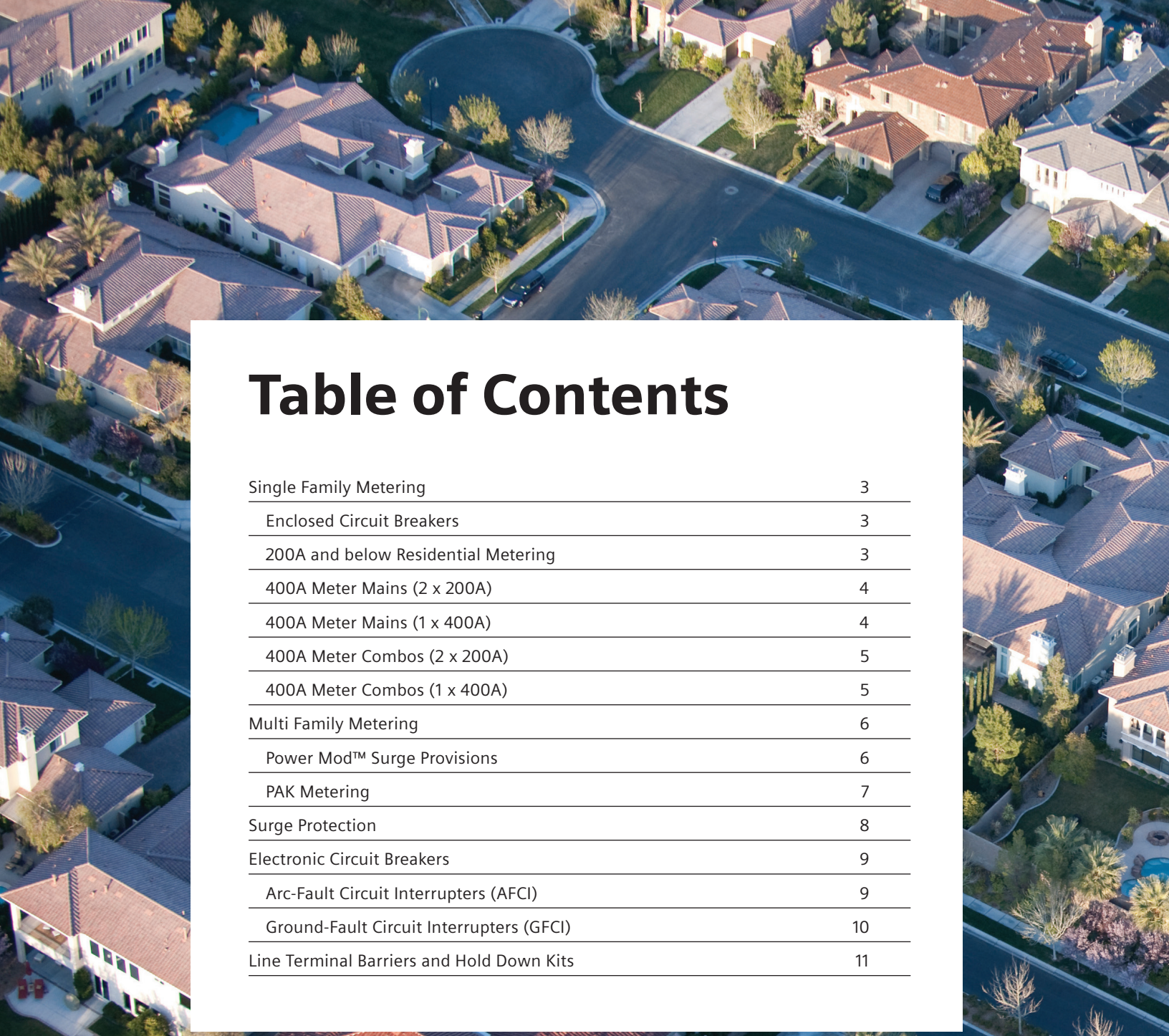

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Single Family Metering

Enclosed Circuit Breakers

NEC 2020 Section 230.85 mandates the service disconnect should be located outside the home, readily accessible for emergency responders. Siemens offers a selection of Enclosed Circuit Breakers to be installed in conjunction with a standalone meter socket or keep everything in one box with Siemens Meter Mains and Meter Combos.

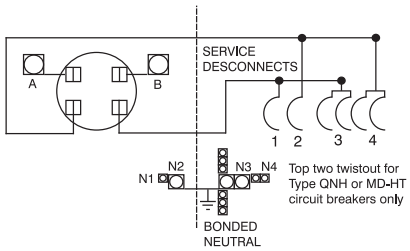
Catalog Number	Main Breaker Amperage	Height (inches)	Width (Inches)	Depth (inches)	Breaker Used	Max Short Circuit Rating
W0204ML 1060	60	8.1	5.5	3.5	QP, QPH, or HQP	100,000
W0204ML1125CU	125	17.2	7.3	4.3	QP or QPH	22,000
W0202MB1100CU	100	17.2	7.3	4.3	Q2100	22,000
W0202MB1150CU	150	19.8	8.7	5	QN2150H	65,000
W0202MB1200CU	200	19.8	8.7	5	QN2200H	65,000

200A and below Residential Metering

NEC 2020 Section 230.71(B) requires each service disconnect to be located in separate compartments. When selecting from the Siemens catalog of meter mains and meter combos, here are a few things to keep in mind:

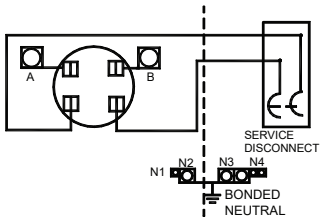
- If the load center interior is energized though lugs rather than a main breaker, then each branch breaker on the interior is considered a service disconnect. If multiple breakers are installed on this load center interior, the installation will not meet the requirements outlined in NEC 2020 Section 230.71(B).
- Instead, look for meter mains with a single disconnect or a meter combo with a load center interior fed by a main breaker. The main breaker feeding the load center is considered the single service disconnect for this compartment.

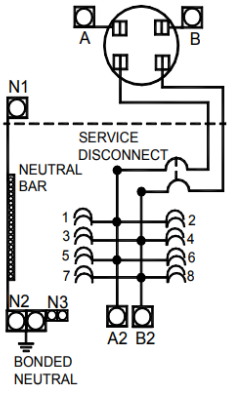












Single Family Metering (cont.)

400A Meter Mains (2 x 200A)



Manufactured with electrician and contractor safety in mind, Siemens' new offering of MK Meter Mains and Meter Combos are designed to aid compliance with NEC 2020 Section 230.71(B).

These new 400A Meter Mains have two 200A main breaker compartments, limiting exposure to live components during service work. Easily feed two downstream load centers with this new design!

- MK Meter Mains ship without factory installed circuit breakers for increased flexibility to install 100-200A breakers depending on your requirements
- Designed to meet EUSERC specifications.
- EUSERC Solar Ready Meter Mains accept up to 200A of PV input.

400A Meter Mains

Catalog Number	Amp Rating (cont.)	Utility Incoming	Bypass Type	No. of Spaces	No. of Circuits	Dimensions (inches) Height	Width	Depth	Short Circuit Rating	Mounting	Cover Type	Field Installed Main Breakers
MK0402L1400RLM ①	320	OH/IJG	Lever	4	2	29	27.27	6.37	22,000	Surface	Ringless	QP, QN, QPH, QNH, HQP, HQN
MK0402LI400SC			None			34	43	8			Ring Type	QP, QN, QNR, QPH, QNH, QNRH
MK0402L1400SCS			Manual			34	43	8				

① Non-EUSERC configuration.

400A Solar Ready Meter Mains

Catalog Number	Amp Rating (cont.)	Utility Incoming	Bypass Type	No. of Spaces	No. of Circuits	Dimensions (inches) Height	Width	Depth	Short Circuit Rating	Mounting	Cover Type	Field Installed Main Breakers	Field Installed PV Main Breaker
MK0603S1400SC	320	OH/UG	None	6	3	42	43.75	9	22,000	Surface	RingType	QP, QN, QNR, QPH, QNH, QNRH	QP, QN, QPH, QNH
MK0603S1400SD		UG				40.5	40.5	8			RingType		
MK0603S1400SCS		OH/UG	Manual			42	43.75	9			RingType		
MK0603S1400SDS		UG				42	43.75	9			RingType		

400A Meter Mains (1 x 400A)

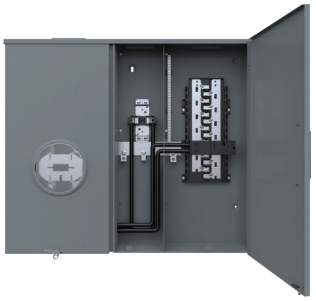
If one point of disconnect is preferred, Siemens offers single disconnect 400A Meter Mains with (1) factory installed 400A main breaker. Designed to meet EUSERC specifications.

400A Single Disconnect Meter Mains

Catalog Number	Amp Rating (cont.)	Utility Incoming	Bypass Type	No. of Spaces	No. of Circuits	Dimensions (inches) Height	Width	Depth	Short Circuit Rating	5th Jaw	Mounting	Cover Type	Factory Installed Main Breaker Type
MM0202B1400SC	320	OH/UG	None	1	1	40	33.2	6.5	22,000	–	Surface	Ring	JXD22B400
MM0202B1400SD		UG				40	30.2	6.5		–			
MM0202B1400SCS		OH/UG	Manual			40	33.2	6.5		–			
MM0202B1400SDS		UG				40	30.2	6.5		–			
MM0202B1400SCL		OH/UG	Lever			40	33.2	6.5		–			
MM0202131400SDL		UG				40	30.2	6.5		–			

Single Family Metering (cont.)

400A Meter Combos (2 x 200A)



Siemens' Meter Combinations are built for safety, easy installation, long term quality, and sustainability. Our new offering of 400A Meter Combos aid in compliance with NEC 2020 Section 230.71(B).

These new 400A Meter Combos have two 200A main breaker compartments, limiting exposure to live components during service work.

- MK Meter Combos ship with (1) factory installed 200A Type QNRH circuit breaker feeding the load center interior and (1) field installed circuit breaker to feed a downstream load center
- Designed to meet EUSERC specifications

400A Meter Combos

Catalog Number	Amp Rating (cont.)	Utility Incoming	Bypass Type	No. of Spaces	No. of Circuits	Dimensions (inches) Height	Width	Depth	Short Circuit Rating	Mounting	Cover Type	Field Installed Main Breaker
MK0816B1400RLT①	320	OH/UG	Lever	8	16	29.17	34.15	6.31	22,000	Surface	Ringless	QP, QN, QPH, QNH
MK2448B1400RL ①				24	48	29.17	34.15	6.31			Ringless	
MK2448B1400SC			None	24	48	39.56	39.43	6.28			Ring Type	QP, QN, QNR, QPH, QNH,QNRH
MK3042B1400SC				30	42	39.56	39.43	6.28			Ring Type	
MK2448B1400SCS			Manual	24	48	39.56	39.43	6.28			Ring Type	
MK3042B1400SCS				30	42	39.56	39.43	6.28			Ring Type	

① Non-EUSERC configuration.

400A Meter Combos (1 x 400A)

If one point of disconnect is preferred, Siemens offers single disconnect 400A Meter Combos with (1) factory installed 400A main breaker feeding a 400A load center interior.

- Designed to meet EUSERC specifications.

400A Single Disconnect Meter Combos

Catalog Number	Amp Rating (cont.)	Utility Incoming	Bypass Type	No. of Spaces	No. of Circuits	Dimensions (inches) Height	Width	Depth	Short Circuit Rating	5th Jaw	Cover Type	Mounting	Field Installed Main Breaker
MC2442B1400SDL	320	UG	HQ Lever	24	42	39.5	30.3	6	22,000	H35815-2	Ringless	–	JXD22B400
MC2442B1400SDB	400	UG	Bolt In K4 No Bypass	24	42	39.7	30.2	6.4	22,000	–	Ringless	–	JXD22B400
MC2442B1400SD	320	UG	None	24	42	39.7	30.2	6.6	22,000	–	Ring	Surface	JXD22B400
MC2442B1400SDS	320	UG	Manual	24	42	40	30	6.5	22,000	–	Ring	Flush	JXD22B400

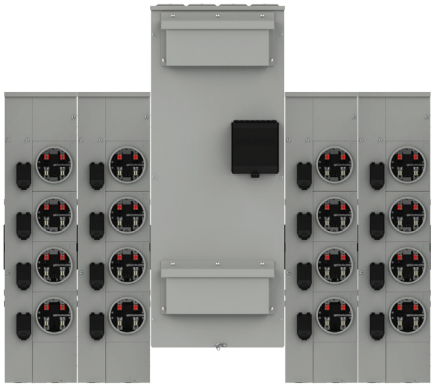
Multi-Family Metering

Power Mod™

Power Mod is Siemens' versatile, feature-rich solution for modular metering, which features the QuickSystem; a unique combination of labor-saving features designed to aid the contractor while installing the product.

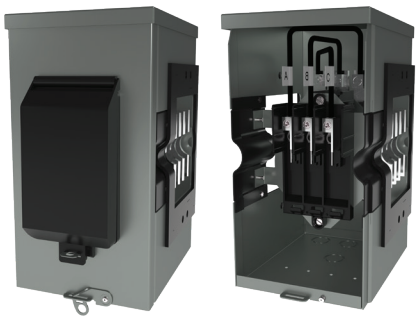
How will Power Mod help you meet code?

- When Power Mod meter stack modules are installed behind a single service disconnect, each tenant breaker in the meter stack is not considered a service disconnect, and therefore does not require a separate compartment.
- The simplest way to meet NEC 2020 Section 230.71(B) with Power Mod is by feeding the Power Mod line up with a Main Breaker Power Mod module like WBVs or WEBVs. This allows for the entire Power Mod line up to be de-energized by shutting off a single breaker.



Power Mod WSPD for Surge

Siemens WSPD Enclosures provide flexible surge protection in a compact footprint. Expand your surge protection options for your Power Mod meter bank. See technical literature for accepted SPDs. All SPDs are field installed and sold separately.



WSPD Enclosure - SPD Sold Separately

Catalog Number	Amps	Phase	Enclosure Type	Short Circuit	Dimensions (inches) Height	Width	Depth
WSPD1S	1200	1	NEMA 3R	65 kA	29.29	13.52	10.15
WSPD3S	1200	3	NEMA 3R	65 kA	29.29	13.52	10.15
WSPD1N	1200	1	NEMA 3R	65 kA	12.06	6.53	9.31
WSPD3N	1200	3	NEMA 3R	65 kA	12.06	6.53	9.31

Note: The new 3VA Power Mod Mains have a surge provision that requires the external mounting hardware and BSPD to be purchased separately.

Multi-Family Metering (cont.)

Uni-PAK

Siemens has refreshed our Uni-Pak multi-family metering portfolio to meet the specifics of NEC 2020. These updates are meant to address the new requirements for grouped disconnects, which are intended to help ensure that these important safety features are properly installed and easily accessible when needed in order to be safely operated.

To find the new NEC 2020 compliant PAK part numbers, take your old Uni-Pak part number and add a "K" to the end of the prefix in the part number!

For example WEP2211 → WEPK2211.

Catalog Number	Max Bus Rating	Max. Meter Socket-Rating	Max. Branch Rating	Bypass Type	Meter Positions	Meter Socket Cover	Dimensions (inches)			Short Circuit Rating	5th Jaw	Accepted Main Breaker Type
							Height	Width	Depth			
WEPK4212	200A	200A	225A	N/A	2	Ring Type	27.06	24.02	6.39	65,000	No	QN, QP
WPK4212RJ	200A	200A	225A	N/A	2	Ringless	35.26	30.5	6.39	65,000	Yes	QN, QP
WPLK4212RJ	400A	200A	225A	Lever	2	Ringless	39.31	34.5	6.46	65,000	Yes	QN, QP

This represents a small sampling of our robust PAK catalog. For each family (WEPK, WPK, WPLK) we feature a variety of options, such as up to six service disconnects in separate compartments, up to six meter positions, 200-1000A max. bus rating, 125A and 200A max. meter socket rating, 65,000 and 100,000 AIC rating, and more!





How will PAK help you meet code?

- Uni-PAK circuit breakers are located directly after the meter socket. Without a single service disconnect feeding the Uni-PAK, each of these breakers are considered service disconnects and therefore require compartments per NEC 230.71(B).
- Siemens has redesigned the Uni-PAK portfolio to make compliance simple. Now each tenant breaker has a compartment to aid NEC compliance and reduce accessibility to live parts during maintenance.
- The new Uni-PAK design also includes a provision for a field installable SPD. See the technical literature for specific Uni-PAK products for more SPD information.

Surge Protection

What changed?



Section 230.67 of NEC 2020 requires either a Type 1 or Type 2 surge protection device for all services supplying dwelling units, new and existing constructions. NEC 2023 expanded to include multifamily dwelling units, dormitory units, guest rooms and guest suites of hotels and motels, as well as patient sleeping rooms in nursing homes and limited care facilities. The surge protection device (SPD) must be an integral part of the service equipment or located immediately adjacent to the service equipment. Exception permits alternate location provided an SPD is located at each next level distribution equipment downstream toward the load. In general, Type 1 SPDs are acceptable to be placed on the load or service side of the main panel. Type 2 SPDs are designed to be placed on the load side only and are generally used for branch circuit protection.

Siemens offers products within our BSPD, QSPD, FSPD, & QSA product lines that can all ensure the code changes for NEC 2020 are met within your construction, whilst also allowing your specific needs to be met. Find examples in the chart below.

Catalog Numbers and UL 1449 performance data

QSPD

Catalog Number	System Voltage	L-N (L-G)	L-L	I_n	SCCR	MCOV	Breaker Form Factor	Warranty
QSPD2A065P	120/240V, 1Ø, 3W	600V	1000	20kA	200kA	150V	2-P, QP	10 years $50,000
OSPD3B065	240/120V, 3Ø, 4W	600V/900V	1200	20kA	200kA	150V	3-P, QP	10 years $50,000
OSPD3C065	208V/1 20V, 30, 4W	600V	1000	20kA	200kA	150V	3-P, QP	10 years $50,000
OSPD3D065	240V, 3Ø, 3W	900V	1500	20kA	200kA	280V	3-P, QP	10 years $50,000
QSPD-Base								
OSPD2A035B	120/240V, 1Ø, 3W	700V	1200	20kA	200kA	150V	3-P, QP	10 years $50,000

BSPD

Catalog Number	System Voltage	L-N (L-G)	L-L	I_n	SCCR	MCOV	Breaker Form Factor
BSPD2A100	120/240V, 1Ø, 3W	600V	900	20kA	200kA	150V	2-P, BL/BOD or xGB/3VA41
BSPD3B100	240/120V, 3Ø, 4W	600V/800V	1200	20kA	200kA	150V	3-P, BL/BOD or xGB/3VA41
BSPD3C100	208V/120V, 3Ø, 4W	600V	900	20kA	200kA	150V	3-P, BL/BOD or xGB/3VA41
BSPD3D100	240V, 3Ø, 3W	800V	1500	20kA	200kA	280V	3-P, BL/BOD or xGB/3VA41
BSPD3E100	480V/277V, 3Ø, 4W	1000V	1800	20kA	200kA	320V	3-P, BL/BOD or xGB/3VA41
BSPD3F100	480V, 3Ø, 3W	1800V	3000	20kA	200kA	550V	3-P, BL/BOD or xGB/3VA41
BSPD3G100	600V, 3Ø, 3W	2000V	4000	20kA	200kA	700V	3-P, BL/BOD or xGB/3VA41
BSPD3K100	380V/220V, 3Ø, 4W	900V	1800	20kA	200kA	320V	3-P, BL/BOD or xGB/3VA41
BSPD3L100	600V/347V, 3Ø, 4W	1200V	2500	20kA	200kA	400V	3-P, BL/BOD or xGB/3VA41
BSPD3S100	400V/230V, 3Ø, 4W	900V	1800	20kA	200kA	320V	3-P, BL/BOD or xGB/3VA41
BSPD3T100	415V/240V, 3Ø, 4W	900V	1800	20kA	200kA	320V	3-P. BL/BOD or xGB/3V

FSPD

Catalog Number	System Voltage	L-N	L-G	L-L	N-G	MCOV
FSPD036	120/240V, 1Ø, 3W	700	–	1200	–	180
FSPD060	120/240V, 1Ø, 3W	700	700	1200	700	180
FSPD100	120/240V, 1Ø, 3W	700	700	1200	700	180
FSPD140	120/240V, 1Ø, 3W	700	700	1200	700	180
Catalog Number	**System Voltage**			**L-G**	**L-L**	**MCOV**
FSPD040240	240V, 3Ø, 3W (Delta) or 208/ 120V, 3Ø, 4W (Wye)			1200	1200	275
FSPD040480	480V, 3Ø, 3W (Delta) or 480/277V, 3Ø, 4W (Wye)			2000	2000	500
FSPD040600	600V 3Ø, 3W (Delta) or 600/347V, 3Ø, 4W (Wve)			2500	2500	680

Catalog Number	Breaker Type	Amp Rating	Surge Type
QSA1515SPD	QP 1-Pole 120/240V AC 10KAIC	(2) 15	SPD
OSA2020SPD		(2) 20	SPD



Electronic Circuit Breakers

What changed?

Arc-Fault Circuit Interrupters (AFCI)

NEC 2020 expanded AFCI requirements to patient sleeping rooms in nursing homes and limited care facilities. NEC 2023 further expanded requirements to sleeping quarters in fire stations, police stations, ambulance stations, rescue stations, ranger stations, and similar locations.

Combination Type AFCI

Detects all three possible types of arc faults: line-to-ground, line-to-neutral and series arcs.

Breaker Type	Amp Rating	10,000 A IR Catalog No.	22,000 A IR Catalog No.	65,000 A IR Catalog No.
QAF2/QAFH2/HQAF2 1-Pole 120V AC	15	QA115AFC	QA115AFCH	QA115AFCHH ■
	20	QA120AFC	QA120AFCH	QA120AFCHH ■
QAF/QAFH 2-Pole 120/240V AC	15	Q215AFC	Q215AFCH ■	—
	20	Q220AFC	Q220AFCH ■	—
QTA Tandem 120V AC	15/15	Q1515AFC	—	—
	20/20	Q2020AFC	—	—
QAF2N Plug-on Neutral / 1-Pole 120V AC	15	QA115AFCN	—	—
	20	QA120AFCN	—	—
QAFN Plug-on Neutral / 2-Pole 120/240V AC	15	Q215AFCN	—	—
	20	Q220AFCN	—	—
QTAN Plug-on Neutral / Tandem 120V AC	15/15	Q1515AFCN	—	—
	20/20	Q2020AFCN	—	—

Dual Function (AFCI/GFCI)

The Dual Function Circuit Breaker combines Combination Type AFCI and 5mA Class A GFCI protection in one device.

Breaker Type	Amp Rating	10,000 A IR Catalog No.	22,000 A IR Catalog No.	65,000 A IR Catalog No.
QFGA2/QFGAH2/HQFGA2 1-Pole 120V AC	15	Q115DF	Q115DFH	Q115DFHH ■
	20	Q120DF	Q120DFH	Q120DFHH ■
QFGA2N Plug-on Neutral / 1-Pole 120V AC	15	Q115DFN	—	—
	20	Q120DFN	—	—

■ Built to order. Allow 8 -10 weeks for delivery.



1-Pole Combination Type AFCI



2-Pole Combination Type AFCI



1-Pole Dual Function AFCI/GFC



1-pole Tandem Type AFCI



1-Pole AFCI Plug-on Neutral



1-Pole Dual Function Plug-on Neutral

Electronic Circuit Breakers (cont.)

What changed?

Ground-Fault Circuit Interrupters (GFCI)

NEC 2020 expanded GFCI requirements to dryer receptacles, basements, mudrooms, and dishwashers. NEC 2023 further expanded GFCI requirements to any cord-and-plug equipment in the kitchen and added electric ranges, wall-mounted ovens, dryers, microwaves, and counter-mounted cooking units

Ground-Fault Circuit Interrupters (GFCI)

Class A (5mA) Ground Fault Protection Intended for personnel protection.

Breaker Type	Amp Rating	10kAIC Catalog No.	22kAIC Catalog No.	65kAIC Catalog No.
QPF2/QPHF2/HQPF2 1-Pole 120V AC	15	QF115A	QF115AH	QF115AHH ■
	20	QF120A	QF120AH	QF120AHH ■
	30	QF130A	QF130AH	QF130AHH ■
QPF2N 1-Pole 120V AC Plug-On Neutral	15	QF115AN	—	—
	20	QF120AN	—	—
	30	QF130AN	—	—
QPFB/QPHFB/HQPFB 2-Pole 120/240V AC	15	Q215GF	Q215GFH ■	Q215GFHH ■
	20	Q220GF	Q220GFH ■	Q220GFHH ■
	25	Q225GF	—	—
	30	Q230GF	Q230GFH ■	Q230GFHH ■
QPF/QPHF 2-Pole 120/240V AC	35	QF235A	—	—
	40	QF240A	QF240AH ■	—
	45	QF245A	—	—
	50	QF250A	QF250AH ■	—
	60	QF260A	QF260AH ■	—
QPFBN 2-Pole 120/240V AC Plug-On Neutral	15	Q215GFN	—	—
	20	Q220GFN	—	—
	30	Q230GFN	—	—



1-Pole GFCI



2-Pole GFCI

Ground-Fault Equipment Protection (30mA) Intended for equipment protection

Breaker Type	Amp Rating	10,000 A IR Catalog No.	22,000 A IR Catalog No.	65,000 A IR Catalog No.
QE2/QEH2/HQE2 1-Pole 120V AC	15	QE115	—	—
	20	QE120	—	—
	30	QE130	—	—
QEB/QEHB/HQEB 2-Pole 120/240V AC	15	Q215EG	Q215EGH	Q215EGHH ■
	20	Q220EG	Q220EGH	Q220EGHH ■
	30	Q230EG	Q230EGH	Q230EGHH ■
QE/QEH 2-Pole 120/240V AC	40	QE240	QE240H	—
	50	QE250	QE250H	—
	60	QE260	QE260H	—



1-Pole Equipment Protection



2-Pole Equipment Protection

■ Built to order. Allow 8 -10 weeks for delivery.

Accessories

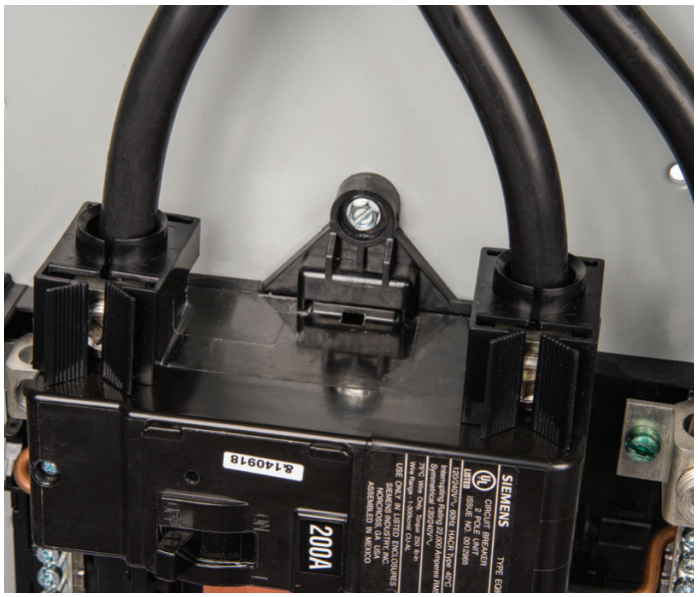
Description	Catalog No.
Padlocking Device 1-Pole	ECPLD1
Padlocking Device 2-Pole	ECPLD2
Handle Block	ECBX231M

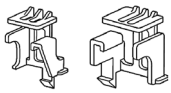
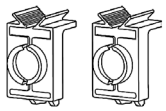
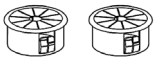
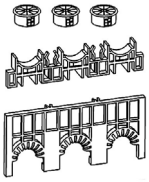
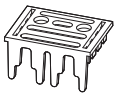
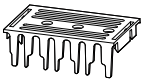
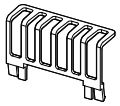
Line Terminal Barriers and Hold Down Kits

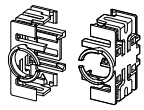
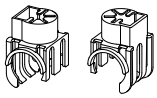
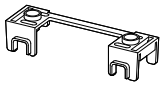
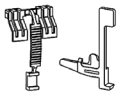
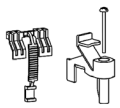
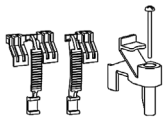
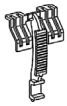
Load Centers and Meter Combos

Under NEC 2020, Touchsafe barriers are required for any single main service entrance application for a panel covered under UL 67. Line Terminal Barriers will be included in Main Breaker Load Centers and Single Main Meter Combos manufactured after January 1, 2017.

Single phase and 3-phase main breaker kits will include a barrier. Field installable kits are being created for replacements if needed and line terminal barriers are being added to hold down kits that can be used in back-fed applications. The barriers are designed to have minimal interference during load center installation and can be removed and reattached as necessary.



	Catalog Number	Description
	ECLTB1	For EQ Main Breakers/MBK kits 100A-125A
	ECLTB2	For EQ Main Breakers/MBK kits 150A-225A
	ECLTB3	For QN / QNR type breakers
	ECLTB4	For QR 3 phase breakers
	ECLTB5	For 2 Pole, 125A CB enclosures
	ECLTB6	For 3 Pole, 100A CB enclosures
	ECLTB7	For 2 Pole, 400A meter combos

	Catalog Number	Description
	ECLTB9	For 2 Pole, 200A CB enclosures with copper bus
	ECLTB10	For 2 Pole, 200A CB enclosures with aluminum bus
	ECLTB11	For 2 Pole, 60A CB enclosures
	ECMBR1	For 2 Pole QP / MP-T type breakers for EQIII (extruded basepan)
	ECMBR2	For 2 Pole QP / MP-T type breakers to be used with PN, SN, ES, PL, Ultimate, and legacy Murray or Rock Solid load centers
	ECMBR3	For 3 Pole QP / MP-T type breakers to be used with PL, ES 3 phase load centers
	ECLX387HD	For 2 Pole MP-T type breakers in legacy Murray load centers



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