

Power Defense Molded Case Circuit Breakers—Frame Size 2



Contents

<i>Description</i>	<i>Page</i>
Power Defense Molded Case Circuit Breakers	
Frame Size 1 (15–125 A)	V4-T2-22
Frame Size 2 (15–225 A)	
Catalog Number / Product Selection	V4-T2-30
Accessories	V4-T2-35
Dimensions and Weights	V4-T2-41
Frame Size 3 (45–600 A)	V4-T2-42
Frame Size 4 (300–800 A)	V4-T2-57
Frame Size 5 (320–1200 A)	V4-T2-70
Frame Size 6 (700–2500 A)	V4-T2-79
Motor Circuit Protectors (3–600 A)	V4-T2-87
Motor Protection Circuit Breakers (15–600 A)	V4-T2-98
Communications and Software	V4-T2-104
Special Applications	V4-T2-106

Power Defense Molded Case Circuit Breakers—Frame Size 2

Product Description

Frame Size 2 covers a range of 15 A through 225 A with a complete offering of trip units, including PXR electronic trip units and fixed-fixed thermal-magnetic trip units.

Application Description

Frame Size 2 can be used to meet a wide range of circuit protection and power distribution needs, including ground fault protection and current limiting options. PXR trip units in PD-2 provide all levels of protection, including energy metering with multiple communication schemes, breaker health indication, and zone selective interlocking with visual indication.

Features and Benefits

Frame Size 2 breakers are available in multiple ratings from 15 A through 225 A. They are configured with a trip unit from the factory. Accessories are modular in design to allow for field installation or factory configuration. PXR trip units are available with advanced features to provide customers unparalleled situational awareness of their electrical system.

Standards and Certifications

Power Defense breakers are designed and tested to meet stringent requirements for:

- UL
- CSA
- IEC (CE)
- CB (CCC)



Catalog Number / Product Selection

2

Power Defense—Frame Size 2 (15–225 A)

Frame Size 2 covers a range of 15 A through 225 A using electronic trip units or thermal-magnetic trip units. It is available in configurations of single-pole, 2-pole, 3-pole and 4-pole.

Interrupting Ratings (2-, 3- and 4-Pole)

Catalog Designator	F		G		K ^①		M ^①		N ^①		P ^①	
ANSI (UL/CSA)	kA rms		kA rms		kA rms		kA rms		kA rms		kA rms	
240 Vac	35		65		85		100		150		200	
480 Vac	25		35		50		65		85		100	
600 Vac	14		18		22		25		30 / 25 ^③		35 / 25 ^③	
250 Vdc ^②	10		10		10		22		22		22	
IEC	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}
240 Vac	35	35	55	55	85	85	100	100	150	100	200	150
380–415 Vac	25	25	36	36	50	50	70	53	70	70	100	70
440 Vac	25	20	30	22.5	35	35	50	40	70	50	100	65
480 Vac	20	20	25	20	35	22.5	50	30	65	40	65	40
525 Vac	18	15 / 13 ^③	20	15 / 13 ^③	30 / 25 ^③	15 / 13 ^③	30 / 25 ^③	15 / 13 ^③	30 / 25 ^③	15 / 13 ^③	35 / 25 ^③	18 / 13 ^③
660–690 Vac	—	—	8	4	10	5	10	5	10	5	10	5
250 Vdc ^②	10	10	10	10	10	10	22	22	22	22	22	22

Interrupting Ratings (Single-Pole)

Catalog Designator	F		G		K		M		N		P	
ANSI (UL/CSA)	kA rms		kA rms		kA rms		kA rms		kA rms		kA rms	
277 Vac	25		35		50		65		85		100	
347 Vac	14		18		22		25		30		35	
125 Vdc	10		10		10		22		22		22	
IEC	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}	I_{cu}	I_{cs}
240 Vac	25	25	36	36	50	50	70	70	85	70	100	70
125 Vdc	10	10	10	10	10	10	22	22	22	22	22	22

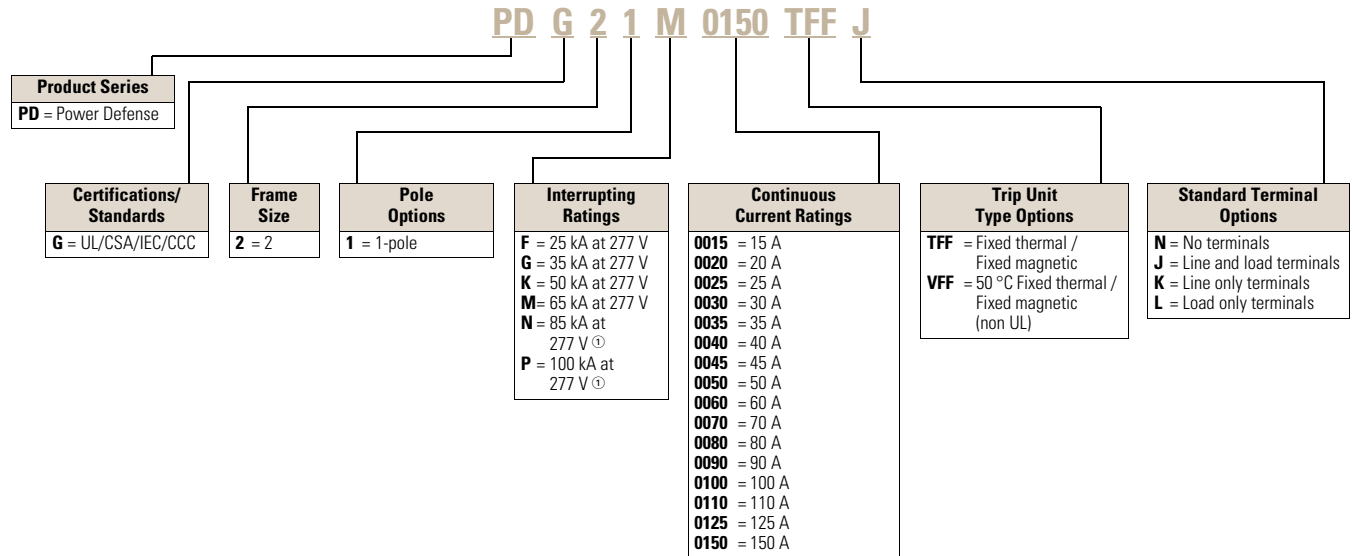
Notes

- ① UL current limiting for 3- and 4-pole breakers.
- ② DC ratings available in thermal-magnetic breakers only. 250 Vdc is achieved using 2-poles in series.
- ③ First rating listed is for thermal-magnetic breakers, second rating is for breakers with PXR electronic trip units.

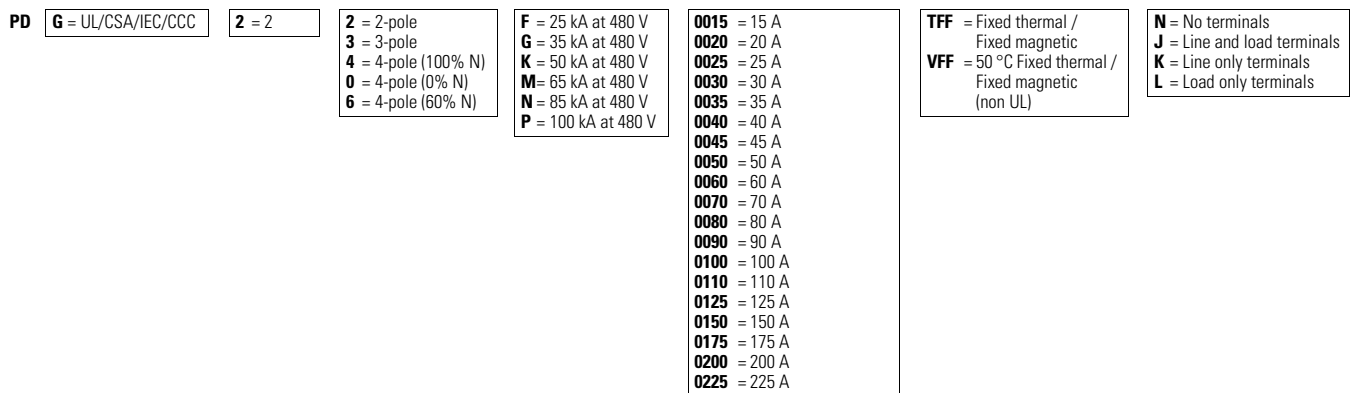
Power Defense—Frame Size 2 (15–225 A)

This information is presented as a tool to develop catalog numbers for selecting Power Defense circuit breakers and trip units.

Molded Case Circuit Breakers (Single-Pole) with Thermal-Magnetic Trip Units (TMTU)—Globally Rated



Molded Case Circuit Breakers (Two-, Three- and Four-Pole) with Thermal-Magnetic Trip Units—Globally Rated



Note

① N and P ratings available for 15–30 A on single-pole breakers.

2.2

Molded Case Circuit Breakers

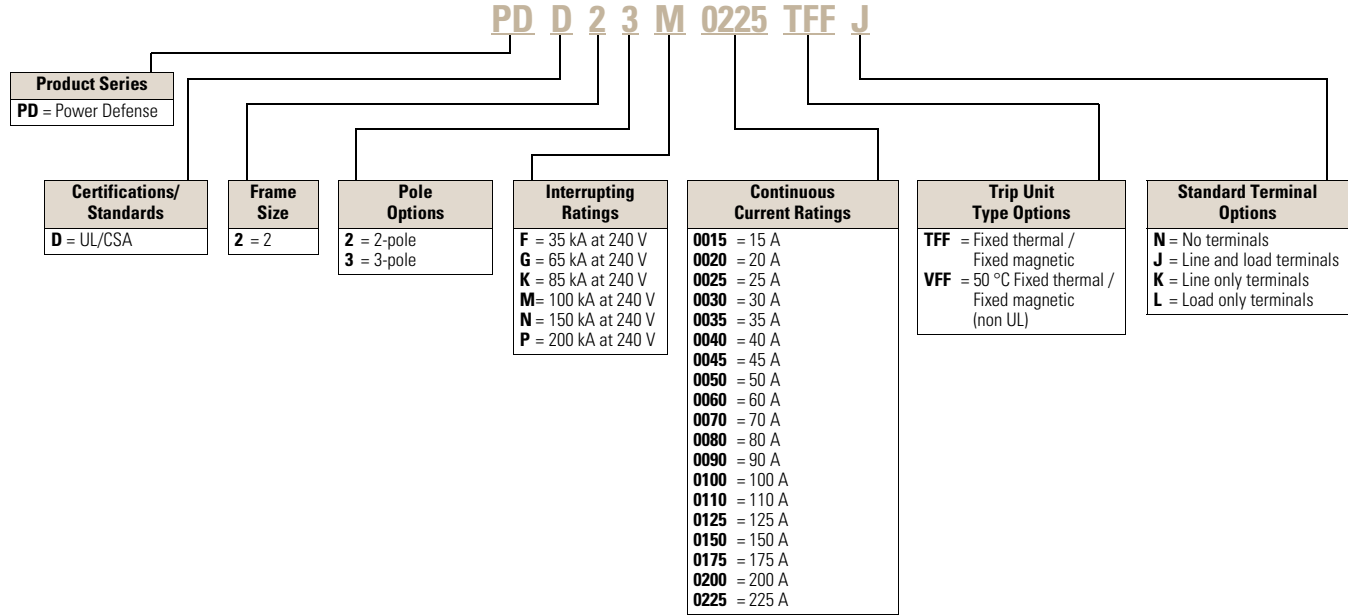
Power Defense Molded Case Circuit Breakers

2

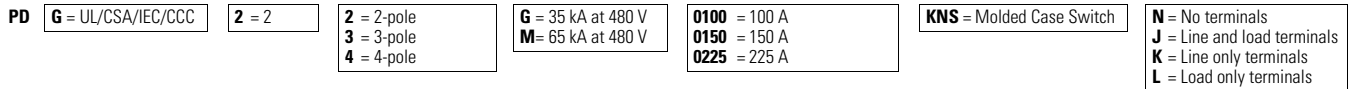
Power Defense—Frame Size 2 (15–225 A)

This information is presented as a tool to develop catalog numbers for selecting Power Defense circuit breakers and trip units.

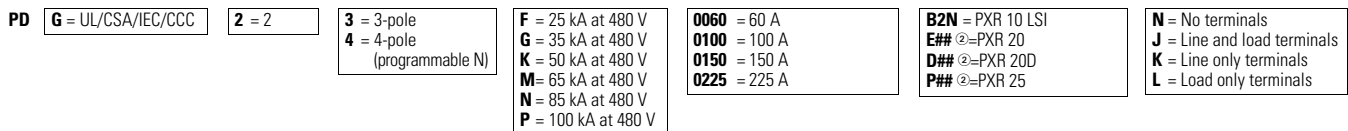
Molded Case Circuit Breakers with TMTU—UL/CSA Rated to 240 Vac



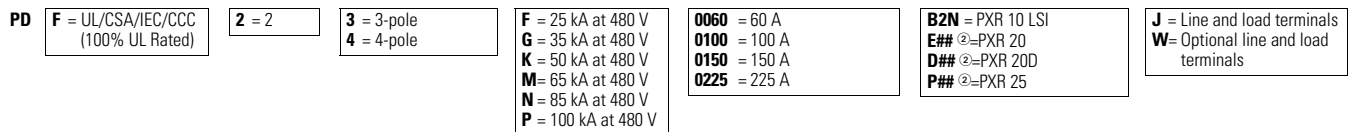
Molded Case Switches—Globally Rated ①



Molded Case Circuit Breakers with Power Xpert Release Electronic Trip Units (ETU)—Globally Rated



Molded Case Circuit Breakers with Power Xpert Release Electronic Trip Units (ETU)—100% UL Rated



Notes

- ① Molded case switch may open above 1800 A.
- ② See tables and descriptions on **Page V4-T2-33** for protection type (#₁) and available configured options (#₂).

Power Xpert Release (PXR) Trip Unit Options—Frame Size 2

Power Xpert Release (PXR) Trip Unit Options

PXR	ETU	#(1)—Protection Type		#(2)—Available Configured Options									
		LSI	LSIG	Relays	Relays Modbus	Relays ZSI	Relays CAM	Relays Modbus ZSI	Relays Modbus CAM	Relays Modbus ZSI CAM			
PXR 10	B	2	—	N	—	—	—	—	—	—	—	—	—
PXR 20	E	2	—	N	R	M	Z	C	W	X	—	—	
		—	3	—	R	M	Z	C	W	X	—	—	
PXR 20D	D	2	3	—	—	M	—	—	W	—	D	Y	
PXR 25	P	2	3	—	—	M	—	—	W	—	D	Y	

Description of PXR Configured Options

Relays ①—Form A contacts (rated for 240 Vac, 1 A)

- 2 available if Modbus RTU is not used; 1 available when used in conjunction with Modbus RTU
- Interface: 3 wires (ALM1, ALM2, ALM Common)
- Programmable to indicate breaker conditions
- Available as field-installable option if not pre-configured (catalog number **PDG2XRELAYS**) ②

Modbus ①—Modbus RTU directly from breaker

- Interface: 3 wires (MODBA, MODBB, MODBG)
- No additional modules required
- Available as field-installable option if not pre-configured (catalog number **PDG2XMODRTUREL**) ②

ZSI—Zone Selective Interlocking

- Includes ability to turn ON and OFF
- Interface: 3 wires (Zin, Zout, Zcomm)
- No additional modules required

CAM—CAM Link Connection (requires a CAM module per breaker)

- Interface: 5 wires (refer to CAM IL for details)
- Communications Adapter Modules available for Modbus TCP and PROFIBUS

Auxiliary Power

- Connection included with all PXR 20, 20D and 25 trip units
- Required for communications, relays and metering accuracy
- 24 Vdc, 0.5 A
- Interface: 2 wires (Aux +24 V, Aux 0 V)

Available Continuous Current (I_r) Settings on PXR Electronic Trip Units

Option	Setting	Catalog Number Selection and Maximum Setting (I _n)			
		0060 60 A	0100 100 A	0150 150 A	0225 225 A
PXR 10, PXR 20	1	15 A	32 A	50 A	80 A
	2	16 A	35 A	60 A	90 A
	3	20 A	40 A	63 A	100 A
	4	25 A	50 A	70 A	110 A
	5	30 A	60 A	80 A	125 A
	6	35 A	63 A	90 A	150 A
	7	40 A	70 A	100 A	160 A
	8	45 A	80 A	110 A	175 A
	9	50 A	90 A	125 A	200 A
	10 = I _n	60 A	100 A	150 A	225 A
PXR 20D, PXR 25		Programmable from minimum to maximum values in 1 A increments.			

Notes

- ① Relays and/or Modbus RTU in PD-2 uses accessory pocket, therefore UVR and shunt trip use is not possible.
- ② PD-2 can only be equipped with one field-installable communication option (PDG2XMODRTUREL or PDG2XRELAYS).