Miniature Circuit Breakers, Electronic Protection Modules, and Fuse Holders

Bulletins 188, 1489, 1492, 1694

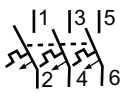
Allen-Bradley
by ROCKWELL AUTOMATION

Selection Guide

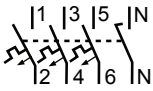
2-Pole Regional Circuit Breakers

Photo/Wiring Diagram	Continuous Current Rating (I_n)	10 kA Interrupting Capacity			6 kA Interrupting Capacity		
		Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n	Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n
	[A]	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
  2-pole	0.5	–	188-J2C005	188-J2D005	–	188-K2C005	188-K2D005
	1	–	188-J2C010	188-J2D010	–	188-K2C010	188-K2D010
	2	–	188-J2C020	188-J2D020	–	188-K2C020	188-K2D020
	3	–	188-J2C030	188-J2D030	–	188-K2C030	188-K2D030
	4	–	188-J2C040	188-J2D040	–	188-K2C040	188-K2D040
	6	188-J2B060	188-J2C060	188-J2D060	188-K2B060	188-K2C060	188-K2D060
	8	188-J2B080	188-J2C080	188-J2D080	188-K2B080	188-K2C080	188-K2D080
	10	188-J2B100	188-J2C100	188-J2D100	188-K2B100	188-K2C100	188-K2D100
	13	188-J2B130	188-J2C130	188-J2D130	188-K2B130	188-K2C130	188-K2D130
	16	188-J2B160	188-J2C160	188-J2D160	188-K2B160	188-K2C160	188-K2D160
	20	188-J2B200	188-J2C200	188-J2D200	188-K2B200	188-K2C200	188-K2D200
	25	188-J2B250	188-J2C250	188-J2D250	188-K2B250	188-K2C250	188-K2D250
	32	188-J2B320	188-J2C320	188-J2D320	188-K2B320	188-K2C320	188-K2D320
	40	188-J2B400	188-J2C400	188-J2D400	188-K2B400	188-K2C400	188-K2D400
	50	188-J2B500	188-J2C500	188-J2D500	188-K2B500	188-K2C500	188-K2D500
	63	188-J2B630	188-J2C630	188-J2D630	188-K2B630	188-K2C630	188-K2D630

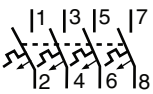
3-Pole Regional Circuit Breakers

Photo/Wiring Diagram	Continuous Current Rating (I_n)	10 kA Interrupting Capacity			6 kA Interrupting Capacity		
		Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n	Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n
	[A]	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
  3-pole	0.5	–	188-J3C005	188-J3D005	–	188-K3C005	188-K3D005
	1	–	188-J3C010	188-J3D010	–	188-K3C010	188-K3D010
	2	–	188-J3C020	188-J3D020	–	188-K3C020	188-K3D020
	3	–	188-J3C030	188-J3D030	–	188-K3C030	188-K3D030
	4	–	188-J3C040	188-J3D040	–	188-K3C040	188-K3D040
	6	188-J3B060	188-J3C060	188-J3D060	188-K3B060	188-K3C060	188-K3D060
	8	188-J3B080	188-J3C080	188-J3D080	188-K3B080	188-K3C080	188-K3D080
	10	188-J3B100	188-J3C100	188-J3D100	188-K3B100	188-K3C100	188-K3D100
	13	188-J3B130	188-J3C130	188-J3D130	188-K3B130	188-K3C130	188-K3D130
	16	188-J3B160	188-J3C160	188-J3D160	188-K3B160	188-K3C160	188-K3D160
	20	188-J3B200	188-J3C200	188-J3D200	188-K3B200	188-K3C200	188-K3D200
	25	188-J3B250	188-J3C250	188-J3D250	188-K3B250	188-K3C250	188-K3D250
	32	188-J3B320	188-J3C320	188-J3D320	188-K3B320	188-K3C320	188-K3D320
	40	188-J3B400	188-J3C400	188-J3D400	188-K3B400	188-K3C400	188-K3D400
	50	188-J3B500	188-J3C500	188-J3D500	188-K3B500	188-K3C500	188-K3D500
	63	188-J3B630	188-J3C630	188-J3D630	188-K3B630	188-K3C630	188-K3D630

3-Pole + Neutral Regional Circuit Breakers

Photo/Wiring Diagram	Continuous Current Rating (I_n)	10 kA Interrupting Capacity			6 kA Interrupting Capacity		
		Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n	Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n
	[A]	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
  3-pole + N	0.5	–	188-J3C005-N	188-J3D005-N	–	188-K3C005-N	188-K3D005-N
	1	–	188-J3C010-N	188-J3D010-N	–	188-K3C010-N	188-K3D010-N
	2	–	188-J3C020-N	188-J3D020-N	–	188-K3C020-N	188-K3D020-N
	3	–	188-J3C030-N	188-J3D030-N	–	188-K3C030-N	188-K3D030-N
	4	–	188-J3C040-N	188-J3D040-N	–	188-K3C040-N	188-K3D040-N
	6	188-J3B060-N	188-J3C060-N	188-J3D060-N	188-K3B060-N	188-K3C060-N	188-K3D060-N
	8	188-J3B080-N	188-J3C080-N	188-J3D080-N	188-K3B080-N	188-K3C080-N	188-K3D080-N
	10	188-J3B100-N	188-J3C100-N	188-J3D100-N	188-K3B100-N	188-K3C100-N	188-K3D100-N
	13	188-J3B130-N	188-J3C130-N	188-J3D130-N	188-K3B130-N	188-K3C130-N	188-K3D130-N
	16	188-J3B160-N	188-J3C160-N	188-J3D160-N	188-K3B160-N	188-K3C160-N	188-K3D160-N
	20	188-J3B200-N	188-J3C200-N	188-J3D200-N	188-K3B200-N	188-K3C200-N	188-K3D200-N
	25	188-J3B250-N	188-J3C250-N	188-J3D250-N	188-K3B250-N	188-K3C250-N	188-K3D250-N
	32	188-J3B320-N	188-J3C320-N	188-J3D320-N	188-K3B320-N	188-K3C320-N	188-K3D320-N
	40	188-J3B400-N	188-J3C400-N	188-J3D400-N	188-K3B400-N	188-K3C400-N	188-K3D400-N
	50	188-J3B500-N	188-J3C500-N	188-J3D500-N	188-K3B500-N	188-K3C500-N	188-K3D500-N
	63	188-J3B630-N	188-J3C630-N	188-J3D630-N	188-K3B630-N	188-K3C630-N	188-K3D630-N

4-Pole Regional Circuit Breakers

Photo/Wiring Diagram	Continuous Current Rating (I_n)	10 kA Interrupting Capacity			6 kA Interrupting Capacity		
		Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n	Trip Curve B Resistive or Slightly Inductive 3...5 x I_n	Trip Curve C Inductive 5...10 x I_n	Trip Curve D Highly Inductive 10...20 x I_n
	[A]	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
  4-pole	0.5	–	188-J4C005	188-J4D005	–	188-K4C005	188-K4D005
	1	–	188-J4C010	188-J4D010	–	188-K4C010	188-K4D010
	2	–	188-J4C020	188-J4D020	–	188-K4C020	188-K4D020
	3	–	188-J4C030	188-J4D030	–	188-K4C030	188-K4D030
	4	–	188-J4C040	188-J4D040	–	188-K4C040	188-K4D040
	6	188-J4B060	188-J4C060	188-J4D060	188-K4B060	188-K4C060	188-K4D060
	8	188-J4B080	188-J4C080	188-J4D080	188-K4B080	188-K4C080	188-K4D080
	10	188-J4B100	188-J4C100	188-J4D100	188-K4B100	188-K4C100	188-K4D100
	13	188-J4B130	188-J4C130	188-J4D130	188-K4B130	188-K4C130	188-K4D130
	16	188-J4B160	188-J4C160	188-J4D160	188-K4B160	188-K4C160	188-K4D160
	20	188-J4B200	188-J4C200	188-J4D200	188-K4B200	188-K4C200	188-K4D200
	25	188-J4B250	188-J4C250	188-J4D250	188-K4B250	188-K4C250	188-K4D250
	32	188-J4B320	188-J4C320	188-J4D320	188-K4B320	188-K4C320	188-K4D320
	40	188-J4B400	188-J4C400	188-J4D400	188-K4B400	188-K4C400	188-K4D400
	50	188-J4B500	188-J4C500	188-J4D500	188-K4B500	188-K4C500	188-K4D500
	63	188-J4B630	188-J4C630	188-J4D630	188-K4B630	188-K4C630	188-K4D630

Specifications

General Data			
Poles			1, 2, 3, 4, 1+N, 3+N
Tripping characteristics			B, C, D
Rated current (I_n)			0.5...63 A
Rated frequency (f)			50/60 Hz
Rated insulation voltage U_i per IEC/EN 60664-1			250V AC (phase to ground) 440V AC (phase to phase)
Overvoltage category			III
Pollution degree			2
Data per IEC/EN 60898-1			
Rated operational voltage (U_e)	1-pole		230/400V AC
	1-pole + N		230V AC
	2-, 3-, 4-, 3-pole + N		400V AC
Highest supply or utilization voltage (U_{max})	AC	1-pole	253/440V AC
		1-pole + N	253V AC
		2-, 3-, 4-, 3-pole + N	440V AC
	DC (1)	1-pole	48V DC
		2-pole	96V DC
Min. operating voltage			12V AC, 12V DC
Rated short-circuit capacity (I_{cn})	188-J		10 kA
	188-K		6 kA
Energy limiting class (B, C up to 40 A)			3
Rated impulse withstand voltage $U_{imp.}$ (1.2/50µs)			4 kV (test voltage 6.2 kV at sea level, 5 kV at 2,000 m)
Dielectric test voltage			2 kV (50/60 Hz, 1 min.)
Reference temperature for tripping characteristics			B, C, D: 30 °C (86 °F)
Electrical endurance 1 cycle (2s - ON, 13s - OFF, $I_n \leq 32$ A), 1 cycle (2s - ON, 28s - OFF, $I_n > 32$ A)			$I_n < 30$ A: 20,000 ops (AC) $I_n \geq 30$ A: 10,000 ops. (AC); 1,000 ops. (DC)

(1) IEC DC ratings self-declared.

Power Loss Due to Current

Rated Current [A]	Power Loss Per Pole [W]
0.5	1.4
1	1.4
2	1.8
3	1.5
4	1.8
6	2.0
8	1.5
10	2.1
13	2.3
16	2.5
20	2.5
25	3.2
32	3.7
40	4.8
50	4.5
63	5.2

Mechanical Data		
Housing		Insulation group II, RAL 7035
Indicator window		None
Protection degree per EN 60529		IP20, IP40 in enclosure with cover
Mechanical endurance		20,000 operations
Shock resistance per IEC/EN 60068-2-27		25 g – 2 shocks – 13 ms
Vibration resistance per IEC/EN 60068-2-6		5g – 20 cycles at 5...150...5 Hz with load 0.8 x I_n
Environmental		
Environmental conditions (damp heat) per IEC/EN 60068-2-30		28 cycles with 55 °C (131 °F)/90-96% and 25 °C (-13 °F)/95-100%
Ambient temperature (1)		-25...+55 °C (-13...+131 °F)
Storage temperature		-40...+70 °C (-40...+158 °F)
Installation		
Terminal		Cage terminal
Cross-section of wire – solid, stranded		0.75...25 mm^2
Cross-section of wire – flexible		0.75...16 mm^2
Tightening torque	IEC	2.0 N•m
Screwdriver		No. 2 Pozidriv
Mounting		DIN Rail (EN 60715, 35 mm) with fast clip
Mounting position		Any
Supply		Optional
Approximate Dimensions and Weight		
Pole dimension (H x D x W)		85 x 69 x 17.5 mm
Pole weight		115 g (4.4 oz.)
Combination with Auxiliary Elements		
Auxiliary contact		Yes
Signal contact		Yes
Shunt trip		Yes

(1) See Table 10 for ambient temperature derating information.

The installation of several devices side by side with rated current on all poles requires a correction factor to the rated current (not required if spacers are used).

Zero-stack Derating

No. of Adjacent Devices	Correction Factor
1	1
2.3	0.9
4.5	0.8
≥ 6	0.75