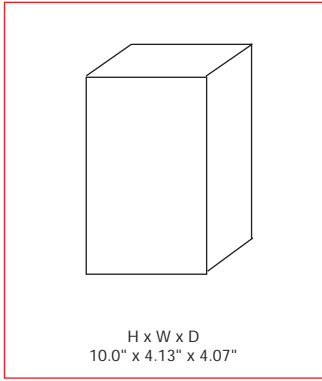




S4

250A, 600VAC

Electronic trip type



Standard S4 package includes complete circuit breaker and mounting hardware. Order cable lugs or other connection scheme as a separate item.

General

The S4 breaker family is a 250A frame utilizing a microprocessor based overcurrent protective trip system. In the 250A version, the trip unit is adjustable from 100A up to 250A without the addition of any parts or rating plugs. As standard, the S4 includes adjustable long time function for overload protection and adjustable instantaneous function for short circuit protection.

Versions

To meet all application needs, the S4 is available in various versions:

- B = Adjustment LI
- C = Adjustment LSI
- E = Adjustment LSI G
- O = 100% UL rated
- D = Molded case switch
- M = Magnetic only (MCP)

Trip functions

These tripping functions are available:

- L = Long time I = Instantaneous
- S = Short time G = Ground fault

Performance level

Each version is also available in different maximum fault interrupting levels:

- N = Normal
- H = High
- L = Extra high

15 Number of poles

In UL/CSA form, the S4 is available in two pole or three pole versions, both with the same dimensions. A four pole version is also available in UL/IEC form. For price estimate, add 35% to list price of selected version three pole breaker, contact ABB Control for details.

Accessory mounting

Internal accessories are UL/CSA approved for both factory or field installation. Accessories require control cable connectors. Shunt trips or UVR's mount in the left cavity. Auxiliary or bell alarm switches mount in the right cavity.

Reverse feeding

All versions of the S4 family are suitable for reverse feed applications.

Molded case switches

UL489 switches include no overcurrent protection except for a high instantaneous trip mechanism for self protection.

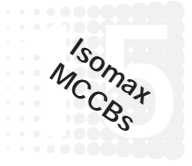
UL/CSA Interrupting capacity (kA RMS) UL489 / CSA C22.2

Voltage	N	H	L
240VAC	65	150	200
480VAC	25	65	100
600VAC	18	22	35

IEC-947 Interrupting capacity (kA RMS)

Voltage	N	H	L
230VAC	65	150	200
380/400/415VAC	35	65	100
440VAC	30	50	80
500VAC	25	40	65
690VAC	18	22	30

S4 250A, 600VAC Electronic trip type



The S4 breaker family uses two available microprocessor based internal trip units. The standard **PR211** trip unit includes adjustments for long time current pick-up and instantaneous current trip point.

The optional **PR212** trip unit includes adjustments for long time current pick-up/delay, short time pick-up/delay I²t (on/off), instantaneous current trip point and further optional ground fault protection.

100A Frame (40 – 100A adjustable continuous range)

Breaker	IC at 480VAC	Trip type	Adjustment	2 pole catalog number	List price	3 pole catalog number	List price
S4N	25kA	PR211	LI	S4N100BW-2	\$ 1073	S4N100BW	\$ 1347
		PR212	LSI	S4N100CW-2	1679	S4N100CW	1913
		PR212	LSIG	—	—	S4N100EW	2813
S4H	65kA	PR211	LI	S4H100BW-2	2572	S4H100BW	3030
		PR212	LSI	S4H100CW-2	3138	S4H100CW	3596
		PR212	LSIG	—	—	S4H100EW	4496
S4L	100kA	PR211	LI	S4L100BW-2	3159	S4L100BW	3950
		PR212	LSI	S4L100CW-2	3725	S4L100CW	4516
		PR212	LSIG	—	—	S4L100EW	5416

250A Frame (100 – 250A adjustable continuous range)

Breaker	IC at 480VAC	Trip type	Adjustment	2 pole catalog number	List price	3 pole catalog number	List price
S4N	25kA	PR211	LI	S4N250BW-2	\$ 1073	S4N250BW	\$ 1347
		PR212	LSI	S4N250CW-2	1679	S4N250CW	1913
		PR212	LSIG	—	—	S4N250EW	2813
S4H	65kA	PR211	LI	S4H250BW-2	2572	S4H250BW	3030
		PR212	LSI	S4H250CW-2	3138	S4H250CW	3596
		PR212	LSIG	—	—	S4H250EW	4496
S4L	100kA	PR211	LI	S4L250BW-2	3159	S4L250BW	3950
		PR212	LSI	S4L250CW-2	3725	S4L250CW	4516
		PR212	LSIG	—	—	S4L250EW	5416

Trip settings

Adjustment	Trip function	Range	Individual settings
L	Long time pick-up Long time delay	0.4 – 1.0 3.0 – 18 sec.	0.4-0.5-0.55-0.6-0.65-0.7-0.75-0.8-0.85-0.875-0.9-0.925-0.95-0.975-1.0 x Frame rating PR212 A - B - C - D
S	Short time pick-up Short time delay	1.0 – 10.0 0.05 – 0.5 sec.	Off-1.0-2.0-3.0-4.0-6.0-8.0-10.0 x Frame rating A - B - C - D (I ² t On-Off)
I	Instantaneous trip	1.5 – 12.0	1.5-2.0-4.0-6.0-8.0-10.0-12.0 x Frame rating
G	Ground fault Ground fault delay	0.2 – 1.0 0.1 – 0.8 sec.	Off-0.2-0.3-0.4-0.6-0.8-0.9-1.0 x Frame rating A - B - C - D

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Continuous amperage settings (long time adjustment) – PR211

Frame	Set points								Setting
	0.4	0.5	0.6	0.7	0.8	0.9	0.95	1.0	
100A	40	50	60	70	80	90	95	100	Amps
250A	100	125	150	175	200	225	237	250	Amps



S4

250A, 600 VAC

100% UL rated

When applied correctly, UL tested 100% equipment rated breakers may be applied at full rating rather than on the sizing rules of the NEC where breakers and cable are sized based on actual continuous load current divided by 80%. This

100% rating can save the user the cost of larger cable or bus bar. Please consult the NEC for details and other design factors needed for this application.

100A Frame (40 – 100A adjustable continuous range)

Breaker	IC at 480VAC	Trip type	Adjustment	3 pole catalog number	List price
S4N	25kA	PR211	LI	S4NQ100BW	\$ 1482
		PR212	LSI	S4NQ100CW	2104
		PR212	LSIG	S4NQ100EW	3094
S4H	65kA	PR211	LI	S4HQ100BW	3333
		PR212	LSI	S4HQ100CW	3956
		PR212	LSIG	S4HQ100EW	4946
S4L	100kA	PR211	LI	S4LQ100BW	4345
		PR212	LSI	S4LQ100CW	4968
		PR212	LSIG	S4LQ100EW	5958

250A Frame (100 – 250A adjustable continuous range)

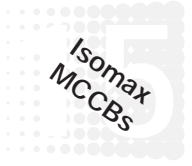
Breaker	IC at 480VAC	Trip type	Adjustment	3 pole catalog number	List price
S4N	25kA	PR211	LI	S4NQ250BW	\$ 1482
		PR212	LSI	S4NQ250CW	2104
		PR212	LSIG	S4NQ250EW	3094
S4H	65kA	PR211	LI	S4HQ250BW	3333
		PR212	LSI	S4HQ250CW	3956
		PR212	LSIG	S4HQ250EW	4946
S4L	100kA	PR211	LI	S4LQ250BW	4345
		PR212	LSI	S4LQ250CW	4968
		PR212	LSIG	S4LQ250EW	5958

Trip settings

Adjustment	Trip function	Range	Individual settings
L	Long time pick-up Long time delay	0.4 – 1.0 3.0 – 18 sec.	0.4-0.5-0.55-0.6-0.65-0.7-0.75-0.8-0.85-0.875-0.9-0.925-0.95-0.975-1.0 x Frame rating PR212 A - B - C - D
S	Short time pick-up Short time delay	1.0 – 10.0 0.05 – 0.5 sec.	Off-1.0-2.0-3.0-4.0-6.0-8.0-10.0 x Frame rating A - B - C - D (I ² t On-Off)
I	Instantaneous trip	1.5 – 12.0	1.5-2.0-4.0-6.0-8.0-10.0-12.0 x Frame rating
G	Ground fault Ground fault delay	0.2 – 1.0 0.1 – 0.8 sec.	Off-0.2-0.3-0.4-0.6-0.8-0.9-1.0 x Frame rating A - B - C - D

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S4 250A, 600VAC



Magnetic only (MCP)

All S4 magnetic only breakers utilize the electronic PR211 trip unit with an adjustable range of 1.5 to 12 times frame rating. Both two and three pole MCPs are 600VAC rated.

Type	Amps	Interruption capacity		Adjustment range	2 pole 600VAC catalog number	List price	3 pole 600VAC catalog number	List price
S4N	100	240VAC	65kA	150 – 1200A 375 – 3000A	S4N100MW-2 S4N250MW-2	\$ 1073	S4N100MW S4N250MW	\$ 1347
	250	480VAC 600VAC	25kA 18kA					
S4H	100	240VAC	150kA	150 – 1200A 375 – 3000A	S4H100MW-2 S4H250MW-2	2572	S4H100MW S4H250MW	3030
	250	480VAC 600VAC	65kA 22kA					
S4L	100	240VAC	200kA	150 – 1200A 375 – 3000A	S4L100MW-2 S4L250MW-2	3159	S4L100MW S4L250MW	3950
	250	480VAC 600VAC	100kA 35kA					

Molded case switch

Type	Interruption capacity ②		Amps	Magnetic trip	3 pole catalog number	List price
S4H-D	240VAC	150kA	250	3000A	S4H250DW	\$ 1215
	480VAC	65kA				
	600VAC	22kA				

Neutral GF current transformer (required for 4 wire GF systems)

Amps	Catalog number	List price
100	K4NCT-100	\$ 250
250	K4NCT-250	

Connection options

Type	Wire range	Amps ①	Set of 2 catalog number	List price	Set of 3 catalog number	List price
CU/AL front lugs	14AWG – 1/0	100	K4TB-2	\$ 4	K4TB	\$ 6
CU/AL front lugs	2AWG – 4/0	150	K4TC-2	4	K4TC	6
CU/AL front lugs	4AWG – 300kcmil	225	K4TD-2	10	K4TD	15
CU/AL front lugs	6AWG – 350kcmil	250	K4TE-2	20	K4TE	30
CU front lugs (saddle) CU rear lugs	14AWG – 250kcmil	250	—	—	Set of 6 catalog number K4TES	30
	6AWG – 250kcmil	250	—	—	K4TER	
Extended front bar	—	250	—	—	K4ET-250	46

① Suggested lugs for a circuit breaker up to the amps shown. Cable size and type determine maximum amperage.
② With fuse or MCCB protected circuit.