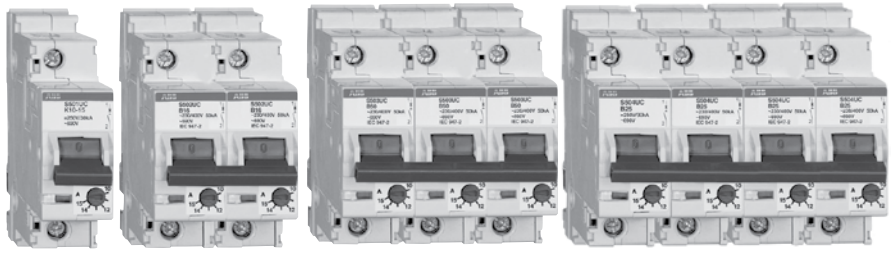
S500 Miniature Circuit Breakers

S500 Series
UL 1077



Description

The S500 high performance MCB offers a compact solution to circuit protection. The S500 devices are UL tested current limiting and DIN rail mounted. The S500 is available with application-specific trip characteristics to provide maximum circuit protection.

The breakers offer thermal-magnetic trip protection according to B and K characteristics.

For the worldwide market, the breakers carry CSA, IEC, CE and many other agency approvals.

Features

- High breaking capacity
- Fast breaking time (2.3 - 2.5 ms)
- Adjustable trip unit
- DIN rail mounting
- Finger safe terminals
- Multi-functional terminals
- Wide range of accessories
- UL 1077 recognized 600 VAC and 600 VDC versions
- UL1077 AC adjustable K
- UL1077 DC adjustable B, K
- UL File # E167556
- IEC #E60497-2

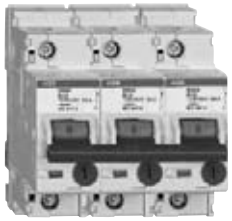
	S500	S500UC
Amperage	0.1 – 45 A	0.1 – 63 A
Voltage	UL: 600Y/277 VAC IEC: 690 VAC	UL: 250 VDC per pole (750 VDC for 4P) IEC: 250 VDC per pole (750 VDC for 4P)
Poles	1, 2, 3	1, 2, 3, 4
Trip characteristics	K	B, K
Interrupting ratings	Up to 30 kA: UL 1077 Up to 30 kA: CSA C22.2	30 kA: UL 1077 30 kA: CSA C22.2
Auxiliary contacts	Yes	Yes
Bell alarm	Yes	Yes
Shunt trip	No	No
Undervoltage release	No	No
Bus bar	Yes	Yes

S500-K, UL 600Y/277 VAC / IEC 690 VAC
Supplemental protection
UL 1077, CSA 22.2, IEC

K


S501-K


S502-K

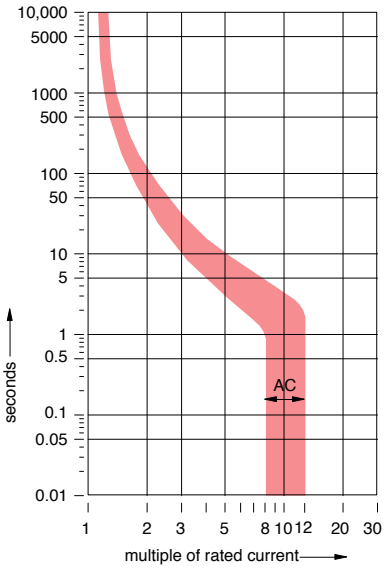

S503-K

No. of poles	Rated current	Catalog number	List price	No. of poles	Rated current	Catalog number	List price
1	0.1 – 0.15	**S501-K0.15**	**$ 186**	3	0.1 – 0.15	**S503-K0.15**	**$ 518**
	0.14 – 0.21	**S501-K0.21**			0.14 – 0.21	**S503-K0.21**	
	0.2 – 0.3	**S501-K0.3**			0.2 – 0.3	**S503-K0.3**	
	0.28 – 0.42	**S501-K0.42**			0.28 – 0.42	**S503-K0.42**	
	0.38 – 0.58	**S501-K0.58**			0.38 – 0.58	**S503-K0.58**	
	0.53 – 0.8	**S501-K0.8**			0.53 – 0.8	**S503-K0.8**	
	0.73 – 1.1	**S501-K1.1**			0.73 – 1.1	**S503-K1.1**	
	1 – 1.5	**S501-K1.5**			1 – 1.5	**S503-K1.5**	
	1.4 – 2.1	**S501-K2.1**			1.4 – 2.1	**S503-K2.1**	
	2 – 3	**S501-K3**			2 – 3	**S503-K3**	
	2.8 – 4.2	**S501-K4.2**			2.8 – 4.2	**S503-K4.2**	
	3.8 – 5.8	**S501-K5.8**			3.8 – 5.8	**S503-K5.8**	
	5.3 – 8	**S501-K8**			5.3 – 8	**S503-K8**	
	7.3 – 11	**S501-K11**			7.3 – 11	**S503-K11**	
	10 – 15	**S501-K15**			10 – 15	**S503-K15**	
	14 – 20	**S501-K20**			14 – 20	**S503-K20**	
	18 – 26	**S501-K26**			18 – 26	**S503-K26**	
	23 – 32	**S501-K32**			23 – 32	**S503-K32**	
	29 – 37	**S501-K37**			29 – 37	**S503-K37**	
	34 – 41	**S501-K41**			34 – 41	**S503-K41**	
	38 – 45	**S501-K45**			38 – 45	**S503-K45**	
2	0.1 – 0.15	**S502-K0.15**	**370**				
	0.14 – 0.21	**S502-K0.21**					
	0.2 – 0.3	**S502-K0.3**					
	0.28 – 0.42	**S502-K0.42**					
	0.38 – 0.58	**S502-K0.58**					
	0.53 – 0.8	**S502-K0.8**					
	0.73 – 1.1	**S502-K1.1**					
	1 – 1.5	**S502-K1.5**					
	1.4 – 2.1	**S502-K2.1**					
	2 – 3	**S502-K3**					
	2.8 – 4.2	**S502-K4.2**					
	3.8 – 5.8	**S502-K5.8**					
	5.3 – 8	**S502-K8**					
	7.3 – 11	**S502-K11**					
	10 – 15	**S502-K15**					
	14 – 20	**S502-K20**					
	18 – 26	**S502-K26**					
	23 – 32	**S502-K32**					
	29 – 37	**S502-K37**					
	34 – 41	**S502-K41**					
	38 – 45	**S502-K45**					

Tripping characteristic K

UL 1077	IEC
600 VAC	690 VAC
Up to 30 kA	Up to 30 kA

Inductive loads
- K Curve
- Designed for allowing higher in-rush currents during system start up
- Example: motors, transformers



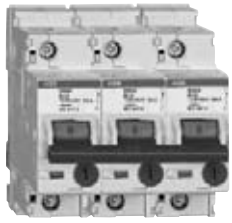
Accessories & technical data
Accessories – See page 71
Technical data – See page 76 - 82

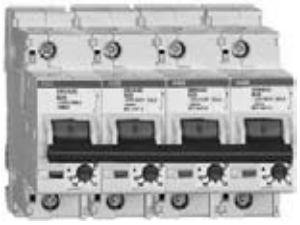
S500UC-B, 250 VDC per pole (750 VDC 4P), UL/IEC
Supplemental protectors
UL1077, CSA 22.2, IEC

B


S501UC-B


S502UC-B


S503UC-B


S504UC-B

No. of poles	Rated current	Catalog number	List price	No. of poles	Rated current	Catalog number	List price
1	6	**S501UC-B6**	**$ 310**	3	6	**S503UC-B6**	**$ 880**
	10	**S501UC-B10**			10	**S503UC-B10**	
	13	**S501UC-B13**			13	**S503UC-B13**	
	16	**S501UC-B16**			16	**S503UC-B16**	
	20	**S501UC-B20**			20	**S503UC-B20**	
	25	**S501UC-B25**			25	**S503UC-B25**	
	32	**S501UC-B32**			32	**S503UC-B32**	
	40	**S501UC-B40**			40	**S503UC-B40**	
	50	**S501UC-B50**			50	**S503UC-B50**	
	63	**S501UC-B63**			63	**S503UC-B63**	
2	6	**S502UC-B6**	**600**	4	6	**S504UC-B6**	**1,250**
	10	**S502UC-B10**			10	**S504UC-B10**	
	13	**S502UC-B13**			13	**S504UC-B13**	
	16	**S502UC-B16**			16	**S504UC-B16**	
	20	**S502UC-B20**			20	**S504UC-B20**	
	25	**S502UC-B25**			25	**S504UC-B25**	
	32	**S502UC-B32**			32	**S504UC-B32**	
	40	**S502UC-B40**			40	**S504UC-B40**	
	50	**S502UC-B50**			50	**S504UC-B50**	
	63	**S502UC-B63**			63	**S504UC-B63**	

Tripping characteristic B

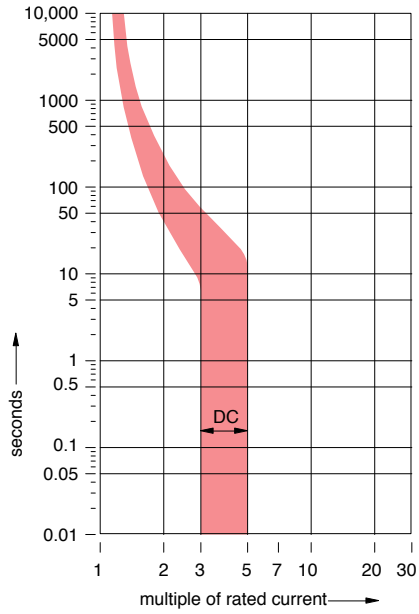
UL 1077	IEC
250 VDC per pole (750 VDC 4P)	250 VDC per pole (750 VDC 4P)
30 kA	30 kA

Inductive loads

- B Curve
- Designed for allowing higher in-rush currents during system start up
- Example: motors, transformers

Accessories & technical data

Accessories – See page 71
Technical data – See page 76 - 82

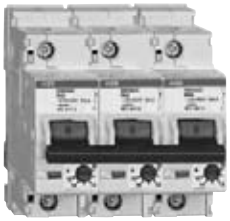


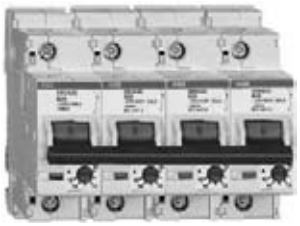
S500UC-K, 250 VDC per pole (750 VDC 4P), UL/IEC
Supplemental protectors
UL1077, CSA 22.2, IEC

K


S501UC-K


S502UC-K


S503UC-K

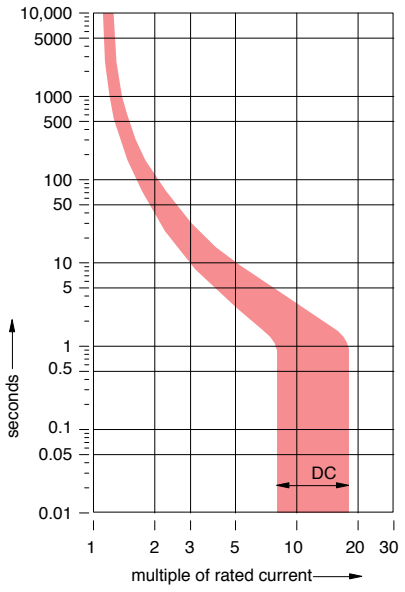

S504UC-K

No. of poles	Rated current	Catalog number	List price	No. of poles	Rated current	Catalog number	List price
1	0.1 – 0.15	**S501UC-K0.15**	**$ 270**	3	0.1 – 0.15	**S503UC-K0.15**	**$ 760**
	0.14 – 0.21	**S501UC-K0.21**			0.14 – 0.21	**S503UC-K0.21**	
	0.2 – 0.3	**S501UC-K0.3**			0.2 – 0.3	**S503UC-K0.3**	
	0.28 – 0.42	**S501UC-K0.42**			0.28 – 0.42	**S503UC-K0.42**	
	0.38 – 0.58	**S501UC-K0.58**			0.38 – 0.58	**S503UC-K0.58**	
	0.53 – 0.8	**S501UC-K0.8**			0.53 – 0.8	**S503UC-K0.8**	
	0.73 – 1.1	**S501UC-K1.1**			0.73 – 1.1	**S503UC-K1.1**	
	1 – 1.5	**S501UC-K1.5**			1 – 1.5	**S503UC-K1.5**	
	1.4 – 2.1	**S501UC-K2.1**			1.4 – 2.1	**S503UC-K2.1**	
	2 – 3	**S501UC-K3**			2 – 3	**S503UC-K3**	
	2.8 – 4.2	**S501UC-K4.2**			2.8 – 4.2	**S503UC-K4.2**	
	3.8 – 5.8	**S501UC-K5.8**			3.8 – 5.8	**S503UC-K5.8**	
	5.3 – 8	**S501UC-K8**			5.3 – 8	**S503UC-K8**	
	7.3 – 11	**S501UC-K11**			7.3 – 11	**S503UC-K11**	
	10 – 15	**S501UC-K15**			10 – 15	**S503UC-K15**	
	14 – 20	**S501UC-K20**			14 – 20	**S503UC-K20**	
	18 – 26	**S501UC-K26**			18 – 26	**S503UC-K26**	
	23 – 32	**S501UC-K32**			23 – 32	**S503UC-K32**	
	29 – 37	**S501UC-K37**			29 – 37	**S503UC-K37**	
	34 – 41	**S501UC-K41**			34 – 41	**S503UC-K41**	
	38 – 45	**S501UC-K45**			38 – 45	**S503UC-K45**	
2	0.1 – 0.15	**S502UC-K0.15**	**520**	4	0.1 – 0.15	**S504UC-K0.15**	**1,070**
	0.14 – 0.21	**S502UC-K0.21**			0.14 – 0.21	**S504UC-K0.21**	
	0.2 – 0.3	**S502UC-K0.3**			0.2 – 0.3	**S504UC-K0.3**	
	0.28 – 0.42	**S502UC-K0.42**			0.28 – 0.42	**S504UC-K0.42**	
	0.38 – 0.58	**S502UC-K0.58**			0.38 – 0.58	**S504UC-K0.58**	
	0.53 – 0.8	**S502UC-K0.8**			0.53 – 0.8	**S504UC-K0.8**	
	0.73 – 1.1	**S502UC-K1.1**			0.73 – 1.1	**S504UC-K1.1**	
	1 – 1.5	**S502UC-K1.5**			1 – 1.5	**S504UC-K1.5**	
	1.4 – 2.1	**S502UC-K2.1**			1.4 – 2.1	**S504UC-K2.1**	
	2 – 3	**S502UC-K3**			2 – 3	**S504UC-K3**	
	2.8 – 4.2	**S502UC-K4.2**			2.8 – 4.2	**S504UC-K4.2**	
	3.8 – 5.8	**S502UC-K5.8**			3.8 – 5.8	**S504UC-K5.8**	
	5.3 – 8	**S502UC-K8**			5.3 – 8	**S504UC-K8**	
	7.3 – 11	**S502UC-K11**			7.3 – 11	**S504UC-K11**	
	10 – 15	**S502UC-K15**			10 – 15	**S504UC-K15**	
	14 – 20	**S502UC-K20**			14 – 20	**S504UC-K20**	
	18 – 26	**S502UC-K26**			18 – 26	**S504UC-K26**	
	23 – 32	**S502UC-K32**			23 – 32	**S504UC-K32**	
	29 – 37	**S502UC-K37**			29 – 37	**S504UC-K37**	
	34 – 41	**S502UC-K41**			34 – 41	**S504UC-K41**	
	38 – 45	**S502UC-K45**			38 – 45	**S504UC-K45**	

Tripping characteristic K

UL 1077	IEC
250 VDC per pole (750 VDC 4P)	250 VDC per pole (750 VDC 4P)
30 kA	30 kA

Inductive loads
- K Curve
- Designed for allowing higher in-rush currents during system start up
- Example: motors, transformers



Accessories & technical data
Accessories – See page 71
Technical data – See page 76 - 82

S500-H11

Auxiliary contacts

The auxiliary contacts will signal whether the breaker is in the ON or OFF position.

Description	Catalog number	List price
For field mounting: left side		
1 N.O./1 N.C.	**S500-H11**	**$ 84**
2 N.O.	**S500-H20**	**84**
2 N.C.	**S500-H02**	**84**

Bell alarm

The bell alarm includes a set of contacts that will only signal when the breaker has tripped.
Typically the contacts would be connected to an alarm or bell to signal the operator that an overcurrent trip has occurred. The bell alarm also includes a test button for testing the alarm contacts without opening the breaker.

Description	Catalog number	List price
For field mounting: left side		
1 N.O./1 N.C.	**S500-S11**	**$ 92**
2 N.O.	**S500-S20**	**92**
2 N.C.	**S500-S02**	**92**

Handle mechanism

Description	Catalog number	List price
Handle mechanism	**S500-RD3**	**$ 80**

For use with 1-4 pole S500 MCBs and disconnect switch selector handles with 5mm shafts.

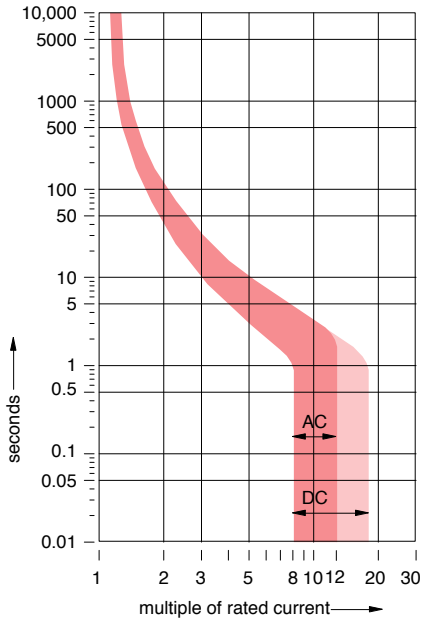
Power feed terminal - Accepts into 2/0 AWG

Description	Catalog number	List price
Power feed terminal	**S500-K2**	**$ 25**

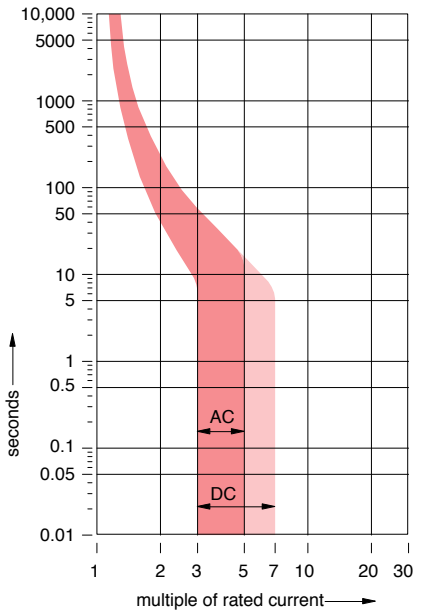
Technical data
S500-K & S500UC-B, K

Technical data	S500-K	S500UC-B, K
Approvals		
UL	1077	1077
CSA	C22.2 - No. 235	C22.2
Number of poles	1, 2, 3, +N, +NA	1, 2, 3, 4
Tripping characteristic	K	B, K
Rated currents	0.1 to 45 A	B: 6 - 63 A; K: 0.15 - 45 A
Rated voltage	480Y/277 VAC, 600Y/346 VAC	250 VDC per pole (750 VDC 4 pole)
Frequency	50/60 Hz	50/60 Hz
Mounting position	vertical, horizontal	vertical, horizontal
Standard mounting	35mm DIN rail	35mm DIN rail
Clamps only for CU	16 - 4 AWG	16 - 4 AWG
Service life, mechanical at rated load	20,000	20,000
Ambient temperature	40°C... 104°F	40°C... 104°F

Tripping characteristic K

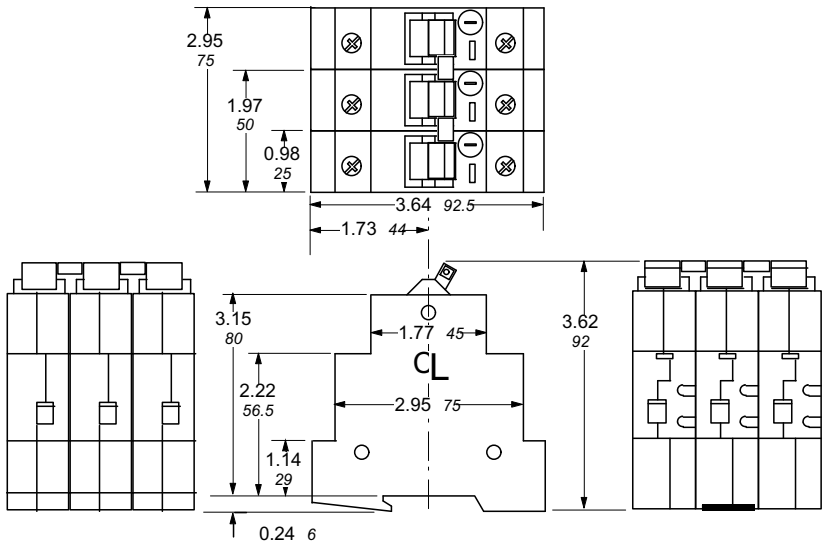


Tripping characteristic B

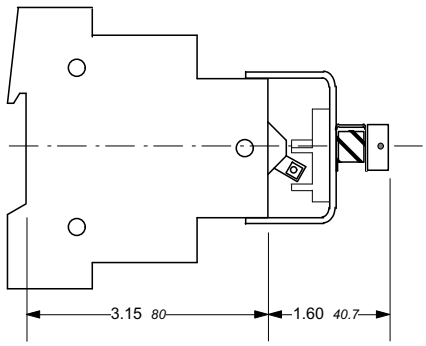


Approximate dimensions
S500 & Accessories

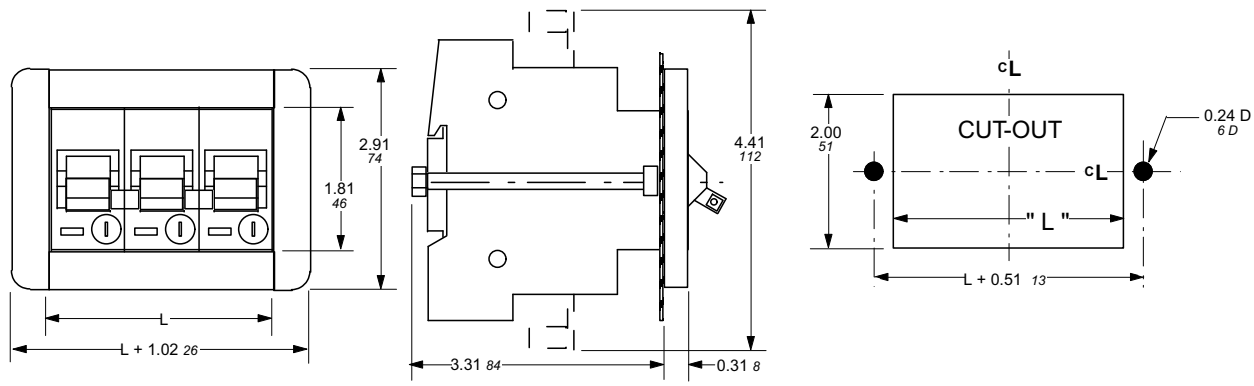
S500



S500-RD3 Handle mechanism



S500 Front mounting kit



Notes