

# ABB

## Molded Case Circuit Breakers

Preliminary AC1615S



# ABB



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### 2

## Isomax Molded Case Circuit Breakers

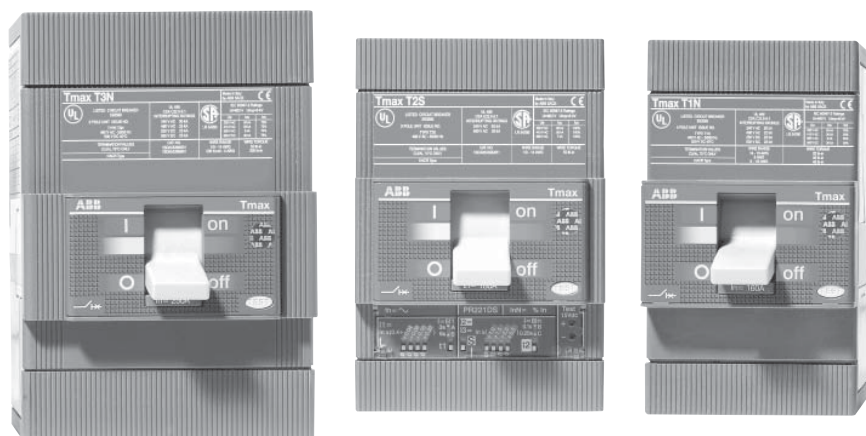
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## Tmax

### Molded case circuit breakers

#### T1-T2-T3



#### Introduction

ABB is once again demonstrating its commitment to new product development and its superiority in product performance. Never before has the industry seen such high performance, versatility and standardization in a range of molded case circuit breakers.

The ABB Tmax has been developed to complement the performance-proven Isomax line of circuit breakers. This new breaker, with a range up to 600A, has several very big features that go along with its very small size:

- Double insulation – this construction characteristic allows for the CSA/UL Listed field installation of internal accessories without exposure to the power poles.
- Positive operation – all molded case breakers from ABB ensure that the toggle indicates the precise position of the moving contacts. This guarantees safe and reliable signaling by the device.
- Installation – Tmax T1 to T5 can be installed in panels and switchboards in either the horizontal or vertical planes while being fed from either end without any derating of their performance characteristics.
- Range of accessories – in the pursuit of standardization, all Tmax internal and external accessories can be utilized across the entire range from 10A to 600A.
- Interrupt ratings from 22kAIC at 480VAC up to 65kAIC.
- Standard depth – T1, T2 and T3 are 2.76 inches deep
- UL/CSA Listed and IEC rated for global application and acceptance.

The ABB Tmax has the performance and accessories to satisfy all industry requirements in the 600VAC to 500VDC ranges. A single pole molded case version is available for the first time. Standardized sizing and accessories make it easy to design and install these items in all applications.

#### Frame sizes — T1 - T2 - T3

The ABB Tmax series includes three basic frame sizes as well as the T1 single pole with the range rated. The various versions carry the following interrupting capacities:

- **B** basic breaking capacity
- **N** normal breaking capacity
- **S** standard breaking capacity
- **H** high breaking capacity

#### Derived versions

- T2 circuit breakers with LS/I electronic trip units
- Switch disconnectors in T1 and T3 frames
- Circuit breakers for motor circuit protection (MCPs)
- Circuit breakers for direct current

#### ABB Tmax versions

- Fixed: all models
- Plug-in: T2 & T3 UL
- UL File #E93565 (breakers and MCPs)  
#E116596 (Accessories)  
#E116595 (Molded case switches)
- CSA file #LR54280

## Tmax

### Molded case circuit breakers

#### T4-T5



#### Latest generation electronics

The technology is of the latest generation: the electronic PR221DS (LSI/I version) and PR222DS/P (LSI or LSIIG version) trip units for distribution and PR221DS-I for Motor Control Protection. The dialogue unit incorporated in the PR222DS/PD trip unit is also absolutely new, and the dialogue function is added to its high protection performances. Furthermore, the basic versions of the trip units have been enriched with more functions. And then what about the accessories for the electronic trip units? The front display for showing the currents is one of the novelties proposed along with the auxiliary contacts in electronic version, which communicate directly with the electronic trip unit.

Tmax

#### High breaking capacities

The new Tmax T4 and T5 can be used in any application, even the most special ones, thanks to their really exceptional performances. Interrupting rating up to 150 kA at 480V, high breaking capacities at 600V (85 kA), too, for the standard range, make T4 and T5 the ideal circuit breakers for all requirements.

#### Just two sizes

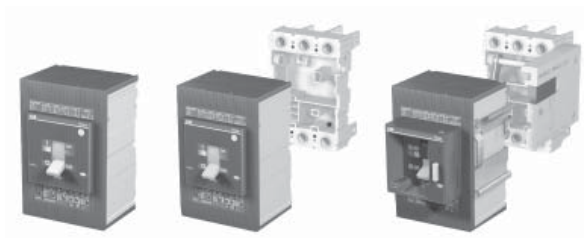
ABB proposes two sizes: Tmax T4 and Tmax T5 up to 600A. They both have a very high rated current/volume ratio, are made of top quality using innovative construction techniques which guarantee the same performances for all their versions: fixed, plug-in and draw out.



#### 600V applications

Tmax T4 and T5 have been studied for 600V applications with a very high interrupting ratings: up to 100 kA @ 600VAC starting from a rated current of 20A.

Tmax T4 and T5, certified for use at this voltage, perfectly suit US and Canadian installation's habits and standards.



# General information

## Selection guide

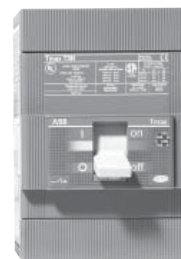
### T1 – T3



T1



T2



T3

Circuit-breaker type			T1		T2		T3	
Maximum frame continuous rated current	40°C	A	100		100		225	
Rated operational voltage	50/60 Hz	V	600Y/347		480		600Y/347	
Test voltage	1 min. 50/60 Hz	V	3000		3000		3000	
Rated impulse withstand voltage		kV	8		8		8	
Poles		No.	1-3-4		3-4		3-4	
Performance level			B (1P)		N		S	
UL/CSA short-circuit interrupting capacity	240VAC	kA RMS	—	50	65	100	50	65
	277VAC	kA RMS	18	—	—	—	—	—
	347VAC	kA RMS	14	—	—	—	—	—
	480VAC	kA RMS	—	22	35	65	25	35
	600Y/347VAC	○kA RMS	—	10	—	—	10	10
CSA, File #LR54280	250VDC	①kA RMS	—	25	—	—	25	35
	500VDC	1 kA RMS	—	25	—	—	25	35
IEC-947 rated ultimate short circuit breaking capacity Icu	220/230VAC	kA RMS	25	50	85	100	50	85
	300/400/415VAC	kA RMS	—	36	50	70	36	50
	440VAC	kA RMS	—	22	45	55	25	40
	500VAC	kA RMS	—	15	30	36	20	30
	660/690VAC	kA RMS	—	6	7	8	5	8
Overcurrent trip unit/relays			•		•		•	
Thermal-magnetic			—		•		—	
Microprocessor-based			—		•		—	
Version — Terminals			•		•		•	
Fixed — front or rear			•		•		•	
Plug-in — front or rear			—		•		•	
Dimensions (fixed circuit-breaker)			5.12 x 3.00 x 2.76		5.12 x 3.54 x 2.76		5.9 x 4.13 x 2.76	
2P & 3P (H x W x D)		in	5.12 x 3.00 x 2.76		5.12 x 3.54 x 2.76		5.9 x 4.13 x 2.76	
4P (H x W x D)		in	5.12 x 4.00 x 2.76		5.12 x 4.72 x 2.76		5.9 x 5.51 x 2.76	
Mechanical duration			25,000		25,000		25,000	
Operations		No.	25,000		25,000		25,000	
Frequency		ops./hour	240		240		120	
Weights (Fixed 3P)			1.98		2.43		4.63	

① For use with thermal-Magnetic trip only:  
250VDC, 2 poles in series  
500 VDC, 3 poles in series



## General information

### Selection guide

#### T4 – T5



T4



T5

Circuit-breaker type				T4						T5					
Maximum frame continuous rated current	40°C	A		250						400-600					
Rated operational voltage	50/60 Hz	V		600						600					
Test voltage	1 min. 50/60 Hz	V		3500						3500					
Rated impulse withstand voltage		kV		8						8					
Poles		No.		2-3-4						2-3-4					
Performance level				N	S	H	L	V		N	S	H	L	V	
UL/CSA short-circuit interrupting capacity	240VAC	kA RMS		65	100	150	200	200		65	100	150	200	200	
UL 489, File #E93565	480VAC	kA RMS		25	35	65	100	150		25	35	65	100	150	
CSA, File #LR54280	600VAC	kA RMS		18	25	35	65	100		18	25	35	65	100	
	500VDC <sup>①</sup>	kA RMS		25	35	50	65	100		25	35	50	65	100	
	600VDC	kA RMS		16	25	35	50	65		16	25	35	50	65	
IEC-947 rated ultimate short circuit breaking capacity	220/230VAC	kA RMS		70	85	100	200	300		70	85	100	200	300	
	300/400/415VAC	kA RMS		36	50	70	120	200		36	50	70	120	200	
	440VAC	kA RMS		30	40	65	120	180		30	40	65	100	180	
	500VAC	kA RMS		25	30	50	85	150		25	30	50	85	150	
	660/690VAC	kA RMS		20	25	40	70	80		20	25	40	70	80	
Overcurrent trip unit/relays															
Thermal-magnetic				•						•					
Microprocessor-based				•						•					
Version — Terminals															
Fixed — front or rear				•						•					
Plug-in — front or rear				•						•					
Dimensions (fixed circuit-breaker)															
3P (H x W x D)			in	8.07 x 4.13 x 4.07						8.07 x 5.51 x 4.07					
4P (H x W x D)			in	8.07 x 5.51 x 4.07						8.07 x 7.24 x 4.07					
Mechanical duration															
Operations			No.	20,000						20,000					
Frequency			ops./hour	240						120					
Weights (Fixed 3P)				5.2						7.2					

① For use with thermal-Magnetic trip only:  
500VDC, 2 poles in series  
600 VDC, 3 poles in series

## General information

### Catalog number explanation

**T3 H 080 T W - 2 xxx**

#### Accessories (added in alpha-numeric order) <sup>1</sup>

**A** = Auxiliary switch  
**S** = Shunt trip with voltage code  
**U3** = Undervoltage release with voltage code

#### Number of poles

**-2** = 2 pole  
**-4** = 4 pole  
**None** = 3 pole

#### Type connectors

**W** = None  
**L** = Lugs included  
**T** = Lugs on top terminal  
**B** = Lugs on bottom terminal

#### Trip unit function

**B** = LI/S  
**D** = Molded case switch (MCS)  
**T** = Thermal-magnetic – 10X Mag  
**M** = Magnetic only (MCP)  
**E5** = Electronic MCP

#### Current rating

**015** = 15A  
**080** = 80A  
**100** = 100A  
**225** = 225A  
**250** = 250A  
**400** = 400A  
**600** = 600A

#### Interrupting rating class

**B** = Basic  
**N** = Normal  
**H** = High  
**S** = Standard  
**L** = Extra high  
**V** = Very high

#### Frame size

**T1** = 100A  
**T2** = 100A  
**T3** = 225A  
**T4** = 250A  
**T5** = 400A, 600A



<sup>1</sup> Consult ABB for Factory installed accessories.

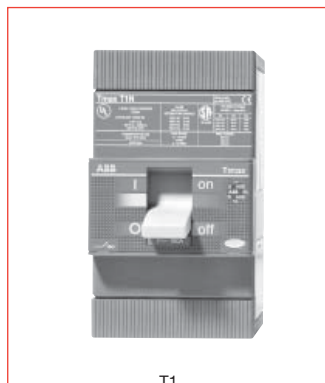


# T1

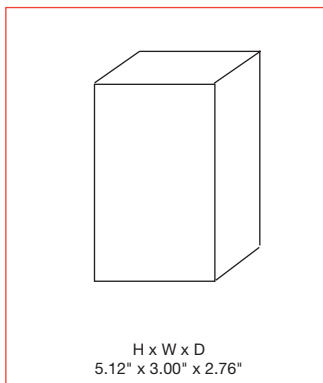
## 100A, 600Y/347VAC

### Standard thermal-magnetic

T1



T1



H x W x D  
5.12" x 3.00" x 2.76"

#### General

The T1 breaker family ranges from 15 through 100 amperes. The T1 trip units are non-interchangeable and use the very latest technology in electromagnetic relays for overcurrent trip protection. Thermal overload protection is provided by heat sensitive bimetals. Short circuit protection for the breaker is accomplished using a precise magnetic coil. State of the art construction in contacts and arcing chambers aid in limiting damaging fault currents through the protected circuits.

#### Versions

The T1 frame is available in two versions:

- T = Thermal-magnetic, fixed
- D = Molded case switch

#### Performance levels

The T1 breaker has two performance levels available:

- B = 277V Single pole
- N = 480V, 600Y/347VAC Three pole

#### Number of poles

The UL/CSA version of the T1 is available in single, three and four pole versions. IEC versions of the T1 are also available with the same dimensions up to 160 amperes. Please contact ABB for details.

#### Accessory mounting

The T1 frame is double insulated allowing for UL/CSA factory or field installation of internal accessories. No extra control cables are required for field installation. Shunt trips or UVR's mount in the left cavity and auxiliary contacts with bell alarm mount in the right cavity.

#### Reverse feeding

All versions of the T1 family are suitable for reverse feed applications.

#### Molded case switches

UL/CSA switches include no overcurrent protection except for a high instantaneous trip mechanism for self protection.

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

Voltage	Continuous rating	B (1 pole)	N
240VAC	15	—	35
	20 – 100	—	50
277VAC	15	10	—
	20 – 100	18	—
347VAC	15	10	—
	20 – 100	14	—
480Y/277VAC	15	—	14
480VAC	20 – 100	—	22
600Y/347VAC	15 – 100	—	10
250VDC 2 pole series	15 – 100A	—	25
500VDC 3 pole series	15 – 100A	—	25

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	Continuous rating	B (1 pole)	N
230V	16 – 160A	25	50
415V	16 – 160A	—	36
440V	16 – 160A	—	22
500V	16 – 160A	—	15
690V	16 – 160A	—	6
250VDC 2 pole series	16 – 160A	—	36
500VDC 3 pole series	16 – 160A	—	36

Tmax

T1

# T1

## 100A, 600Y/347VAC

### Standard thermal-magnetic

#### T1N TMF

Breaker	Ic at 480VAC ①	Rating	Magnetic trip	3 pole, 600Y/347VAC - 500VDC catalog number	List price	4 pole, 600Y/347VAC - 500VDC catalog number	List price
T1N	14kA	15A	1000A	T1N015TL		T1N015TL-4	
	22kA	20A	1000A	T1N020TL		T1N020TL-4	
		25A	1000A	T1N025TL		T1N025TL-4	
		30A	1000A	T1N030TL		T1N030TL-4	
		40A	1000A	T1N040TL		T1N040TL-4	
		50A	1500A	T1N050TL		T1N050TL-4	
		60A	1500A	T1N060TL		T1N060TL-4	
		70A	1500A	T1N070TL		T1N070TL-4	
		80A	1500A	T1N080TL		T1N080TL-4	
		90A	1500A	T1N090TL		T1N090TL-4	
		100A	1500A	T1N100TL		T1N100TL-4	

#### T1B TMF — Single pole

Breaker	Ic at 347VAC ①	Rating	Magnetic trip	1 pole, 347VAC catalog number	List price
T1B	10kA	15A	1000A	T1B015TL-1	
	14kA	20A	1000A	T1B020TL-1	
		25A	1000A	T1B025TL-1	
		30A	1000A	T1B030TL-1	
		40A	1000A	T1B040TL-1	
		50A	1500A	T1B050TL-1	
		60A	1500A	T1B060TL-1	
		70A	1500A	T1B070TL-1	
		80A	1500A	T1B080TL-1	
		90A	1500A	T1B090TL-1	
		100A	1500A	T1B100TL-1	

#### T1N-D — Molded case switch

Breaker	Interrupting capacity②	Rating	Magnetic trip	600Y/347VAC - 500VDC catalog number	List price	4 pole, 600Y/347VAC - 500VDC catalog number	List price
T1-D	240V, 50kA	100A	1000A	T1N100DL		T1N100DL-4	

#### T1N TMF — 100% Rated standard thermal-magnetic

Breaker	Ic at 480VAC ①	Rating	Magnetic trip	3 pole, 600Y/347VAC - 500VDC catalog number	List price
T1N	14kA	15	1000A	T1NQ015TL	
	22kA	20	1000A	T1NQ020TL	
		25	1000A	T1NQ025TL	
		30	1000A	T1NQ030TL	
		40	1000A	T1NQ040TL	
		50	1500A	T1NQ050TL	
		60	1500A	T1NQ060TL	
		70	1500A	T1NQ070TL	
		80	1500A	T1NQ080TL	
		90	1500A	T1NQ090TL	
		100	1500A	T1NQ100TL	

① Refer to page 1.7 for details.

② With fuse or MCCB protected circuit.

# T2

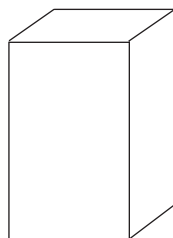
## 100A, 480VAC

### Thermal-magnetic/electronic

T2



T2



H x W x D  
5.12" x 3.54" x 2.76"

#### General

The T2 breaker family ranges from 10 through 100 amperes. The T2 trip units are non-interchangeable and use the very latest technology in electromagnetic relays for overcurrent trip protection as well as a version with microprocessor-based electronic trip unit. Thermal overload protection is provided by heat sensitive bimetals. State of the art construction in contacts and arcing chambers aid in limiting damaging fault currents through the protected circuits.

#### Versions

The T2 frame is available in four versions:

- T = Thermal-magnetic, fixed
- B = Adjustable LS/I electronic
- M = Magnetic only (MCP)
- E5 = Electronic instantaneous only (MCP)

#### Trip functions

These tripping functions are available:

- L = Long time
- S = Short time
- I = Instantaneous

#### Performance levels

The T2 breaker has two performance levels available:

- S = Standard
- H = High

#### Number of poles

The UL/CSA version of the T2 is available in three and four pole versions. IEC versions of the T2 are also available with the same dimensions up to 160 amperes. Please contact ABB for details.

#### Accessory mounting

The T2 frame is double insulated allowing for UL/CSA factory or field installation of internal accessories. No extra control cables are required for field installation. Shunt trips or UVR's mount in the left cavity and auxiliary contacts with bell alarm mount in the right cavity.

#### Reverse feeding

All versions of the T2 family are suitable for reverse feed applications.

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

Voltage	Continuous rating	S	H
240VAC	10 – 100A	65	100
480VAC	10 – 100A	35	65

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	Continuous rating	S	H
230V	1.6 – 160A	85	100
415V	1.6 – 160A	50	70
440V	1.6 – 160A	45	55
500V	1.6 – 160A	30	36
690V	1.6 – 160A	7	8
250VDC 2 pole series	1.6 – 160A	50	70
500VDC 3 pole series	1.6 – 160A	50	70

Tmax

T2

## T2

### 100A, 480VAC

#### Thermal-magnetic/electronic

#### T2 — 100A TMF

Breaker	Ic at 480VAC	Rating	Magnetic trip	3 pole, 480VAC catalog number	List price	4 pole, 480VAC catalog number	List price
T2S	35kA	15A	500A	T2S015TW		T2S015TW-4	
		20A	500A	T2S020TW		T2S020TW-4	
		25A	500A	T2S025TW		T2S025TW-4	
		30A	500A	T2S030TW		T2S030TW-4	
		40A	500A	T2S040TW		T2S040TW-4	
		50A	500A	T2S050TW		T2S050TW-4	
		60A	600A	T2S060TW		T2S060TW-4	
		70A	700A	T2S070TW		T2S070TW-4	
		80A	800A	T2S080TW		T2S080TW-4	
		90A	900A	T2S090TW		T2S090TW-4	
		100A	1000A	T2S100TW		T2S100TW-4	

Breaker	Ic at 480VAC	Rating	Magnetic trip	3 pole, 480VAC catalog number	List price	4 pole, 480VAC catalog number	List price
T2H	65kA	15A	500A	T2H015TW		T2H015TW-4	
		20A	500A	T2H020TW		T2H020TW-4	
		25A	500A	T2H025TW		T2H025TW-4	
		30A	500A	T2H030TW		T2H030TW-4	
		40A	500A	T2H040TW		T2H040TW-4	
		50A	500A	T2H050TW		T2H050TW-4	
		60A	600A	T2H060TW		T2H060TW-4	
		70A	700A	T2H070TW		T2H070TW-4	
		80A	800A	T2H080TW		T2H080TW-4	
		90A	900A	T2H090TW		T2H090TW-4	
		100A	1000A	T2H100TW		T2H100TW-4	

#### T2 — 100A Frame electronic trip unit

Breaker	Ic at 480VAC	Trip unit type	CT rating	3 pole, 480VAC catalog number	List price	4 pole, 480VAC catalog number	List price
T2S	35kA	PR221DS-LS/I	25A	T2S025BW		T2S025BW-4	
			60A	T2S060BW		T2S060BW-4	
			100A	T2S100BW		T2S100BW-4	
T2H	65kA	PR221DS-LS/I	25A	T2H025BW		T2H025BW-4	
			60A	T2H060BW		T2H060BW-4	
			100A	T2H100BW		T2H100BW-4	

#### T2 — 100A Frame magnetic only (MCP)

Breaker	Ic at 480VAC	Trip unit type	Rating	Adjustment range	3 pole, 480VAC catalog number	List price
T2S	35kA	Mag only	20A	120 - 240	T2S020MW T2S050MW T2S100MW	
			50A	300 - 600		
			100A	600 - 1200		
T2H	65kA	Mag only	20A	120 - 240	T2H020MW T2H050MW T2H100MW	
			50A	300 - 600		
			100A	600 - 1200		

#### T2 — 100A Frame instantaneous only, electronic (MCP)

Breaker	Ic at 480VAC	Trip unit type	Rating	Adjustment range	3 pole, 480VAC catalog number	List price
T2S	35kA	Instantaneous only PR221DS-I	25A	25 - 250	T2S025E5W T2S060E5W T2S100E5W	
			60A	60 - 600		
			100A	100 - 1000		
T2H	65kA	Instantaneous only PR221DS-I	25A	25 - 250	T2H025E5W T2H060E5W T2H100E5W	
			60A	60 - 600		
			100A	100 - 1000		

## T2

100A, 480VAC, 100% rated  
Thermal-magnetic/electronic

T2

### T2 — 100A TMF, 100% rated

Breaker	Ic at 480VAC	Rating	Magnetic trip	3 pole, 480VAC catalog number	List price
T2S	35kA	15A	500A	T2SQ015TW	
		20A	500A	T2SQ020TW	
		25A	500A	T2SQ025TW	
		30A	500A	T2SQ030TW	
		40A	500A	T2SQ040TW	
		50A	500A	T2SQ050TW	
		60A	600A	T2SQ060TW	
		70A	700A	T2SQ070TW	
		80A	800A	T2SQ080TW	
		90A	900A	T2SQ090TW	
		100A	1000A	T2SQ100TW	

Breaker	Ic at 480VAC	Rating	Magnetic trip	3 pole, 480VAC catalog number	List price
T2H	65kA	15A	500A	T2HQ015TW	
		20A	500A	T2HQ020TW	
		25A	500A	T2HQ025TW	
		30A	500A	T2HQ030TW	
		40A	500A	T2HQ040TW	
		50A	500A	T2HQ050TW	
		60A	600A	T2HQ060TW	
		70A	700A	T2HQ070TW	
		80A	800A	T2HQ080TW	
		90A	900A	T2HQ090TW	
		100A	1000A	T2HQ100TW	

### T2 — 100A Frame electronic trip unit (AC only), 100% rated

Breaker	Ic at 480VAC	Trip unit type	CT rating	3 pole, 480VAC catalog number	List price
T2S	35kA	PR221DS-LS/I	25A	T2SQ025BW	
			60A	T2SQ060BW	
			100A	T2SQ100BW	
T2H	65kA	PR221DS-LS/I	25A	T2HQ025BW	
			60A	T2HQ060BW	
			100A	T2HQ100BW	

Tmax

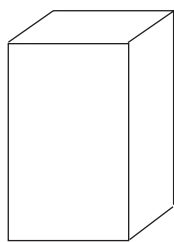
## T3

### 225A, 600Y/347VAC

#### Standard thermal-magnetic



T3



H x W x D  
5.9" x 4.13" x 2.76"

#### General

The T3 breaker family ranges from 60 through 225A. The T3 trip units are non-interchangeable and use the very latest technology in electromagnetic relays for overcurrent trip protection. Thermal overload protection is provided by heat sensitive bimetals. Short circuit protection begins at 10 times the thermal rating of the breaker using a precise magnetic coil. State of the art construction in contacts and arcing chambers aid in limiting damaging fault currents through the protected circuits.

#### Versions

The T3 frame is available in three versions:

- T = Thermal-magnetic, fixed
- M = Magnetic only (MCP)
- D = Molded case switch

#### Performance levels

The T3 breaker has two performance levels available:

- N = Normal
- S = Standard

#### Number of poles

The UL/CSA version of the T3 is available in three and four pole versions. IEC versions of the T3 are also available with the same dimensions up to 250 amperes. Please contact ABB for details.

#### Accessory mounting

The T3 frame is double insulated allowing for UL/CSA factory or field installation of internal accessories. No extra control cables are required for field installation. Shunt trips or UVR's mount in the left cavity and auxiliary contacts with bell alarm mount in the right cavity.

#### Reverse feeding

All versions of the T3 family are suitable for reverse feed applications.

#### Molded case switches

UL/CSA switches include no overcurrent protection except for a high instantaneous trip mechanism for self protection.

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

Voltage	Continuous rating	N	S
240VAC	60 – 225A	50	65
480VAC	60 – 225A	25	35
600Y/347VAC	60 – 225A	10	10
250VDC 2 pole series	60 – 225A	25	35
500VDC 3 pole series	60 – 225A	25	35

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	Continuous rating	N	S
230V	63 – 250A	50	85
415V	63 – 250A	36	50
440V	63 – 250A	25	40
500V	63 – 250A	20	30
690V	63 – 250A	5	8
250VDC 2 pole series	63 – 250A	36	50
500VDC 3 pole series	63 – 250A	36	50



# T3

## 225A, 600Y/347VAC

### Standard thermal-magnetic

T3

#### T3 — 225A Frame TMF

Breaker	Ic at 480VAC ①	Rating	Magnetic trip	3 pole, 600Y/347VAC - 500VDC catalog number	List price	4 pole, 600Y/347VAC - 500VDC catalog number	List price
T3N	25kA	60A	600A	T3N060TW		T3N060TW-4	
		70A	700A	T3N070TW		T3N070TW-4	
		80A	800A	T3N080TW		T3N080TW-4	
		90A	900A	T3N090TW		T3N090TW-4	
		100A	1000A	T3N100TW		T3N100TW-4	
		125A	1250A	T3N125TW		T3N125TW-4	
		150A	1500A	T3N150TW		T3N150TW-4	
		175A	1750A	T3N175TW		T3N175TW-4	
		200A	2000A	T3N200TW		T3N200TW-4	
		225A	2250A	T3N225TW		T3N225TW-4	

Breaker	Ic at 480VAC ①	Rating	Magnetic trip	3 pole, 600Y/347VAC - 500VDC catalog number	List price	4 pole, 600Y/347VAC - 500VDC catalog number	List price
T3S	35kA	60A	600A	T3S060TW		T3S060TW-4	
		70A	700A	T3S070TW		T3S070TW-4	
		80A	800A	T3S080TW		T3S080TW-4	
		90A	900A	T3S090TW		T3S090TW-4	
		100A	1000A	T3S100TW		T3S100TW-4	
		125A	1250A	T3S125TW		T3S125TW-4	
		150A	1500A	T3S150TW		T3S150TW-4	
		175A	1750A	T3S175TW		T3S175TW-4	
		200A	2000A	T3S200TW		T3S200TW-4	
		225A	2250A	T3S225TW		T3S225TW-4	

#### T3 — 225A Frame magnetic only, (MCP)

Breaker	Ic at 480VAC ①	Trip unit type	Rating	Adjustment range	3 pole, 600Y/347VAC - 500VDC catalog number	List price
T3S	35kA	Mag only	100A	600 - 1200	T3S100MW	
			125A	750 - 1500	T3S125MW	
			150A	900 - 1800	T3S150MW	
			200A	1200 - 2400	T3S200MW	

#### T3S-D — Molded case switch

Breaker	Interrupting capacity ②	Rating	Magnetic trip	3 pole, 600Y/347VAC - 500VDC catalog number	List price	4 pole, 600Y/347VAC catalog number	List price
T3S-D	240V, 65kA	150A	1500A	T3S150DW		T3S150DW-4	
	480V, 35kA	225A	2250A	T3S225DW		T3S225DW-4	

#### T3 — 225A Frame TMF, 100% rated

Breaker	Ic at 480VAC ①	Rating	Magnetic trip	3 pole, 600Y/347VAC - 500VDC catalog number	List price
T3N	25kA	60A	600A	T3NQ060TW	
		70A	700A	T3NQ070TW	
		80A	800A	T3NQ080TW	
		90A	900A	T3NQ090TW	
		100A	1000A	T3NQ100TW	
		125A	1250A	T3NQ125TW	
		150A	1500A	T3NQ150TW	
		175A	1750A	T3NQ175TW	
		200A	2000A	T3NQ200TW	
		225A	2250A	T3NQ225TW	

Breaker	Ic at 480VAC ①	Rating	Magnetic trip	3 pole, 480VAC catalog number	List price
T3S	35kA	60A	600A	T3SQ060TW	
		70A	700A	T3SQ070TW	
		80A	800A	T3SQ080TW	
		90A	900A	T3SQ090TW	
		100A	1000A	T3SQ100TW	
		125A	1250A	T3SQ125TW	
		150A	1500A	T3SQ150TW	
		175A	1750A	T3SQ175TW	
		200A	2000A	T3SQ200TW	
		225A	2250A	T3SQ225TW	

①Refer to page 1.12 for details.

②With fuse or MCCB protected circuit.

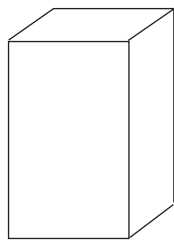
# T4

## 250A, 600VAC

### Thermal-magnetic/electronic



T4



H x W x D  
8.07" x 4.17" x 4.07"

### General

The T4 breaker is a 250A frame with either a microprocessor based over current protective trip system or a Thermal magnetic trip unit. As an electronic breaker the T4 is available in 100A, 150A, and 250A frames. The T4 is available as a Thermal magnetic unit from 15A to 250A.

### Versions

To meet all application requirements the T4 is available in the following versions.

T = Thermal magnetic  
B = Selectable & adjustable LI or LS  
C = Adjustable LSI  
E = Adjustable LSIG  
D = Molded case switch  
M = Magnetic only (MCP)

### Trip functions

These trip functions are available

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

### Performance levels

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

N = Normal  
S = Standard  
H = High  
L = Extra high  
V = Very high

### Number of poles

The T4 is available as a 2, 3 and 4 pole breaker. The 2 and 3 pole versions have the same dimensions. Please contact ABB for price and availability on the 2 pole version.

### Accessory mounting

Internal accessories are UL/CSA approved for both factory and field installation. No extra control connectors are required for field connection. Shunt trips and UVRs mount in the left cavity and auxiliary contacts and bell alarms mount in the right cavity.

### Reverse feeding

All versions of the T4 family are suitable for reverse feed application

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

Voltage	Continuous rating	N	S	H	L	V
240VAC	15 - 250A	65	100	150	200	200
480VAC	15 - 250A	25	35	65	100	150
600VAC	15 - 250A	18	25	35	65	100
500VDC <sup>1</sup>	15 - 250A	25	35	50	65	100
600VDC <sup>2</sup>	15 - 250A	16	25	35	50	65

<sup>1</sup> 2 poles in series

<sup>2</sup> 3 poles in series

### IEC-947 Interrupting capacity (kA RMS)

Voltage	Continuous rating	N	S	H	L	V
230VAC	20 - 320A	70	85	100	200	300
415VAC	20 - 320A	36	50	70	120	200
440VAC	20 - 320A	30	40	65	100	180
500VAC	20 - 320A	25	30	50	85	150
690VAC	20 - 320A	20	25	40	70	80

# **T4** **250A, 600VAC** **Electronic trip units (AC only)**

T4

## **T4 - 100A Frame (40 - 100 adjustable range)**

Breaker	Ic at 600VAC	Trip unit	3 pole, 600VAC catalog number	List price	4 pole, 600VAC catalog number	List price
T4N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T4N100BW T4N100CW T4N100EW		T4N100BW-4 T4N100CW-4 T4N100EW-4	
T4S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T4S100BW T4S100CW T4S100EW			
T4H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T4H100BW T4H100CW T4H100EW		T4H100BW-4 T4H100CW-4 T4H100EW-4	
T4L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T4L100BW T4L100CW T4L100EW			
T4V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T4V100BW T4V100CW T4V100EW			

## **T4 - 150A Frame (60 - 150 adjustable range)**

Breaker	Ic at 600VAC	Trip unit	3 pole, 600VAC catalog number	List price	4 pole, 600VAC catalog number	List price
T4N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T4N150BW T4N150CW T4N150EW		T4N150BW-4 T4N150CW-4 T4N150EW-4	
T4S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T4S150BW T4S150CW T4S150EW			
T4H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T4H150BW T4H150CW T4H150EW		T4H150BW-4 T4H150CW-4 T4H150EW-4	
T4L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T4L150BW T4L150CW T4L150EW			
T4V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T4V150BW T4V150CW T4V150EW			

## **T4 - 250A Frame (100 - 250 adjustable range)**

Breaker	Ic at 600VAC	Trip unit	3 pole, 600VAC catalog number	List price	4 pole, 600VAC catalog number	List price
T4N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T4N250BW T4N250CW T4N250EW		T4N250BW-4 T4N250CW-4 T4N250EW-4	
T4S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T4S250BW T4S250CW T4S250EW			
T4H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T4H250BW T4H250CW T4H250EW		T4H250BW-4 T4H250CW-4 T4H250EW-4	
T4L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T4L250BW T4L250CW T4L250EW			
T4V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T4V250BW T4V250CW T4V250EW			

Tmax

T4

# T4

## 250A, 600VAC

### Thermal magnetic trip units

#### T4 - 20 — 250A Frame

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price	4 pole, 600VAC catalog number	List price
T4N	18kA	20A	500A	T4N020TW		T4N020TW-4	
		30A	500A	T4N030TW		T4N030TW-4	
		40A	500A	T4N040TW		T4N040TW-4	
		50A	500A	T4N050TW		T4N050TW-4	
		80A	400-800A	T4N080TW		T4N080TW-4	
		100A	500-1000A	T4N100TW		T4N100TW-4	
		125A	625-1250A	T4N125TW		T4N125TW-4	
		150A	750-1500A	T4N150TW		T4N150TW-4	
		200A	1000-2000A	T4N200TW		T4N200TW-4	
		250A	1250-2500A	T4N250TW		T4N250TW-4	
T4S	25kA	20A	500A	T4S020TW			
		30A	500A	T4S030TW			
		40A	500A	T4S040TW			
		50A	500A	T4S050TW			
		80A	400-800A	T4S080TW			
		100A	500-1000A	T4S100TW			
		125A	625-1250A	T4S125TW			
		150A	750-1500A	T4S150TW			
		200A	1000-2000A	T4S200TW			
		250A	1250-2500A	T4S250TW			
T4H	35kA	20A	500A	T4H020TW		T4H020TW-4	
		30A	500A	T4H030TW		T4H030TW-4	
		40A	500A	T4H040TW		T4H040TW-4	
		50A	500A	T4H050TW		T4H050TW-4	
		80A	400-800A	T4H080TW		T4H080TW-4	
		100A	500-1000A	T4H100TW		T4H100TW-4	
		125A	625-1250A	T4H125TW		T4H125TW-4	
		150A	750-1500A	T4H150TW		T4H150TW-4	
		200A	1000-2000A	T4H200TW		T4H200TW-4	
		250A	1250-2500A	T4H250TW		T4H250TW-4	
T4L	65kA	20A	500A	T4L020TW			
		30A	500A	T4L030TW			
		40A	500A	T4L040TW			
		50A	500A	T4L050TW			
		80A	400-800A	T4L080TW			
		100A	500-1000A	T4L100TW			
		125A	625-1250A	T4L125TW			
		150A	750-1500A	T4L150TW			
		200A	1000-2000A	T4L200TW			
		250A	1250-2500A	T4L250TW			
T4V	100kA	20A	500A	T4V020TW			
		30A	500A	T4V030TW			
		40A	500A	T4V040TW			
		50A	500A	T4V050TW			
		80A	400-800A	T4V080TW			
		100A	500-1000A	T4V100TW			
		125A	625-1250A	T4V125TW			
		150A	750-1500A	T4V150TW			
		200A	1000-2000A	T4V200TW			
		250A	1250-2500A	T4V250TW			

# **T4** **250A, 600VAC** **Magnetic only MCPs & MCS**

T4

## **T4 - Instantaneous only, electronic (MCP)**

Breaker	Ic at 600VAC	Trip unit	Rating	Adjustment range	3 pole, 600VAC catalog number	List price
T4N	18kA	PR221DS-I	100A	100 - 1000	T4N100E5W	
			150A	150 - 1500	T4N150E5W	
			250A	250 - 2500	T4N250E5W	
T4S	25kA	PR221DS-I	100A	100 - 1000	T4S100E5W	
			150A	150 - 1500	T4S150E5W	
			250A	250 - 2500	T4S250E5W	
T4H	35kA	PR221DS-I	100A	100 - 1000	T4H100E5W	
			150A	150 - 1500	T4H150E5W	
			250A	250 - 2500	T4H250E5W	
T4L	65kA	PR221DS-I	100A	100 - 1000	T4L100E5W	
			150A	150 - 1500	T4L150E5W	
			250A	250 - 2500	T4L250E5W	

## **T4H-D - Molded case switch**

Type	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List Price	4 pole, 600VAC catalog number	List Price
T4H-D	250A	3000A	T4H250DW		T4H250DW-4	

Tmax

T4

## T4

### 250A, 600VAC, 100% rated

### Electronic trip units (AC only)

#### T4 — 100A Frame (40 - 100A adjustable range)

Breaker	Ic at 600VAC	Trip Unit	3 pole, 600VAC catalog number	List price
T4N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T4NQ100BW T4NQ100CW T4NQ100EW	
T4S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T4SQ100BW T4SQ100CW T4SQ100EW	
T4H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T4HQ100BW T4HQ100CW T4HQ100EW	
T4L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T4LQ100BW T4LQ100CW T4LQ100EW	
T4V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T4VQ100BW T4VQ100CW T4VQ100EW	

#### T4 — 150A Frame (60 - 150A adjustable range)

Breaker	Ic at 600VAC	Trip Unit	3 pole, 600VAC catalog number	List price
T4N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T4NQ150BW T4NQ150CW T4NQ150EW	
T4S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T4SQ150BW T4SQ150CW T4SQ150EW	
T4H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T4HQ150BW T4HQ150CW T4HQ150EW	
T4L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T4LQ150BW T4LQ150CW T4LQ150EW	
T4V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T4VQ150BW T4VQ150CW T4VQ150EW	

#### T4 — 250A Frame (100 - 250A adjustable range)

Breaker	Ic at 600VAC	Trip Unit	3 pole, 600VAC catalog number	List price
T4N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T4NQ250BW T4NQ250CW T4NQ250EW	
T4S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T4SQ250BW T4SQ250CW T4SQ250EW	
T4H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T4HQ250BW T4HQ250CW T4HQ250EW	
T4L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T4LQ250BW T4LQ250CW T4LQ250EW	
T4V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T4VQ250BW T4VQ250CW T4VQ250EW	



# T4

## 250A, 600VAC, 100% rated

### Thermal-magnetic trip units

T4

#### T4 — 20 - 250A Frame

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price
T4N	18kA	20A	500	T4NQ020TW	
		30A	500	T4NQ030TW	
		40A	500	T4NQ040TW	
		50A	500	T4NQ050TW	
		80A	400-800	T4NQ080TW	
		100A	500-1000	T4NQ100TW	
		125A	625-1250	T4NQ125TW	
		150A	750-1500	T4NQ150TW	
		200A	1000-2000	T4NQ200TW	
		250A	1250-2500	T4NQ250TW	
T4S	25kA	20A	500	T4SQ020TW	
		30A	500	T4SQ030TW	
		40A	500	T4SQ040TW	
		50A	500	T4SQ050TW	
		80A	400-800	T4SQ080TW	
		100A	500-1000	T4SQ100TW	
		125A	625-1250	T4SQ125TW	
		150A	750-1500	T4SQ150TW	
		200A	1000-2000	T4SQ200TW	
		250A	1250-2500	T4SQ250TW	
T4H	35kA	20A	500	T4HQ020TW	
		30A	500	T4HQ030TW	
		40A	500	T4HQ040TW	
		50A	500	T4HQ050TW	
		80A	400-800	T4HQ080TW	
		100A	500-1000	T4HQ100TW	
		125A	625-1250	T4HQ125TW	
		150A	750-1500	T4HQ150TW	
		200A	1000-2000	T4HQ200TW	
		250A	1250-2500	T4HQ250TW	
T4L	65kA	20A	500	T4LQ020TW	
		30A	500	T4LQ030TW	
		40A	500	T4LQ040TW	
		50A	500	T4LQ050TW	
		80A	400-800	T4LQ080TW	
		100A	500-1000	T4LQ100TW	
		125A	625-1250	T4LQ125TW	
		150A	750-1500	T4LQ150TW	
		200A	1000-2000	T4LQ200TW	
		250A	1250-2500	T4LQ250TW	
T4V	100kA	20A	500	T4VQ020TW	
		30A	500	T4VQ030TW	
		40A	500	T4VQ040TW	
		50A	500	T4VQ050TW	
		80A	400-800	T4VQ080TW	
		100A	500-1000	T4VQ100TW	
		125A	625-1250	T4VQ125TW	
		150A	750-1500	T4VQ150TW	
		200A	1000-2000	T4VQ200TW	
		250A	1250-2500	T4VQ250TW	

Tmax

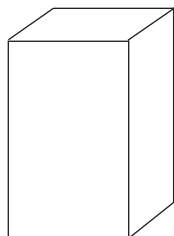
# T5

## 400 / 600A, 600VAC

### Thermal-magnetic/electronic



T5



H x W x D  
8.07" x 5.51" x 4.07"

### General

The T5 breaker is a 600A frame with either a microprocessor based over current protective trip system or a Thermal magnetic trip unit. As an electronic breaker the T5 is available in 300A, 400A and 600A frames. The T5 is available as a Thermal magnetic unit of 300A or 400A and 600A.

### Versions

To meet all application requirements the T5 is available in the following versions.

T = Thermal magnetic  
B = Selectable & adjustable LI or LS  
C = Adjustable LSI  
E = Adjustable LSIG  
D = Molded case switch  
M = Magnetic only (MCP)

### Trip functions

These trip functions are available

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

### Performance levels

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

N = Normal  
S = Standard  
H = High  
L = Extra high  
V = Very high

### Number of poles

The T5 is available as a 2, 3 and 4 pole breaker. The 2 and 3 pole versions have the same dimensions. Please contact ABB for price and availability on the 2 pole version.

### Accessory mounting

Internal accessories are UL/CSA approved for both factory and field installation. No extra control connectors are required for field connection. Shunt trips and UVRs mount in the left cavity and auxiliary contacts and bell alarms mount in the right cavity.

### Reverse feeding

All versions of the T5 family are suitable for reverse feed application

### UL 489 / CSA 22.2 Interrupting capacity (kA RMS)

Voltage	Continuous rating	N	S	H	L	V
240VAC	300 - 600A	65	100	150	200	200
480VAC	300 - 600A	25	35	65	100	150
600VAC	300 - 600A	18	25	35	65	100
500VDC <sup>1</sup>	300 - 600A	25	35	50	65	100
600VDC <sup>2</sup>	300 - 600A	16	25	35	50	65

<sup>1</sup> 2 poles in series

<sup>2</sup> 3 poles in series

### IEC-947 Interrupting capacity (kA RMS)

Voltage	Continuous rating	N	S	H	L	V
230VAC	320 - 630A	70	85	100	200	300
415VAC	320 - 630A	36	50	70	120	200
440VAC	320 - 630A	30	40	65	100	180
500VAC	320 - 630A	25	30	50	85	150
690VAC	320 - 630A	20	25	40	70	80

## T5

### 400A / 600A, 600VAC

#### Electronic trip units (AC only)

T5

#### T5 - 300A Frame

Breaker	Ic at 600VAC	Trip unit	3 pole, 600VAC catalog number	List price	4 pole, 600VAC catalog number	List price
T5N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T5N300BW T5N300CW T5N300EW		T5N300BW-4 T5N300CW-4 T5N300EW-4	
T5S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T5S300BW T5S300CW T5S300EW			
T5H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T5H300BW T5H300CW T5H300EW		T5H300BW-4 T5H300CW-4 T5H300EW-4	
T5L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T5L300BW T5L300CW T5L300EW			
T5V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T5V300BW T5V300CW T5V300EW			

#### T5 - 400A Frame

Breaker	Ic at 600VAC	Trip unit	3 pole, 600VAC catalog number	List price	4 pole, 600VAC catalog number	List price
T5N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T5N400BW T5N400CW T5N400EW		T5N400BW-4 T5N400CW-4 T5N400EW-4	
T5S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T5S400BW T5S400CW T5S400EW			
T5H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T5H400BW T5H400CW T5H400EW		T5H400BW-4 T5H400CW-4 T5H400EW-4	
T5L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T5L400BW T5L400CW T5L400EW			
T5V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T5V400BW T5V400CW T5V400EW			

#### T5 - 600A Frame

Breaker	Ic at 600VAC	Trip unit	3 pole, 600VAC catalog number	List price
T5N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T5N600BW T5N600CW T5N600EW	
T5S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T5S600BW T5S600CW T5S600EW	
T5H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T5H600BW T5H600CW T5H600EW	
T5L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T5L600BW T5L600CW T5L600EW	
T5V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T5V600BW T5V600CW T5V600EW	

Tmax

T5

## T5

### 400A / 600A, 600VAC

### Thermal-magnetic trip units, MCPs & MCS

#### T5 - 300A and 400A Frames

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price	4 pole, 600VAC catalog number	List price
T5N	18kA	300A 400A	1500 - 3000 2000 - 4000	T5N300TW T5N400TW		T5N300TW-4 T5N400TW-4	
T5S	25kA	300A 400A	1500 - 3000 2000 - 4000	T5S300TW T5S400TW		T5S300TW-4 T5S400TW-4	
T5H	35kA	300A 400A	1500 - 3000 2000 - 4000	T5H300TW T5H400TW		T5H300TW-4 T5H400TW-4	
T5L	65kA	300A 400A	1500 - 3000 2000 - 4000	T5L300TW T5L400TW		T5L300TW-4 T5L400TW-4	
T5V	100kA	300A 400A	1500 - 3000 2000 - 4000	T5V300TW T5V400TW		T5V300TW-4 T5V400TW-4	

#### T5 - 300A and 400A Frames - Instantaneous only, electronic (MCP)

Breaker	Ic at 600VAC	Trip unit	Rating	Adjustment range	3 pole, 600VAC catalog number	List price
T5N	18kA	PR221DS-I	300A 400A	300 - 3000 400 - 4000	T5N300E5W T5N400E5W	
T5S	25kA	PR221DS-I	300A 400A	300 - 3000 400 - 4000	T5S300E5W T5S400E5W	
T5H	55kA	PR221DS-I	300A 400A	300 - 3000 400 - 4000	T5H300E5W T5H400E5W	
T5L	65kA	PR221DS-I	300A 400A	300 - 3000 400 - 4000	T5L300E5W T5L400E5W	

#### T5 - 600A Frame - Instantaneous only, electronic (MCP)

Breaker	Ic at 600VAC	Trip unit	Rating	Adjustment range	3 pole, 600VAC catalog number	List price
T5N	18kA	PR221DS-I	600A	600 - 6000	T5N600E5W	
T5S	25kA	PR221DS-I	600A	600 - 6000	T5S600E5W	
T5H	55kA	PR221DS-I	600A	600 - 6000	T5H600E5W	
T5L	65kA	PR221DS-I	600A	600 - 6000	T5L600E5W	

#### T5H-D - Molded case switch

Type	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List Price
T5H-D	400A	5000A	T5H400DW	
T5H-D	600A	6000A	T5H600DW	
T5L-D	600A	6000A	T5L600DW	
T5V-D	600A	6000A	T5V600DW	

# T5

## 400A, 600VAC, 100% rated

### Thermal-magnetic/electronic trip units

T5

#### Electronic trip units (AC only)

##### 300A Frame

Breaker	Ic at 600VAC	Trip Unit	3 pole, 600VAC catalog number	List price
T5N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T5NQ300BW T5NQ300CW T5NQ300EW	
T5S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T5SQ300BW T5SQ300CW T5SQ300EW	
T5H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T5HQ300BW T5HQ300CW T5HQ300EW	
T5L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T5LQ300BW T5LQ300CW T5LQ300EW	
T5V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T5VQ300BW T5VQ300CW T5VQ300EW	

##### 400A Frame

Breaker	Ic at 600VAC	Trip Unit	3 pole, 600VAC catalog number	List price
T5N	18kA	PR221 LS/I PR222 LSI PR222 LSIG	T5NQ400BW T5NQ400CW T5NQ400EW	
T5S	25kA	PR221 LS/I PR222 LSI PR222 LSIG	T5SQ400BW T5SQ400CW T5SQ400EW	
T5H	35kA	PR221 LS/I PR222 LSI PR222 LSIG	T5HQ400BW T5HQ400CW T5HQ400EW	
T5L	65kA	PR221 LS/I PR222 LSI PR222 LSIG	T5LQ400BW T5LQ400CW T5LQ400EW	
T5V	100kA	PR221 LS/I PR222 LSI PR222 LSIG	T5VQ400BW T5VQ400CW T5VQ400EW	

#### Thermal magnetic trip units

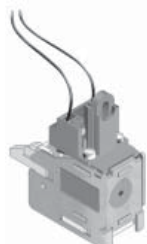
##### 300A - 400A Frames

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price
T5N	18kA	300A 400A	1500-3000 2000-4000	T5NQ300TW T5NQ400TW	
T5S	25kA	300A 400A	1500-3000 2000-4000	T5SQ300TW T5SQ400TW	
T5H	35kA	300A 400A	1500-3000 2000-4000	T5HQ300TW T5HQ400TW	
T5L	65kA	300A 400A	1500-3000 2000-4000	T5LQ300TW T5LQ400TW	
T5V	100kA	300A 400A	1500-3000 2000-4000	T5VQ300TW T5VQ400TW	

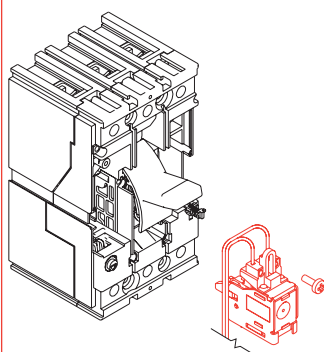
Tmax

# Accessories T1...T3

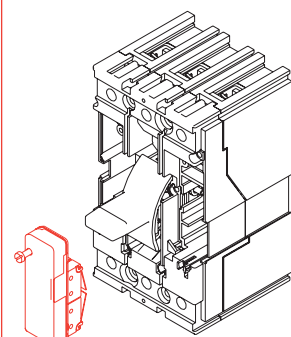
## Electrical



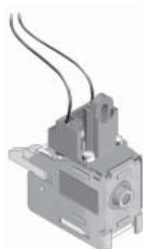
KT3S4



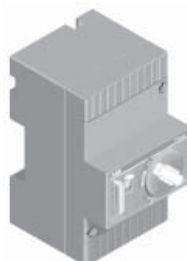
T1 with KT3S4



T1 with KT3TAS



KT3U2



KT3M1

### Shunt trips

Voltage	Factory installed		Field installed	
	Catalog number suffix <sup>①</sup>	List price adder	Catalog number T1 – T3	List price
480 – 500VAC	S1		KT3S1	
220-250VAC/DC	S2		KT3S2	
380 – 440VAC	S3		KT3S3	
110 – 125VAC/DC	S4		KT3S4	
48 – 60VAC/DC	S7		KT3S7	
24 – 30VAC/DC	S8		KT3S8	
12VDC	S9		KT3S9	

For remote opening of circuit breaker and includes internal cut-off switch to protect solenoid. All Shunt trips are left pole mounted and can not be used with undervoltage releases. All Shunt trips are approved for use in ground fault systems.

### Electrical specifications

Voltage	AC VA	DC Watts
24, 120, 240	50	50
48 - 60	60	60
480 - 500	55	—

### Undervoltage releases

Voltage	Factory installed		Field installed	
	Catalog number suffix <sup>①</sup>	List price adder	Catalog number T1 – T3	List price
480 – 500VAC	U1		KT3U1	
220 – 250VAC/DC	U2		KT3U2	
380 – 440VAC	U3		KT3U3	
110 – 125VAC/DC	U4		KT3U4	
60VAC/DC	U5		KT3U5	
48VAC/DC	U7		KT3U7	
24 – 30VAC/DC	U8		KT3U8	

Will trip circuit breaker when connected voltage drops to 35 – 70% of undervoltage release voltage rating. Will allow circuit breaker to close (ON) when voltage is approximately 85% of rated voltage. All undervoltage releases are left pole mounted and can not be used with Shunt trips.

### Electrical specifications

Voltage	AC VA	DC Watts
24	1.5	1.5
48 - 60	1	1
120	2	2
220 - 250	2.5	2.5
480 - 500	4	—

### Auxiliary contacts — T1 - T3

Contacts	Factory installed		Field installed	
	Catalog number suffix	List price adder	Catalog number	List price
1 AUX "C" + 2 BA "C"	A		KT3AS	
3 AUX "C" + 1 BA "C"	A3		KT2AS3	
1 AUX "C" + 2 BA "C"	AE		KT2AS-E <sup>②</sup>	
1 AUX "C" + 1 BA "C" + 1S51 "C"	AE2		KT2AS-E2 <sup>②</sup>	

### Motor operators

Voltage	Field installed	
	Catalog number	List price
48 – 60VAC/DC	KT3M1	
110 – 250VAC/DC	KT3M2	

### Electrical specifications

Voltage range	Inrush power
85 - 110% rated voltage	2500VA / 1000W

<sup>①</sup>For factory installation add suffix given to end of circuit breaker catalog number per accessory format.

<sup>②</sup>For T2 with electronic trip



Accessories T1...T3
Mechanical

Acc.



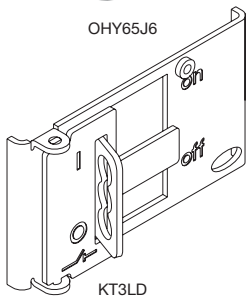
KT3RH



OHB65J6



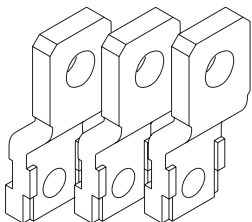
OHY65J6



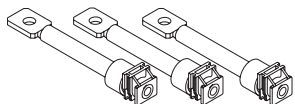
KT3LD



KT3100-3



KT2EF-3



KT2R-3

Direct mount rotary operator handle

	Catalog number	List price
Direct mount rotary	KT3RH	

Early make contact

Frame	Catalog number	List price
T2-T3	KT3EM	

Allows the UVR or control to be supplied in advance. Mounted inside the direct rotary handle.

Variable depth rotary handles

Frame	Mechanism catalog number	List price	Shaft catalog number	List price	Handle catalog number	List price
NEMA 1, 3R, 12						
Tmax	KT3VD-M		OXp6X430 ①		OHY65J6 ① OHB65J6 ①	
NEMA 4, 4X						
Tmax	KT3VD-M		OXp6X430 ①		OHY80L6 ① OHB80L6 ①	
NEMA 1						
Tmax	KT3VD-M		KT3VD-S		KT3VD-H	

Locking device

	Catalog number	List price
Locking device, open/closed	KT3LD	
Locking device, open	KT3LDO	

Lugs

For breakers	Amps	Wire size	Set of 2 catalog number	List price	Set of 3 catalog number	List price	Set of 4 catalog number	List price
Standard cable lugs								
T2	100	14AWG-1/0	KT2100-2		KT2100-3		KT2100-4	
T3	60 225	14AWG-2AWG 4AWG-350kcmil	KT3060-2 KT2250-2		KT3060-3 KT3225-3		KT3060-4 KT3225-4	

Extended front terminals

For breakers	Amps	Set of 3		Set of 4	
		Catalog number	List price adder	Catalog number	List price
T2	100	KT2EF-3		KT2EF-4	
T3	225	KT3EF-3		KT3EF-4	

Rear terminals

For breakers	Amps	Set of 3		Set of 4	
		Catalog number	List price adder	Catalog number	List price
T2	100	KT2R-3		KT2R-4	
T3	225	KT3R-3		KT3R-4	

OHB 65 J 6

Color ● ———— ● Shaft size (diameter in mm)

B =Black  
Y =Red/Yellow

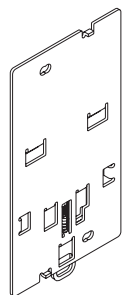
Physical size (length in mm) ● ———— ● J = Type 1, 3R, 12  
L = Type 1, 3R, 12, 4, 4X

① Use Discount schedule DS-H.

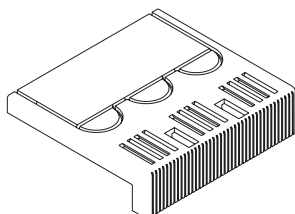
Discount schedule DS-STA  
Discount schedule DS-H — Handles

Tmax

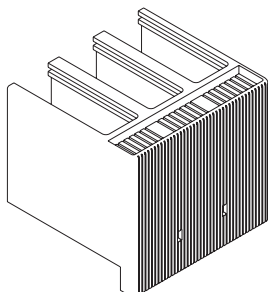
## Accessories T1...T3 Mechanical



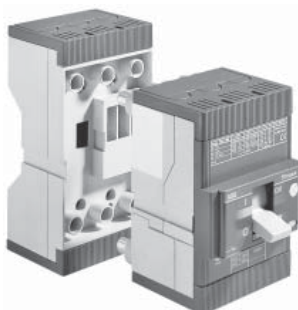
KT2DIN



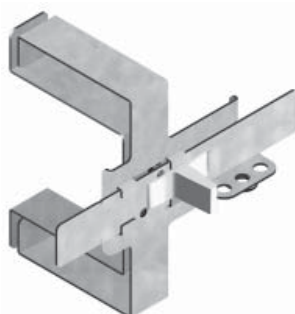
KT1LTC-3



KT1HTC-3



KT2PMK



KT3MIF2

### DIN Rail mounting kits — 35mm DIN

For breakers	Catalog number	List price
T1 / T2	KT2DIN	
T3	KT3DIN	

### Terminal covers for fixed breakers (kit consist of 2 pcs)

For breakers	Low profile 3-pole		Low profile 4-pole	
	Catalog number	List price	Catalog number	List price
T1	KT1LTC-3		KT1LTC-4	
T2	KT2LTC-3		KT2LTC-4	
T3	KT3LTC-3		KT3LTC-4	

For breakers	High profile 3-pole		High profile 4-pole	
	Catalog number	List price	Catalog number	List price
T1	KT1HTC-3		KT1HTC-4	
T2	KT2HTC-3		KT2HTC-4	
T3	KT3HTC-3		KT3HTC-4	

### Plug-in kits for T2 and T3

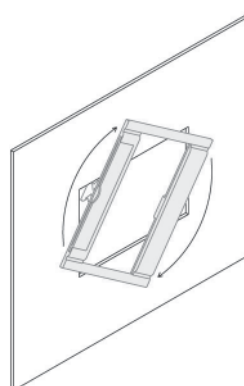
For breakers	Moving part		Fixed part	
	Catalog number	List price	Catalog number	List price
T2 — 3-Pole	KT2PMK		KT2PFF	
T3 — 3-Pole	KT3PMK		KT3PFF	
T2 — 4-Pole	KT2PMK-4		KT2PFF-4	
T3 — 4-Pole	KT3PMK-4		KT3PFF-4	

### Sliding bar interlock — front mounted

For breakers	For 2 breakers		For 3 breakers	
	Catalog number	List price	Catalog number	List price
T1 – T3	KT3MIF2		KT3MIF3	

### Flange for compartment door

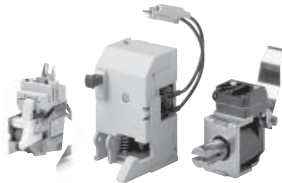
For breakers	Catalog number	List price
T1 / T2 / T3	KT3FCD	



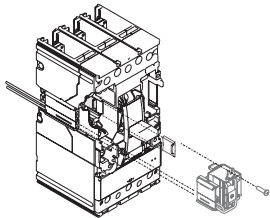
## Accessories T4 - T5 Electrical

Acc.

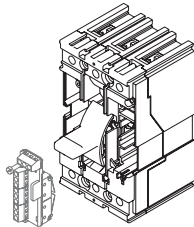
Tmax



Shunt trip



Shunt trip or UVR



Auxiliary contact



KT5M2

### Shunt trip (standard)

Voltage	Factory installed		Field installed	
	Catalog number suffix	List price adder	Catalog number	List price
480 - 500 VAC	S1		KT5S1	
220 - 240 VAC, 220 - 250 VDC	S2		KT5S2	
380 - 440- VAC	S3		KT5S3	
110 - 120 VAC, 110 - 125 VDC	S4		KT5S4	
48 - 60 VAC/VDC	S7		KT5S7	
24 VAC/VDC	S8		KT5S8	
12 VDC	S9		KT5S9	

### Shunt trip (permanent supply)

Voltage	Factory installed		Field installed	
	Catalog number suffix	List price adder	Catalog number	List price
110 - 120 VAC	SP4		KT5SP4	
24 - 30 VDC	SP8		KT5SP8	

### Undervoltage release

Voltage	Factory installed		Field installed	
	Catalog number suffix	List price adder	Catalog number	List price
480 - 500 VAC	U1		KT5U1	
220 - 240 VAC, 220 - 250 VDC	U2		KT5U2	
380 - 440- VAC	U3		KT5U3	
110 - 120 VAC, 110 - 125 VDC	U4		KT5U4	
60 VAC/VDC	U5		KT5U5	
48 VAC/VDC	U7		KT5U7	
24 VAC/VDC	U8		KT5U8	

### Auxiliary contacts

Auxiliary contact	Factory installed		Field installed	
	Catalog number suffix	List price adder	Catalog number	List price
1 Aux. "C" + 1 BA "C", 250 VAC/VDC	A		KT5AS	
3 Aux. "C" + 1 BA"C", 250 VAC/VDC	A3		KT5AS3	
3 Aux. "C" + 1 BA"C", 24 VDC	A3L		KT5AS3L	

### Stored energy motor operator

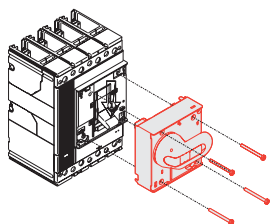
Voltage	Field installed	
	Catalog number	List price
220 - 250 VAC/VDC	KT5M2	
380 VAC	KT5M3	
110 - 125 VAC/VDC	KT5M4	
48 - 60 VDC	KT5M7	
24 VDC	KT5M8	

### Stored energy motor operator with electronics

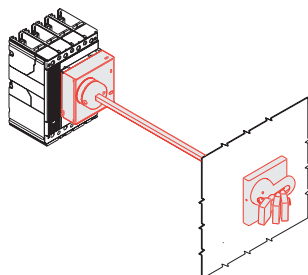
Voltage	Field installed	
	Catalog number	List price
220 - 250 VAC/VDC	KT5M2-E	
380 VAC	KT5M3-E	
110 - 125 VAC/VDC	KT5M4-E	
48 - 60 VDC	KT5M7-E	
24 VDC	KT5M8-E	

## Accessories T4 - T5

### Mechanical



KT5RH

KT5VD-M, OXP10X225  
KT5VD-H

KT5PFVR



KT5WMK



KT5WVFR

#### Direct mount rotary operator handle

Direct mount rotary handle (for fixed and plug-in breakers)  
Direct mount rotary handle (for withdrawable breakers)

Catalog number	List price
KT5RH	
KT5RHW	

#### Early make contact

Frame

T4-T5

Catalog number	List price
KT5EM	

Allows the UVR or control to be supplied in advance. Mounted inside the direct rotary handle.

#### Variable depth rotary handles

Mechanism	Catalog number	List price
Nema 1, 12, 3R Handle (Black)	OHB125J10X ①	
Nema 4, 4X Handle (Black)	OHB125L10 ①	
Shaft - 148 mm / 5.8 in	EXP10X148 ①	
Shaft - 225 mm / 8.9 in	EXP10X225 ①	
Shaft - 500 mm / 19.7 in	EXP10X500 ①	
Nema 1 handle square profile	KT5VD-H	

#### Plug-in kits

Breaker	Breaker adapter kit		Plug-in base	
	Catalog number	List price	Catalog number	List price
3-pole	KT4PMK		KT4PFEF	
			KT4PFHR	
			KT4PFVR	
3-pole	KT5PMK		KT5PFEF	
			KT5PFHR	
			KT5PFVR	
4-pole	KT4PMK-4		KT4PFEF-4	
			KT4PFHR-4	
			KT4PFVR-4	
4-pole	KT5PMK-4		KT5PFEF-4	
			KT5PFHR-4	
			KT5PFVR-4	

#### Draw-out kits

Breaker	Breaker adapter kit		Draw-out base	
	Catalog number	List price	Catalog number	List price
3-pole	KT4WMK		KT4WFEF	
			KT4WFHR	
			KT4WFVR	
3-pole	KT5WMK		KT5WFEF	
			KT5WFHR	
			KT5WFVR	
4-pole	KT4WMK-4		KT4WFEF-4	
			KT4WFHR-4	
			KT4WFVR-4	
4-pole	KT5WMK-4		KT5WFEF-4	
			KT5WFHR-4	
			KT5WFVR-4	

Direct mount rotary operator or front locking device or motor operator is required for the draw-out configuration.

#### Terminal covers for fixed part of circuit-breakers (kit of 2)

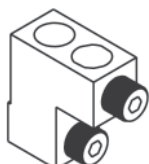
Breaker	3-pole		4-pole	
	Catalog number	List price	Catalog number	List price
T4	KT4TCFP-3		KT4TCFP-4	
T5	KT5TCFP-3		KT5TCFP-4	

#### Mechanical interlock plate

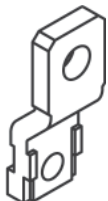
	Catalog number	List price
Frame unit horizontal interlock - HB	KT5MI-H	
Frame unit vertical interlock - VB	KT5MI-V	
Plate for A interlock - T4 (F-P-W) + T4 (F-P-W)	KT5MIP-A	
Plate for B interlock - T4 (F-P-W) + T5 400A (F-P-W) or T5 600A (F)	KT5MIP-B	
Plate for C interlock - T4 (F-P-M) + T5 600A (P-W)	KT5MIP-C	
Plate for D interlock - T5 400A (F-P-M) or T5 600A (F) + T5 400A (F-P-M) or T5 600A (F)	KT5MIP-D	
Plate for E interlock - T5 400A (F-P-M) or T5 600A (F) + T5 600A (P-W)	KT5MIP-E	
Plate for F interlock - T5 600A (P-W) + T5 600A (P-W)	KT5MIP-F	

## Accessories T4 - T5 Mechanical

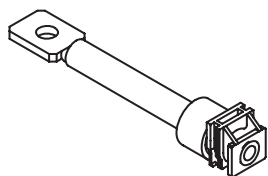
Acc.



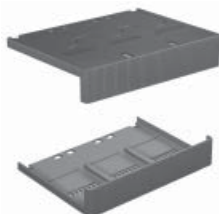
KT5400-3



KT4EF



KT4R-3



KT5LTC-3



KT5HTC-3



KT5LC-S

### Standard cable lug kits

Breaker	Amps	Wire - Range	Set of 2 catalog number	List price	Set of 3 catalog number	List price	Set of 4 catalog number	List price
T4	100	14 AWG - 1/0	KT4100-2		KT4100-3		KT4100-4	
T4	250	6 AWG - 350kcmil	KT4250-2		KT4250-3		KT4250-4	
T5	300	250kcmil - 500kcmil	KT5300-2		KT5300-3		KT5300-4	
T5	400	(2) 3/0 - 250kcmil	KT5400-2		KT5400-3		KT5400-4	
T5	600	(2) 3/0 - 500mcm (kit 3)	---		KT5600-3		---	

### Standard cable lug kits with control power taps

Breaker	Amps	Wire - Range	Set of 2 catalog number	List price	Set of 3 catalog number	List price	Set of 4 catalog number	List price
T4	100	14 AWG - 1/0	KT4100-2C		KT4100-3C		KT4100-4C	
T4	250	6 AWG - 350kcmil	KT4250-2C		KT4250-3C		KT4250-4C	
T5	300	250kcmil - 500kcmil	KT5300-2C		KT5300-3C		KT5300-4C	
T5	400	(2) 3/0 - 250kcmil	KT5400-2C		KT5400-3C		KT5400-4C	

### Extended front terminals (IEC Only)

Breaker	Amps	Wire - Range	Set of 2 catalog number	List price	Set of 3 catalog number	List price	Set of 4 catalog number	List price
T4	250	---	---		KT4EF		KT4EF-4	
T5	400	---	---		KT5EF		KT5EF-4	

### Rear terminals (IEC Only)

Breaker	Amps	Wire - Range	Set of 2 catalog number	List price	Set of 3 catalog number	List price	Set of 4 catalog number	List price
T4	250	---	---		KT4R-3		KT4R-4	
T5	400	---	---		KT5R-3		KT5R-4	

### Spread extended terminals (IEC only)

Breaker	Amps	Wire - Range	Set of 2 catalog number	List price	Set of 3 catalog number	List price	Set of 4 catalog number	List price
T4	250	---	---		KT4ES-3		KT4ES-4	
T5	400	---	---		KT5ES-3		KT5ES-4	

### Terminal covers for fixed breakers

Low profile		Low profile 3-pole		Low profile 4-pole	
		Catalog number	List price	Catalog number	List price
For breakers					
T4		KT4LTC-3		KT4LTC-4	
T5		KT5LTC-3		KT5LTC-4	
High profile		High profile 3-pole		High profile 4-pole	
		Catalog number	List price	Catalog number	List price
For breakers					
T4		KT4HTC-3		KT4HTC-4	
T5		KT5HTC-3		KT5HTC-4	

### Adapters

For breakers	6 Way	10 Way	12 Way	Catalog number	List price
1 Form C + 1BA	•			KT5ADP-6	\$ 35
Shunt trip / UVR	•			KT5ADP-6	35
Stored energy motor operator		•		KT5ADP-10	60
Stored energy motor operator + Shunt trip / UVR		•		KT5ADP-10	60
3 Form C + 1BA			•	KT5ADP-12	65

Required when mounting accessories on plug-in/draw-out breakers.

### Terminal cover seals

	Use with high profile cover	List price
T1 - T2 - T3 - T4 - T5	KT5LC-S	

Tmax

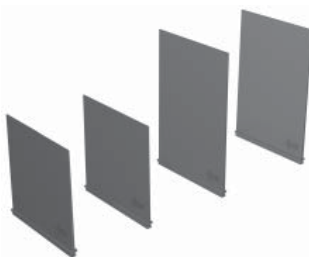
## Accessories T4 - T5 Mechanical, Electrical



KT5FLD



KT5KL-D



KT5PBL-3, KT5PBH-3



KT5FDU



KT5FCD

### Front locking device

	Fixed or plug-in Catalog number	Draw-out Catalog number	List price
T4 - T5	KT5FLD	KT5FLDW	

Mounts directly onto front of CB. Includes padlock device for locking CB in open position. Can be used as a manual handle block, with padlock or with optional key lock accessory. Optional door interlock kit that will prevent CB door from opening while CB is in the closed (ON) position.

### Key locks

	Keys	Catalog number T4 - T5	List price
Electric operator	Different keys Same key #20005 Same key #20006 Same key #20007 Same key #20008	KT5KL-MO-D KT5KL-MO-20005 KT5KL-MO-20006 KT5KL-MO-20007 KT5KL-MO-20008	
Rotary HM / Front locking device	Different keys Same key #20005 Same key #20006 Same key #20007 Same key #20008	KT5KL-D KT5KL-20005 KT5KL-20006 KT5KL-20007 KT5KL-20008	

### Phase barriers

Breaker	3-pole		4-pole	
	Catalog number	List price	Catalog number	List price
T4 - T5 (Low: 100mm)	KT5PBL-3		KT5PBL-4	
T4 - T5 (High: 200mm)	KT5PBH-3		KT5PBH-4	

### Front display unit (IEC only)

	Used with high profile cover	List price
Suitable for use with circuit-breakers T4-T5 with PR222DS/P or PR222DS/PD	KT5FDU	

### Neutral GF current sensor

Frame	Amps	Catalog number	List price
T4	100A	KT4NCT-100	
T4	150A	KT4NCT-150	
T4	250A	KT4NCT-250	
T5	300A	KT5NCT-300	
T5	400A	KT5NCT-400	
T5	600A	KT5NCT-600	

Note: X4 connector is required.

### Connector for PR222DS

	Fixed circuit-breaker		Plug-in or DO circuit-breaker	
	Catalog number	List price	Catalog number	List price
X3 connector	KT5CX3		KT5CX3-P	
X4 connector	KT5CX4		KT5CX4-P	

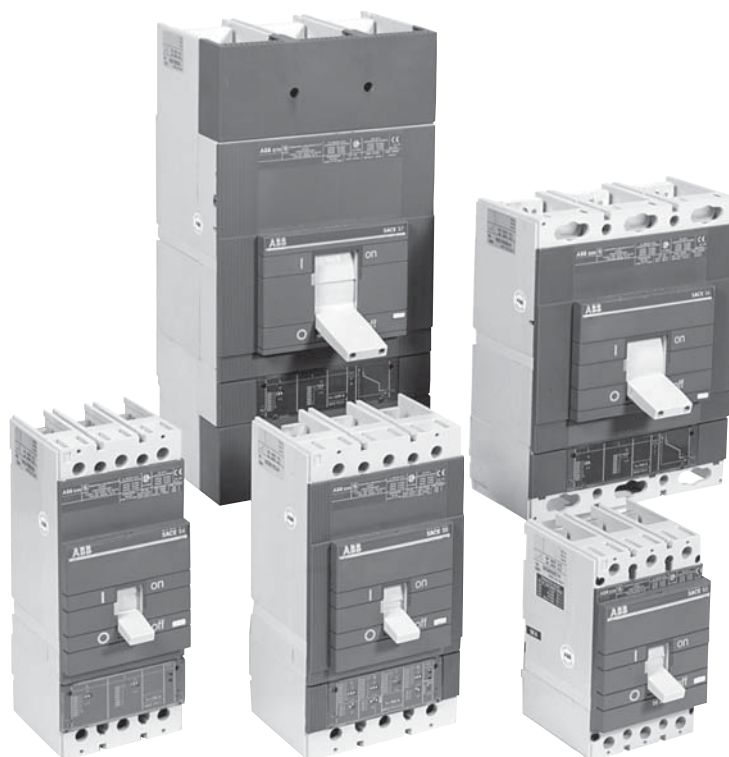
### Flange for compartment door

	Fixed or plug-in		DO circuit-breaker	
	Catalog number	List price	Catalog number	List price
T4 - T5	KT5FCD		KT5FCDW	





## Isomax Molded case circuit breakers



Isomax

### Introduction

ABB Isomax molded case circuit breakers are modern, innovative units designed after extensive analysis of the demands of today's market. These new units embody all the experience and advances derived from ABB's previous highly successful and acclaimed range of circuit breakers. ABB Isomax circuit breakers are designed for the total safety of both operators and systems. This complete and versatile series of circuit breakers can satisfy the most demanding system specifications.

ABB Isomax circuit breakers are ideal for all electrical power generation and distribution applications. The Isomax series maximizes safety and dependability for all power users. The new line is particularly suitable for applications involving special protection coordination needs and automated control systems.

ABB Isomax units also satisfy the most demanding requirements for rated current and fault current levels.

With the wide range of optional trip functions total system selectivity can be maximized.

- Continuous currents from 15A to 2500A
- Rated interrupting capacities from 14kA to 85kA (600VAC UL/CSA)
- Extended working life of all mechanical and electrical parts for continuity of operation
- Suitable for isolation applications
- UL/CSA 100% equipment rated versions

### Frame sizes — seven basic sizes

The ABB Isomax series includes seven basic frame sizes with continuous rated currents from 15A to 2500A and with 600VAC interrupting capacities up to 85kA. The various versions have the following breaking capacity ratings:

- **B** basic breaking capacity
- **N** normal breaking capacity
- **H** high breaking capacity
- **L, V** very high breaking capacity

### Derived versions

- Circuit breakers with selective and non-selective residual current protection
- Switch disconnectors
- Circuit breakers for motor control with adjustable magnetic release
- Circuit breakers for machine tools
- Circuit breakers for direct current

### ABB Isomax versions

- Fixed: all models
- Plug-in: up to S5 400A (IEC)
- Withdrawable: from S3 to S7 1200A (IEC)

# General information

## Selection guide



S3B



S3

Circuit-breaker type			S3B			S3		
Maximum frame continuous rated current	40°C	A	225			225		
Rated operational voltage	50/60 Hz	V	240			600		
Test voltage	1 min. 50/60 Hz	V	3000			3000		
Rated impulse withstand voltage		kV	6			6		
Poles		No.	2-3			2-3-4		
Performance level				B		N	H	L
UL/CSA short-circuit interrupting capacity UL 489, File # E93565 CSA, File # LR90467	240VAC	kA RMS		150		65	100	150
	480VAC		—		25	50	85②	
	600VAC		—		14	14	25	
	500VDC ①		50		35	50	65	
	600VDC ①		—		20	35	50	
IEC-947 rated ultimate short-circuit breaking capacity Icu	220/230VAC	kA RMS		150		65	100	170
	380/400/415VAC		—		35	65	85	
	440VAC		—		30	50	65	
	500VAC		—		25	40	50	
	660/690VAC		—		14	18	20	
	250VDC ④		—		—	—	—	
	500VDC ④		—		35	65	85	
	750VDC ④		—		35	50	65	
Overcurrent trip unit/relays								
Thermal-magnetic			•			•		
Microprocessor-based			—			—		
Dialogue unit			—			—		
Interchangeability			—			—		
Version — Terminals								
Fixed — front or rear			•			•		
Plug-in — front or rear (IEC)			•			•		
Withdrawable — front or rear (IEC)			•			•		
Dimensions (fixed circuit-breaker)								
2P & 3P (H x W x D)	in		6.70 x 4.13 x 4.07			6.70 x 4.13 x 4.07		
	mm		170 x 104 x 103.5			170 x 104 x 103.5		
4P IEC (H x W x D)	in		6.70 x 5.51 x 4.07			6.70 x 5.51 x 4.07		
	mm		170 x 140 x 103.5			170 x 140 x 103.5		
Mechanical duration								
Operations	No.		25,000			25,000		
Frequency	ops./hour		240			120		
Weights (Fixed 3P)								
			lbs			6.75		
			Kg			3.0		

① For use with thermal-magnetic trip only:

500VDC, 2 poles in series

600VDC, 3 poles in series

② 15-30A units are 65kA at 480VAC

③ 15A units are 14kA at 480VAC

④ For use with thermal-magnetic trip only:

250VDC, 2 poles in series

500VDC, 2 poles in series

750VDC, 3 poles in series

⑤ S3, 175A, 200A and 205A are 480VAC/500VDC rated.

480VAC ratings: N = 20kA, H = 35kA and L = 50kA

500VDC ratings: N = 25kA, H = 50kA and L = 65kA

# General information

## Selection guide



S6



S7



S8

Circuit-breaker type			S6			S6			S7	S8
Maximum frame	40°C	A	600			800			1200	1600/2000/ 2500
continuous rated current										
Rated operational voltage	50/60 Hz	V-	600			600			600	600
Test voltage	1 min. 50/60 Hz	V-	3000			3000			3000	3000
Rated impulse withstand voltage		kV	8			8			8	8
Poles		No.	2-3-4			2-3-4			2-3-4	3
<b>Performance level</b>			<b>N</b>	<b>H</b>	<b>L</b>	<b>N</b>	<b>H</b>	<b>L</b>	<b>H</b>	<b>V</b>
UL/CSA short-circuit interrupting capacity	240VAC		65	150	200	65	150	200	100	125
	480VAC		50	65	100	50	65	100	65	100
	<b>600VAC</b>	<b>kA RMS</b>	<b>25</b>	<b>35</b>	<b>42</b>	<b>25</b>	<b>35</b>	<b>42</b>	<b>50</b>	<b>85</b>
	UL 489, File # E93565	500VDC ①	35	50	65	35	50	65	—	—
CSA, File # LR90467	600VDC	①	20	35	50	20	35	50	—	—
IEC-947 rated ultimate short-circuit breaking capacity	220/230VAC		65	100	200	65	100	200	100	120
	<b>380/400/415VAC</b>	<b>kA RMS</b>	<b>35</b>	<b>65</b>	<b>100</b>	<b>35</b>	<b>65</b>	<b>100</b>	<b>65</b>	<b>120</b>
	Icu 440VAC		30	50	80	30	50	80	55	100
	500VAC		25	40	65	25	40	65	45	70
	660/690VAC		20	25	35	20	25	35	25	50
	250VDC ②		—	—	—	—	—	—	—	—
	500VDC ②		35	50	65	35	50	65	—	—
	750VDC ②		20	35	50	20	35	50	—	—
<b>Overcurrent trip unit/relays</b>										
Thermal-magnetic			•			•			•	•
Microprocessor-based			•			•			•	•
Dialogue unit			•			•			•	•
Interchangeability			•			•			•	•
<b>Version-Terminals</b>										
Fixed – front or rear			•			•			•	•
Plug-in – front or rear			•			•			—	—
Withdrawable — front or rear			•			•			•	—
<b>Dimensions (fixed circuit-breaker)</b>										
2P & 3P (H x W x D)	in		10.55 x 8.27 x 4.07			14.25 x 8.27 x 4.07			15.98 x 8.27 x 5.45	1 5.75 x 15.98 x 9.25
	mm		268 x 210 x 103.5			268 x 210 x 103.5			406 x 210 x 138.5	400 x 406 x 235
4P IEC (H x W x D)	in		10.55 x 11.0 x 4.07			14.25 x 11.0 x 4.07			15.98 x 11.0 x 5.45	—
	mm		268 x 280 x 103.5			268 x 210 x 103.5			406 x 280 x 138.5	—
<b>Mechanical endurance</b>										
Operations	N°		20,000			20,000			10,000	10,000
Frequency	(ops./hour)		120			120			120	20
<b>Weights</b> Fixed 3P	lbs.		21.0			22.0			37.5	135
	Kg		9.5			10.0			17.0	57

① For use with thermal-magnetic trip only:  
500VDC, 2 poles in series  
600VDC, 3 poles in series

② For use with thermal-magnetic trip only:  
250VDC, 2 poles in series  
500VDC, 3 poles in series  
750VDC, 3 poles in series

## NOTES



## Isomax

### Molded case circuit breakers S3, S6 and S7



**S6 N 600 B W - 2 xxx**

#### Accessories (added in alpha-numeric order)

**A** = Auxiliary switch  
**BA** = Bell alarm  
**BA3** = Bell alarm (S6/S7 only)  
**H** = Fixed rotary handle mounted on CB  
**S\_** = Shunt trip with voltage code  
**U\_** = Undervoltage release with voltage code

#### Number of poles

**-2** = 2 pole  
**-4** = 4 pole  
**None** = 3 pole

#### Type connectors

**W** = None  
**L** = Line & load lugs  
**T** = Lugs on top terminal  
**B** = Lugs on bottom terminal

#### Trip unit function

<b>B</b> = LI	<b>F</b> = LSIG/K
<b>C</b> = LSI	<b>H</b> = LSIG/D
<b>D</b> = Molded case switch (MCS)	<b>J</b> = LSIG/DT
<b>E</b> = LSIG	<b>K</b> = LSIG/DTK
<b>T</b> = Thermal-magnetic	<b>M</b> = Magnetic only (MCP)

#### Current rating

**015** = 15A  
**600** = 600A  
**800** = 800A  
**1200** = 1200A

#### Interrupting rating class

<b>B</b> = Basic (240VAC)	<b>BQ</b> = Basic, 100% rated
<b>N</b> = Normal	<b>NQ</b> = Normal, 100% rated
<b>H</b> = High	<b>HQ</b> = High, 100% rated
<b>L</b> = Extra high	<b>LQ</b> = Extra high, 100% rated
	<b>D</b> = Special molded case switch (No trip IEC)

#### Frame size

**S3** = 150 / 225A  
**S6** = 600 / 800A  
**S7** = 1200A

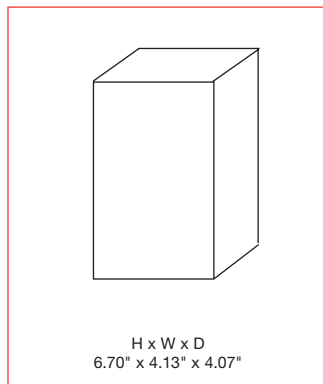
Isomax

S3

## S3

### 150A / 225A, 600VAC

### Standard thermal-magnetic



Standard S3 package includes complete circuit breaker and mounting hardware. **Order cable lugs as a separate item.**

#### General

The S3 breaker family ranges from 15 through 225 amperes. The S3 trip mechanisms are non-interchangeable and use sensitive electromagnetic relays for overcurrent trip protection. Heat sensitive bimetals are used for thermal overcurrent protection. Short circuit current protection begins at 10 times the thermal rating of the breaker and uses a magnetic coil principle.

#### Versions

To meet all application needs, the S3 is available in various versions:

- T = Thermal-magnetic
- Q = 100% UL/CSA rated
- D = Molded case switch
- M = Magnetic only (MCP)

#### Performance level

Each version is also available in different maximum fault interrupting levels

- B = 240VAC
- N = Normal
- H = High
- L = Extra high

#### Number of poles

In UL/CSA form, the S3 is available in two pole or three pole versions, both with the same dimensions. A four pole version is also available in IEC form. For price estimate, add 35% to list price of selected version three pole breaker, contact ABB 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 S3 family are suitable for reverse feed applications.

#### Molded case switches

UL/CSA switches include no overcurrent protection except for a high instantaneous trip mechanism for self protection. IEC type molded case switches with no trip protection are also available.

#### UL/CSA Interrupting capacity (kA RMS)

##### UL489 / CSA C22.2

Voltage	N	H	L
240VAC	65	100	150
480VAC	25	50	85 <sup>①</sup>
②600VAC	14	14	25
500VDC	35	50	65
600VDC	20	35	50
③S3/225A 500VDC	20	35	50

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	N	H	L
230VAC	65	100	170
380/400/415VAC	35	65	85
440VAC	30	50	65
500VAC	25	40	50
690VAC	14	18	20
500VDC	35	50	65
750VDC	20	35	50

① 15-30A and 175-200-225A are 65kA at 480VAC

② S3 175A, 200A, 225A are rated 480VAC / 500VDC maximum

③ S3 175A, 200A, 225A

# S3

## 150A / 225A, 600VAC

### Standard thermal-magnetic

S3

#### S3B

Breaker	Ic at 240VAC	Rating	Magnetic trip	2 pole, 240VAC catalog number	List price	3 pole, 240VAC catalog number	List price
S3B	150kA	175A 200A 225A	1750A 2000A 2250A	S3B175TW-2 S3B200TW-2 S3B225TW-2		S3B175TW S3B200TW S3B225TW	

#### S3N

Breaker	Ic at 600VAC	Rating	Magnetic trip	2 pole, 480VAC/500VDC catalog number	List price	3 pole, 600VAC/600VDC catalog number	List price
S3N	14kA	15A	500A	S3N015TW-2		S3N015TW	
		20A	500A	S3N020TW-2		S3N020TW	
		25A	500A	S3N025TW-2		S3N025TW	
		30A	500A	S3N030TW-2		S3N030TW	
		35A	500A	S3N035TW-2		S3N035TW	
		40A	500A	S3N040TW-2		S3N040TW	
		50A	500A	S3N050TW-2		S3N050TW	
		60A	600A	S3N060TW-2		S3N060TW	
		70A	700A	S3N070TW-2		S3N070TW	
		80A	800A	S3N080TW-2		S3N080TW	
		90A	900A	S3N090TW-2		S3N090TW	
		100A	1000A	S3N100TW-2		S3N100TW	
	Ic at 480VAC 25kA	125A	1250A	S3N125TW-2		S3N125TW	
		150A	1500A	S3N150TW-2		S3N150TW	
		175A <sup>①</sup> 200A <sup>①</sup> 225A <sup>①</sup>	1750A 2000A 2250A	S3N175TW-2 S3N200TW-2 S3N225TW-2		S3N175TW S3N200TW S3N225TW	

#### S3H

Breaker	Ic at 600VAC	Rating	Magnetic trip	2 pole, 480VAC/500VDC catalog number	List price	3 pole, 600VAC/600VDC catalog number	List price
S3H	14kA	15A	500A	S3H015TW-2		S3H015TW	
		20A	500A	S3H020TW-2		S3H020TW	
		25A	500A	S3H025TW-2		S3H025TW	
		30A	500A	S3H030TW-2		S3H030TW	
		35A	500A	S3H035TW-2		S3H035TW	
		40A	500A	S3H040TW-2		S3H040TW	
		50A	500A	S3H050TW-2		S3H050TW	
		60A	600A	S3H060TW-2		S3H060TW	
		70A	700A	S3H070TW-2		S3H070TW	
		80A	800A	S3H080TW-2		S3H080TW	
		90A	900A	S3H090TW-2		S3H090TW	
		100A	1000A	S3H100TW-2		S3H100TW	
	Ic at 480VAC 50kA	125A	1250A	S3H125TW-2		S3H125TW	
		150A	1500A	S3H150TW-2		S3H150TW	
		175A <sup>①</sup> 200A <sup>①</sup> 225A <sup>①</sup>	1750A 2000A 2250A	S3H175TW-2 S3H200TW-2 S3H225TW-2		S3H175TW S3H200TW S3H225TW	

#### S3L

Breaker	Ic at 600VAC	Rating	Magnetic trip	2 pole, 480VAC/500VDC catalog number	List price	3 pole, 600VAC/600VDC catalog number	List price
S3L	25kA	15A	500A	S3L015TW-2		S3L015TW	
		20A	500A	S3L020TW-2		S3L020TW	
		25A	500A	S3L025TW-2		S3L025TW	
		30A	500A	S3L030TW-2		S3L030TW	
		35A	500A	S3L035TW-2		S3L035TW	
		40A	500A	S3L040TW-2		S3L040TW	
		50A	500A	S3L050TW-2		S3L050TW	
		60A	600A	S3L060TW-2		S3L060TW	
		70A	700A	S3L070TW-2		S3L070TW	
		80A	800A	S3L080TW-2		S3L080TW	
		90A	900A	S3L090TW-2		S3L090TW	
		100A	1000A	S3L100TW-2		S3L100TW	
	Ic at 480VAC 65kA	125A	1250A	S3L125TW-2		S3L125TW	
		150A	1500A	S3L150TW-2		S3L150TW	
		175A <sup>①</sup> 200A <sup>①</sup> 225A <sup>①</sup>	1750A 2000A 2250A	S3L175TW-2 S3L200TW-2 S3L225TW-2		S3L175TW S3L200TW S3L225TW	

① 480VAC/500VDC maximum

## S3

### 150A / 225A, 600VAC, 100% rated Thermal-magnetic trip units

#### S3NQ

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole 600VAC/600VDC catalog number	List price
S3NQ	14kA	15A	500A	S3NQ015TW	
		20A	500A	S3NQ020TW	
		25A	500A	S3NQ025TW	
		30A	500A	S3NQ030TW	
		35A	500A	S3NQ035TW	
		40A	500A	S3NQ040TW	
		50A	500A	S3NQ050TW	
		60A	600A	S3NQ060TW	
		70A	700A	S3NQ070TW	
		80A	800A	S3NQ080TW	
		90A	900A	S3NQ090TW	
		100A	1000A	S3NQ100TW	
	Ic at 480VAC 25kA	125A	1250A	S3NQ125TW	
		150A	1500A	S3NQ150TW	
		175A <sup>①</sup>	1750A	S3NQ175TW	
		200A <sup>①</sup>	2000A	S3NQ200TW	
		225A <sup>①</sup>	2250A	S3NQ225TW	

#### S3HQ

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole 600VAC/600VDC catalog number	List price
S3HQ	14kA	15A	500A	S3HQ015TW	
		20A	500A	S3HQ020TW	
		25A	500A	S3HQ025TW	
		30A	500A	S3HQ030TW	
		35A	500A	S3HQ035TW	
		40A	500A	S3HQ040TW	
		50A	500A	S3HQ050TW	
		60A	600A	S3HQ060TW	
		70A	700A	S3HQ070TW	
		80A	800A	S3HQ080TW	
		90A	900A	S3HQ090TW	
		100A	1000A	S3HQ100TW	
	Ic at 480VAC 50kA	125A	1250A	S3HQ125TW	
		150A	1500A	S3HQ150TW	
		175A <sup>①</sup>	1750A	S3HQ175TW	
		200A <sup>①</sup>	2000A	S3HQ200TW	
		225A <sup>①</sup>	2250A	S3HQ225TW	

#### S3LQ

Breaker	Ic at 600VAC	Rating	Magnetic trip	3 pole 600VAC/600VDC catalog number	List price
S3LQ	25kA	15A	500A	S3LQ015TW	
		20A	500A	S3LQ020TW	
		25A	500A	S3LQ025TW	
		30A	500A	S3LQ030TW	
		35A	500A	S3LQ035TW	
		40A	500A	S3LQ040TW	
		50A	500A	S3LQ050TW	
		60A	600A	S3LQ060TW	
		70A	700A	S3LQ070TW	
		80A	800A	S3LQ080TW	
		90A	900A	S3LQ090TW	
		100A	1000A	S3LQ100TW	
	Ic at 480VAC 65kA	125A	1250A	S3LQ125TW	
		150A	1500A	S3LQ150TW	
		175A <sup>①</sup>	1750A	S3LQ175TW	
		200A <sup>①</sup>	2000A	S3LQ200TW	
		225A <sup>①</sup>	2250A	S3LQ225TW	

**Note:** When applied correctly, UL/CSA tested 100% equipment rated breakers may be applied at full rating rather than on the sizing rules of the CEC 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 CEC for details and other design factors needed for this application.

① 480VAC / 500VDC maximum



# S3

## 150A / 225A, 600VAC

### Magnetic only MCPs & MCS

S3

#### Magnetic only (MCP)

Magnetic only circuit breakers are instantaneous trip only devices. MCPs must be used with some other device that will provide overload protection.

Type	Amps	Magnetic trip	3 pole, 600VAC catalog number	List price
S3L	3 5 10	12 – 36A 20 – 60A 40 – 120A	S3L003MW S3L005MW S3L010MW	
	25 ③	100 – 300A	S3L025MW	
	50 100 125 150	200 – 600A 400 – 1200A 500 – 1500A 600 – 1500A	S3L050MW S3L100MW S3L125MW S3L150MW	
	200 ②	800 – 2400A	S3L200MW	

#### Molded case switches

Type	Amps	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price
S3H-D	150 225 ②	1500A 2250A	S3H150DW S3H225DW	
IEC switches (without overcurrent protection) Withstand rating: 6.5kA, 600VAC	100 160 250	none none none	S3D100W S3D160W S3D250W	

#### Connection options

Type	Wire range	Amps①	Set of 2 catalog number	List price	Set of 3 catalog number	List price
CU/AL front lugs	14AWG – 2AWG	60	K3TA-2		K3TA	
CU/AL front lugs	14AWG – 1/0	100	K4TB-2		K4TB	
CU/AL front lugs	2AWG – 4/0	150	K4TC-2		K4TC	
CU/AL front lugs	4AWG – 300kcmil	225	K4TD-2		K4TD	
CU front lugs (saddle)	14AWG – 250kcmil	250	—		Set of 6 catalog number	
					K4TES	
CU rear lugs	6AWG – 350kcmil	250	—		K4TER	
Extended front bar	—	250	—		K4ET-250	

① Suggested lugs for circuit breaker up to amps shown. Cable size and type determine maximum amperage.

② 480VAC / 500VDC maximum.

③ Rated 3 pole, 600VAC/600VDC.

## NOTES

# S6

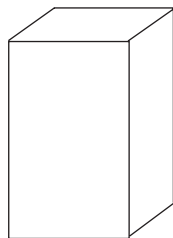
## 600A / 800A, 600VAC

### Thermal-magnetic/electronic

S6



S6



H x W x D  
10.55" x 8.27" x 4.07" (a)  
14.25" x 8.27" x 4.07" (b)

Standard S6 package includes complete circuit breaker and mounting hardware. **Order cable lugs or other connection scheme as a separate item.**

- (a) With K6TH cable lugs breaker is 10.55" tall.
- (b) With K6TJ cable lugs, terminal covers are provided and breaker is 14.25" tall.

#### General

The S6 breaker family is an 800A frame with a 600A and 800A version, both utilizing a microprocessor based overcurrent protective trip system. Both versions are adjustable from 40% to 100% of rating without the addition of any parts or rating plugs. As standard, the S6 includes adjustable long time function for overload protection and adjustable instantaneous function for short circuit protection.

#### Versions

To meet all application needs, the S6 is available in various versions:

- B = Adjustment LI
- C = Adjustment LSI
- E = Adjustment LSIg
- Q = 100% UL/CSA rated
- D = Molded case switch
- M = Magnetic only (MCP)
- T = Thermal magnetic

#### 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

#### Number of poles

In UL/CSA version, the S6 is available in two pole or three pole version, 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 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 S6 family are suitable for reverse feed applications.

#### Molded case switches

UL/CSA switches include no overcurrent protection except for a high instantaneous trip mechanism for self protection. IEC type molded case switches with no trip protection are also available.

#### UL/CSA Interrupting capacity (kA RMS)

##### UL489 / CSA C22.2

Voltage	N	H	L
240VAC	65	150	200
480VAC	50	65	100
600VAC	25	35	42
500VDC <sup>①</sup>	35	50	65
600VDC <sup>①</sup>	20	25	50

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	N	H	L
230VAC	65	100	200
380/400/415VAC	35	65	100
440VAC	30	50	80
500VAC	25	40	65
690VAC	20	25	35
250VDC <sup>①</sup>	50	65	100
500VDC <sup>①</sup>	35	50	65
750VDC <sup>①</sup>	20	35	50

<sup>①</sup> Thermal magnetic only.

## S6

### 600A / 800A, 600VAC

### Thermal-magnetic/electronic trip units

The S6 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,  $I^2t$  (on/off), instantaneous current trip point and further optional ground fault protection.

#### 600A Frame (240 – 600A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	2 pole, 600VAC catalog number	List price	3 pole, 600VAC catalog number	List price
S6N	25kA	PR211 PR212 PR212	LI LSI LSIG	S6N600BW-2 S6N600CW-2 —		S6N600BW S6N600CW S6N600EW	
S6H	35kA	PR211 PR212 PR212	LI LSI LSIG	S6H600BW-2 S6H600CW-2 —		S6H600BW S6H600CW S6H600EW	
S6L	42kA	PR211 PR212 PR212	LI LSI LSIG	S6L600BW-2 S6L600CW-2 —		S6L600BW S6L600CW S6L600EW	

#### 800A Frame (320 – 800A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	2 pole, 600VAC catalog number	List price	3 pole, 600VAC catalog number	List price
S6N	25kA	PR211 PR212 PR212	LI LSI LSIG	S6N800BW-2 S6N800CW-2 —		S6N800BW S6N800CW S6N800EW	
S6H	35kA	PR211 PR212 PR212	LI LSI LSIG	S6H800BW-2 S6H800CW-2 —		S6H800BW S6H800CW S6H800EW	
S6L	42kA	PR211 PR212 PR212	LI LSI LSIG	S6L800BW-2 S6L800CW-2 —		S6L800BW S6L800CW S6L800EW	

#### 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 A - B - C - D (PR212)
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 ( $I^2t$ 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

#### Continuous amperage settings (long time adjustment)

Frame	Set points								Setting
	0.4	0.5	0.6	0.7	0.8	0.9	0.95	1.0	
600A	240	300	360	420	480	540	570	600	Amps
800A	320	400	480	560	640	720	760	800	Amps

#### S6 thermal-magnetic breakers, for AC and DC applications

Breaker	Ic at 500VDC	Rating	Magnetic trip	2 pole, 600VAC /500VDC catalog number	List price	3 pole, 600VAC/600VDC catalog number	List price
S6N	35kA	600A (420 – 600A) 800A (560 – 800A)	3000-6000A 4000-8000A	S6N600TW-2 S6N800TW-2		S6N600TW S6N800TW	
S6H	50kA	600A (420 – 600A) 800A (560 – 800A)	3000-6000A 4000-8000A	S6H600TW-2 S6H800TW-2		S6H600TW S6H800TW	
S6L	65kA	600A (420 – 600A) 800A (560 – 800A)	3000-6000A 4000-8000A	S6L600TW-2 S6L800TW-2		S6L600TW S6L800TW	

## S6

### 600A / 800A, 600VAC, 100% rated

### Electronic trip units (AC only)

S6

When applied correctly, UL/CSA tested 100% equipment rated breakers may be applied at full rating rather than on the sizing rules of the CEC 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 CEC for details and other design factors needed for this application.

#### 600A Frame (240 – 600A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	3 pole 600VAC catalog number	List price
S6N	25kA	PR211 PR212 PR212	LI LSI LSIG	S6NQ600BW S6NQ600CW S6NQ600EW	
S6H	35kA	PR211 PR212 PR212	LI LSI LSIG	S6HQ600BW S6HQ600CW S6HQ600EW	
S6L	42kA	PR211 PR212 PR212	LI LSI LSIG	S6LQ600BW S6LQ600CW S6LQ600EW	

#### 800A Frame (320 – 800A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	3 pole 600VAC catalog number	List price
S6N	25kA	PR211 PR212 PR212	LI LSI LSIG	S6NQ800BW S6NQ800CW S6NQ800EW	
S6H	35kA	PR211 PR212 PR212	LI LSI LSIG	S6HQ800BW S6HQ800CW S6HQ800EW	
S6L	42kA	PR211 PR212 PR212	LI LSI LSIG	S6LQ800BW S6LQ800CW S6LQ800EW	

#### 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 A - B - C - D (PR212)
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 <sup>2</sup> 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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## S6

### 600A / 800A, 600VAC

### Magnetic only MCPs & MCS

#### Magnetic only (MCP)

All S6 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	Adjustment range	2 pole 600VAC catalog number	List price	3 pole 600VAC catalog number	List price
S6N	600 800	900 – 7200A 1200 – 9600A	S6N600MW-2 S6N800MW-2		S6N600MW S6N800MW	
S6H	600 800	900 – 7200A 1200 – 9600A	S6H600MW-2 S6H800MW-2		S6H600MW S6H800MW	
S6L	600 800	900 – 7200A 1200 – 9600A	S6L600MW-2 S6L800MW-2		S6L600MW S6L800MW	

#### Molded case switches

Type	Amps	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price
S6H-D	800	10,000A	S6H800DW	
IEC switches (without overcurrent protection) Withstand ratings: 15kA, 600VAC	400 630 800	none none none	S6D400W S6D630W S6D800W	

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

Amps	Catalog number	List price
600 800	K6NCT-600 K6NCT-800	

#### Connector (required for neutral CT)

	Catalog number	List price
Fixed CB Plug-in or draw-out CB	K7C-TU K7C-TUP	

#### Connection options

Type	Wire range	Amps <sup>②</sup>	Set of 2 catalog number	List price	Set of 3 catalog number	List price
CU/AL front lugs CU/AL front lugs	(2) 250kcmil – 500kcmil (3) 2/0 – 400kcmil	600 800	K6TH-2 K6TJ-2 <sup>①</sup>		K6TH K6TJ <sup>①</sup>	
CU rear lugs CU rear lugs	(2) 250kcmil – 500kcmil (3) 2/0 – 400kcmil	600 800	— —		Set of 6 catalog number K6THR K6TJR	
Extended front bar Extended front bar	— —	600 800	— —		K6ET-600 K6ET-800	

<sup>①</sup> Includes lug cover.

<sup>②</sup> Suggested lugs for a circuit breaker up to amps shown. Cable size and type determine maximum amperage.

# S7

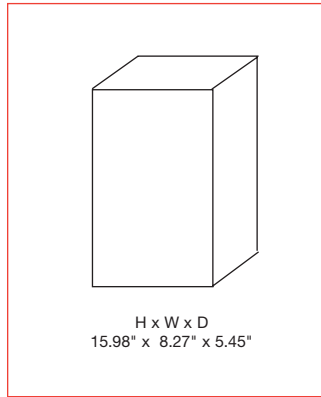
## 1200A, 600VAC

### Electronic trip type

S7



S7



H x W x D  
15.98" x 8.27" x 5.45"

Standard S7 package includes complete circuit breaker and mounting hardware. **Order cable lugs or other connection scheme as a separate item.**

#### General

The S7 breaker family is a 1200A frame utilizing a microprocessor based overcurrent protective trip system. In the 1200A version, the trip unit is adjustable from 480A up to 1200A without the addition of any parts or rating plugs. As standard, the S7 includes adjustable long time function for overload protection and adjustable instantaneous function for short circuit protection.

#### Versions

To meet all application needs, the S7 is available in various versions:

- B = Adjustment LI
- C = Adjustment LSI
- E = Adjustment LSIg
- Q = 100% UL/CSA rated
- D = Molded case switch
- M = Magnetic only (MCP)

#### Trip functions

These tripping functions are available:

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

#### Performance level

Each version is also available in different maximum fault interrupting levels

- H = High
- L = Extra high (IEC only)

#### Number of poles

In UL/CSA version, the S7 is available in two pole or three pole version, both with the same dimensions. A four pole version is also available in IEC form. For price estimate, add 35% to list price of selected three pole, contact ABB.

#### 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 S7 family are suitable for reverse feed applications.

#### Molded case switches

UL/CSA switches include no overcurrent protection except for a high instantaneous trip mechanism for self protection. IEC type molded case switches with no trip protection are also available.

#### UL/CSA Interrupting capacity (kA RMS)

##### UL489 / CSA C22.2

Voltage	H
240VAC	100
480VAC	65
600VAC	50

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	H	L
230VAC	100	200
380/400/415VAC	65	100
440VAC	55	80
500VAC	45	70
690VAC	25	35

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## S7

### 1200A, 600VAC

### Electronic trip units (AC only)

The S7 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, I<sup>2</sup>t (on/off), instantaneous current trip point and further optional ground fault protection.

#### 1000A Frame (400 – 1000A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	2 pole, 600VAC catalog number	List price	3 pole, 600VAC catalog number	List price
S7H	50kA	PR211 PR212 PR212	LI LSI LSIG	S7H1000BW-2 S7H1000CW-2 —		S7H1000BW S7H1000CW S7H1000EW	

#### 1200A Frame (480 – 1200A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	2 pole, 600VAC catalog number	List price	3 pole, 600VAC catalog number	List price
S7H	50kA	PR211 PR212 PR212	LI LSI LSIG	S7H1200BW-2 S7H1200CW-2 —		S7H1200BW S7H1200CW S7H1200EW	

#### 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 A - B - C - D (PR212)
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 <sup>2</sup> 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

#### Continuous amperage settings (long time adjustment)

Frame	Set points								Setting
	0.4	0.5	0.6	0.7	0.8	0.9	0.95	1.0	
1000A	400	500	600	700	800	900	950	1000	Amps
1200A	480	600	720	840	960	1080	1140	1200	Amps



## S7

### 1200A, 600VAC, 100% rated

### Electronic trip units (AC only)

S7

When applied correctly, UL/CSA tested 100% equipment rated breakers may be applied at full rating rather than on the sizing rules of the CEC 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 CEC for details and other design factors needed for this application.

#### 1000A Frame (400 – 1000A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	3 pole catalog number	List price
S7H	50kA	PR211 PR212 PR212	LI LSI LSIG	S7HQ1000BW S7HQ1000CW S7HQ1000EW	

#### 1200A Frame (480 – 1200A adjustable continuous range)

Breaker	Ic at 600VAC	Trip type	Adjustment	3 pole catalog number	List price
S7H	50kA	PR211 PR212 PR212	LI LSI LSIG	S7HQ1200BW S7HQ1200CW S7HQ1200EW	

#### 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 A - B - C - D (PR212)
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'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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# S7

## 1200A, 600VAC

### Magnetic only MCPs & MCS

#### Magnetic only (MCP)

All S7 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	Adjustment range	2 pole, 600VAC catalog number	List price	3 pole, 600VAC catalog number	List price
S7H	1000 1200	1500 –12,000A 1800 –14,400A	S7H1000MW-2 S7H1200MW-2		S7H1000MW S7H1200MW	

#### Molded case switches

Type	Amps	Magnetic trip	3 pole, 600VAC/600VDC catalog number	List price
S7H-D	1200	20,000A	S7H1200DW	
IEC switches (without overcurrent protection) Withstand rating: 25kA, 600VAC	1250	—	S7D1250W	

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

Amps	Catalog number	List price
1000 1200	K7NCT-1000 K7NCT-1200	

#### Connector (required for neutral CT)

	Catalog number	List price
Fixed CB Plug-in or draw-out CB	K7C-TU K7C-TUP	

#### 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	(4) 4/0 – 500kcmil	1200	K7TK-2		K7TK	
Extended front bar	—	1200	—		Set of 6 catalog number K7ET-1250	

① Suggested lugs for a circuit breaker up to amps shown. Cable size and type determine maximum amperage.

# S8

## 1600 / 2000 / 2500A

### Insulated case circuit breaker

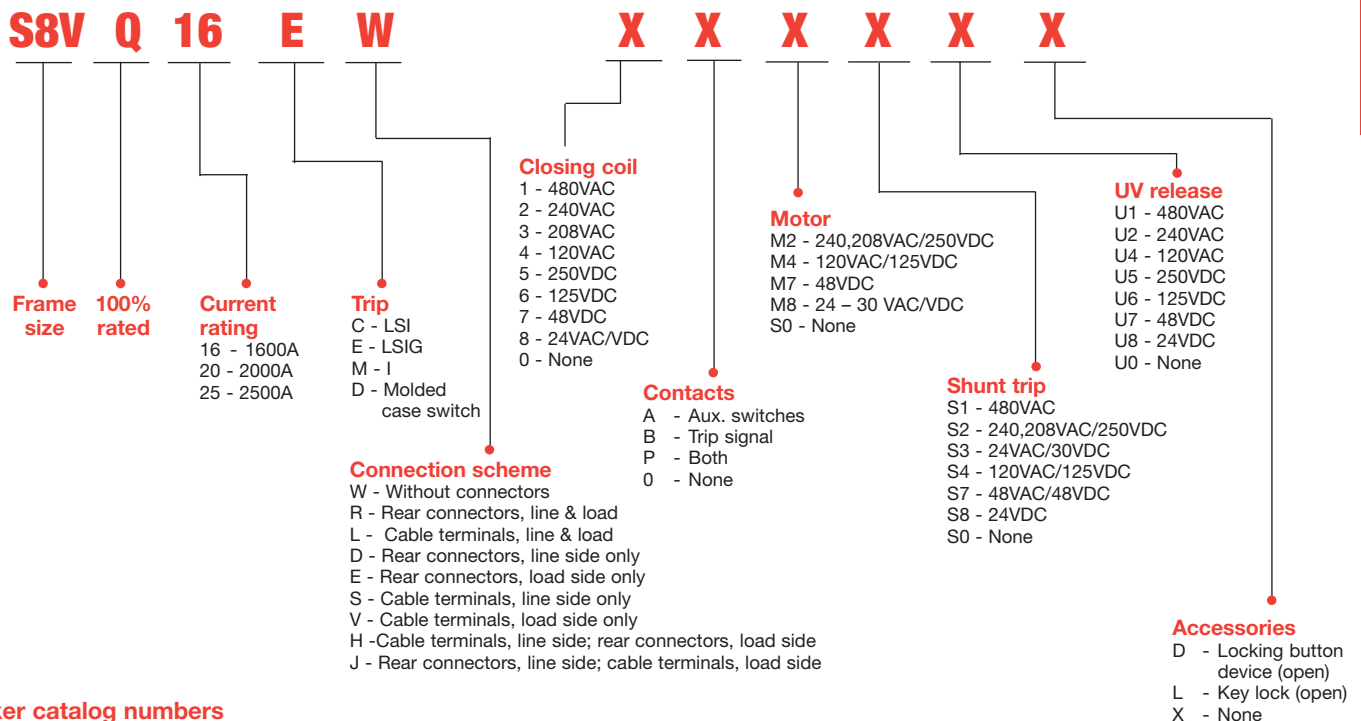
S8

#### Description

- Insulated case type molded case circuit breaker with manually operated stored energy mechanism. Optional electric charging motor available
- Three cycle closing time for use in generator synchronizing applications.
- Electric spring charging mechanism rated for over 5,000 operations
- Three different frame ratings, 1600, 2000 and 2500 amperes. All are same compact physical size.
- Solid state trip units are available in four different configurations including adjustments for long time, short time, instantaneous and ground fault.
- Standard interrupting rating of 100kA at 480VAC.
- Short time withstand rating of 35kA at 600VAC for one second when breaker ordered with adjustable short time trip.
- Breaker includes charging handle for manual energizing of closing/opening springs
- Built-in ground fault (LSIG) for use with four-wire systems requires neutral GF sensor. Meets CEC ground fault requirements for service entrance applications.
- Internal accessories include electric charging motor, shunt trips, a combination auxiliary/bell alarm switch, and an undervoltage release.
- Breakers are suitable for use in reverse feed applications.
- Wide range of adjustments on trip settings, trip unit includes cover to prevent tampering.
- Front indicators for contact position.
- Uses convenient mounting pads for ease of installation in enclosures.
- Internal accessories are prewired to terminal block mounted on right side of breaker.
- Trip signal contact option indicates when breaker has tripped due to overcurrent.
- Canadian Standards Association certification under C22.2 N° 5.1 under File LR90467 for both breakers and internal accessories.
- In compliance with IEC947 including 690VAC. Breakers are labeled with both UL/CSA and IEC ratings.
- Breakers are Underwriters Laboratories listed under Standard UL 489 for molded case circuit breakers per File E93565, internal accessories are per File E116596.



#### Catalog number information



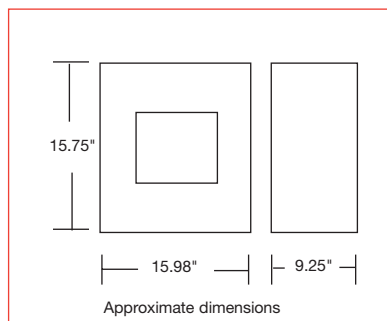
#### Breaker catalog numbers

The breaker catalog number must be completed. Please note that variations can affect price.

# S8

## 1600 / 2000 / 2500A

### Insulated case circuit breaker



#### Description

Breaker is shipped complete with installed trip unit and accessories. Cable terminals or rear T connectors can be included if desired. For four-wire systems an external neutral ground fault sensor must be ordered separately.

#### Trip functions

- L** – Long time pick-up and delay
- S** – Short time pick-up and delay
- I** – Instantaneous trip
- G** – Ground fault pick-up and delay

#### 3 pole, 600VAC maximum <sup>①</sup>

Maximum continuous rating				1600A		2000A		2500A	
Breaker	Ic at 480VAC	Trip type	Adjustment	Catalog number	List price	Catalog number	List price	Catalog number	List price
S8V	100kA	PR212	LSI LSIG I MCS	S8V16CW S8V16EW S8V16MW S8V16DW		S8V20CW S8V20EW S8V20MW S8V20DW		S8V25CW S8V25EW S8V25MW S8V25DW	

#### UL/CSA Interrupting capacity (kA RMS)

##### UL489 / CSA C22.2

Voltage	kA
240VAC	125
480VAC	100
600VAC	85
600VDC <sup>②</sup>	25

#### IEC-947 Interrupting capacity (kA RMS)

Voltage	kA
230VAC	120
300/400/415VAC	120
440VAC	100
500VAC	70
690VAC	50

#### Trip settings

Adjustment	Trip function	Range	Individual settings
L	Long time pick-up Long time delay	0.4 – 1.0 3.0 – 18 sec.	0.4-0.5-0.6-0.7-0.8-0.9-0.95-1.0 x Frame rating 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 <sup>2</sup> 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 – 0.4 0.1 – 0.8 sec.	Off-0.2-0.3-0.4 x Frame rating A - B - C - D

#### Continuous amperage settings (long time adjustment)

Frame	Set points								Setting
	0.4	0.5	0.6	0.7	0.8	0.9	0.95	1.0	
1600A	640	800	960	1120	1280	1440	1520	1600	Amps
2000A	800	1000	1200	1400	1600	1800	1900	2000	Amps
2500A	1000	1250	1500	1750	2000	2250	2375	2500	Amps

#### UL 100% equipment rated circuit breakers

Circuit breakers and cable are sized per the CEC on a basis of actual continuous load current divided by 80%. For example, a 360 ampere load should be connected by cable capable of handling 450 amperes (360A / 0.80 = 450A) and therefore be protected by a 450 ampere rated circuit breaker. Other factors may need to be considered when sizing breakers in special applications.

When applied correctly, UL/CSA-tested 100% equipment rated breakers may be applied at full rating, therefore saving the user the cost of larger cable or bus. Using the example above, the 360 ampere load could be used with cable capable of handling 360 amperes (360A / 1.00 = 360A) and only a 400 ampere rated circuit breaker (400A is next available size CB).

#### 1600A, S8 Frame — stored energy

Catalog number	List price
S8VQ16CW S8VQ16EW	

#### 2000A, S8 Frame — stored energy

Catalog number	List price
S8VQ20CW S8VQ20EW	

<sup>①</sup> Three pole breakers are listed and approved for use in two pole applications with center-pole not connected.

<sup>②</sup> Applies to MCS only.

## S8

### 1600A, 2000A & 2500A

### Accessories

S8

#### Internal accessories

(Must be factory mounted for UL/CSA)

Item	Type	Factory installed catalog number suffix	List price
Closing coil	480VAC	-1	
	240VAC	-2	
	208VAC	-3	
	120VAC	-4	
	250VDC	-5	
	125VDC	-6	
	48VDC	-7	
	24VAC/VDC	-8	
Electric motor (inc. spring charged signal contact)	240,208VAC & 250VDC	-M2	
	120VAC/125VDC	-M4	
	48VDC	-M7	
	24 – 30VAC/VDC	-M8	
Shunt trip	480VAC	-S1	
	240,208VAC & 250VDC	-S2	
	24VAC/30VDC	-S3	
	120VAC/125VDC	-S4	
	48VAC/48VDC	-S7	
	24VDC	-S8	
Undervoltage release	480VAC	-U1	
	240VAC	-U2	
	120VAC	-U4	
	250VDC	-U5	
	125VDC	-U6	
	48VDC	-U7	
	24VDC	-U8	
Aux. contacts	2A/1B	-A	
Trip signal	1A/1B	-B	
Combo. aux. & trip contacts	2A/1B Aux & 1A/1B Trip	-P	
Padlockable button cover (open)	—	K8LD	
Key lock (open)	—	K8KL	

#### Connection accessories (includes sets of 3)

Item	Type	Catalog number	List price
Cable terminals	1600A Max.	1/0 – 750kcmil (4)	K8TL
	2500A Max.	1/0 – 750kcmil (6)	K8TM
Rear T conn.	2500A Max.	K8RT2500	

#### Neutral ground fault current transformer

Item	Type	Catalog number	List price
Ground fault neutral CT	1600A	S8NCT-1600	
	2000A	S8NCT-2000	
	2500A	S8NCT-2500	

Note: Neutral GF CT required for proper GF operation.

#### Door flange

Item	Catalog number	List price
Face plate	K8FP	

#### Closing coil

Required for closing breaker electrically, the coil voltage must be specified at the time of order entry.

#### Internal accessory ratings

Accessory type	Voltage	Rating
Shunt trip	All	100VA/120Watts
Undervoltage releases	AC/DC	30VA (12 Watts/ 10VA (4 Watts))
Auxiliary contacts	240VAC	10A Max.
	125VDC	0.3A Max.
Closing coil	250VDC	0.15A Max.
	AC/DC	30VA / 40VA

#### Stored energy electric motor operators

E.O.	Type	Inrush (VA)	Normal (watts)	Closing time	Opening time	Resetting time
MS8	Stored energy	1000	230	0.05s	0.035s	9.0s

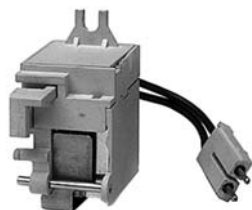
Mechanical life of 10,000 cycles at 20 operations per hour.

Isomax

# Electrical accessories

## Shunt trip, undervoltage release

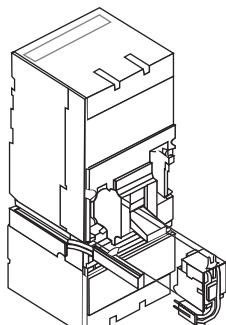
### S3 – S7



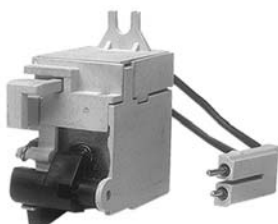
K5S1



K6C-SUP



S5 with K5S2



K5U1



K6C-SUP

### Shunt trip

	Factory installed		Field installed		
Voltage	Catalog number suffix ①	List price adder	Catalog numbers		List price
			S3	S6 – S7	
480V 60 Hz	-S1		K5S1	K7S1	
220-250VDC/220-240VAC	-S2		K5S2	K7S2	
110-120VAC/110-125VDC	-S4		K5S4	K7S4	
48V DC-AC	-S7		K5S7	K7S7	
24V DC-AC	-S8		K5S8	K7S8	
12VDC	-S9		K5S9	K7S9	

For remote opening of circuit breaker and includes internal cut-off switch to protect solenoid. All shunt trips are left pole mounted and can not be used with UVRs. Except for 12VDC, all shunt trips are approved for use in GF systems. Shunt trips must be ordered with correct connector.

### Shunt trip connectors (required)

Type circuit breaker	Voltage	Factory installed①	Field kit catalog number		List price
			S3 – S6	S7	
Fixed mounted	All	included	K6C-SU	K7C-SU	
Plug-in/Draw-out	All	included	K6C-SUP	K7C-SUP	

### Electrical specifications

V	24, 120, 240, 480VAC ~ 50/60 Hz 12, 24, 48, 125, 250 VDC –
For S3 P For S6-S7	100 VA~/120W– Instantaneous duty 150 VA~/150W–

### Undervoltage releases

Voltage	Factory installed		Field installed		
	Catalog number suffix ①	List price adder	Catalog numbers		List price
			S3	S6 – S7	
480VAC	-U1		K5U1	K7U1	
240VAC	-U2		K5U2	K7U2	
120VAC	-U4		K5U4	K7U4	
24VAC	-U3		K5U3	K7U3	
250VDC	-U5		K5U5	K7U5	
125VDC	-U6		K5U6	K7U6	
48VDC	-U7		K5U7	K7U7	
24VDC	-U8		K5U8	K7U8	

Will trip CB when connected voltage drops to 35-70% of UVR voltage rating. Will allow CB to close (ON) when voltage is approximately 85% of rated voltage. All UVRs are left pole mounted and can not be used with shunt trips. UVRs must be ordered with correct connector.

### Undervoltage release connectors (required)

Type circuit breaker	Voltage	Factory installed①	Field kit catalog number		List price
			S3 – S6	S7	
Fixed mounted	All	included	K6C-SU	K7C-SU	
Plug-in/Draw-out	All	included	K6C-SUP	K7C-SUP	

### Electrical specifications

V	24, 120, 240, 480 VAC ~ 50/60 Hz 24, 48, 125, 250 VDC –
For S3 P For S6-S7	6 VA~/3W– Continuous duty 10 VA~/4W–

① For factory installation add suffix given to end of circuit breaker catalog number per accessory format.

## Electrical accessories

### Auxiliary contacts

### S3 – S7

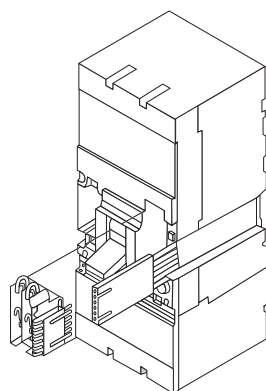
Acc.



K5AS



K6C-ABP



S5 with K6C-AB

#### Auxiliary contacts — S3 – S7

Type	Factory installed		Field installed		
	Catalog number suffix ①	List price adder	Catalog numbers		List price
			S3	S6 – S7	
2 AUX “c”	-A		K5AS	K7AS	
1BA “c” + 1 AUX “c”	-BA		K5BA	K7BA	
1BA “b” + 1 AUX “a” + 1 AUX “b”	-BA3		—	K7BA-3	

The auxiliary contacts are accessory contacts for the indication of circuit breaker open-closed or tripped. Bell alarm contacts (B.A.) can be used to indicate circuit breaker tripping. All contacts are right pole mounted.

AUX: contact for the indication of circuit-breaker open/closed

BA: contact for the indication of circuit-breaker tripped

"a": form a contact (normally open SPST contact)

"b": form b contact (normally close SPST contact)

"c": form c contact (normally open or close SPDT contact)

#### Auxiliary contact connectors (required) — S3 – S7

Type circuit breaker	Voltage	Factory installed①	Field kit catalog number		List price
			S3 – S6	S7	
Fixed mounted	All	included	K6C-AB	K7C-AB	
Plug-in/Draw-out	All	included	K6C-ABP	K7C-ABP	

#### Electrical specifications

Voltage	Maximum contact amperage rating
125 VDC	0.3 A
250 VDC	0.15 A
250 VAC	6 A

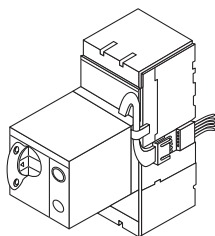
① For factory installation add suffix given to end of circuit breaker catalog number per accessory format.

## Electrical accessories

### Motor operators, stored energy motor operators S3 – S7



K5M2



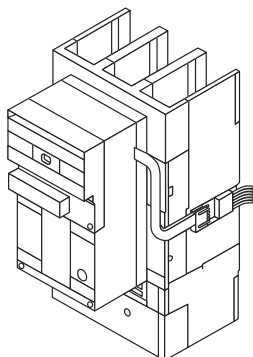
S4 with K5M2



K6C-M



K6M2



S7 with K7M4

#### Motor operator

Voltage	Catalog number S3	List price
240VAC/250VDC 120VAC/125VDC 48VDC 24VDC	K5M2 K5M4 K5M7 K5M8	

For remote control of circuit breaker opening and closing.  
Complete with manual operating lever, padlock device and emergency opening push-button.  
When ordering the connector always specify type and version of the circuit-breaker.

The following options are also available:

- key lock for open position
- key lock for open position of two or more circuit breakers (using the same key for groups of circuit breakers)

#### Motor operator connectors (required)

Type circuit breaker	Voltage	Field kit catalog number S3	List price
Fixed mounted Plug-in/Draw-out	All All	K6C-M K6C-MP	

#### Electrical specifications

V	120, 240VAC ~ 50/60 Hz 24, 48, 125, 250 VDC –
P inrush P normal Close time	500 VA~/500W– 350 VA~/500W– 0.1 s
Open time	0.1 s

#### Stored-energy motor operator

Voltage	Catalog number		List price
	S6	S7	
240VAC/250VDC 120VAC/125VDC 48VDC 24VDC	K6M2 K6M4 K6M7 K6M8	K7M2 K7M4 K7M7 K7M8	

- Stored-energy motor operator with springs automatically pre-loaded by motor.
- Complete with shunt opening and closing release, and compartment door flange.
- When ordering the connector always specify type and version of the circuit-breaker.
- The following options are also available:
  - key lock for open position
  - key lock for open position of two or more circuit-breakers (using the same key for groups of circuit-breakers).

#### Stored-energy motor operator connectors (required)

Type circuit breaker	Voltage	Field kit catalog number		List price
		S6	S7	
Fixed mounted Plug-in/Draw-out	All All	K6C-M K6C-MP	K7C-M K7C-MP	

#### Electrical specifications

V	120, 240 VAC ~ 50/60 Hz 24, 48, 125, 250 VDC –
P inrush P normal Close time	660 VA~/600W– 180 VA~/180W– 0.09 s
Open time	1.2 s
Reset time	2.0 s



## External accessories

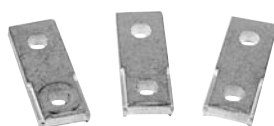
### Lugs and termination kits

#### S3 – S7

Acc.



K4TB



K4ET-250



K4TES



K4TER

#### Standard cable lug kits

For breakers	Amps <sup>①</sup>	Wire range	Set of 2 catalog number	List price	Set of 3 catalog number	List price
S3	60	14AWG – 2AWG	K3TA-2		K3TA	
S3	100	14AWG – 1/0	K4TB-2		K4TB	
S3	150	2AWG – 4/0	K4TC-2		K4TC	
S3	225	4AWG – 300kcmil	K4TD-2		K4TD	
S6	600	(2)250kcmil – 500kcmil	K6TH-2		K6TH	
S6	800	(3) 2/0 – 400kcmil	K6TJ-2 <sup>②</sup>		K6TJ <sup>②</sup>	
S7	1200	(4) 4/0 – 500kcmil	K7TK-2		K7TK	

Standard cable lugs, for use on line and load side of circuit breaker. Suitable for use with Cu or Al. Special versions available with taps and screws for control wire connection. Note: S6 and S7 lugs are Al9Cu (90°C); all others Al7Cu (75°C).

#### Standard cable lug kits with control power taps

For breakers	Amps <sup>①</sup>	Wire range	Set of 2 catalog number	List price	Set of 3 catalog number	List price
S3	100	14AWG – 1/0	K4TB-2C		K4TBC	
S3	150	2AWG – 4/0	K4TC-2C		K4TCC	
S3	225	4AWG – 300kcmil	K4TD-2C		K4TDC	
S6	600	(2) 250kcmil – 500kcmil	K6TH-2C		K6THC	
S6	800	(3) 2/0 – 400kcmil	K6TJ-2C <sup>②</sup>		K6TJC <sup>②</sup>	
S7	1200	(4) 4/0 – 500kcmil	K7TK-2C		K7TKC	

#### Extended front termination kits

Suitable for use with	Maximum amps	Set of 6 catalog number	List price	Set of 8 catalog number	List price
S3	250	K4ET-250		K4ET-250-4	
S6	600	K6ET-600		K6ET-600-4	
S6	800	K6ET-800		K6ET-800-4	
S7	1250	K7ET-1250		K7ET-1250-4	

For adding onto standard circuit breaker front terminals, extending available connection area for user termination. Suitable for spaded cable or bus connection.

#### Saddle cable lug kits (Cu cable only)

Suitable for use with	Max amps	Wire range	Set of 6 catalog number	List price	Set of 8 catalog number	List price
S3	250	14AWG – 250kcmil	K4TES		K4TES-4	

These special non-aluminum cable lugs are for use with copper cable. Lugs are intended for use with copper cable or where non-aluminum connectors are required (marine, salt or corrosive environments).

#### Rear cable lug kits (Cu cable only)

Suitable for use with	Max amps	Wire range	Set of 6 catalog number	List price	Set of 8 catalog number	List price
S3	250	14AWG – 250kcmil	K4TER		K4TER-4	
S6	600	(2) 2/0 – 350 kcmil	K6THR		K6THR-4	
S6	800	(3) 250 – 350 kcmil	K6TJR		K6TJR-4	

For use where cable connection from the back-rear of the breaker is desired.

① Suggested lugs for circuit breaker up to amps shown. Cable size and type determine maximum amperes.  
② Includes lug covers.

## External accessories

### Rotary and variable depth handle operators S1 – S7



K5RH



K5VD

#### Rotary handle operating mechanism

Breaker frame	Fixed or plug-in CB	Draw-out CB	List price
S3	K5RH	K5RHW	
S6	K6RH	K6RHW	
S7	K7RH	K7RHW	

Mounts directly onto breaker. Includes door interlock to prevent CB door opening while CB is in ON position. Padlock provision included to padlock CB in open position. Can also be key locked with optional cylinder lock assembly. Door interlock bracket must be ordered separately, if required.

#### Variable depth rotary handle mechanism

##### Square Type 1

Breaker frame	Catalog number Handle, shaft and mechanism	List price
S3	K5VD	
S6	K6VD	
S7	K7VD	

##### Pistol Type 1, 3R, 12

Breaker frame	Catalog number Handle, shaft and mechanism	List price
S3	K5VD-25S12	
S6	K6VD-25S12	
S7	K7VD-25S12	

##### Pistol Type 4, 4X

Breaker frame	Catalog number Handle, shaft and mechanism	List price
S3	K5VD-25S4	
S6	K6VD-25S4	
S7	K7VD-25S4	

Metal handle are available. Please contact ABB.

#### Variable depth shaft support

Breaker frame	Catalog number	List price
S3	K5VD-LSS	

## External accessories

### Flange handle operators

#### S3 – S7

Acc.



K4FHD-17S12

#### Flange handle (shaft linkage)

Breaker frame	NEMA type	Complete handle kit	List price
S3	1,3R,12	K3FHD-12S12 K3FHD-17S12 K3FHD-22S12	
	4	K3FHD-12S4 K3FHD-17S4 K3FHD-22S4	
S6	1,3R,12	K6FHD-12S12 K6FHD-17S12 K6FHD-22S12	
	4	K6FHD-12S4 K6FHD-17S4 K6FHD-22S4	

Available as complete kits including flange handle, shaft and breaker operating mechanism. Mechanism mounts directly onto breaker and shaft can be cut to the desired length for the breaker enclosure. Door is interlocked with the handle when the breaker is in the closed (ON) position; handles include interlock defeater for emergency override. Handle can be padlocked in the open (OFF) position. Can be field converted for left hand mounting.

#### Flange handle (cable linkage)

Breaker frame	NEMA type	Mechanism only	List price	Cable only	Cable length	List price	Handle only	List price
S3	1,3R,12	K4FPM		K5C036	36"(91cm)		K5FCH	
				K5C048	48"(122cm)		K5FCH4	
	4, 4X	K4FPM		K5C060	60"(152cm)		K5FCH	
				K5C072	72"(183cm)		K5FCH4	
S6	1,3R,12	K6FPM		K5C084	84"(213cm)		K5FCH	
				K5C096	96"(244cm)		K5FCH4	
	4, 4X	K6FPM		K5C108	108"(274cm)		K5FCH	
				K5C120	120"(305cm)		K5FCH4	
S7	1,3R,12	K7FPM		K7C048	48"(122cm)		K7FCH	
				K7C060	60"(152cm)		K7FCH4	
	4, 4X	K7FPM		K7C072	72"(183cm)		K7FCH	
				K7C084	84"(213cm)		K7FCH4	

**Notes:** For complete assembly; mechanism, cable and handle are required.  
All cable mount onto the right side of the breaker.

#### Door hardware kits

Item	Catalog number	List price
Door hardware kit, right hand, 2 point latch for enclosures less than 40 inches high	KDH2R	
Door hardware kit, right hand, 3 point latch for enclosures 40 inches high or greater	KDH3R	

Isomax

## External accessories

### S3 – S7



K5LD



K7KL



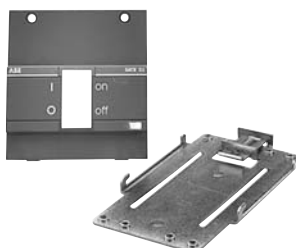
K6LC-LP



K6LC



K6LC-S



K3DMB

#### Front locking device

Breaker frame	Fixed or plug-in catalog number	Draw-out catalog number	List price
S3	K5LD	K5LDW	
S6	K6LD	K6LDW	
S7	K7LD	K7LDW	

Mounts directly onto front of CB. Includes padlock device for locking CB in open position. Can be used as a manual handle block, with padlock or with optional key lock accessory. Optional door interlock kit that will prevent CB door from opening while CB is in the closed (ON) position.

#### Door interlock bracket

Item	Catalog number S3 – S7	List price
Bracket	K7DB	

#### Key locks

Accessory	Keys	Catalog number		List price
		S3	S6 – S7	
Electric operator	different same	K5KL-EO K5KL-EO-2	K7KL-EO K7KL-EO-2	
Rotary HM & locking device	different same	K7KL K7KL-2	K7KL K7KL-2	

Keyed cylinder locks are available for mounting onto Isomax electric operators, rotary handle mechanisms and front locking devices. Key locks can be for one individual circuit breaker (different keys in each order) or for two circuit breakers using the same key.

#### Terminal covers for fixed circuit breakers (set of 2)

Breaker frame	Low profile catalog number	List price	High profile catalog number	List price
S3	K4LC-LP		K4LC	
S6	K6LC-LP		K6LC	
S7	K7LC-LP		—	

Both high and low types are available for fixed circuit-breakers. Covers provide IP40 degree of protection for fixed mounted circuit breakers. Lug covers are required and included as standard with S6 **800A** cable lug kits. Covers up to S6 can be sealed with lug cover seal shown in next section.

#### Terminal cover seals

Suitable for use with breakers	Used with LC covers	List price
S3 – S6	K6LC-S	

These screws prevent the terminal covers from being removed.

#### DIN rail mounting kits

Suitable for use with breakers	Catalog number	List price
S3	K3DMB	

Kit consists of mounting bracket to fix S3-S5 breakers onto **75mm DIN rail (EN 50023 rail)** and includes 45mm high front face plate to match up with miniature circuit breakers and manual motor starters. S1 breaker mounts on 35mm DIN rail.

#### Mechanical interlock plate

Breaker frame	Horizontal catalog number	List price	Vertical catalog number	List price
S3	K3MI-H		K3MI-V	
S6	K6MI-H		K6MI-V	
S7	K7MI-H		K7MI-V	

Provides for mounting of two similar breakers on a single mounting plate. CBs are interlocked via a “walking beam” type interlock, preventing breakers from being ON or closed at the same type. Both breakers can be OFF or tripped. MIP is available in two versions, one with breakers mounted horizontally and then also a version for vertical mounting of breakers.

## Accessories

### S1 – S7

Acc.



K4RC



K7TUT

#### Rear connected stud kits<sup>①</sup>

Breaker frame	Max. amps	Set of 6 catalog number	List price	Set of 8 catalog number	List price
S3	250	K4RC		K4RC-4	
S6	800	K6RC		K6RC-4	
S7	1200	K7RC		K7RC-4	

Provides means to connect breakers directly onto rear bus bars.

#### Rear plug-in and draw-out circuit breakers

Isomax breakers are available in both rear plug-in and complete draw-out configurations. Plug-in breakers can be rear bus, front bus or front cable connected and are available up to the S5 400A size. The draw-out configuration uses a unique rack-ing system and is available for all breakers from S3 through S7.

#### Plug-in circuit-breaker conversion kit

Breaker frame	Catalog number	List price
S3	K4PMK	

Converts a fixed circuit-breaker to a mobile part of a plug-in breaker

#### Plug-in fixed parts

Extended front terminals			Front terminals		Rear terminals	
Breaker frame	Catalog number	List price	Catalog number	List price	Catalog number	List price
S3	K3PFF		K3PFC		K3PFR	

#### Draw-out circuit-breaker conversion kit

Breaker frame	Catalog number	List price
S3	K4WMK	
S6	K6WMK8	
S7	K7WMK	

Converts a fixed circuit-breaker to a mobile part of a draw-out breaker

#### Draw-out fixed parts

Extended front Terminals			Front terminals		Rear terminals	
Breaker frame	Catalog number	List price	Catalog number	List price	Catalog number	List price
S3	K3WFF		K3WFC		K3WFR	
S6	K6WFF				K6WFR-H	
S7	K7WFF				K6WFR-V	
					K7WFR-H	
					K7WFR-V	

#### Hand-held test kit (for all electronic trip types)

Isomax frames	Catalog number	List price
S4 – S7	K7TUT	

Isomax hand-held test kit is used to both test and exercise microprocessor trip units in breakers S4 through S7. Unit includes test forks that insert into the test plugs on all Isomax microprocessor trip units. Tester generates 15VDC signal that performs diagnostic on electronic trip functions and will confirm test by tripping the CB. Will not test S3 nor any molded case switch versions.

Isomax

## Isomax enclosures



### Isomax enclosures

(Does not include circuit-breaker. Order breaker as a separate item)

Isomax circuit-breaker enclosures are of the NEMA 1 type. CSA approved. General purpose indoor enclosure intended for use in normal environments to provide a degree of protection against contact with enclosure equipment. Sheet steel, surface mounted is front-operable and can be padlocked via front hasp.

### Type 1 Enclosures

Breaker frame	Max amps	Approximate dimensions H x W x D - inches (mm)	Enclosure catalog number	List price	Solid neutral part number	List price
S3	150	20 x 10 x 4.25 (508 x 254 x 108)	EBS3-150-1		SNS3-60 SNS4-100 SNS4-150	
S3/S4	250	34 x 12 x 4.25 (864 x 305 x 108)	EBS4-250-1		SNS4-100 SNS4-150 SNS4-250	
S6	600 800	34 x 20 x 4.25 (864 x 508 x 108)	EBS6-800-1 EBS6-800-1		SNS6-600 SNS6-800	
S7	1200	48 x 22 x 5.75 (1219 x 559 x 146)	EBS7-1200-1		SNS7-1200	

#### Notes:

- 1) Solid neutral assembly must be ordered separately.
- 2) For factory assembly of the circuit-breaker in enclosure add price of the circuit-breaker accessories to the enclosure price, surcharge of **\$100** is required for the assembly.  
For ordering, please use format of page 2.31
- 3) Type 12, 3R, 4 and 4X enclosure are available upon request. Please call ABB for more details.

# Isomax enclosures

## Enclosed breakers number format

Encl.

### EB 1 S5 N 400 B W N - 2 xxx

#### Enclosure:

EBS3-150-1      EBS6-800-1  
EBS4-250-1      EBS7-1200-1  
EBS5-400-1

1      TYPE 1  
2      TYPE 12, 3R  
4      TYPE 4  
X      TYPE 4X  
P      PLASTIC

#### Frame size:

S3 = 150/225A  
S6 = 600/800A  
S7 = 1200A

#### Interrupting rating class:

B = Basic (240VAC)  
N = Normal  
H = High  
L = Extra high  
BQ = Basic, 100% rated  
NQ = Normal, 100% rated  
HQ = High, 100% rated  
LQ = Extra high, 100% rated  
D = Special molded case switch

#### Current rating:

015 = 15A  
400 = 400A  
600 = 600A  
800 = 800A  
1200 = 1200A

#### Trip unit function:

B = LI  
C = LSI  
D = Molded case switch (MCS)  
E = LSIG  
F = LSIG/K  
H = LSIG/D  
J = LSIG/DT  
K = LSIG/DTK  
M = Magnetic only (MCP)  
T = Thermal-magnetic

#### \* Shunt trip voltage:

-S1 = 480VAC/250VDC      -S7 = 48VDC  
-S2 = 240VAC                -S8 = 24VAC/DC  
-S4 = 120VAC/125VDC      -S9 = 12VDC

#### \*\* Undervoltage releases:

-U1 = 480VAC                -U4 = 120VAC                -U7 = 48VDC  
-U2 = 240VAC                -U5 = 240VDC                -U8 = 24VDC  
-U3 = 24VAC                 -U6 = 125VDC

#### Accessories:

A = Auxiliary switch  
BA = Bell alarm and aux. switch  
1BA = 1NO/NC  
BA3 = Bell alarm and aux. switch  
1BA = 1NO/1NC  
H = Fixed rotary handle mounted on CB  
S\* = Shunt trip with voltage code  
U\*\* = Undervoltage release with voltage code

#### Number of poles:

2 = 2 pole  
4 = 4 pole  
None = 3 pole

#### Neutral bar:

N = Neutral bar  
SNS3  
SNS4  
SNS5  
SNS6-600  
SNS6-800  
SNS7  
None = No neutral bar

#### Type Connectors:

W = None  
L = Lugs  
T = Lugs on top terminal  
B = Lugs on bottom terminal

Isomax

## NOTES



NOTES

## NOTES





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AC1615S - November 2007