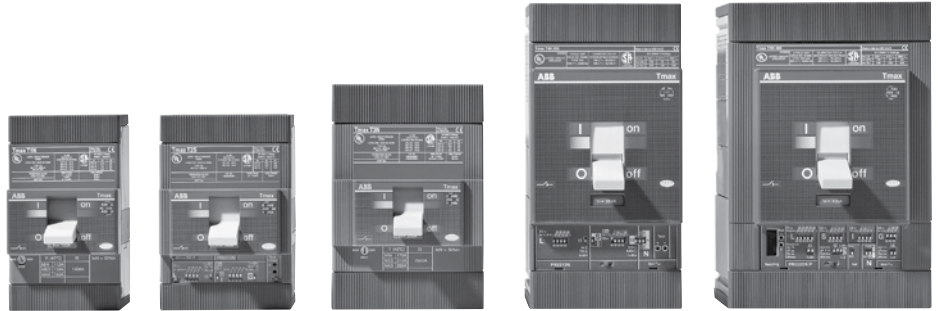


# Tmax Molded case circuit breakers



## Tmax Molded case circuit breakers



### Introduction

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

The ABB Tmax line of circuit breakers, with a range up to 3000A, has several key features that go along with its very small size:

- Double insulation – this construction characteristic allows for the UL Listed field installation of internal accessories without exposure to energized parts.
- Complete range of electrical and mechanical accessories
- Positive operation – 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 molded case circuit breakers 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.
- Interrupting ratings at 480VAC up to 150kAIC.
- Compact size
- All Tmax molded case circuit breakers are UL Listed and IEC rated for global application and acceptance.
- All versions of the Tmax family are suitable for reverse feed applications.

The ABB Tmax product line has the performance and accessories to satisfy all industry requirements in the 600VAC to 600VDC ranges.

### Frame sizes — Nine basic sizes

The ABB Tmax series includes nine basic frame sizes as well as the T1 single pole with the range rated from 15A to 3000A at 480VAC. The various versions carry the following interrupting capacities:

- **B** Basic breaking capacity
- **N** Normal breaking capacity
- **S** Standard breaking capacity
- **H** High breaking capacity
- **L** Extra high breaking capacity
- **V** Very high breaking capacity

### Derived versions

- Thermal magnetic
- Electronic
- Molded case switches
- Motor circuit protectors (MCPs)
- Direct current (DC) rated

### ABB Tmax versions

- Fixed: all models
- Drawout or plug-in: T2, T3, Ts3, T4, T5, T6, T7 & T7M
- UL File #E93565 (breakers and MCPs)  
#E116596 (Accessories)  
#E116595 (Molded case switches)

## Selection Guide

### Circuit breakers for power distribution

#### T1 – Ts3



T1 1P



T1



T2



T3



Ts3

Type		Tmax T1 1p	Tmax T1	Tmax T2	Tmax T3	Tmax Ts3	Tmax Ts3	
Frame size	[A]	100	100	100	225	150	225	
Number of poles	[Nr]	1	3-4	3-4	3-4	2-3-4	2-3-4	
Rated voltage	AC (50-60Hz)	[V]	347	600Y/347	480	600Y/347	600	480
	DC	[V]		500		500	600	500
Interrupting ratings		B	N	S H	N S	N H L	N H L	
	240V AC	[kA rms]	50 ②	65 150	50 65	65 100 150	65 100 150	
	277V AC	[kA rms]	18 ①					
	347V AC	[kA rms]	14 ①					
	480V AC	[kA rms]		22 ②	35 65	25 35	25 50 85 ⑤	25 50 65
	600Y/347V AC	[kA rms]		10		10 10		
	600V AC	[kA rms]					14 14 25	
	250V DC (2 poles in series)	[kA rms]		25		25 35		
	500V DC (3 poles in series)	[kA rms]		25		25 35		
500V DC (2 poles in series)	[kA rms]					35 50 65	20 35 50	
600V DC (3 poles in series)	[kA rms]					20 35 50		
Trip units	TMF	■	■	■	■	■	■	
	TMD/TMA							
	ELT			■				
	MA			■	■	■	■	
	Electronic			■				
Dimensions	H	[in/mm]	5.12/130	5.12/130	5.12/130	5.9/150	6.7/170	6.7/170
	W 3p	[in/mm]	1/25.4	3/76	3.54/90	4.13/105	4.13/105	4.13/105
	D	[in/mm]	2.76/70	2.76/70	2.76/70	2.76/70	4.07/103.5	4.07/103.5
Mechanical life	[No. operations]	25000	25000	25000	25000	25000	25000	

① In15A = 10kA@277VAC 10kA@347VAC  
 ② In15A = 35kA@240VAC 14kA@480Y/277 VAC  
 ③ T5 600 with electronic trip units only and in three pole version  
 ④ 2p breakers: available only in N interrupting rating  
 ⑤ In from 15A up to 30A=65kA@480V AC

## Selection Guide

### Circuit breakers for power distribution

#### T4 – T8



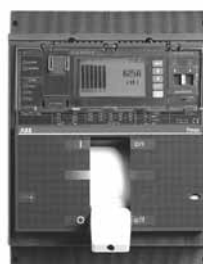
T4



T5



T6



T7



T8

Type		Tmax T4	Tmax T5	Tmax T6	Tmax T7/T7M	Tmax T8	
Frame size	[A]	250	400-600 ③	800	1000-1200	1600, 2000, 2500 & 3000	
Number of poles	[Nr]	2-3-4 ④	2-3-4 ④	3-4	3-4	3-4	
Rated voltage	AC (50-60Hz)	[V]	600	600	600	600	
	DC	[V]	600	600	600	600	
Interrupting ratings		N S H L V	N S H L V	N S H L	S H L	V	
	240V AC	[kA rms]	65 100 150 200 200	65 100 150 200 200	65 100 200 200	65 100 150	125
	277V AC	[kA rms]					
	347V AC	[kA rms]					
	480V AC	[kA rms]	25 35 65 100 150	25 35 65 100 150	35 50 65 100	50 65 100	125
	600Y/347V AC	[kA rms]					
	600V AC	[kA rms]	18 25 35 65 100	18 25 35 65 100	20 25 35 42	25 50 65	100
	250V DC (2 poles in series)	[kA rms]					
	500V DC (3 poles in series)	[kA rms]					
Trip units	TMF		■				
	TMD/TMA		■	■			
	ELT						
Dimensions	H	[in/mm]	8.07/205	8.07/205	10.55/268	10.55/268	
	W 3p	[in/mm]	4.13/105	5.51/140	8.26/210	8.26/210	
	D	[in/mm]	4.07/103.5	4.07/103.5	4.07/103.5	6.06/154 (toggle) 7/178 (motor)	
Mechanical life	[No. operations]	20,000	20,000	20,000	10,000	15,000	

① In15A = 10kA@277 VAC 10kA@347 VAC

② In15A = 35kA@240 VAC 14kA@480Y/277 VAC

③ T5 600 with electronic trip units only and in three pole version-

④ 2p T4N250 and T5N400 available only in N interrupting capacity.

⑤ In from 15A up to 30A=65kA@480 VAC

⑥ Applies to MCS only.

## General information

### Catalog number explanation

**T3 S 080 T W - 4 xxx**

● **Accessories** (added in alpha-numeric order) ①

- A = Auxiliary Switch
- S\_ = Shunt trip with voltage code
- U\_ = Undervoltage release with voltage code

● **Number of poles**

- 1 = 1 pole (T1 only)
- 2 = 2 pole
- 4 = 4 pole
- None = 3 pole

● **Type connectors**

- W = None
- L = Lugs included

● **Trip unit function**

- B = LS/I (AC only)
- D = Molded Case Switch (MCS)
- T = Thermal-magnetic
- M = Magnetic only (MCP)
- E5 = Electronic MCP (AC only)
- C = LSI (AC only)
- E = LSIG (AC only)
- CZ = LSI/PD ②
- EZ = LSIG/PD ②
- P = LI - LCD Display ③
- R = LSI - LCD Display ③
- S = LSIG - LCD Display ③

● **Current rating**

- 015 = 15A
- 080 = 80A
- 100 = 100A
- 225 = 225A
- 250 = 250A
- 400 = 400A
- 600 = 600A
- 800 = 800A
- 1200 = 1200A

● **Interrupting rating class**

- B = Basic
- N = Normal
- S = Standard
- H = High
- L = Extra High
- V = Very high
- Q = 100% Rated

● **Frame size**

- T1 = 100A
- T2 = 100A
- T3 = 225A
- Ts3 = 225A
- T4 = 250A
- T5 = 400A, 600A
- T6 = 600A, 800A
- T7 = 1000A, 1200A (toggle)



① Consult ABB for factory installed accessories.

② Trip unit with communication module.

③ Available on T7 toggle version only.

## T6

### 600A, 800A, 600V Δ

#### Thermal magnetic and electronic

**Dimensions** 3P Fixed Version 10.55H x 8.26W x 4.07D  
**Weight** 20.9 (lbs)



T6

#### General

The T6 breaker is an 800 amp frame with either a microprocessor based over current protective trip system or a thermal magnetic trip unit. The T6 is available as a 600 or 800A frame.

#### Standards

The UL489/CSA 22.2 version of T6 also carries an IEC-60947-2 rating.

#### Versions

To meet all application requirements, the T6 is available in the following versions:

- T = Thermal-magnetic, fixed
- B = Selectable & adjustable LI or LS
- C = Adjustable LSI
- E = Adjustable LSIG
- D = Molded Case Switch
- E5 = Electronic instantaneous only (MCP)

#### Trip functions

These trip functions are available:

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

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

Voltage	N	S	H	L
240VAC	65	100	200	200
480VAC	35	50	65	100
600VAC	20	25	35	42
500VDC ①	35	35	50	65
600VDC ②	20	20	35	50

#### IEC 60947-2 Interrupting capacity (kA RMS)

Voltage	N	S	H	L
230VAC	70	85	100	200
415VAC	36	50	70	100
690VAC	20	22	25	30
750VDC ②	16	20	36	50

## 17 Number of poles ③

The T6 is available as a three and four pole breaker. Estimate 4 pole pricing by adding 35% to the 3 pole price and contact your ABB sales person for details.

① 2 poles in series.  
 ② 3 poles in series.  
 ③ 4 pole available N and H version only.

## T6

### 600A, 800A, 600V Δ

#### Thermal magnetic and electronic

### T6

#### 600A, 800A, 600V

##### Thermal Magnetic Trip Units

Breaker	IC at 480 VAC kA	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number
T6N	35	600A	3000 - 6000A	T6N600TW
		800A	4000 - 8000A	T6N800TW
T6S	50	600A	3000 - 6000A	T6S600TW
		800A	4000 - 8000A	T6S800TW
T6H	65	600A	3000 - 6000A	T6H600TW
		800A	4000 - 8000A	T6H800TW
T6L	100	600A	3000 - 6000A	T6L600TW
		800A	4000 - 8000A	T6L800TW

### T6

#### 600A, 800A, 600V

##### Thermal Magnetic Trip Units 100% rated

Breaker	IC at 480 VAC kA	Rating	Magnetic trip	3 pole, 600VAC/600VDC catalog number
T6N	35	600A	3000 - 6000A	T6NQ600TW
		800A	4000 - 8000A	T6NQ800TW
T6S	50	600A	3000 - 6000A	T6SQ600TW
		800A	4000 - 8000A	T6SQ800TW
T6H	65	600A	3000 - 6000A	T6HQ600TW
		800A	4000 - 8000A	T6HQ800TW
T6L	100	600A	3000 - 6000A	T6LQ600TW
		800A	4000 - 8000A	T6LQ800TW

### T6

#### 600A, 600V

##### Electronic Trip Units

Breaker	IC at 480VAC	Trip type	Adjustment	3 pole, 600VAC catalog number
T6N	35	PR221	LS/I	T6N600BW
		PR222	LSI	T6N600CW
		PR222	LSIG	T6N600EW
T6S	50	PR221	LS/I	T6S600BW
		PR222	LSI	T6S600CW
		PR222	LSIG	T6S600EW
T6H	65	PR221	LS/I	T6H600BW
		PR222	LSI	T6H600CW
		PR222	LSIG	T6H600EW
T6L	100	PR221	LS/I	T6L600BW
		PR222	LSI	T6L600CW
		PR222	LSIG	T6L600EW

### T6

#### 800A, 600V

##### Electronic Trip Units

Breaker	IC at 480VAC	Trip type	Adjustment	3 pole, 600VAC catalog number
T6N	35	PR221	LS/I	T6N800BW
		PR222	LSI	T6N800CW
		PR222	LSIG	T6N800EW
T6S	50	PR221	LS/I	T6S800BW
		PR222	LSI	T6S800CW
		PR222	LSIG	T6S800EW
T6H	65	PR221	LS/I	T6H800BW
		PR222	LSI	T6H800CW
		PR222	LSIG	T6H800EW
T6L	100	PR221	LS/I	T6L800BW
		PR222	LSI	T6L800CW
		PR222	LSIG	T6L800EW

NOTE: See pages 17.71-17.83 for electrical/mechanical accessories.

## T6

### 600A, 800A, 600V Δ

Thermal magnetic and electronic

#### T6 600A, 600V Δ Electronic Trip Units 100% Rated

Breaker	IC at 480VAC	Trip type	Adjustment	3 pole, 600VAC catalog number
T6N	35	PR221	LS/I	T6NQ600BW
		PR222	LSI	T6NQ600CW
		PR222	LSIG	T6NQ600EW
T6S	50	PR221	LS/I	T6SQ600BW
		PR222	LSI	T6SQ600CW
		PR222	LSIG	T6SQ600EW
T6H	65	PR221	LS/I	T6HQ600BW
		PR222	LSI	T6HQ600CW
		PR222	LSIG	T6HQ600EW
T6L	100	PR221	LS/I	T6LQ600BW
		PR222	LSI	T6LQ600CW
		PR222	LSIG	T6LQ600EW

#### T6 800A, 600V Electronic Trip Units 100% Rated

Breaker	IC at 480VAC	Trip type	Adjustment	3 pole, 600VAC catalog number
T6N	35	PR221	LS/I	T6NQ800BW
		PR222	LSI	T6NQ800CW
		PR222	LSIG	T6NQ800EW
T6S	50	PR221	LS/I	T6SQ800BW
		PR222	LSI	T6SQ800CW
		PR222	LSIG	T6SQ800EW
T6H	65	PR221	LS/I	T6HQ800BW
		PR222	LSI	T6HQ800CW
		PR222	LSIG	T6HQ800EW
T6L	100	PR221	LS/I	T6LQ800BW
		PR222	LSI	T6LQ800CW
		PR222	LSIG	T6LQ800EW

#### T6 600A, 600V Δ Electronic Trip Units Instantaneous Only

Breaker	IC at 480VAC	kA	Trip type	Adjustment Range	3 pole, 600VAC catalog number
T6N	35		PR221	600-6000	T6N600E5W
T6S	50		PR221	600-6000	T6S600E5W
T6H	65		PR221	600-6000	T6H600E5W
T6L	100		PR221	600-6000	T6L600E5W

#### T6 800A, 600V Electronic Trip Units Instantaneous Only

Breaker	IC at 480VAC	kA	Trip type	Adjustment Range	3 pole, 600VAC catalog number
T6N	35		PR221	800-8000	T6N800E5W
T6S	50		PR221	800-8000	T6S800E5W
T6H	65		PR221	800-8000	T6H800E5W
T6L	100		PR221	800-8000	T6L800E5W

#### T6 800A, 600V Molded Case Switch

Breaker	IC at 480VAC ①	Amp	Magnetic Trip	3 pole, 600VAC catalog number
T6H	65	800	10,000	T6H800DW

① When protected by a OCPD with appropriate ratings.