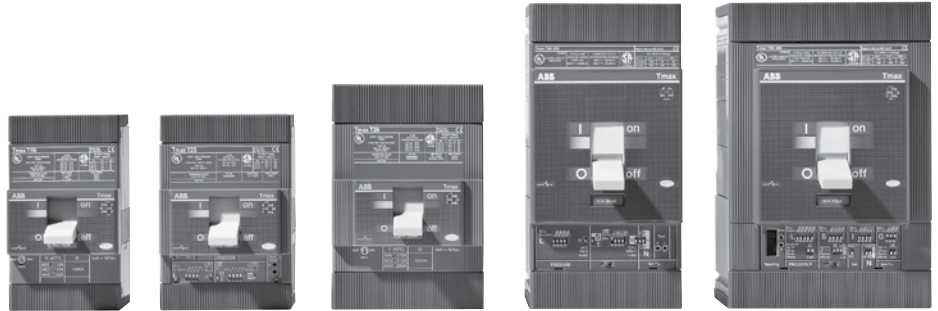


# Tmax Molded case circuit breakers



## 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



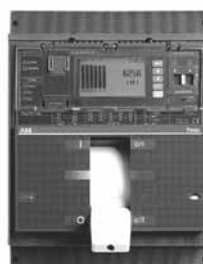
T4



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]						
500V DC (2 poles in series)	[kA rms]	25 35 50 65 100	25 35 50 65 100	35 35 50 65			
600V DC (3 poles in series)	[kA rms]	16 25 35 50 65	16 25 35 50 65	20 20 35 50			
Trip units	TMF		■				
	TMD/TMA		■	■			
	ELT						
	MA						
	Electronic		■	■	■	■	
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.

## T7 (Toggle)

### 1000A, 1200A, 600V Δ

### Electronic

**Dimensions** 3P Fixed Version 10.55H x 8.26W x 6.06D  
**Weight** 21.4 (lbs)



T7

#### General

The T7 breaker is a 1200 amp frame with a microprocessor based over current protective trip system.

#### Standards

The UL489/CSA 22.2 version of T7 also carries an IEC-60947-2 rating.

#### Versions

To meet all application requirements, the T7 is available in the following versions:

- B = Selectable & adjustable LI or LS — Dip switch settings
- C = Adjustable LSI — Dip switch settings
- E = Adjustable LSIG — Dip switch settings
- D = Molded Case Switch
- P = LI — LCD display
- R = LSI — LCD display
- S = LSIG — LCD display

#### 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:

- S = Standard
- H = High
- L = Extra high

#### Number of poles <sup>①</sup>

The T7 is available as a 3 and 4 pole breaker. Estimate 4 pole pricing by adding 35% to the 3 pole price and contact your ABB sales person for details.

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

Voltage	S	H	L
240VAC	65	100	150
480VAC	50	65	100
600VAC	25	50	65

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

Voltage	S	H	L
230VAC	85	100	200
415VAC	50	70	120
690VAC	30	42	50

<sup>①</sup> 4 Pole available S, H and L version.

## T7

### 1000A, 1200A, 600V Δ

### Electronic

#### T7S, 1000A, 600V

##### Electronic

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC catalog number
T7S	50	PR231/P	LS/I	T7S1000BW
		PR232/P	LSI	T7S1000CW
		PR331/P	LSIG	T7S1000EW
		PR332/P	LI	T7S1000PW
		PR332/P	LSI	T7S1000RW
		PR332/P	LSIG	T7S1000SW

#### T7L, 1000A, 600V

##### Electronic

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC catalog number
T7L	100	PR231/P	LS/I	T7L1000BW
		PR232/P	LSI	T7L1000CW
		PR331/P	LSIG	T7L1000EW
		PR332/P	LI	T7L1000PW
		PR332/P	LSI	T7L1000RW
		PR332/P	LSIG	T7L1000SW

#### T7S, 1200A, 600V

##### Electronic

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC catalog number
T7S	50	PR231/P	LS/I	T7S1200BW
		PR232/P	LSI	T7S1200CW
		PR331/P	LSIG	T7S1200EW
		PR332/P	LI	T7S1200PW
		PR332/P	LSI	T7S1200RW
		PR332/P	LSIG	T7S1200SW

#### T7L, 1200A, 600V

##### Electronic

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC catalog number
T7L	100	PR231/P	LS/I	T7L1200BW
		PR232/P	LSI	T7L1200CW
		PR331/P	LSIG	T7L1200EW
		PR332/P	LI	T7L1200PW
		PR332/P	LSI	T7L1200RW
		PR332/P	LSIG	T7L1200SW

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

#### T7H, 1000A, 600V

##### Electronic

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC catalog number
T7H	65	PR231/P	LS/I	T7H1000BW
		PR232/P	LSI	T7H1000CW
		PR331/P	LSIG	T7H1000EW
		PR332/P	LI	T7H1000PW
		PR332/P	LSI	T7H1000RW
		PR332/P	LSIG	T7H1000SW

#### T7H, 1200A, 600V

##### Electronic

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC catalog number
T7H	65	PR231/P	LS/I	T7H1200BW
		PR232/P	LSI	T7H1200CW
		PR331/P	LSIG	T7H1200EW
		PR332/P	LI	T7H1200PW
		PR332/P	LSI	T7H1200RW
		PR332/P	LSIG	T7H1200SW

# T7

## 1000A, 1200A, 600V Δ

### Electronic, 100% rated

#### T7S, 1000A, 600V

Electronic, 100% rated

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC Catalog number
T7S	50	PR231/P	LS/I	T7SQ1000BW
		PR232/P	LSI	T7SQ1000CW
		PR331/P	LSIG	T7SQ1000EW
		PR332/P	LI	T7SQ1000PW
		PR332/P	LSI	T7SQ1000RW
		PR332/P	LSIG	T7SQ1000SW

#### T7L, 1000A, 600V

Electronic, 100% rated

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC Catalog number
T7L	100	PR231/P	LS/I	T7LQ1000BW
		PR232/P	LSI	T7LQ1000CW
		PR331/P	LSIG	T7LQ1000EW
		PR332/P	LI	T7LQ1000PW
		PR332/P	LSI	T7LQ1000RW
		PR332/P	LSIG	T7LQ1000SW

#### T7S, 1200A, 600V

Electronic, 100% rated

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC Catalog number
T7S	50	PR231/P	LS/I	T7SQ1200BW
		PR232/P	LSI	T7SQ1200CW
		PR331/P	LSIG	T7SQ1200EW
		PR332/P	LI	T7SQ1200PW
		PR332/P	LSI	T7SQ1200RW
		PR332/P	LSIG	T7SQ1200SW

#### T7L, 1200A, 600V

Electronic, 100% rated

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC Catalog number
T7L	100	PR231/P	LS/I	T7LQ1200BW
		PR232/P	LSI	T7LQ1200CW
		PR331/P	LSIG	T7LQ1200EW
		PR332/P	LI	T7LQ1200PW
		PR332/P	LSI	T7LQ1200RW
		PR332/P	LSIG	T7LQ1200SW

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

#### T7H, 1000A, 600V

Electronic, 100% rated

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC Catalog number
T7H	65	PR231/P	LS/I	T7HQ1000BW
		PR232/P	LSI	T7HQ1000CW
		PR331/P	LSIG	T7HQ1000EW
		PR332/P	LI	T7HQ1000PW
		PR332/P	LSI	T7HQ1000RW
		PR332/P	LSIG	T7HQ1000SW

#### T7H, 1200A, 600V

Electronic, 100% rated

Breaker	IC at 480VAC kA	Trip type	Adjustment	3 pole, 600VAC Catalog number
T7H	65	PR231/P	LS/I	T7HQ1200BW
		PR232/P	LSI	T7HQ1200CW
		PR331/P	LSIG	T7HQ1200EW
		PR332/P	LI	T7HQ1200PW
		PR332/P	LSI	T7HQ1200RW
		PR332/P	LSIG	T7HQ1200SW

## T7

### 1200A, 600V $\Delta$

#### Electronic/Molded case switch

#### T7

##### 1200A, 600V

##### Molded case switch

Breaker	IC at 480VAC kA ①	Amp	Magnetic trip	3 pole, 600VAC Catalog number
T7H	-	1200	20,000	T7H1200DW

NOTE: See pages 17.67 - 17.79 for electrical/mechanical accessories.

#### T7

##### 1000 - 1200A, 600V

##### Motor circuit protection

##### Electronic trip, instantaneous only

Breaker	IC at 480VAC kA ①	Amp	Catalog number
T7S	50	1000	T7S1000E5W
T7H	65	1000	T7H1000E5W
T7L	100	1000	T7L1000E5W
T7S	50	1200	T7S1200E5W
T7H	65	1200	T7H1200E5W
T7L	100	1200	T7L1200E5W

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

① When protected by a OCPD with appropriate ratings.