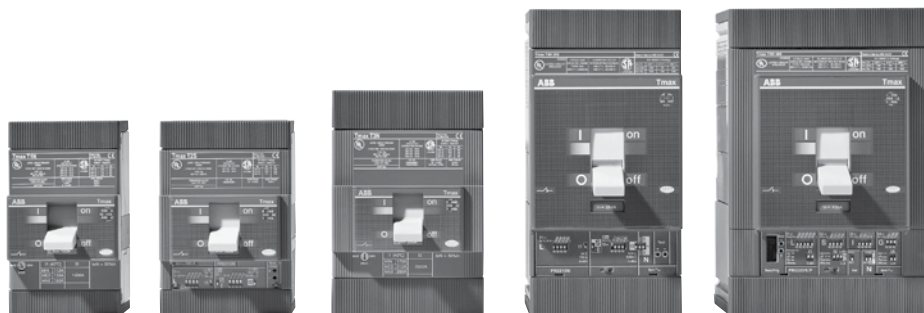




Introduction

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
	DC	[V]		500		500	600
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 ③	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	5.9/150	6.7/170	6.7/170
	W 3p	[in/mm]	1/25.4	3/76	3.54/90	4.13/105	4.13/105
	D	[in/mm]	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



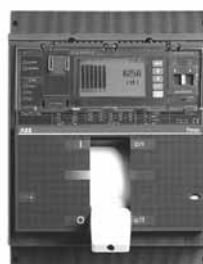
T4



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				600	
	DC	[V]	600					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				15 / 382	
	W 3p	[in/mm]	4.13/105					5.51/140					8.26/210				8.26/210				16.8 / 427	
	D	[in/mm]	4.07/103.5					4.07/103.5					4.07/103.5				6.06/154 (toggle) 7/178 (motor)				11.2 / 282	
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 = LSI (AC only)
- CZ = LSI/PD ②
- EZ = LSI/PD ②
- P = LI - LCD Display ③
- R = LSI - LCD Display ③
- S = LSI - 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.

T4

250A, 600V Δ

Electronic and thermal magnetic

Dimensions 3P Fixed Version 8.07H x 4.13W x 4.07D
Weight 6.18 (lbs)



T4

General

The T4 breaker is a 250 amp frame with either a microprocessor based over current protective trip system or a thermal magnetic trip unit.

Standards

The UL489/CSA 22.2 version of T4 also carries an IEC-60947-2 rating.

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 LSI G
- 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 - UL Current Limiting
- L = Extra high
- V = Very high - UL Current Limiting

Number of poles ③

The T4 is available in two, three and four pole versions. 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	N	S	H	L	V
240VAC	65	100	150	200	200
480VAC	25	35	65	100	150
600VAC	18	25	35	65	100
500VDC ①	25	35	50	65	100
600VDC ②	16	25	35	50	65

IEC 60947-2 Interrupting capacity (kA RMS)

Voltage	N	S	H	L	V
230VAC	70	85	100	200	200
415VAC	36	50	70	120	200
690VAC	20	25	40	70	80
750VDC ②	16	25	36	50	70

① 2 poles in series.

② 3 poles in series.

③ 2 pole breakers available in N version only. 4 pole breakers available in N and H version only.

T4

250A, 600V Δ

Adjustable thermal magnetic

20A - 250A Frame

Breaker	IC at 480VAC	Rating	Magnetic trip	2 pole, 600VAC/600VDC catalog number	3 pole, 600VAC/600VDC catalog number
T4N	25	125A	625-1250	T4N125TW-2	T4N125TW
		150A	750-1500	T4N150TW-2	T4N150TW
		200A	1000-2000	T4N200TW-2	T4N200TW
		250A	1250-2500	T4N250TW-2	T4N250TW
T4S	35	125A	625-1250	–	T4S125TW
		150A	750-1500	–	T4S150TW
		200A	1000-2000	–	T4S200TW
		250A	1250-2500	–	T4S250TW
T4H UL Current Limiting	65	125A	625-1250	–	T4H125TW
		150A	750-1500	–	T4H150TW
		200A	1000-2000	–	T4H200TW
		250A	1250-2500	–	T4H250TW
T4L	100	125A	625-1250	–	T4L125TW
		150A	750-1500	–	T4L150TW
		200A	1000-2000	–	T4L200TW
		250A	1250-2500	–	T4L250TW
T4V UL Current Limiting	150	125A	625-1250	–	T4V125TW
		150A	750-1500	–	T4V150TW
		200A	1000-2000	–	T4V200TW
		250A	1250-2500	–	T4V250TW

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

T4

250A, 600V Δ 100% rated
Adjustable thermal magnetic

30A - 250A Frame 100% rated

Breaker	IC at 480 VAC kA	Rating	Magnetic trip	3 pole, 600VAC/600VDC Catalog number
T4N	25	125A	625-1250	T4NQ125TW
		150A	750-1500	T4NQ150TW
		200A	1000-2000	T4NQ200TW
		250A	1250-2500	T4NQ250TW
T4S	35	125A	625-1250	T4SQ125TW
		150A	750-1500	T4SQ150TW
		200A	1000-2000	T4SQ200TW
		250A	1250-2500	T4SQ250TW
T4H UL Current Limiting	65	125A	625-1250	T4HQ125TW
		150A	750-1500	T4HQ150TW
		200A	1000-2000	T4HQ200TW
		250A	1250-2500	T4HQ250TW
T4L	100	125A	625-1250	T4LQ125TW
		150A	750-1500	T4LQ150TW
		200A	1000-2000	T4LQ200TW
		250A	1250-2500	T4LQ250TW
T4V UL Current Limiting	150	125A	625-1250	T4VQ125TW
		150A	750-1500	T4VQ150TW
		200A	1000-2000	T4VQ200TW
		250A	1250-2500	T4VQ250TW

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

T4

250A, 600V Δ

Electronic (AC only)

100A Frame, electronic trip unit (AC only)

Breaker	IC at 480VAC kA	Trip Unit	2 pole, 600V catalog number	3 pole, 600V catalog number
T4N	25	PR221 LS/I	T4N100BW-2	T4N100BW
		PR222 LSI	T4N100CW-2	T4N100CW
		PR222 LSIG	T4N100EW-2	T4N100EW
T4S	35	PR221 LS/I	-	T4S100BW
		PR222 LSI	-	T4S100CW
		PR222 LSIG	-	T4S100EW
T4H UL Current Limiting	65	PR221 LS/I	-	T4H100BW
		PR222 LSI	-	T4H100CW
		PR222 LSIG	-	T4H100EW
T4L	100	PR221 LS/I	-	T4L100BW
		PR222 LSI	-	T4L100CW
		PR222 LSIG	-	T4L100EW
T4V UL Current Limiting	150	PR221 LS/I	-	T4V100BW
		PR222 LSI	-	T4V100CW
		PR222 LSIG	-	T4V100EW

150A Frame, electronic trip unit (AC only)

Breaker	IC at 480VAC kA	Trip Unit	2 pole, 600V catalog number	3 pole, 600V catalog number
T4N	25	PR221 LS/I	T4N150BW-2	T4N150BW
		PR222 LSI	T4N150CW-2	T4N150CW
		PR222 LSIG	T4N150EW-2	T4N150EW
T4S	35	PR221 LS/I	-	T4S150BW
		PR222 LSI	-	T4S150CW
		PR222 LSIG	-	T4S150EW
T4H UL Current Limiting	65	PR221 LS/I	-	T4H150BW
		PR222 LSI	-	T4H150CW
		PR222 LSIG	-	T4H150EW
T4L	100	PR221 LS/I	-	T4L150BW
		PR222 LSI	-	T4L150CW
		PR222 LSIG	-	T4L150EW
T4V UL Current Limiting	150	PR221 LS/I	-	T4V150BW
		PR222 LSI	-	T4V150CW
		PR222 LSIG	-	T4V150EW

250A Frame, electronic trip unit (AC only)

Breaker	IC at 480VAC kA	Trip Unit	2 pole, 600V catalog number	3 pole, 600V catalog number
T4N	25	PR221 LS/I	T4N250BW-2	T4N250BW
		PR222 LSI	T4N250CW-2	T4N250CW
		PR222 LSIG	T4N250EW-2	T4N250EW
T4S	35	PR221 LS/I	-	T4S250BW
		PR222 LSI	-	T4S250CW
		PR222 LSIG	-	T4S250EW
T4H UL Current Limiting	65	PR221 LS/I	-	T4H250BW
		PR222 LSI	-	T4H250CW
		PR222 LSIG	-	T4H250EW
T4L	100	PR221 LS/I	-	T4L250BW
		PR222 LSI	-	T4L250CW
		PR222 LSIG	-	T4L250EW
T4V UL Current Limiting	150	PR221 LS/I	-	T4V250BW
		PR222 LSI	-	T4V250CW
		PR222 LSIG	-	T4V250EW

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

T4

250A, 600V Δ, 100% Rated Electronic (AC only)

100A Frame - 100% rated, electronic trip unit (AC only)

Breaker	IC at 480VAC kA	Trip Unit	3 pole, 600V catalog number
T4N	25	PR221 LS/I	T4NQ100BW
		PR222 LSI	T4NQ100CW
		PR222 LSIG	T4NQ100EW
T4S	35	PR221 LS/I	T4SQ100BW
		PR222 LSI	T4SQ100CW
		PR222 LSIG	T4SQ100EW
T4H UL Current Limiting	65	PR221 LS/I	T4HQ100BW
		PR222 LSI	T4HQ100CW
		PR222 LSIG	T4HQ100EW
T4L	100	PR221 LS/I	T4LQ100BW
		PR222 LSI	T4LQ100CW
		PR222 LSIG	T4LQ100EW
T4V UL Current Limiting	150	PR221 LS/I	T4VQ100BW
		PR222 LSI	T4VQ100CW
		PR222 LSIG	T4VQ100EW

250A Frame - 100% rated, electronic trip unit (AC only)

Breaker	IC at 480VAC kA	Trip Unit	3 pole, 600V catalog number
T4N	25	PR221 LS/I	T4NQ250BW
		PR222 LSI	T4NQ250CW
		PR222 LSIG	T4NQ250EW
T4S	35	PR221 LS/I	T4SQ250BW
		PR222 LSI	T4SQ250CW
		PR222 LSIG	T4SQ250EW
T4H UL Current Limiting	65	PR221 LS/I	T4HQ250BW
		PR222 LSI	T4HQ250CW
		PR222 LSIG	T4HQ250EW
T4L	100	PR221 LS/I	T4LQ250BW
		PR222 LSI	T4LQ250CW
		PR222 LSIG	T4LQ250EW
T4V UL Current Limiting	150	PR221 LS/I	T4VQ250BW
		PR222 LSI	T4VQ250CW
		PR222 LSIG	T4VQ250EW

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

150A Frame - 100% rated, electronic trip unit (AC only)

Breaker	IC at 480VAC kA	Trip Unit	3 pole, 600V catalog number
T4N	25	PR221 LS/I	T4NQ150BW
		PR222 LSI	T4NQ150CW
		PR222 LSIG	T4NQ150EW
T4S	35	PR221 LS/I	T4SQ150BW
		PR222 LSI	T4SQ150CW
		PR222 LSIG	T4SQ150EW
T4H UL Current Limiting	65	PR221 LS/I	T4HQ150BW
		PR222 LSI	T4HQ150CW
		PR222 LSIG	T4HQ150EW
T4L	100	PR221 LS/I	T4LQ150BW
		PR222 LSI	T4LQ150CW
		PR222 LSIG	T4LQ150EW
T4V UL Current Limiting	150	PR221 LS/I	T4VQ150BW
		PR222 LSI	T4VQ150CW
		PR222 LSIG	T4VQ150EW

T4

250A, 600V Δ

Instantaneous only, MCP/Molded case switch

Instantaneous only MCPs

T4 - 250A Frame magnetic only (MCP - AC only)

Breaker	IC at 480VAC	Trip unit type	Rating	Adjustment range	3 pole, 600VAC Catalog number
T4N	25kA	Instantaneous only	100A	100-1000	T4N100E5W
			150A	150-1500	T4N150E5W
			250A	250-2500	T4N250E5W
T4S	35kA	Instantaneous only	100A	100-1000	T4S100E5W
			150A	150-1500	T4S150E5W
			250A	250-2500	T4S250E5W
T4H	65kA	Instantaneous only	100A	100-1000	T4H100E5W
			150A	150-1500	T4H150E5W
			250A	250-2500	T4H250E5W
T4L	100kA	Instantaneous only	100A	100-1000	T4L100E5W
			150A	150-1500	T4L150E5W
			250A	250-2500	T4L250E5W

Molded case switch ①

Type	IC at 480VAC	Amps	Magnetic trip	3 pole 600V catalog number
T4N-D	25kA	250	3000	T4N250DW
T4S-D	35kA	250	3000	T4S250DW
T4H-D	65kA	250	3000	T4H250DW
T4L-D	100kA	250	3000	T4L250DW
T4V-D	150kA	250	3000	T4V250DW

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