



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 ٠

ABB Tmax versions

- Fixed: all models
- ٠ 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











Туре			Tmax T1 1p	Tmax T1	Tma	x T2	Tma	ix T3	Т	max T	s3	Т	max T	s3
Frame size		[A]	100	100	1	00	2	25		150			225	
Number of poles	S	[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 [500			500		600			500		
Interrupting ratin	ngs		В	N	S	Н	N	S	N	Н	L N		н	L
240V AC)	[kA rms]		50 @	65	150	50	65	65	100	100 150 65			150
277V AC)	[kA rms]	18 D					•		•	•••••		•	•
347V AC)	[kA rms]	14 ①					•••••		•	•		•••••	••••••
480V AC	480V AC [k/			22 @	35	65	25	35	25	50	85 S	25	50	65
600Y/34	I7V AC	[kA rms]		10			10	10		•••••			•	
600V AC)	[kA rms]	[kA rms]					•	14	14	25		•	•
250V DC	C (2 poles in series)	[kA rms]		25			25	35		•			•	•
500V DC	C (3 poles in series)	[kA rms]		25	1		25	35		••••••	•••••			••••••
500V DC	C (2 poles in series)	[kA rms]							35	50	65	20	35	50
600V DC	C (3 poles in series)	[kA rms]						•	20	35	50		•	•
Trip units	Trip units TMF				1									
	TMD/TMA	•			-									
	ELT													•
	MA	•					I							•
	Electronic	•						•		•	•		•	•
Dimensions	Н	[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	3.5	4/90	4.13	3/105	[4.13/10	5		4.13/10	5
	D	[in/mm]	2.76/70	2.76/70	2.7	6/70	2.7	6/70	4	1.07/103	.5	2	1.07/103	.5
Mechanical life		[No. operations]	25000	25000	25	000	25	000		25000			25000	

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ln15A = 10kA@277VAC 10kA@347VAC
ln15A = 35kA@240VAC 14kA@480Y/277 VAC
T5 600 with electronic trip units only and in three pole version
2p breakers: available only in N interrupting rating
ln from 15A up to 30A=65kA@480V AC

17.12



Selection Guide Circuit breakers for power distribution T4 – T8











Туре				Tr	nax	Т4			Tn	nax	T 5		•	Tma	x T	6	Tma	ax T7	/T7M	Tmax T8
Frame size		[A]			250				40	0-60	03			8	00		1	000-12	:00	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				6	00			600		600
	DC	[M]] 600 600					600				•	•							
Interrupting rating	gs		Ν	S	Н	L	V	Ν	S	Н	L	V	Ν	S	Н	L	S	Н	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/347	7V 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													I						
	ELT																			
	MA				••••••	•••••	•••••			•		•		•		•			•	
	Electronic													I						
Dimensions	Н	[in/mm]		8	.07/2	05			8.	.07/2	05			10.5	5/268	3	1	0.55/2	68	15 / 382
	W 3p	[in/mm]		4	13/1	05			5	51/1	40			8.26	/210		8.26/210			16.8 / 427
	D	[in/mm]		4.(07/10	3.5			4.(07/10)3.5			4.07/	103.5	5		6/154 (te 178 (me		11.2 / 282
Mechanical life		[No. operations]		2	20,00	0			2	20,00	00			20,	000			10,000)	15,000

- In15A = 10kA@277 VAC 10kA@347 VAC
 In15A = 35kA@240 VAC 14kA@480Y/277 VAC
 T5 600 with electronic trip units only and in three pole version2p T4N250 and T5N400 available only in N interrupting capacity.
 In from 15A up to 30A=65kA@480 VAC
 Applies to MCS only.

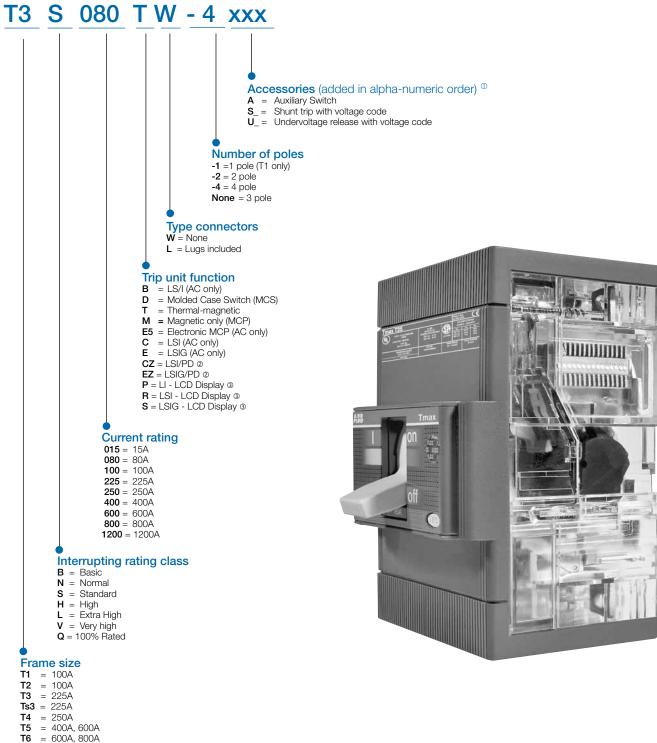
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General information

Catalog number explanation



- Т6
- = 1000Å, 1200Å (toggle) T7

① Consult ABB for factory installed accessories.

- ② Trip unit with communication module.③ Available on T7 toggle version only.





Dimensions Weight 2.34 (lbs)

3P Fixed Version 5.12H x 3.00W x 2.76D



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.

Standards

The UL489/CSA 22.2 version of T1 also carries an IEC-60947-2 rating.

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 = Basic single pole

N = Normal three pole

Number of poles

The T1 molded case circuit breaker is available in single, 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.

Molded case switches

UL489 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 – 100A	-	50 D								
347VAC	15A 20 – 100A	10 14	-								
480VAC Δ	15A @ 20 – 100A	_ _	14 22								
600Y/347VAC	15 – 100A	—	10								
250VDC 2 pole series	15 – 100A	—	25								
500VDC 3 pole series	15 – 100A	-	25								

IEC 60947-2 Interrupting capacity (kA RMS)

	J	- /	
Voltage	Continuous rating	B (1 pole)	N
230VAC	15 – 100A	25 3	50
415VAC	15 – 100A	-	36
690VAC	15 – 100A	—	6
500VDC 3 pole series	15 – 100A	—	36

1 In 15A 35kA @ 240VAC. 2 15A available in 480Y/277 VAC only.

③ Interrupting capacity for 16-20A is 16kA

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T1 100A, 600Y/347V, 480V Δ Thermal-magnetic/Molded Case Switch

T1B TMF — Single pole thermal magnetic fixed 1

Breaker	IC at 277VAC	Rating (A)	Magnetic trip (A)	1 pole, 277VAC catalog number
	10kA	15	1000	T1B015TL-1
		20	1000	T1B020TL-1
		25	1000	T1B025TL-1
		30	1000	T1B030TL-1
		40	1000	T1B040TL-1
T1B	18kA	50	1500	T1B050TL-1
		60	1500	T1B060TL-1
		70	1500	T1B070TL-1
		80	1500	T1B080TL-1
		90	1500	T1B090TL-1
		100	1500	T1B100TL-1

T1N TMF - 3 pole thermal magnetic fixed

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

T1N TMF - 100% Rated thermal-magnetic

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

T1N-D - Molded case switch

Breaker	Breaker Interrupting Rating		Magnetic trip	480VAC/500VDC				
	capacity ③ (A)		(A)	catalog number				
T1-D	240V, 50kA	100	1000	T1N100DL				

① Electrical/mechanical accessories cannot be installed on single pole breakers.
 ② Rated 480Y/277 VAC for 15A.
 ③ When protected by a OCPD with appropriate ratings.



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- 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.
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- Compact size
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- 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 ٠

ABB Tmax versions

- Fixed: all models
- ٠ 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











Туре			Tmax T1 1p	Tmax T1	Tma	x T2	Tma	ix T3	Т	max T	s3	Т	max T	s3
Frame size		[A]	100	100	1	00	2	25		150			225	
Number of poles	S	[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 [500			500		600			500		
Interrupting ratin	ngs		В	N	S	Н	N	S	N	Н	L N		н	L
240V AC)	[kA rms]		50 @	65	150	50	65	65	100	100 150 65			150
277V AC)	[kA rms]	18 D					•		•	•••••		•	•
347V AC)	[kA rms]	14 ①					•••••		•	•			••••••
480V AC	480V AC [k/			22 @	35	65	25	35	25	50	85 S	25	50	65
600Y/34	I7V AC	[kA rms]		10			10	10		•••••			•	
600V AC)	[kA rms]	[kA rms]					•	14	14	25		•	•
250V DC	C (2 poles in series)	[kA rms]		25			25	35		•			•	•
500V DC	C (3 poles in series)	[kA rms]		25	1		25	35		••••••	••••••			••••••
500V DC	C (2 poles in series)	[kA rms]							35	50	65	20	35	50
600V DC	C (3 poles in series)	[kA rms]						•	20	35	50		•	•
Trip units	Trip units TMF				1									
	TMD/TMA	•			-									
	ELT													
	MA	•					I							•
	Electronic	•						•		•	•		•	•
Dimensions	Н	[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	3.5	4/90	4.13	3/105	[4.13/10	5		4.13/10	5
	D	[in/mm]	2.76/70	2.76/70	2.7	6/70	2.7	6/70	4	1.07/103	.5	2	1.07/103	.5
Mechanical life		[No. operations]	25000	25000	25	000	25	000		25000			25000	

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ln15A = 10kA@277VAC 10kA@347VAC
ln15A = 35kA@240VAC 14kA@480Y/277 VAC
T5 600 with electronic trip units only and in three pole version
2p breakers: available only in N interrupting rating
ln from 15A up to 30A=65kA@480V AC

17.12



Selection Guide Circuit breakers for power distribution T4 – T8











Туре				Tr	nax	Т4			Tn	nax	T 5		•	Tma	x T	6	Tma	ax T7	/T7M	Tmax T8
Frame size		[A]			250				40	0-60	03			8	00		1	000-12	:00	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				6	00			600		600
	DC	[M]] 600 600					600				•	•							
Interrupting rating	gs		Ν	S	Н	L	V	Ν	S	Н	L	V	Ν	S	Н	L	S	Н	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/347	7V 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													I						
	ELT																			
	MA				••••••	•••••	•••••			•		•		•		•			•	
	Electronic													I						
Dimensions	Н	[in/mm]		8	.07/2	05			8.	.07/2	05			10.5	5/268	3	1	0.55/2	68	15 / 382
	W 3p	[in/mm]		4	13/1	05			5	51/1	40			8.26	/210		8.26/210			16.8 / 427
	D	[in/mm]		4.(07/10	3.5			4.(07/10)3.5			4.07/	103.5	5		6/154 (te 178 (me		11.2 / 282
Mechanical life		[No. operations]		2	20,00	0			2	20,00	00			20,	000			10,000)	15,000

- In15A = 10kA@277 VAC 10kA@347 VAC
 In15A = 35kA@240 VAC 14kA@480Y/277 VAC
 T5 600 with electronic trip units only and in three pole version2p T4N250 and T5N400 available only in N interrupting capacity.
 In from 15A up to 30A=65kA@480 VAC
 Applies to MCS only.

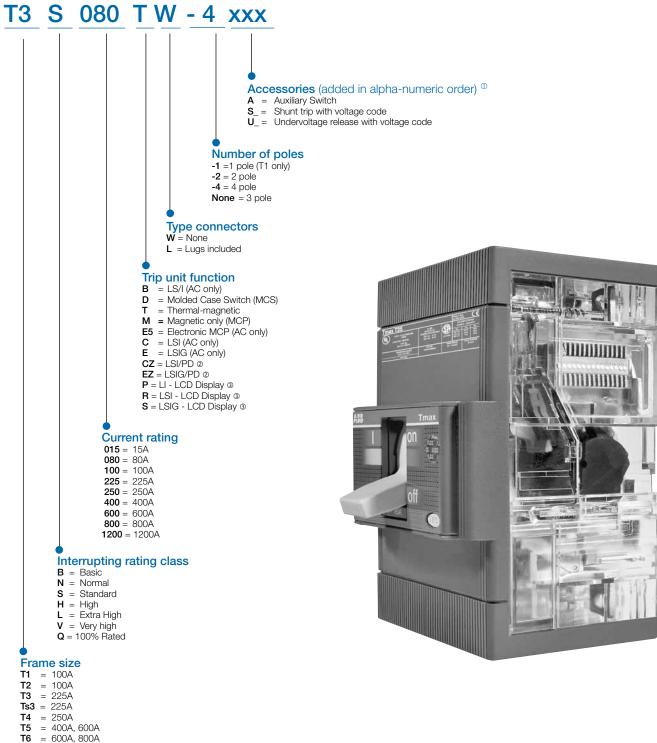
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General information

Catalog number explanation



- Т6
- = 1000Å, 1200Å (toggle) T7

① Consult ABB for factory installed accessories.

- ② Trip unit with communication module.③ Available on T7 toggle version only.





Dimensions Weight 2.34 (lbs)

3P Fixed Version 5.12H x 3.00W x 2.76D



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.

Standards

The UL489/CSA 22.2 version of T1 also carries an IEC-60947-2 rating.

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 = Basic single pole

N = Normal three pole

Number of poles

The T1 molded case circuit breaker is available in single, 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.

Molded case switches

UL489 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 – 100A	-	50 D								
347VAC	15A 20 – 100A	10 14	-								
480VAC Δ	15A @ 20 – 100A	_ _	14 22								
600Y/347VAC	15 – 100A	-	10								
250VDC 2 pole series	15 – 100A	—	25								
500VDC 3 pole series	15 – 100A	-	25								

IEC 60947-2 Interrupting capacity (kA RMS)

	J	- /	
Voltage	Continuous rating	B (1 pole)	N
230VAC	15 – 100A	25 3	50
415VAC	15 – 100A	-	36
690VAC	15 – 100A	—	6
500VDC 3 pole series	15 – 100A	—	36

1 In 15A 35kA @ 240VAC. 2 15A available in 480Y/277 VAC only.

③ Interrupting capacity for 16-20A is 16kA

Low Voltage Products & Systems



T1 100A, 600Y/347V, 480V Δ Thermal-magnetic/Molded Case Switch

T1B TMF — Single pole thermal magnetic fixed 1

Breaker	IC at 277VAC	Rating (A)	Magnetic trip (A)	1 pole, 277VAC catalog number
	10kA	15	1000	T1B015TL-1
T1B	18kA	20	1000	T1B020TL-1
		25	1000	T1B025TL-1
		30	1000	T1B030TL-1
		40	1000	T1B040TL-1
		50	1500	T1B050TL-1
		60	1500	T1B060TL-1
		70	1500	T1B070TL-1
		80	1500	T1B080TL-1
		90	1500	T1B090TL-1
		100	1500	T1B100TL-1

T1N TMF - 3 pole thermal magnetic fixed

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

T1N TMF - 100% Rated thermal-magnetic

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

T1N-D - Molded case switch

Breaker	Interrupting	Rating	Magnetic trip	480VAC/500VDC
	capacity 3	(A)	(A)	catalog number
T1-D	240V, 50kA	100	1000	T1N100DL

① Electrical/mechanical accessories cannot be installed on single pole breakers.
 ② Rated 480Y/277 VAC for 15A.
 ③ When protected by a OCPD with appropriate ratings.