

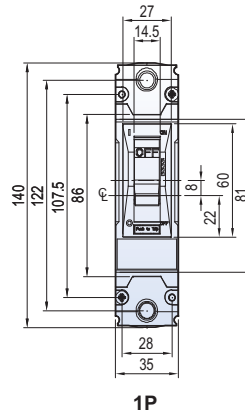
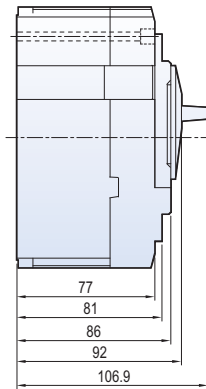


Overall dimensions

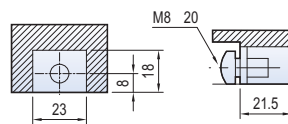
Susol

TD160

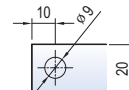
[mm]



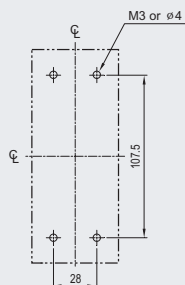
Terminal section



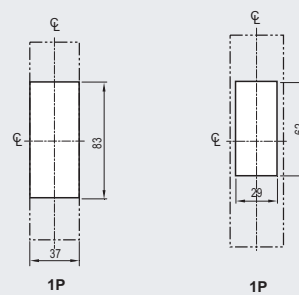
Conductor



Panel drilling



Front panel cutting

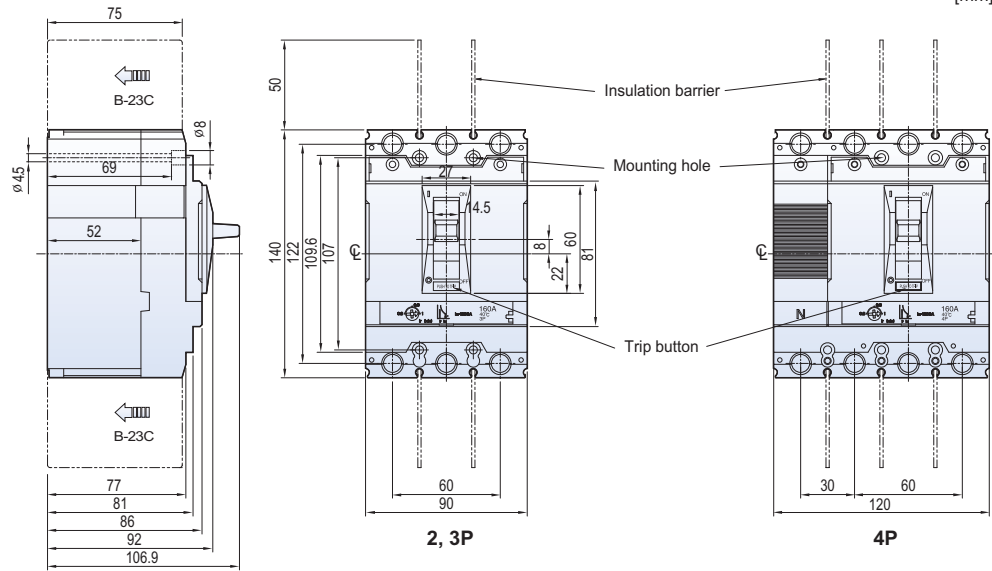


Overall dimensions

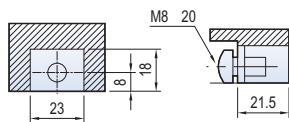
Susol

TD100/160

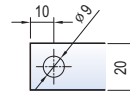
[mm]



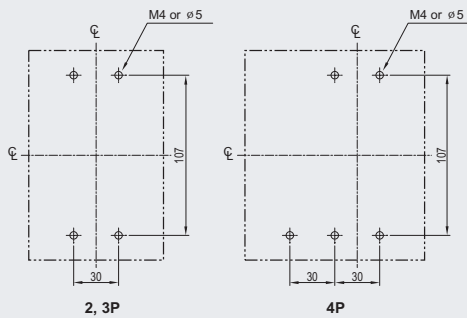
Terminal section



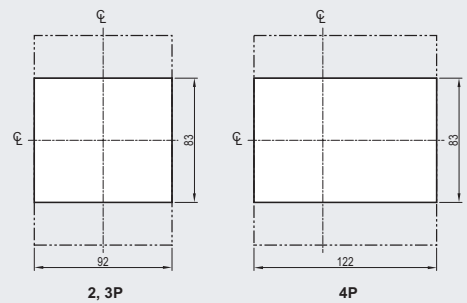
Conductor



Panel drilling



Front panel cutting

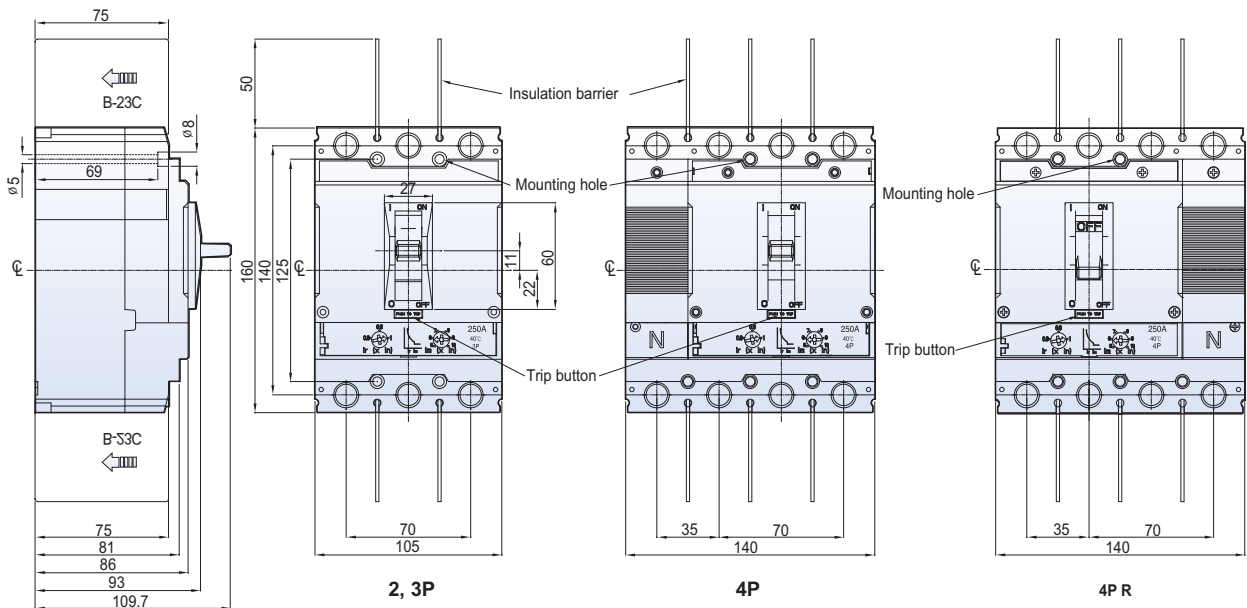


Overall dimensions

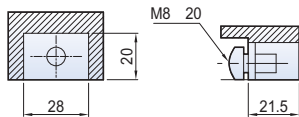
Susol

TS100/160/250

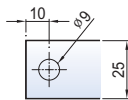
[mm]



Terminal section

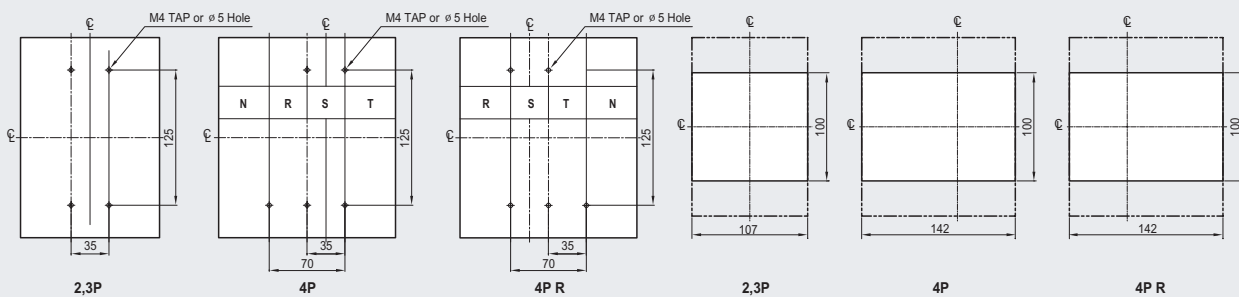


Conductor



Panel drilling

Front panel cutting

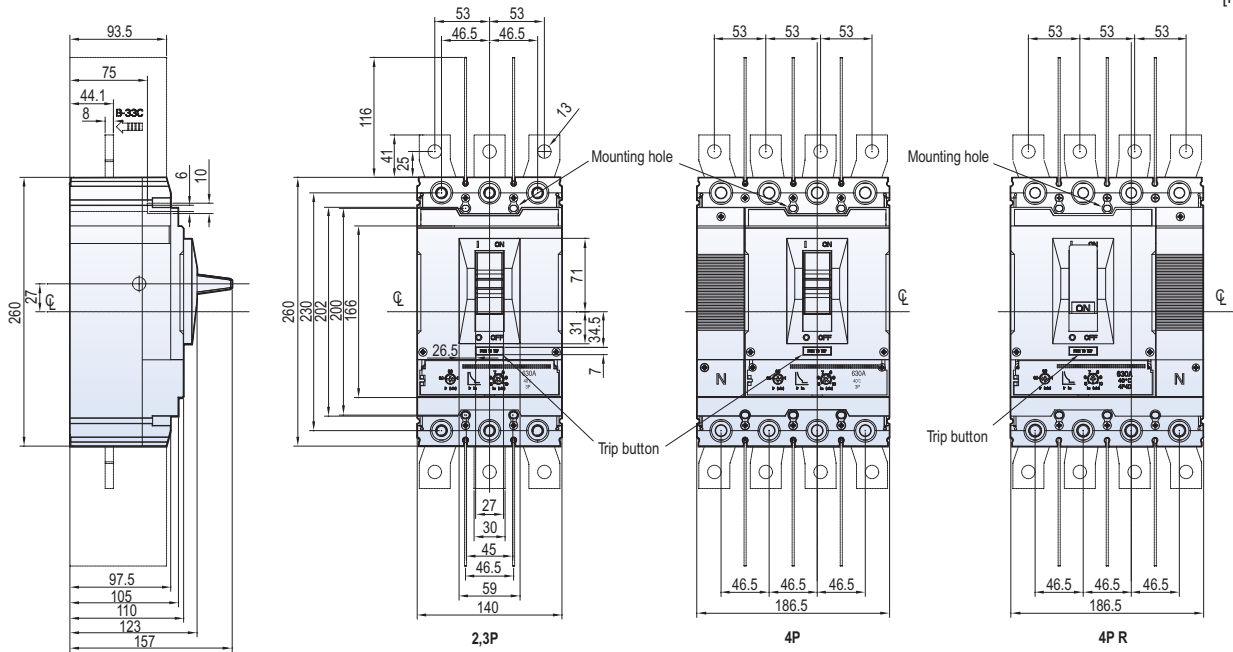


Overall dimensions

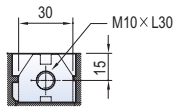
Susol

TS400/630

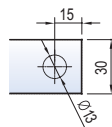
[mm]



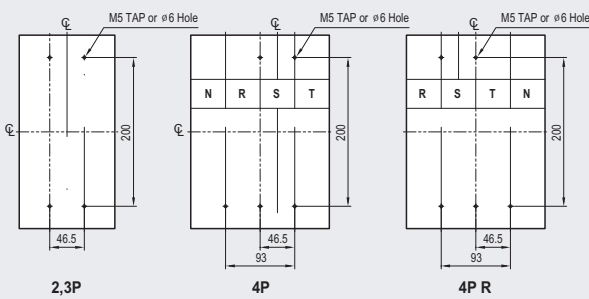
Terminal section



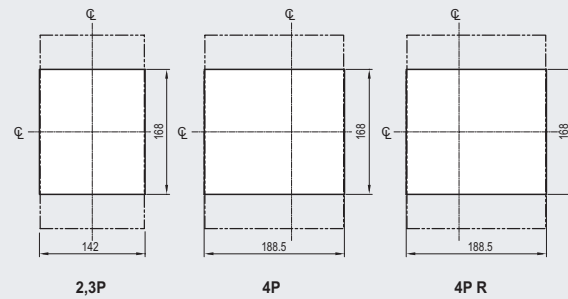
Conductor



Panel drilling



Front panel cutting

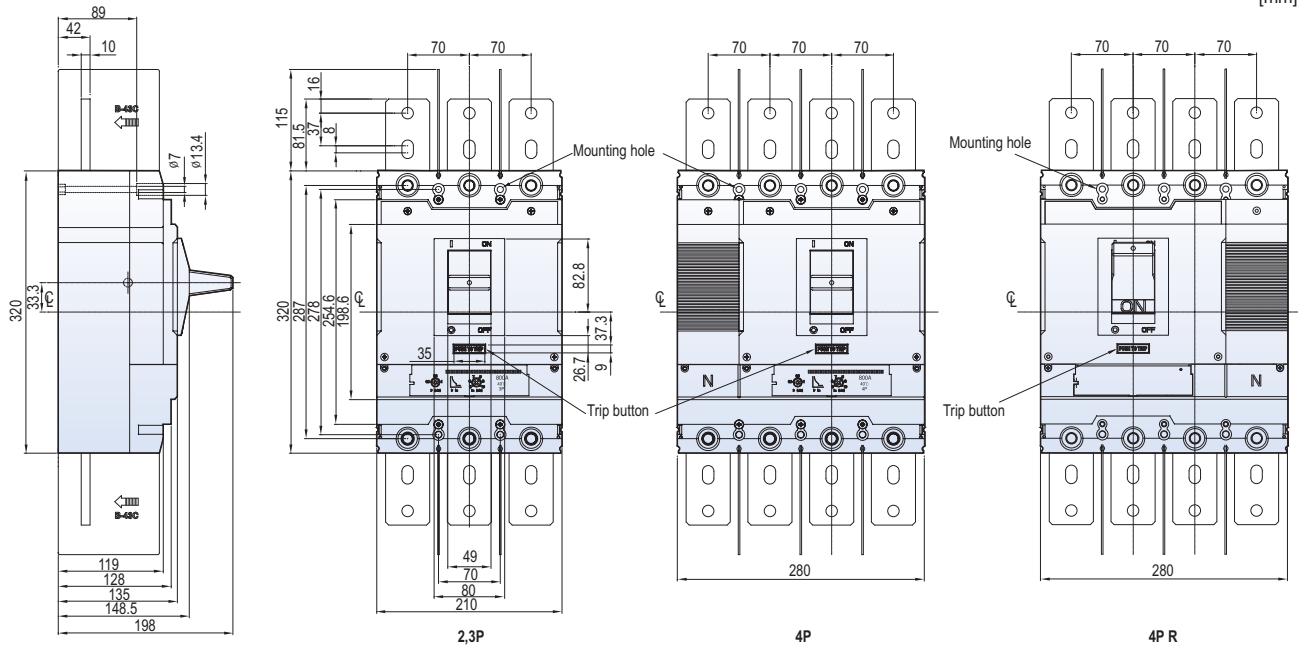


Overall dimensions

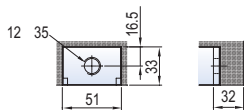
Susol

TS800

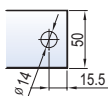
[mm]



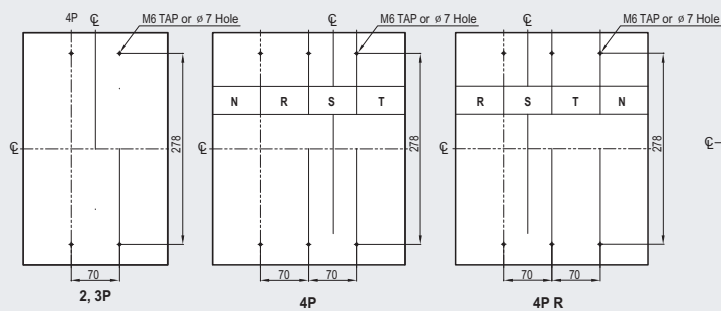
Terminal section



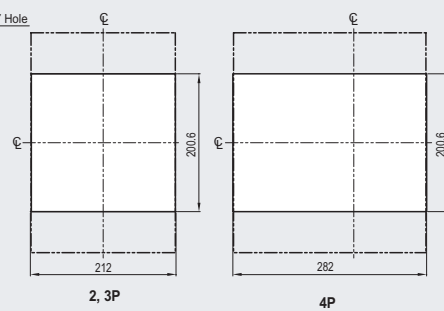
Conductor



Panel drilling



Front panel cutting



A-2. Main characteristics

MCCBs for power distribution up to 800A

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MCCBs for power distribution

Susol

Electrical characteristics

		TE100	TE160	TD100	TD160						
Frame size	[AF]	100	160	100 160							
Rated current, In *	[A]	16~100	100,125,160	16, 20, 25, 32, 40, 50, 63, 80, 100	1P: 16, 20, 25, 32, 40, 50, 63, 80, 100,125, 160 2, 3P: 100, 125, 160						
No. of poles		3,4	3,4	2*, 3, 4	1, 2*, 3, 4						
Rated operational voltage, Ue	AC	690	690	690 240(1P),	690						
	DC	500	500	500 250(1P),	500						
Rated impulse withstand voltage, Uimp	[kV]	8	8	8	8						
Rated insulation voltage, Ui	[V]	750	750	750 750							
Rated ultimate short-circuit breaking capacity, Icu		S	N	S	N	N	H	L	N	H	L
AC 50/60Hz	220/240V [kA]	50	85	50	85	85 100	200	30(1P) 85 100	50(1P) 85 100		200
	380/415V [kA]	37	50	37	50	50 85	150	50	85	85	150
	440/460V [kA]	25	37	25	37	50 70	130	50	70	70	130
	480/500V [kA]	18	25	18	25	30 50	65	30	50	50	65
	660/690V [kA]	6	8	6	8	5	8	10 5	8	8	10
DC 250V	[kA]	37	50	37	50	42	65 100	16(1P) 42 65	25(1P) 42 65		100
	500V(2poles in series) [kA]	37	50	37	50	42 65	100	42	65	65	100
Rated service breaking capacity, Ics	[%Icu]	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Rated short-circuit making capacity Icm											
AC 50/60Hz	220/240V [kA]	105	187	105	187	187 220	440	105(1P) 187 220	105(1P) 187 220		440
	380/415V [kA]	77.7	105	77.7	105	105 187	330	105	187	187	330
	440/460V [kA]	52.5	77.7	52.5	77.7	105 154	286	105	154	154	286
	480/500V [kA]	36	52.5	36	52.5	63	105 143	63	105	105	143
	660/690V [kA]	9.2	13.6	9.2	13.6	8	14 17	8	14	14	17
Category of utilization		A	A	A	A						
Isolation behavior		●	●	●	●						
Trip unit (release)											
Thermal-Magnetic	● fixed-thermal, fixed-magnetic	FTU	●	●	●	●			●		
	● adjustable-thermal, fixed-magnetic	FMU	●	●	●	●			●**		
	● adjustable-thermal, adjustable-magnetic	ATU	-	-	-	-			-		
	● magnetic only	MTU	-	-	-	-			-		
	Electronic										
● LSI ETS											
	● LSI	ETM	-	-	-	-			-		
Option	Earth-fault protection, Ig	-	-	-	-				-		
	Zone selective interlocking, ZSI	-	-	-	-				-		
	Ammeter	-	-	-	-				-		
	Communication	-	-	-	-				-		
	Earth-leakage protection module	-	-	-	-				-		
Connection	fixed	front-connection	●	●	●	●			●		
		rear-connection	●	●	●	●			●**		
	plug-in	front-connection	-	-	-	-			-		●**
		rear-connection	-	-	-	-			-		●**
Mechanical life	[operations]	25000	25000	25000	25000						
Electrical life @ 415 V AC	[operations]	10000	10000	10000	10000						10000
Basic dimensions, W×H×D (front connection)	1-pole	[mm]	-	-	-	-					35×140×86
	3-pole	[mm]	76×130×82	76×130×82	90×140×86	90×140×86					90×140×86
	4-pole	[mm]	101×130×82	101×130×82	120×140×86	120×140×86					120×140×86
Weight 1-pole (front connection)		[kg]	-	-	-	-					0.57
	3-pole	[kg]	1.05	1.05	1.5	1.5					1.5
	4-pole	[kg]	1.35	1.35	1.8	1.8					1.8
Reference standard		IEC60947-2	IEC60947-2	IEC60947-2	IEC60947-2						IEC60947-2

※ Breaking capacity at 660/690V is for your reference. (not certified)

*Applicable to MCCBs equipped with FTU, FMU, ATU

** Not applicable to 1pole

* 2 pole MCCB in 3pole frame size

MCCBs for power distribution

Susol

TS100			TS160			TS250			TS400			TS630			TS800		
100			160			250			400			630			800		
40, 50, 63, 80, 100			(100)*, 125, 160			125, 160, 200, 250			300, 400			500, 630			800		
2*, 3, 4			2*, 3, 4			2*, 3, 4			2*, 3, 4			2*, 3, 4			2*, 3, 4		
690			690			690			690			690			690		
500			500			500			500			500			500		
8			8			8			8			8			8		
750			750			750			750			750 750					
N	H	L	N	H	L	N	H	L	N	H	L	N	H	L	N	H	L
100	120	200	100	120	200	100	120	200	100	120	200	100	120	200	100	120	200
50 85		150	50 85		150	50	85	150	65	85	150	65	85	150	65	100	150
50 70		130	50 70		130	50	70	130	65	85	130	65	85	130	65	100	130
42 65		85	42 65		85	42	65	85	42 65		85	42 65		85	42 65		85
10 15		20	10 15		20	10	15	20	10 20		20	10 20		20	10 20		20
50 85		100	50 85		100	50	85	100	50	85	100	50	85	100	50	85	100
50 85		100	50 85		100	50	85	100	50	85	100	50	85	100	50	85	100
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
220 264		440	220 264		440	220	264	440	220	264	440	220	264	440	220	264	440
105 187		330	105 187		330	105	187	330	143	187	330	143	187	330	143	220	330
105 154		286	105 154		286	105	154	286	143	187	286	143	187	286	143	220	286
88 143		187	88 143		187	88	143	187	88	143	187	88	143	187	88	187	220
17 30		40	17 30		40	17	30	40	17 40		40	17 40		40	17 40		40
	A			A			A			A			A			A	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	-			-			-			-			-			-	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	-			-			-			-			-			-	
	-			-			-			-			-			-	
	-			-			-			-			-			-	
	-			-			-			-			-			-	
	-			-			-			-			-			-	
	-			-			-			-			-			-	
	-			-			-			-			-			-	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
	●			●			●			●			●			●	
25000			25000			25000	20000					20000			10000		
10000			10000	10000					6000			6000			3000		
-			-			-			-			-			-		
105 × 160 × 86			105 × 160 × 86	105		160 × 86	140		260 × 110	140		260 × 110	210		320 × 135		
140 × 160 × 86			140 × 160 × 86	140		160 × 86	186.5		260 × 110	186.5		260 × 110	280		320 × 135		
-			-			-			-			-			-		
2			2			2			5.4	5.4					15.1		
2.6			2.6	2.6					7.2			7.2			19.6		
IEC60947-2			IEC60947-2			IEC60947-2			IEC60947-2			IEC60947-2			IEC60947-2		

※ The trip unit ATU is available from 125A

MCCBs for power distribution

Susol

Thermal magnetic trip units Overview

Susol series circuit breakers can be installed with thermal magnetic trip units. And, there are two kinds of trip units according to way of installation as follows.

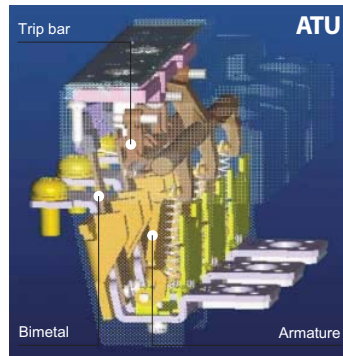
- Built-in trip units for TE and TD series upto 160A
- Interchangeable trip units for TS series upto 800A

Function

Protection of power distribution

- Overload protection: Thermal protection with a fixed or adjustable threshold
- Short-circuit protection: Magnetic protection with a fixed or adjustable pick-up
- Protection of the fourth pole
 - 4P3T type (neutral unprotected)
 - 4P4T type 50% (neutral protection at $0.5 \times I_n$)
 - 4P4T type 100% (neutral protection at $1 \times I_n$)

Operation



Thermal magnetic types

- Time-Delay operation
An overcurrent heats and warps the bimetal to actuate the trip bar by the bimetal characteristic.
- Instantaneous operation
If the overcurrent is excessive, the armature is attracted and the trip bar actuated by electromagnetic force.

Ratings

Ratings(A)		Thermal magnetic trip units(FTU/FMU/ATU)										TE100 to TS800						
		16	20	25	32	40	50	63	80	100	125	160	200	250	300	400	500	630
	at 40°C	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-
	I_n	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-
	TE100	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-
	TD100	●	●	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-
	TE160	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	-
	TD160	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	-
	TS100	-	-	-	-	●	●	●	●	-	-	-	-	-	-	-	-	-
	TS160	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	-
	TS250	-	-	-	-	-	-	-	-	●	●	●	●	-	-	-	-	-
	TS400	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-	-
	TS630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	●	-
	TS800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●

Note) Rated current 700A is available for TS800FTU.