

Introduction of New Product

Susol 1600AF MCCB

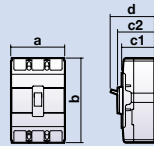
- **For power distribution**
 - The highest breaking capacity
 - Optimum coordination technique (Cascading & discrimination)
 - Powerful engineering tools
- **For protection of motor & its control device**
 - Optimal overload protection
- **For controlling and disconnecting circuits**
- **For extensive applications**
 - Wide range of optimized auxiliaries and accessories



MCCB	OCR	Accessory
<ul style="list-style-type: none"> • 1600AF, 3&4pole • Icu: 50/70/150kA • Ics: 100(75)%Icu • Icw: 25kA/1s • Ui: 1000V • Uimp: 8kV • Cat. A, B 	<ul style="list-style-type: none"> • N, A, P, S type • L/S/I/G • Thermal, Ammeter, Power, Harmonic 	<ul style="list-style-type: none"> • Outer: 16 type • Inner: 5 type • Easy connection

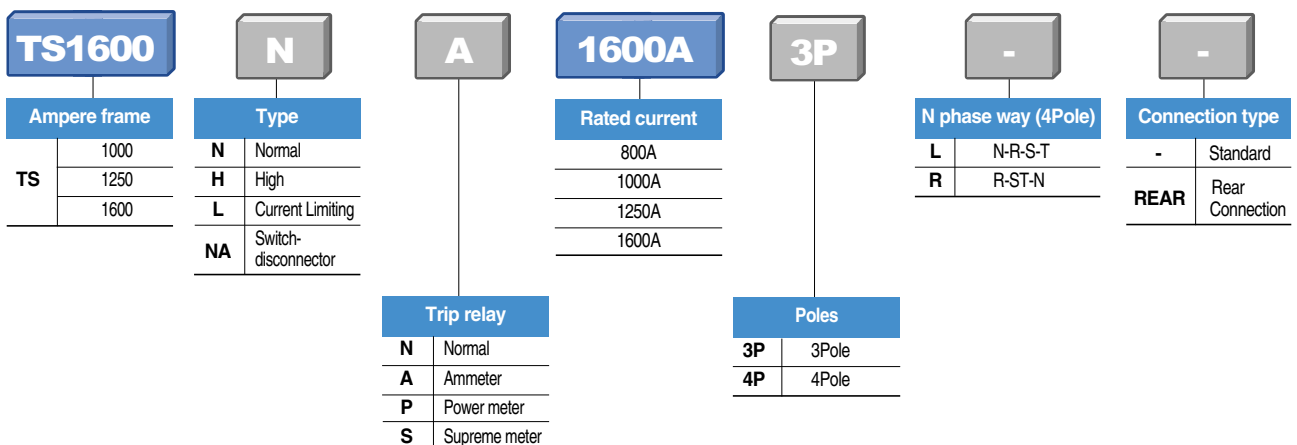
TS1600 Rating

Type				TS1000			TS1250		TS1600			
Ampere frame				1000			1250		1600			
Pole				3, 4			3, 4		3, 4			
Rated current,(A)	In	-5~40°C	800, 1000			1250		1600				
			50°C			800, 1000		1250		1560		
			65°C			800, 1000			1240		1420	
Rated insulation voltage, (V)		Ui	1000			1000		1000				
Rated impulse withstand voltage, (kV)		Uimp	8			8		8				
Rated operational voltage, (V)		Ue	AC50/60Hz			690		690				
			DC			-		-				
Rated short-circuit breaking capacity				N	H	L	N	H	N	H		
IEC60947-2 (sym)	Rated ultimate short-circuit breaking capacity, (kA) (Icu)	AC50/60Hz	220/240V		55	75	200	55	75	55	75	
			380/415V		50	70	150	50	70	50	70	
			440V/460V		50	65	130	50	65	50	65	
			480/500V		40	50	100	40	50	40	50	
			660/690V		35	45	50	35	45	35	45	
		DC	250V 2P		-	-	-	-	-	-	-	
			500V 2P		-	-	-	-	-	-	-	
750V 3P			-	-	-	-	-	-	-			
Rated service breaking capacity, (Ics)		%Icu	100%	75%	100%	100%	75%	100%	75%			
Rated short-circuit making capacity, (kA) (Icw)		AC50/60Hz	1s		25	25	12	25	25	25	25	
			3s		-	-	-	-	-	-	-	
Overriding instantaneous protection		kA peak	50	50	-	50	50	50	50			
Isolation				O			O		O			
Category				B	B	A	B	B	B	B		
Mechanical life (operations)				10000			10000		10000			
(Life cycle)	Electrical life (operations)		440V	In/2		6000	6000	4000	5000	5000	5000	5000
				In		5000	5000	3000	4000	4000	2000	2000
	690V		In/2		4000	4000	3000	3000	3000	2000	2000	
			In		2000	2000	2000	2000	2000	1000	1000	
Pollution degree				3			3		3			
Dimension (mm)				a (3p/4p)			210/280					
				b			327					
				c1			155.5					
				c2			162.7					
				d			185.3					
Weight (kg)				3P			13					
				4P			16.8					







Ordering

■ MCCB

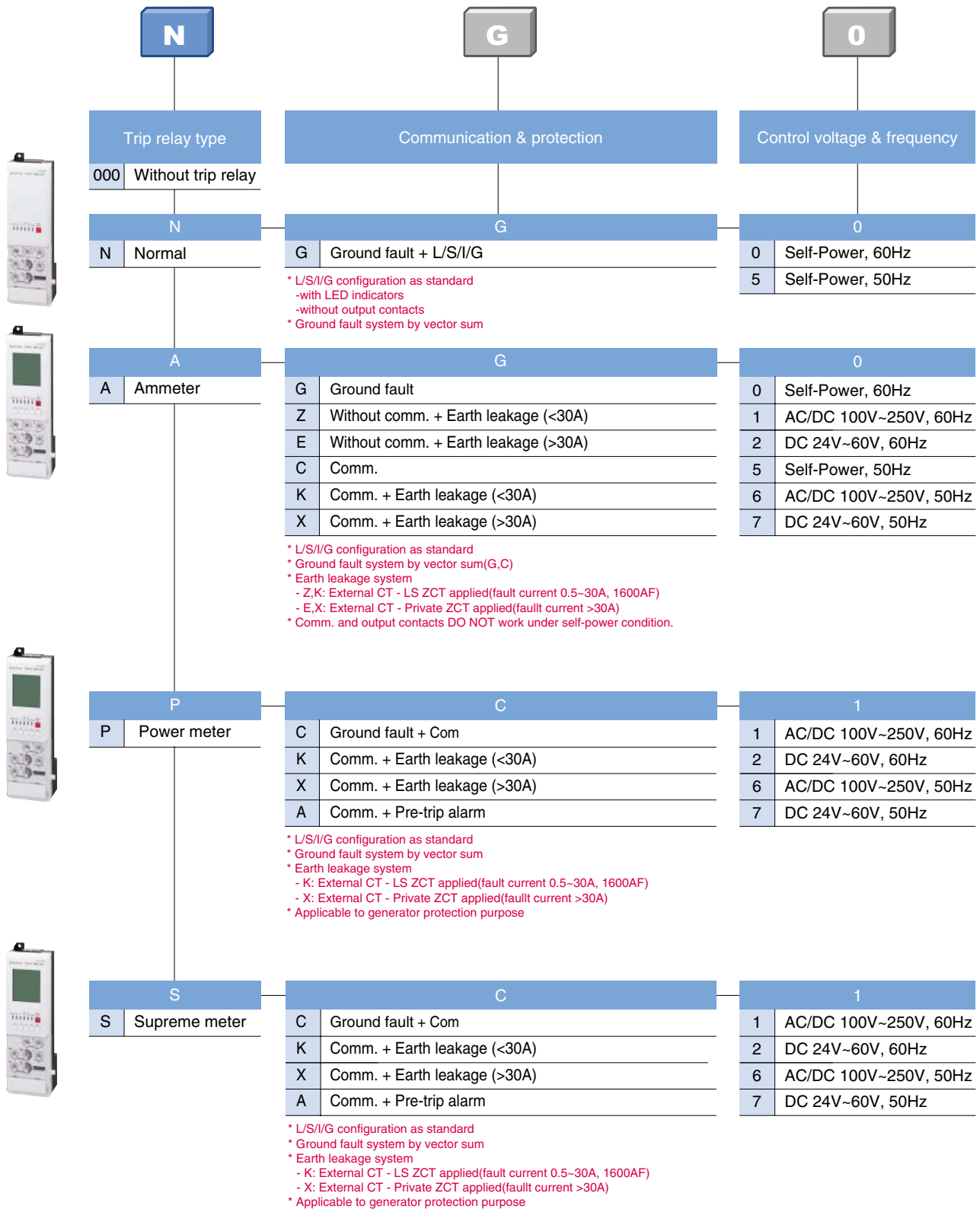


Trip relay types

Classification	N type	A type	P type	S type
Externals				
Current protection	<ul style="list-style-type: none"> L / S / I / G / Thermal 	<ul style="list-style-type: none"> L / S / I / G / Thermal ZSI(Protective coordination) 	<ul style="list-style-type: none"> L / S / I / G / Thermal(Continuous) ZSI(Protective coordination) 	<ul style="list-style-type: none"> P type
Other protection	-	<ul style="list-style-type: none"> Earth leakage (Option) 	<ul style="list-style-type: none"> Earth leakage(Option) Over/Under current Over/Under frequency Unbalance(Voltage/Current) Reverse power 	<ul style="list-style-type: none"> P type
Measurement function	-	<ul style="list-style-type: none"> Current (R / S / T / N) 	<ul style="list-style-type: none"> 3 Phase Voltage/Current RMS/Vector Power(P, Q, S), PF(3-Phase) Energy(Positive/Negative) Frequency, Demand 	<ul style="list-style-type: none"> 3 Phase Voltage/Current RMS/Vector Power(P, Q, S), PF(3-Phase) Energy(Positive/Negative) Frequency, Demand Voltage/Current harmonics (1st-63th) 3 Phase Waveforms THD, TDD, K-Factor
Fine adjustment	-	-	<ul style="list-style-type: none"> Fine adjustment for long/short time delay/instantaneous/ ground 	<ul style="list-style-type: none"> P type
Pre Trip Alarm	-	-	<ul style="list-style-type: none"> Overload protection relays : DO (Alarm) (Ground fault is not available when using Pre trip alarm) 	<ul style="list-style-type: none"> P type
Digital Output	-	<ul style="list-style-type: none"> 3DO (Fixed) L, S/I, G Alarm 	<ul style="list-style-type: none"> 3DO (Programmable) Trip, Alarm, General 	<ul style="list-style-type: none"> P type
IDMTL setting	-	-	<ul style="list-style-type: none"> Compliance with IEC60255-3 SIT, VIT, EIT, DT 	<ul style="list-style-type: none"> P type
Communication	-	<ul style="list-style-type: none"> Modbus/RS-485 Profibus-DP 	<ul style="list-style-type: none"> Modbus / RS-485 Profibus-DP 	<ul style="list-style-type: none"> Modbus / RS-485 Profibus-DP
Power supply	<ul style="list-style-type: none"> Self Power - Power source works over 30% current of In (one pole) 	<ul style="list-style-type: none"> Self Power - Power source works over 30% current of In (one pole) - External power source are required for comm. AC/DC 100-250V DC 24-60V 	<ul style="list-style-type: none"> AC/DC 100-250V DC 24-60V 	<ul style="list-style-type: none"> AC/DC 100-250V DC 24-60V
RTC timer	<ul style="list-style-type: none"> Available 	<ul style="list-style-type: none"> Available 	<ul style="list-style-type: none"> Available 	<ul style="list-style-type: none"> Available
LED for trip info.	<ul style="list-style-type: none"> Long time delay Short time delay/ Instantaneous Ground fault 	<ul style="list-style-type: none"> N type 	<ul style="list-style-type: none"> N type 	<ul style="list-style-type: none"> N type
Fault recording	-	<ul style="list-style-type: none"> 10 records (Fault/Current/Date and Time) 	<ul style="list-style-type: none"> 256 records (Fault/Current/Date and Time) 	<ul style="list-style-type: none"> 256 records Last fault wave recording (3 Phase)
Event recording	-	-	<ul style="list-style-type: none"> 256 records(Content, Status, Date) 	<ul style="list-style-type: none"> P type
Operating button	<ul style="list-style-type: none"> Reset button 	<ul style="list-style-type: none"> Reset, Menu Up/Down, Left/Right, Enter 	<ul style="list-style-type: none"> A type 	<ul style="list-style-type: none"> A type

Basic protection function(L / S / I / G) is still under normal operation without control power.

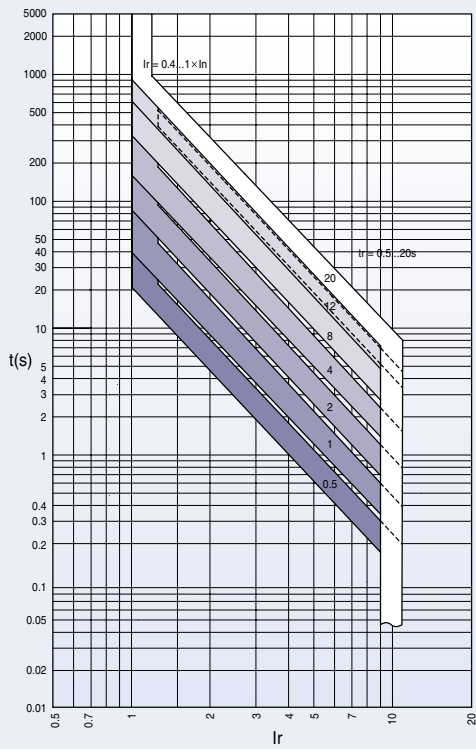
Trip relay



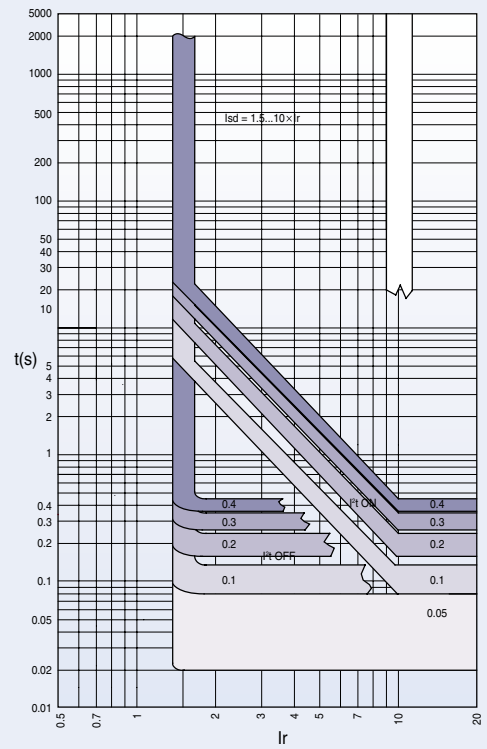
- Note) 1. L/S/I/G configuration as standard
 2. Ground fault, earth leakage and pre-trip alarm functions are alternative.
 3. The functions like Metering, Communication, ZSI, Remote reset and Digital output are NOT available only under Self-power condition.
 4. Voltage module should be required for P and S types(supplied seperately)

Characteristic curves

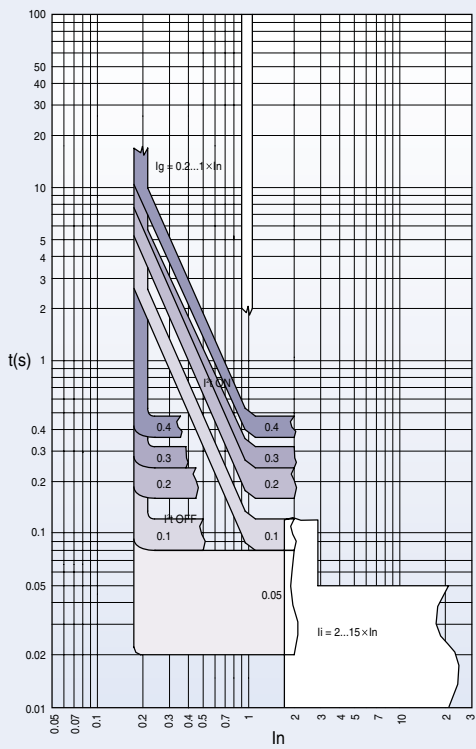
Long-time delay (L)



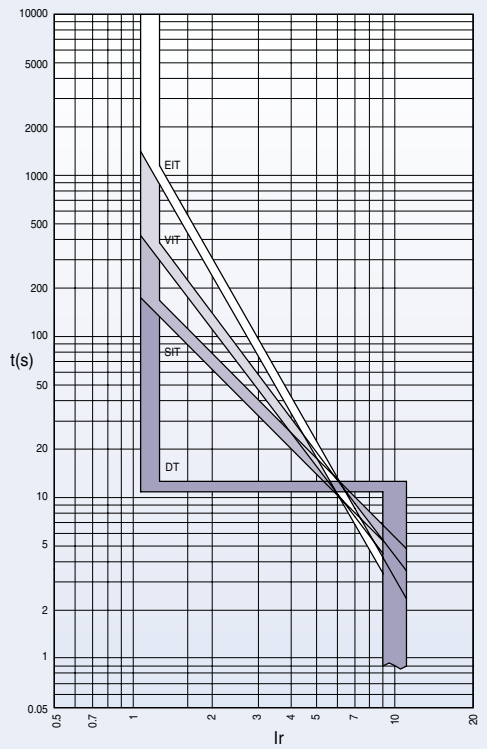
Short-time delay (S)



Instantaneous (I) Ground fault (G)

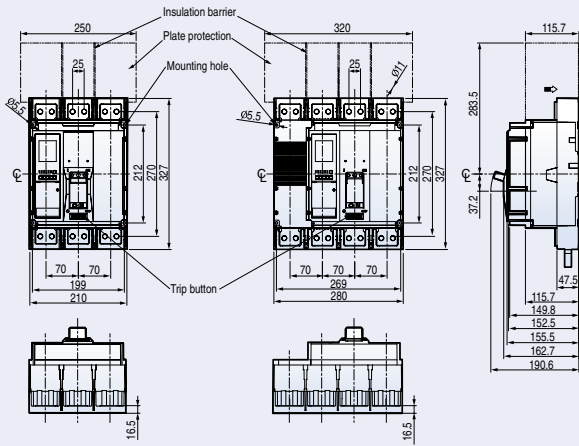


IDMTL

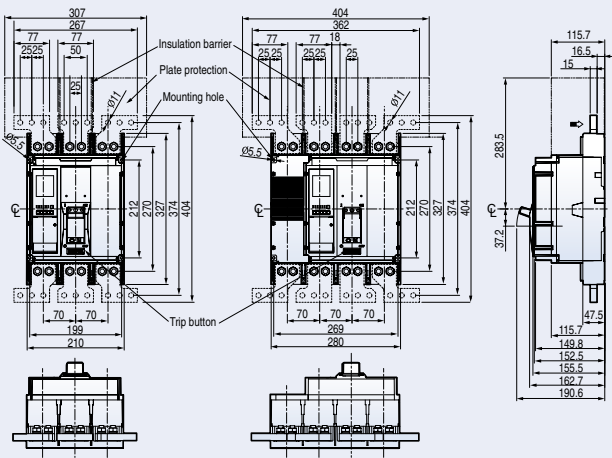


Dimensions

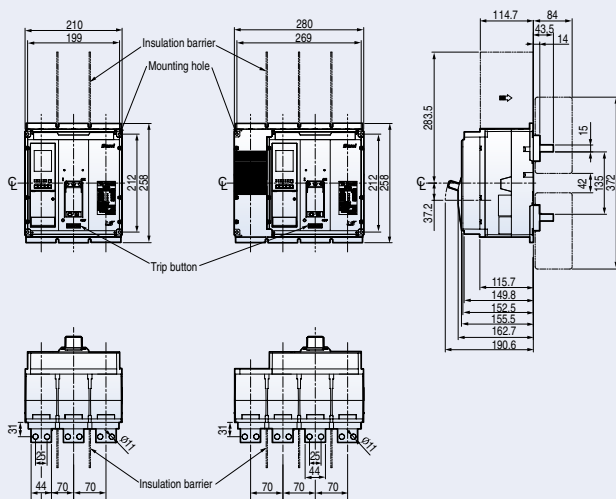
■ Front Type



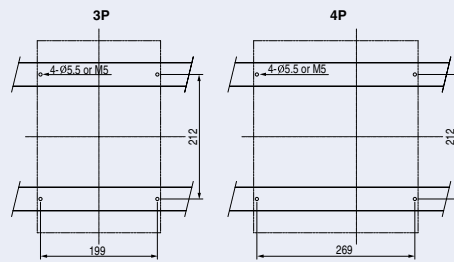
■ Front Type Busbar



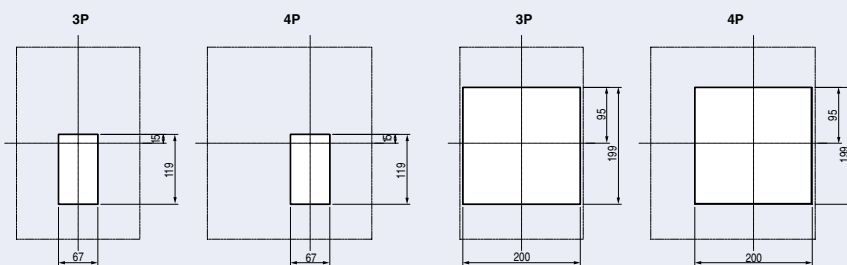
■ Rear Type



■ Panel drilling



■ Front panel cutting



LS constantly endeavor to improve our products so that information in this catalog is subject to change without notice.

■ HEAD OFFICE

LS Tower, 1026-6 Hokyeh 1dong, Dongan-gu, Anyang, Kyonggi-Do,
431-848, Korea
Tel. (82-2)2034-4887, 4873, 4918, 4148 Fax. (82-2)2034-4648