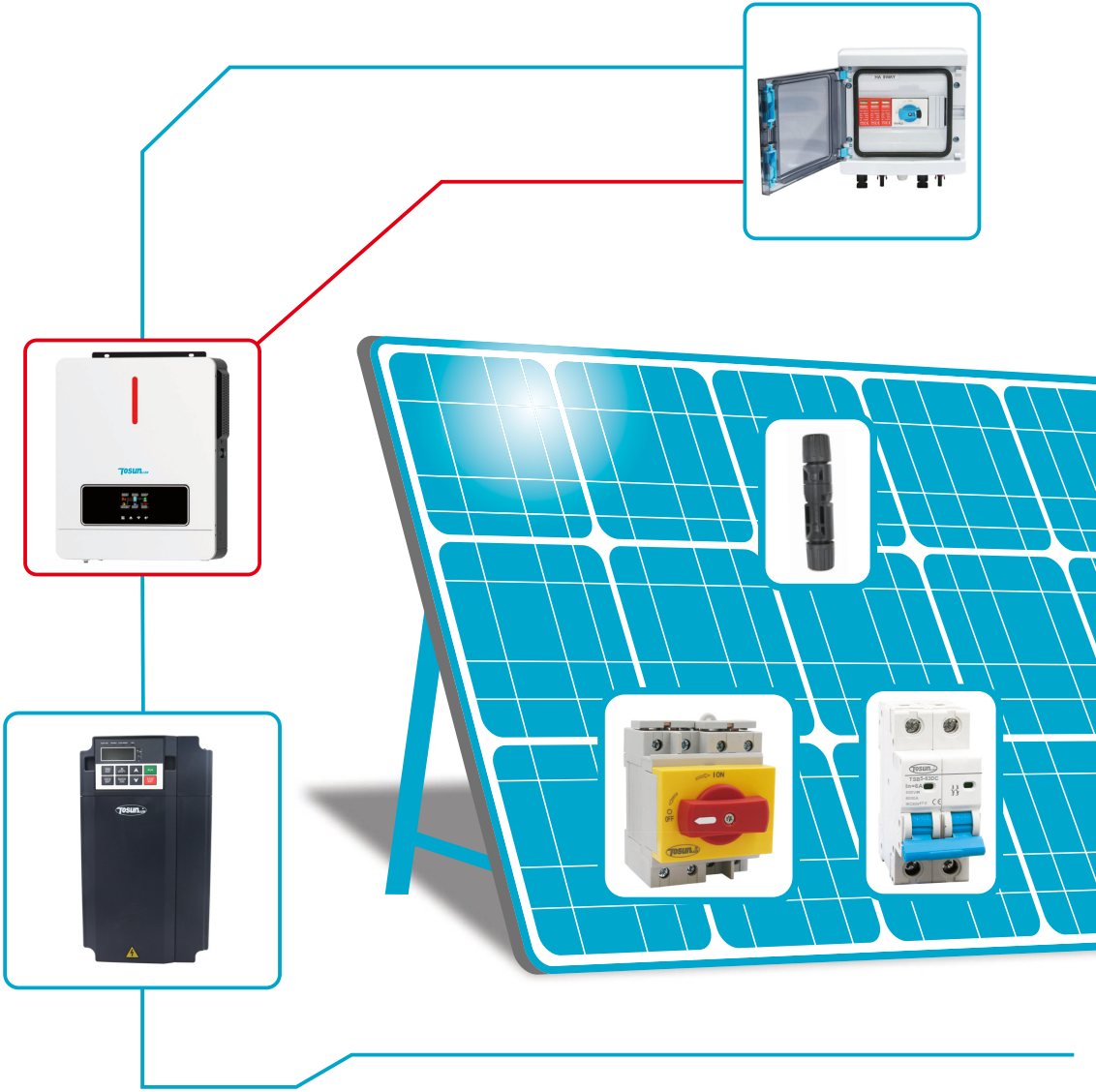


New Energy Devices



Tosun[®]LUX Trusted Brand in 93 Countries

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Distributor

More reliable
solution to electric



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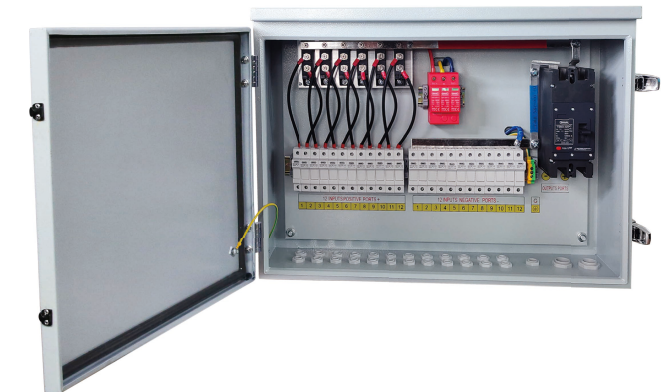
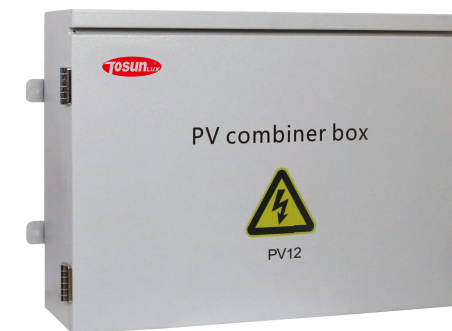
PV Combiner Box



- High reliability
 - With DC Fuse
 - With DC Surge Protection Device
 - With DC Circuit Breaker or DC Load Isolating Switch.
- Strong adaptability
 - IP65 waterproof, anti dust and anti ultraviolet.
 - Strict test for high and low temperature, used widely.
 - The simple installation, the simplified system wiring, the convenient wiring.
- Flexible configuration
 - Used for single crystal silicon solar modules, polycrystalline silicon solar module and thin film solar modules as well.
 - Rating of current for photovoltaic fuse, circuit breaker and isolating switch can be adjusted correspondingly when necessary.

Specification

Model	TS-PV01	TS-PV02	TS-PV04	TS-PV06
System Maximum DC Voltage	550/1000V			1000V
Maximum Input Current for Each String	15A			
Maximum Input Strings	1	2	4	6
Maximum Output Switch Current	16A/20A	20A/32A	50A/63A	100A
Lightning protection				
Category of Test	II grade protection			
Nominal Discharge Current	20KA			
Maximum Discharge Current	40KA			
Voltage Protection Level	2.8KV/3.8KV			3.8KV
Maximum Continuous Operating Voltage Uc	630KV/1050KV			1050KV
Poles	2P/3P			3P
Structure Characteristic	Plug-push module			
System				
Protection Grade	IP65			
Output Device	DC circuit breaker(standard)/DC isolating switch (optional)			
Waterproof Connectors	Standard			
PV DC Fuse	Standard			
PV Surge Protector	Standard			
Box Material	ABS+PC			
Installation Method	Wall mounting type			
Operating Temperature	-25°C~-+55°C			
Altitude	2000M			
Permissible Relative Humidity	0-95%, no condensation			



Specification

Model	TS-PV08	TS-PV10	TS-PV12	TS-PV16
System Maximum DC Voltage	1000V			
Maximum Input Current for Each string	15A			
Maximum Input Strings	8	10	12	16
Maximum Output Switch Current	125A	160A	200A	250A
Lightning protection				
Category of Test	II grade protection			
Nominal Discharge Current	20KA			
Maximum Discharge Current	40KA			
Voltage Protection Level	3.8KV			
Maximum Continuous Operating Voltage Uc	1050KV			
Poles	3P			
Structure Characteristic	Plug-push module			
System				
Protection Grade	IP65			
Output Device	DC circuit breaker			
Waterproof Connectors	Standard			
PV DC Fuse	Standard			
PV Surge Protector	Standard			
Preventing Diode	Optional			
Box Material	Metal			
Installation Method	Wall mounting type			
OperatingTemperature	-25℃~+55℃			
Altitude	2000M			
Permissible Relative Humidity	0-95%, no condensation			

Waterproof Distribution Board IP65



Waterproof and UV resistant



4ways



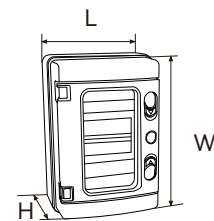
8ways



12ways



26ways



Model	Dimensions	L	W	H
HA-4ways		140	210	100
HA-8ways		215	210	100
HA-12ways		300	260	140
HA-18ways		410	285	140
HA-26ways		323	420	140
HA-36ways		300	595	150
HA-54ways		415	595	150



5ways



8ways



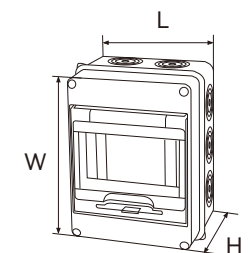
12ways



18ways



24ways



Model	Dimensions	L	W	H
HT-2ways		54	131	90
HT-5ways		120	160	92
HT-8ways		200	150	92
HT-12ways		255	200	108
HT-15ways		310	200	108
HT-18ways		370	198	108
HT-24ways		275	355	108

DC Miniature Circuit Breaker

Application

DC circuit breaker is designed to provide over current protection within appliances or electrical equipment, the branch circuit protection is already provided or not required. The device is designed for direct current (DC) control circuit applications.

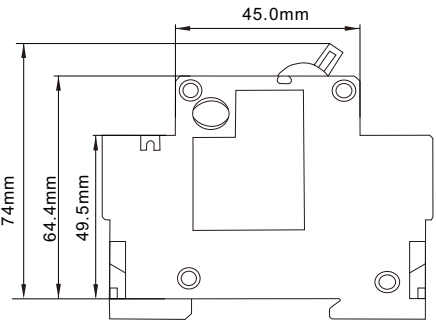
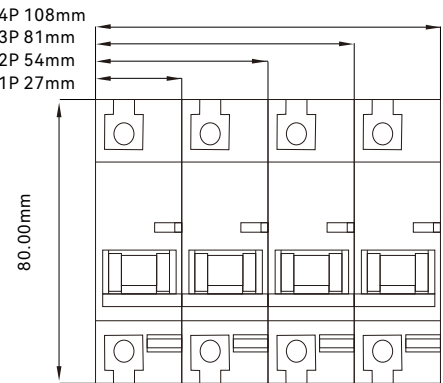
Specification

Number of Poles	1P, 2P, 3P, 4P
Rated Current (A)	6, 10, 16, 20, 25, 32, 40, 50, 63, 80
Breaking Capacity	6000A
Rated Operating Voltage	1P/250V 2P/500V 3P/750V 4P/1000V
Rated Insulation Voltage	800V
Electric Life	≥ 2500 operations
Mechanical Life	≥ 20000 operations
Trip Type	Thermal-magnetic
Ambient Temperature	-5°C~+40°C
Installation	Din rail

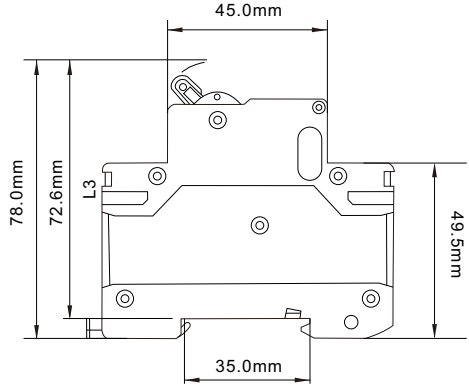
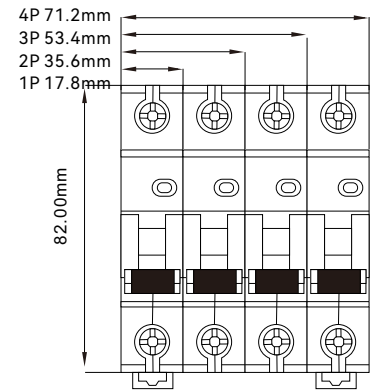
Specification

Number of Poles	1P, 2P, 3P, 4P
Rated Current (A)	80, 100, 125
Breaking Capacity	6000A
Rated Operating Voltage	1P/250V 2P/500V 3P/750V 4P/1000V
Rated Insulation Voltage	800V
Electric Life	≥ 2500 operations
Mechanical Life	≥ 10000 operations
Trip Type	Thermal-magnetic
Ambient Temperature	-5°C~+40°C
Installation	Din rail

Dimensions



Dimensions



TSB5-63DC 1P



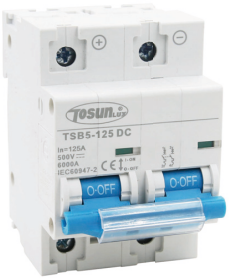
TSB5-63DC 2P



TSB5-63DC 3P



TSB5-125DC 1P



TSB5-125DC 2P



TSB5-125DC 3P

DC Residual Current Circuit Breaker

Function

TSL3-63B is a type of circuit breaker with a complete updated residual current detection, based on the current type A RCCB. It can not only protect AC and pulsing DC (A type), as well as the possible compound residual current (F type) effectively, but also smooth DC and high frequency residual current (1KHz). In a circuit consisting of rectifier, inverter, frequency inverter, etc., the leakage current caused in a DC loop circuit can be effectively detected and protected.

Application

Industry, medical, EV charger, elevator, etc

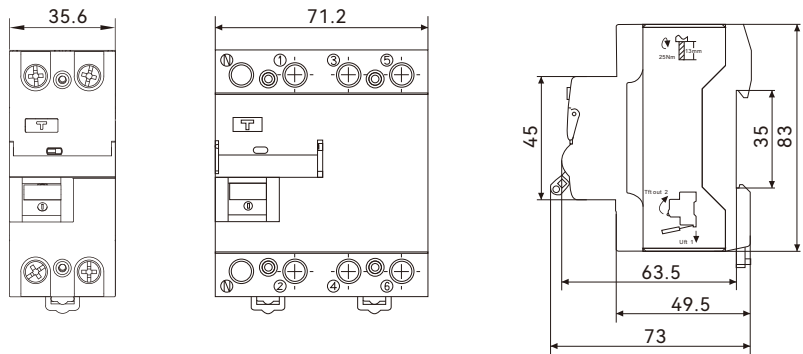
Conforms to standard: IEC/EN61008-1, IEC/EN62423

Detection residual current type: AC+A+ smoothing DC +F+ high frequency signal (1KHz)

Specification

Rated Voltage	240V ~1P+N,415V ~3P+N
Rated Current	16A,25A,32A,40A,63A
Rated Residual Operated Current	0.03A,0.1A,0.3A
Poles	1P+N,3P+N
Type of Residual Current	Type B (AC+A+ smoothing DC +F+ high frequency signal 1KHz)
Rated Limited Short Circuit Current	10000A
Rated Making and Breaking Capacity	1000A
Rated Residual Making and Breaking Capacity	1000A
Rated Insulation Voltage	1P+N:250V 3P+N:500V
Rated Impulse Withstand Voltage	4000V
ElectricalLife	2000 times
Mechanical Life	10000 times
Operated Ambient Temperature	-25~+40°C
Storage Ambient Temperature	-25~+70°C
Tightening Torque	3N.m
Connection Capacity	16mm ²
Pollution Level	2
Protection Level	IP20

Dimensions



TSL3-63B 1P+N

TSL3-63B 3P+N

Modular Changeover Switch

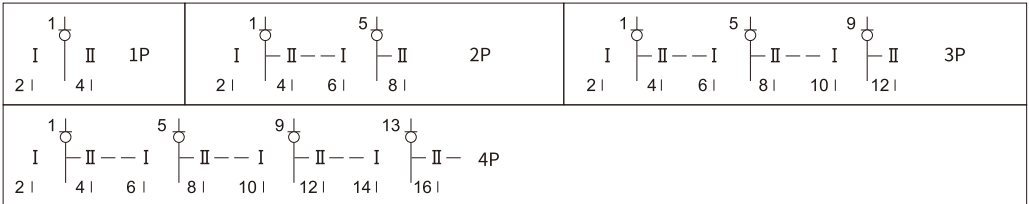
Application

TSQ7-63 changeover switch is mainly used to change over the power supply between the mains power and the standby power manually for the load not bigger than 63A when it is necessary. Under the normal conditions, it is used as a switch disconnecter to switch on, load and break the circuit.

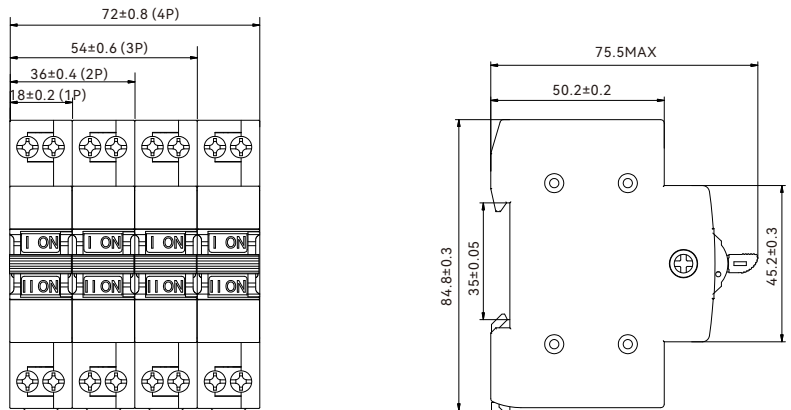
Specification

Model	TSQ7-63
Number of Poles	1P, 2P, 3P, 4P
Rated Working Voltage Ue	240V/415V
Frequency	50/60Hz
Rated Current (A)	16,25,32,40,63
Standard	IEC60947-3
Icw	1000A/1s
Icm	3000A
Protection Level	IP20
Contact Form	1-0-2
Ambient Temperature	-5°C...40°C
Mounting	DIN rail EN60715 (35mm)

Circuit Diagram



Dimensions



TSQ7-63 1P



TSQ7-63 2P



TSQ7-63 3P

Modular Changeover Switch

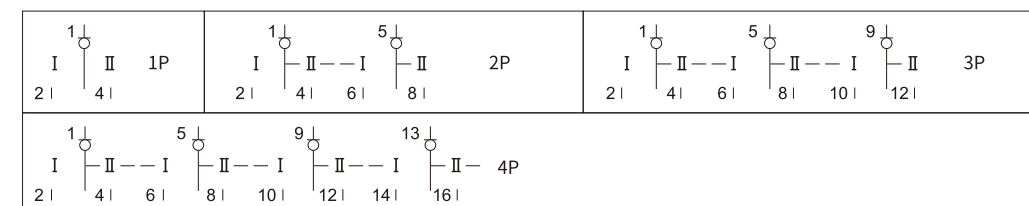
Application

TSQ7-40 changeover switch is mainly used to change over the power supply between the mains power and the standby power manually for the load not bigger than 40A when it is necessary. Under the normal conditions, it is used as a switch disconnecter to switch on, load and break the circuit.

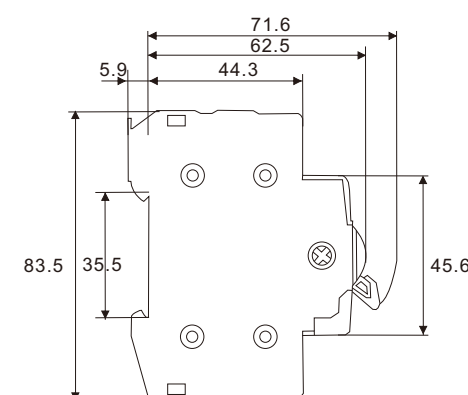
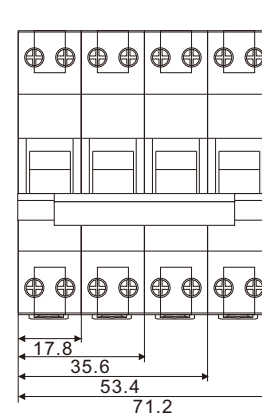
Specification

Model	TSQ7-40
Number of Poles	1P, 2P, 3P, 4P
Rated Working Voltage Ue	240V/415V
Frequency	50/60Hz
Rated Current (A)	16,25,32,40
Standard	IEC60947-3
Icw	1000A/1s
Icm	3000A
Protection Level	IP20
Contact Form	1-0-2
Ambient Temperature	-5°C...40°C
Mounting	DIN rail EN60715 (35mm)

Circuit Diagram



Dimensions



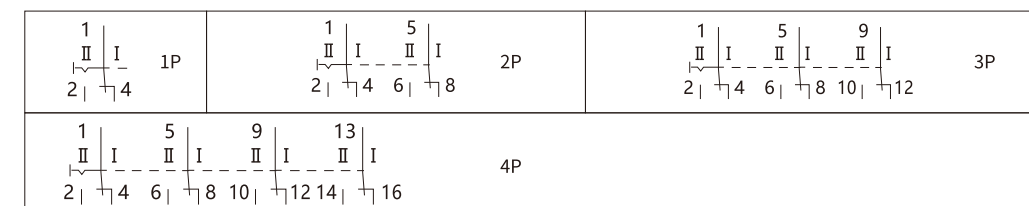
Application

TSQ7-125 changeover switch is mainly used to change over the power supply between the mains power and the standby power manually for the load not bigger than 125A when it is necessary. Under the normal conditions, it is used as a switch disconnecter to switch on, load and break the circuit.

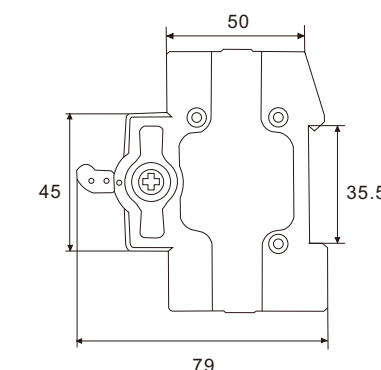
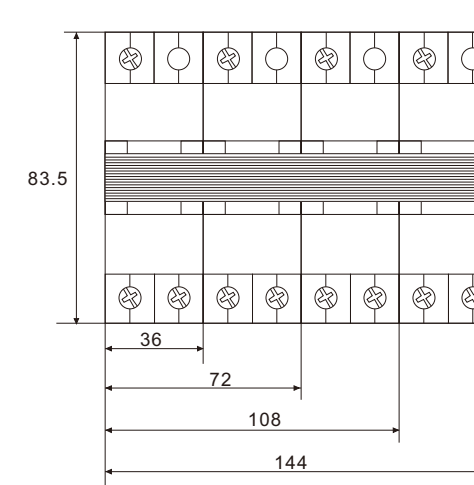
Specification

Model	TSQ7-125
Number of Poles	1P, 2P, 3P, 4P
Rated Working Voltage Ue	240V/415V
Frequency	50/60Hz
Rated Current (A)	63, 80, 100, 125
Standard	IEC60947-3
Icw	3000A/1s
Icm	5000A
Protection Level	IP20
Contact Form	1-0-2(S-0-M)
Ambient Temperature	-5°C...40°C
Mounting	DIN rail EN60715 (35mm)

Circuit Diagram



Dimensions



TSQ7-40 1P



TSQ7-40 2P



TSQ7-40 3P

UK
CA

intertek
Total Quality. Assured.



TSQ7-125 1P



TSQ7-125 2P



TSQ7-125 3P

UK
CA

intertek
Total Quality. Assured.

DC Moulded Case Circuit Breaker

Feature

- Reliable protection at extreme ambient temperature conditions.
- Reclosable in minimum standstill times.
- Reliable disconnecting properties while switching under load.
- Comply with IEC60947-2.



TSM3-320DC 2P

Specification

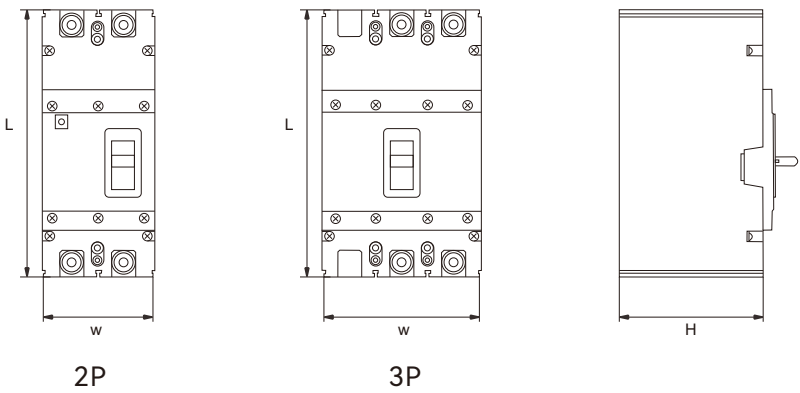
Model		TSM3-125DC		TSM3-320DC			TSM3-400DC			
Rated Current In(A)		50, 63, 80,100,125		63, 80, 100, 125,140,160,180,200,225 250,280,315,320			250,315,350,400			
Number of Poles		2		2		3	2			3
Rated Working Voltage Ue (V)DC		250	500	500	1000	1500	250/500	750/1000	1250/1500	1250/1500
Rated Insulation Voltage Ui (V)		750		1250		1500	1500			
Rated Impulse Withstand Voltage Uimp (kV)		8		8		12	12			
Extreme Short Circuit	H Type	40	40(5ms)	40	20	20	65	35	15	15 ^① 20 ^②
	R Type	/	/	/	/	/	70	40	20	20 ^① 25 ^②
Running Short Circuit	H Type	Ics=100%Icu								
Breaking Capacity Ics (KA)	R Type									
Wiring Mode		Up input and Down output, Down input and Up output (2P, 320/3P) Down input and Down output, Up input and Up output (3P)								
Mechanical Life (times)		20000		20000			20000			
Electrical Life (times)		5000	3000	3000	2000	1500	1000	1000	700	500
Isolation Feature		Yes								
Allowable Ambient Temperature		-5~+40°C								
Levels of Protection		IP20								
Available Accessories		Auxiliary, alarm, off load, hand operation, electric operation								
Arcing Distance (mm)		≤50 (Zero arc, with arcing cover)								
Transient Action Value		10n								
Overall Dimensions LxWxH (mm)	L	150		180		180	250			250
	W	64		76		107	124			182
	H	95		126		126	165			165

Note: ① 2 poles in series
② 3 poles in series



TSM3-400DC 2P

Dimensions



TSM3-630DC 2P

Specification

Model		TSM3-630DC				TSM3-800DC			
Rated Current In(A)		500,630				700,800			
Number of Poles		2		3		2		3	
Rated Working Voltage Ue (V)DC		250/500	750/1000	1250/1500	1250/1500	250/500	750/1000	1250/1500	1250/1500
Rated Insulation Voltage Ui (V)		1500				1500			
Rated Impulse Withstand Voltage Uimp (kV)		12				12			
Extreme Short Circuit	H Type	65	35	15	15 ^① 20 ^②	65	35	15	15 ^① 20 ^②
	R Type	70	40	20	20 ^① 25 ^②	70	40	20	20 ^① 25 ^②
Running Short Circuit	H Type	Ics=100%Icu							
Breaking Capacity Ics (KA)	R Type								
Wiring Mode		Up input and Down output, Down input and Up output (2P, 320/3P) Down input and Down output, Up input and Up output (3P)							
Mechanical Life (times)		5000							
Electrical Life (times)		1000	1000	700	500	1000	1000	700	500
Isolation Feature		Yes							
Allowable Ambient Temperature		-5~+40°C							
Levels of Protection		IP20							
Available Accessories		Auxiliary, alarm, off load, hand operation, electric operation							
Arcing Distance (mm)		≤50 (Zero arc, with arcing cover)							
Transient Action Value		10n							
Overall Dimensions LxWxH (mm)	L	250			250		250		250
	W	124			182		124		182
	H	165			165		165		165

Note: ① 2 poles in series
② 3 poles in series



TSM3-800DC 3P

DC Isolating Switch

Application

S32D series DC isolating switch is applied to 1~20KW residential or commercial photovoltaic system, placed between photovoltaic modules and inverters. Arcing time is less than 8ms, that keeps solar system more safe. Max voltage is up to 1200V DC. It holds a safe lead among similar products.

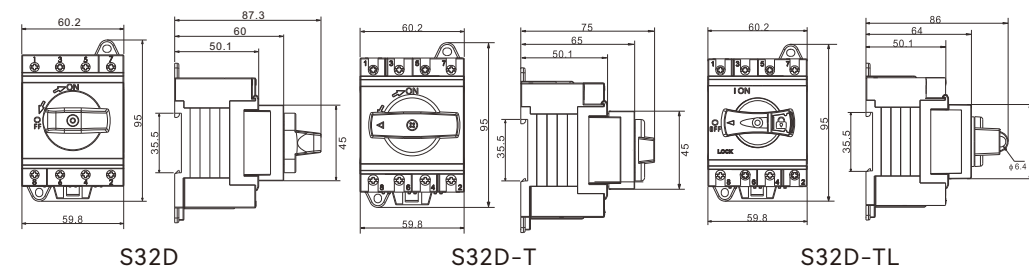
Specification

Rated Current (A)	16, 25, 32
Standard	IEC60947-3
Utilization Category	DC-PV2/ DC-PV1/ DC-21B
Pole	4P
Rated Frequency	DC
Rated Operational Voltage (Ue)	300V, 600V, 800V, 1000V, 1200V
Rated Insulation Voltage(Ui)	1200V
Rated Short-time Withstand Current(Iew)	1kA, 1s
Rated Impulsed Withstand Voltage(Uimp)	8.0kV
Over Voltage Category	II
Suitability for Isolation	Yes
Polarity	No polarity "+" and "-" polarities could be interchanged
Mechanical Life	18000 times
Electrical Life	2000 times
Storage Temperature	-10°C~+85°C
Mounting Type	Vertically or horizontally
Pollution Degree	III

Switching Configurations

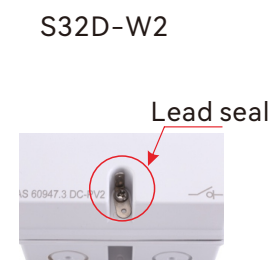
Type	2-pole	4-pole	2-pole 4poles in series Input and Output bottom	2-pole 4poles in series Input and Output on top	2-pole 4poles in series Input on top Output bottom	2-pole 4 paralleled Poles
/	2P	4P	4T	4B	4S	2H
Contacts Wiring graph						
Switching example						

Dimensions

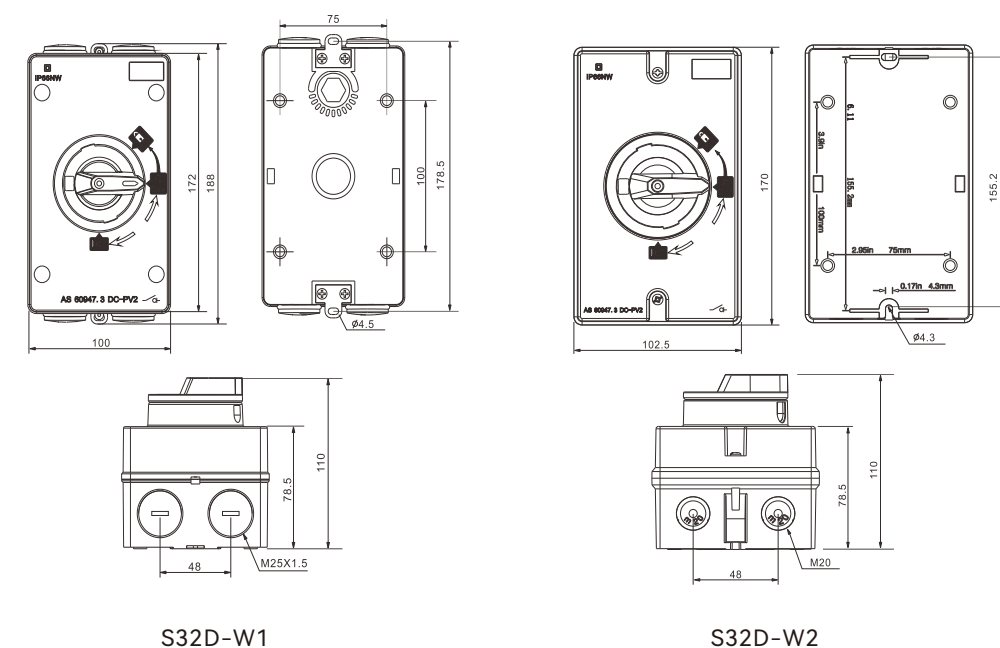


Feature

- IP66 and UV resistance
- The handle can be padlocked in the "OFF" position
- MC4 plugs with adaptor or cable glands can be select for convenient connection and space saving
- IP66 air valve helps air flowing and reducing temperatures
- 2 Pole, 4 Poles are available (Single I Double String)
- Standard: IEC60947-3, AS60947.3
- DC-PV2, DC-PV1, DC-21B
- 16A, 25A, 32A, 1200V DC



Dimensions



S32D-W1



S32D-W2

S32D



S32D-T



S32D-TL



Solar PV Fuse

Parameters and features

Standard: IEC60269-1 & IEC60269-6

Rated voltage: DC1000V

Rated current: 20A

Breaking capacity: 33 KA

Operating class: gPV

Protection objects: It is used in the photovoltaic combiner box to provide safe and reliable protection for overload and short-circuit current faults of PV modules and PV arrays.

Applicable environment: Temperature, -5°C~+40°C;

Humidity, less than 90%.

Specification

Fuse Link					Fuse VBase	
Model	Rated Current (A)	I ² t(A ² s)		PowerLoss(W) 1.0In	Model	Rated Current (A)
		Melting	Clearing			
TSPV-25	1	5	16	0.9	TSPV-25B TSPV-25BX	32A
	2	8	32	1.0		
	3	10	48	1.3		
	4	13	65	1.5		
	5	22	86	1.6		
	6	32	100	1.8		
	8	42	135	2.1		
	10	50	152	2.3		
	12	57	188	2.7		
	15	60	230	3.0		
	20	80	310	3.6		
	25	120	420	4.5		
	32	185	660	5.0		

Parameters and features

Standard: IEC60269-1 & IEC60269-6

Rated voltage: DC1500V

Rated current: 32A

Breaking capacity: 25 KA

Operating class: gPV

Protection objects: It is used in the photovoltaic combiner box to provide safe and reliable protection for overload and short-circuit current faults of PV modules and PV arrays.

Applicable environment: Temperature, -5°C~+40°C;

Specification

Fuse Link					Fuse Base	
Model	Rated Current (A)	I ² t(A ² s)		Power Loss (W) 1.0 In	Model	Rated Current (A)
		Melting	Clearing			
TSPV-32	2	3.5	12	2.2	TSPV-32B TSPV-32BX	32A
	3	8	18	2.5		
	4	16	35	2.8		
	5	30	66	3.0		
	6	46	130	3.3		
	8	55	200	3.8		
	10	70	270	4.5		
	12	95	360	5.0		
	15	130	400	5.7		
	20	220	750	6.8		
	25	350	1000	7.2		
	32	480	1600	8.2		



TSPV-25



TSPV-25B

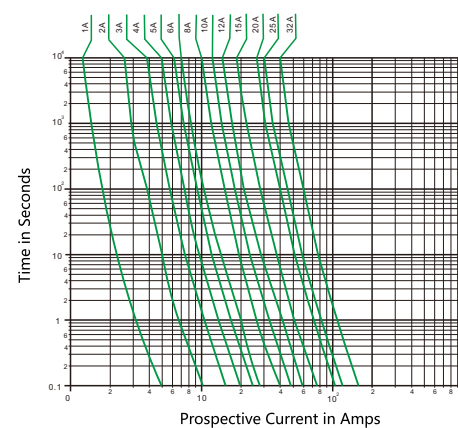


TSPV-32

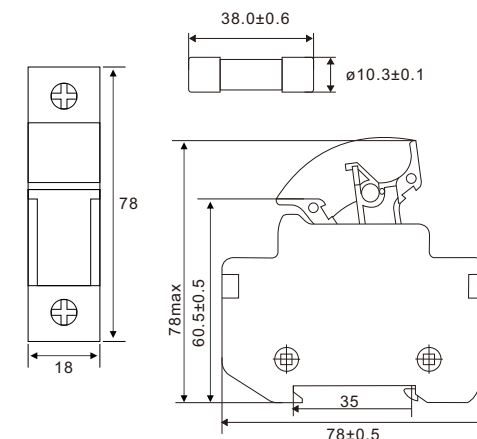


TSPV-32B

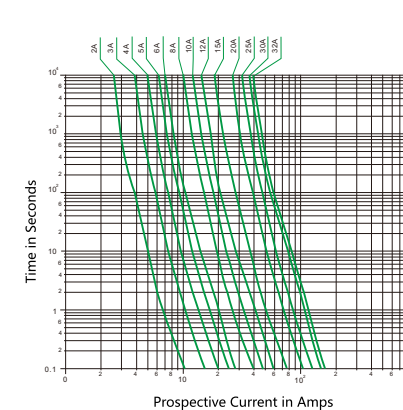
Average Characteristics Curve



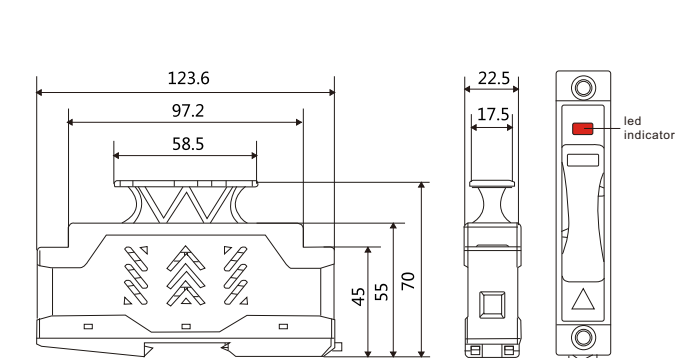
Dimensions



Average Characteristics Curve



Dimensions



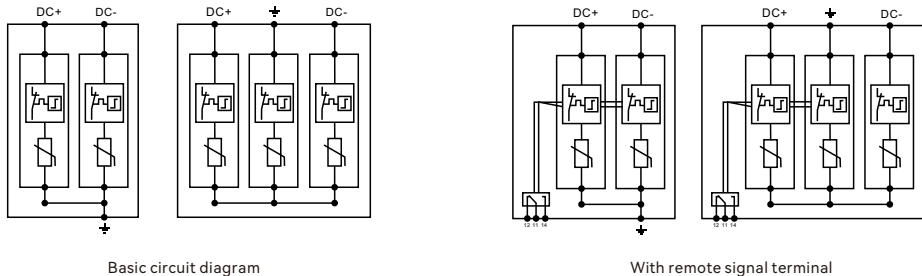
Solar PV Surge Protector

- Innovative tripping and breaking technology.
- Pluggable design, no need to interrupt the system when being plugged or unplugged.
- A single module can reach up to 40kA(8/20us).

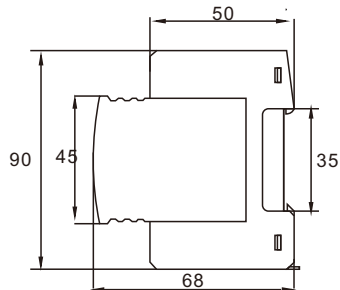
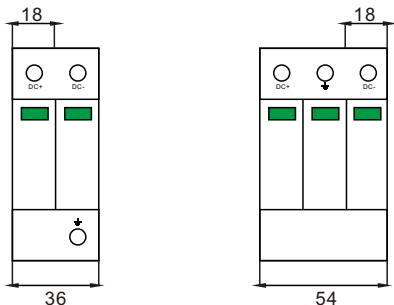
Specification

Number of Pole	2P			3P		
Nominal PV Voltage (d.c.) (Uostc)	500V	600V	800V	1000V	1200V	1500V
SPD According to EN6 1643-11/IEC 61643-11	Type2/Class II/T2					
Nominal Discharge Current (8/20 us) (In)	10KA/20KA					
Max. Discharge Current (8/20 us)(Imax)	20KA/40KA					
Voltage Protection Level (Up)	≤2.5KV	≤2.5KV	≤3.2KV	≤4.0KV	≤4.0KV	≤5.2KV
Response Time (tA)	25ns					
Operating Temperature Range (Tu)	-40°C...+80°C					
Operating State Fault Indication	Green:normal / Red:invalid					
Number of Output Port	1 is available when needed					
Installation	DIn rail					
Place of Installation	Indoor installation					
Degree of Protection	IP20					

Circuit Diagram



Dimensions



Electronic Phase Switch

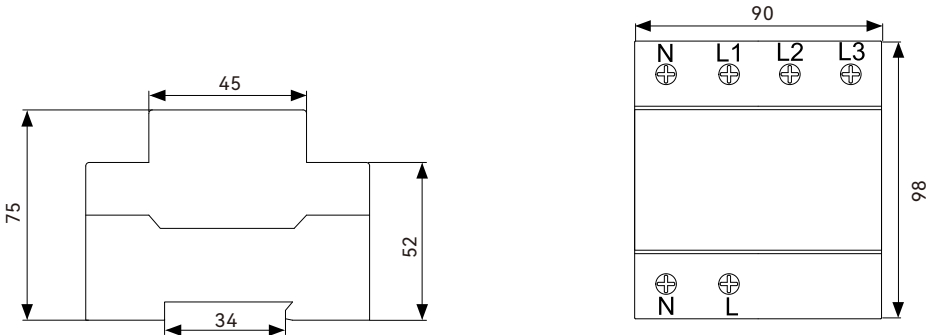


TDP2-7

Specification

Rated Supply Voltage	AC220V
Operation Voltage Range	AC100V-300V
Hysteresis	Over voltage:5V
	Under voltage:5V
Voltage Measurement Accuracy	≤1%(over the whole range)
Rated Insulation Voltage	450V
Output Contact	1NO
Electrical Life	10 ⁵ times
Mechanical Life	10 ⁵ times
Protection Degree	IP20
Pollution Degree	3
Altitude	≤2000m
Operating Temperature	-5°C-40°C
Humidity	≤50% at 40°C(without condensation)
Storage Temperature	-25°C-55°C

Dimensions



TSP7-40PV 2P



TSP7-40PV 3P

HR16 Fuse Switch Disconnecter



HR16-160



HR16-250

intertek
Total Quality. Assured.

UK
CA

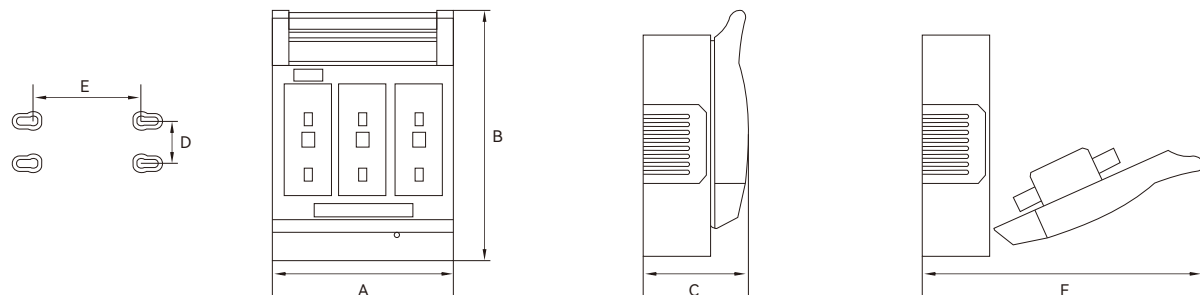
Application

HR16 fuse switch disconnecter is applied to the distribution circuit and motor circuit with high short circuit current of the conventional heating current to 630A, AC 50/60HZ rated voltage to 690V or DC rated operational voltage 250/440V. It is suitable for short circuit protection in the power switch, isolation switch and emergency switch which frequent manual operation is not required while it is not recommended to be used as a switch to open or close the motor. The product complies with IEC60947-3.

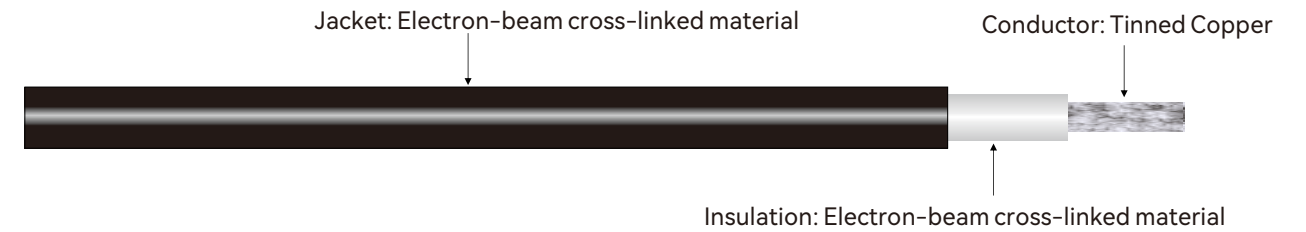
Specification

Model		HR16-160	HR16-250	HR16-400	HR16-630
Rated Operational Voltage (Ue)		AC 400V, 690V			
		DC 250V	DC 440V		
Rated Insulation Voltage (Ui)		1000V			
Rated Operational Current (Ie)		160A	250A	400A	630A
Fuse Size		00	1	2	3
Max Loss of Fuses		12W	24W	34W	48W
Rated Impulse Withstand Voltage (Uimp)		8kV			
Use Classes	400V/AC22B	160A	250A	400A	630A
	690V/AC22B	100A	200A	315A	425A
Rated Conditional Short Circuit Current With Fuses		120kA (AC 400V), 50kA (AC 690V)			
		100kA (DC 250V)	50kA (DC 440V)		
Mechanical Life (times)		5000	3000	2000	1500
Electrical Life (times)		1000	600	400	300
Wire Specifications (mm²)		70	102	240	300
Overall Dimensions (mm)	A	112	180	216	260
	B	188	280	290	360
	C	80	110	105	145
	D	25	50	50	50
	E	68	114	130	150
	F	215	310	325	395

Dimensions



Solar PV Cable Single Core



Specification

Construction (mm²)	Conductor Construction (n x mm)	Conductor Outer Diameter (mm)	Cable Outer Diameter (mm)	Resistance max. Ω/ km	Current Carrying Capacity AT 60°C (A)
1x1.5	26x0.256	1.5	4.8	13.7	30
1x2.5	43x0.256	1.95	5.4	8.21	41
1x4.0	56x0.28	2.5	5.5	5.09	55
1x6.0	84x0.28	3	6.3	3.39	70
1x10	142x0.28	4	7.8	1.95	98
1x16	228x0.28	5.6	9.0	1.24	132
1x25	361x0.28	6.7	10.6	0.795	176
1x35	274x0.4	8.4	12.2	0.565	218

Nominal Voltage	DC: 1.8KV AC:0.6/1.0KV
Voltage Test on Completed Cable	AC: 6.5KV DC:15KV, 5min
Ambient Temperature	-40°C~+90°C
Max. Temperature at Conductor	+120°C
Service Life	>25 years (-40°C~+90°C)
Refer to Short Circuit Allows the Temperature	200°C, 5s
Bending Radius	≥4xø(D<8mm), ≥6xø(D≥8mm)
Resistance Against Acid and Alkaline Solution	IEC60811-2-1
Cold Bending Test	IEC60811-1-4
Weathering/UV - Resistance	HD605/A1
0-zone Resistance at Complete Cable	IEC50396
Test Under Fire Conditions	IEC60332-1-2

Solar PV Connector



Cable Connector
(MC4-1)



Cable Connector
(MC4-1-P)



Cable Connector
(MC4-1-CP)

Rated Current	30A
Rated Voltage	1500V DC (IEC) / 800V DC(UL)
Ambient Temperature Range	-40°C~+90°C(IEC)
Degree of Protection	IP67 mated IP2X unmated
Contact Resistance of Plug Connectors	0.5mΩ
Contact Material	Copper, tin plated
Locking System Plug Connectors	Snap-in (nur/only MC4)
Flame Class	UL94-HB/UL94-V0
Cable Size	2.5mm ² ,4mm ² ,6mm ²



MC4-T2



MC4-T3



MC4-T4



MC4-T5



MC4-T6

Rated Current	30A/50A
Rated Voltage	1500V DC (IEC) / 800V DC(UL)
Ambient Temperature Range	-40°C~+90°C(IEC)
Degree of Protection	IP67 mated IP2X unmated
Contact Resistance of Plug Connectors	0.5mΩ
Contact Material	Copper, tin plated
Locking System Plug Connectors	Snap-in (nurlon/y MC4)
Flame Class	UL94-HB/UL94-V0
Cable Size	2.5mm ² ,4mm ² , 6mm ²



MC4-Y2



MC4-Y3



MC4-Y4

Rated Current	30A
Rated Voltage	1500V DC (IEC) / 800V DC(UL)
Ambient Temperature Range	-40°C~+90°C(IEC)
Degree of Protection	IP67 mated IP2X unmated
Contact Resistance of Plug Connectors	0.5mΩ
Contact Material	Copper, tin plated
Locking System Plug Connectors	Snap-in (nurlon/y MC4)
Flame Class	UL94-HB/UL94-V0
Cable Size	2.5mm ² ,4mm ² ,6mm ²



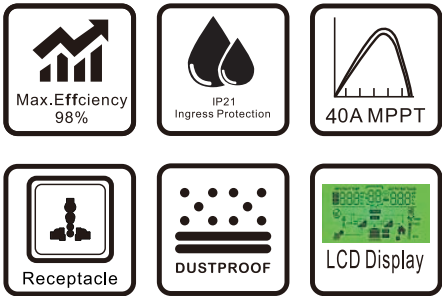
MC4-1F



TSPV-25

Rated Current	30A
Rated Voltage	1500V DC (IEC) / 800V DC(UL)
Ambient Temperature Range	-40°C~+90°C(IEC)
Degree of Protection	IP67 mated IP2X unmated
Contact Resistance of Plug Connectors	0.5mΩ
Contact Material	Copper, tin plated
Locking System Plug Connectors	Snap-in (nur/only MC4)
Flame Class	UL94-HB/UL94-V0
Cable Size	2.5mm ² ,4mm ² ,6mm ²
Diode/Fuse Type	Schottky diode/PV fuse

OFF Grid Solar Inverter



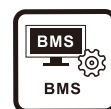
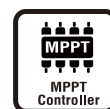
Application

- Pure sine wave solar inverter
- Built-in 40A MPPT solar charger
- PV input voltage range 20~150VDC (for 1000W), 30~150VDC (for 1500W)
- Built-in anti-dust kit for harsh environment
- Smart battery charge design to optimize battery life
- Meet customized demands
- Solar energy is provided directly to the load first

Specification

Model	TSIF1-1000W	TSIF1-1500W
Rated Power	1000VA/1000W	1500VA/1500W
Phase	Single Phase	
Voltage	230VAC	
Selectable Voltage Range	170~280VAC (For Personal Computers)	
	90~280VAC (For Home Appliances)	
Frequency Range	50 Hz/60Hz (Auto sensing)	
AC Output		
AC Voltage Regulation	230VAC±5%	
Surge Power	2000VA	3000VA
Efficiency (Peak) PV to INV	98%	
Efficiency (Peak) Battery to INV	94%	
Transfer Time	10ms	
Battery		
Battery Voltage	12VDC	24VDC
Floating Charge Voltage	13.5VDC	27VDC
Overcharge Protection	16VDC	32VDC
Solar Charger & AC Charger		
Solar Charger Type	MPPT	
Maximum PV Array Power	600W	1200W
MPPT Voltage Range	20~150VDC	30~150VDC
Maximum PV Array Open Circuit Voltage solar	150VDC	
Maximum Solar Charging Current	40A	
Maximum AC Charging Current	40A	
Maximum Solar+AC Charging Current	80A	
Physical		
Dimension, D*W*H (mm)	290*240*91	
Net Weight (kgs)	3.5	3.6
Gross Weight (kgs)	4.0	4.2
Environment		
Humidity	5% to 95% Relative Humidity (Non~condensing)	
Operating Temperature	-10°C~50°C	

OFF Grid Solar Inverter

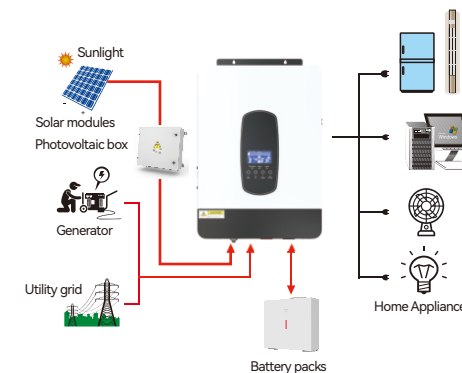


Application

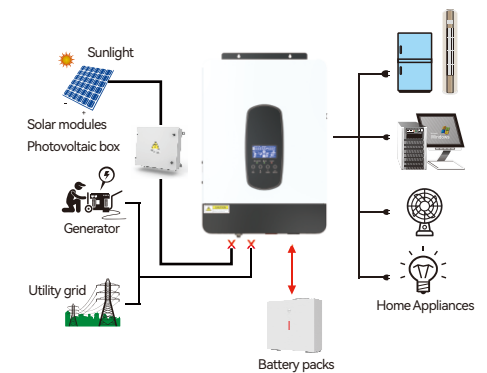
- Pure sine wave inverter
- Programmable supply priority for PV, battery or grid
- High PV input voltage range (55~450VDC)
- Built-in Max 60A (3.8KW&6.2KW) MPPT solar charge
- Compatibe with lithium-ion battery
- Support BMS communication with lithium battery
- Smart battery charge design to optimize battery life
- Overload, high temperature, inverter output short circuit protection
- Cold start function
- Intelligent fan speed adjustment
- Built-in anti-dusk kit for harsh enviromen (optional)
- Wi-Fi & GPRS available for IOS and Android

Solar System Connection

Operation with battery connected
Solar Power and AC Power available

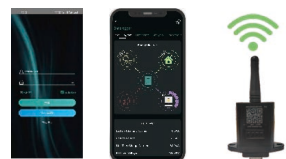


Operation with battery connected
Solar Power and AC Power unavailable

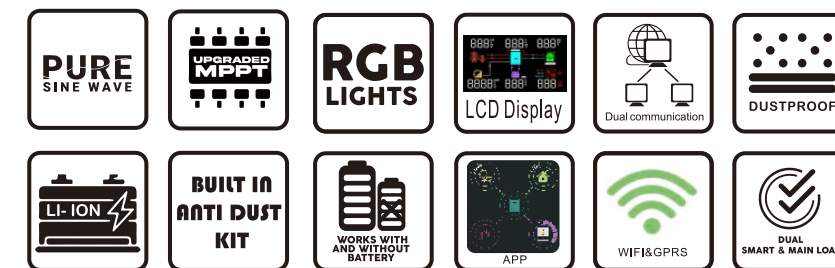


Model	TSIF1-1800W	TSIF1-3000W
Rated Power	2200VA/1800W	3200VA/3000W
Phase	Single Phase	
Voltage	230VAC	
Selectable Voltage Range	170-280VAC (for personal computers) 90-280VAC (for home appliances)	
Frequency Range	50Hz/60Hz (Auto sensing)	
Output		
AC Voltage Regulation (Batt.Mode)	230VAC±5%	
Surge Power	4400VA	6400VA
Transfer Time	10ms (for personal computers) 20ms (for home appliances)	
Waveform	Pure Sine Wave	
Battery & AC Charger		
Battery Voltage	12VDC	24VDC
Floating Charge Voltage	13.5VDC	27VDC
Over Charge Protection	15.5VDC	31VDC
Maximum Charge Current	60A	
Solar Charger		
MAX.PV Array Power	2000W	3000W
MPPT Voltage Range	55-450VDC	
Maximum PV Array Open Circuit Voltage	450VDC	
Maximum Charging Current	80A	
Maximum Efficiency	98%	
Physical		
Dimension.D*W*H (mm)	405*286*98mm	
Net Weight (kgs)	4.5kg	5.0kg
Communication Interface	RS232/RS485 (Standard) Wi-Fi (Optional)	
Operating Environment		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C to 55°C	
Storage Temperature	-15°C to 60°C	

ON/OFF Grid Solar Inverter



(B) UTILITY MODE
 (G) PV MODE
 (R) INVERTER MODE



Application

- Pure sine wave solar inverter (on/off grid)
- Output power factor 1.0
- Wi-Fi & GPRS available for IOS and Android
- Inverter can run without battery
- One-key restoration to factory settings
- Built-in Lithium battery automatic activation
- Dual communication ports for battery communication and Wi-Fi communication
- Built-in anti-dust kit for harsh environment
- Smart battery charge design to optimize battery life
- Dual output

TSIF1-4200W, TSIF1-6200W

- High PV input voltage range 60~500VDC

TSIF1-8200W, TSIF1-10200W

- High PV input voltage range 90~500VDC
- Dual PV input
- Touch button
- On off grid work mode

Specification

Model	TSIF1-4200W	TSIF1-6200W	TSIF1-8200W	TSIF1-10200W
Phase	Single Phase			
Maximum PV Input Power	6200W	6500W	5400W+5400W	
Rated Output Power	4200W/4200VA	6200W/6200VA	8200W/8200VA	10200W/10200VA
Maximum Solar Charging Current	120A	120A	160A	160A
Grid-tie Operation				
PV Input (DC)				
Nominal DC Voltage/Maximum DC Voltage	360/500VDC			
Start-up Voltage/Initial Feeding Voltage	60VDC/90VDC		90VDC/120VDC	
MPPT Voltage Range	60~450VDC		900~450VDC	
Maximum Input Current	1/18A	1/22A	2/18A	
Grid Output (AC)				
Nominal Output Voltage	220/230/240VAC			
Output Voltage Range	195.5~253VAC		190~253VAC	
Nominal Output Current	18.2A	27.0A	35.6A	44.3A
Power Factor	>0.99			
Efficiency				
Maximum Conversion Efficiency (DCIAC)	98%			
Two Load Output Power				
Full Load	4200W	6200W	8200W	10200W
Maxium Main Load	4200W	6200W	8200W	10200W
Maxium Second Load(battery mode)	1400W	2067W	2733W	3400W
Maxium Load Cut Off Voltage	26VDC	52VDC	52VDC	52VDC
Maxium Load Return Voltage	27VDC	54VDC	54VDC	54VDC

Off-grid Operation				
AC Input				
AC Start-up Voltage I Auto Restart Voltage	120-140VAC/180VAC			
Acceptable Input Voltage Range	90-280VAC or 170-280VAC			
Frequency Range	49~51±1HZ			
Maximum AC Input Current	30A	40A	40A	50A
PV Input (DC)				
Nominal DC Voltage/Maximum DC Voltage	360/500VDC			
MPPT Voltage Range	60~450VDC		90~450VDC	
Maximum Input Current	1/18A	1/22A	2/18A	
Battery Mode Output (AC)				
Nominal Output Voltage	220/230/240VAC			
Output Waveform	Pure sine wave			
Efficiency (DC to AC)	94%			
Battery & Charger				
Nominal DC Voltage	24VDC	48VDC		
Maximum Solar Charging Current	120A	120A	160A	160A
Maximum AC Charging Current	100A	100A	140A	140A
Maximum Solar+AC Charging Current	120A	120A	160A	160A
Hybrid Operation				
PV Input (DC)				
Nominal DC Voltage/Maximum DC Voltage	360/500VDC			
Start-up Voltage / Initial Feeding Voltage	90VDC/120VDC			
MPPT Voltage Range	60~450VDC		90~450VDC	
Maximum Input Current	1/18A	1/22A	2/18A	
Grid Output (AC)				
Nominal Output Voltage	220/230/240VAC			
Output Voltage Range	195.5~253VAC		190~253VAC	
Nominal Output Current	18.2A	27.0A	35.6A	44.3A
AC Input				
AC Start-up Voltage I Auto Restart Voltage	120-140VAC/180VAC			
Acceptable Input Voltage Range	90-280VAC or 170-280VAC			
Maximum AC Input Current	30A	40A	40A	50A
Maximum AC Charging Current	100A		140A	
General				
Physical				
Dimension,D*W*H(mm)	420*350*110		530*390*130	
Net Weight (kgs)	8.0	8.9	14.2	14.7
Gross Weight(kgs)	9.0	10.0	15.7	16.2
Interace				
Communication Port	RS232/RS485/Wi-Fi/GPRS/Lithium Battery			
Environment				
Humidity	5% to 95% Relative Humidity (Non~condensing)			
Operating Temperature	-10°C~50°C			

Crimping Tool Kits for Solar System



TKS-01



TKS-02



TKS-03



TH-01S

Solar Terminal Crimping Tool
Application: Solar Terminal (MC4)
Crimping Capacity: 2.5/4/6.mm² /AWG:14-10
Length: 220mm



TH-02S

MC4 Solar Terminal Crimping Tool
Application: Solar Terminal (MC4)
Crimping Capacity: 2.5/4/6.mm² /AWG: 14-10
Length: 230mm



TH-03S

Solar Wire Stripping Tool
Application: Wire stripping
Stripping Range: 2.5/4.0/6.0 mm²
Length: 175mm



TH-04S

Application: Stripping, cutting and crimping wire
Range: 0.6/0.8/1.0/1.3/1.6/2.0/2.6mm²



TH-05S

Solar Terminal Crimping Tool
Application: Terminal (MC4)
Crimping Capacity: 2.5/4.0/6.0mm² / 13-10 AWG
Length: 270mm



MC4 Spanner

Material: Plastic
Application: Loosen and tighten the connector and loosen the clasp

Inverter



TZ-1000M
Modified Wave Inverter

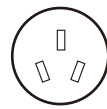


TZ-500S
Pure Sine Wave Inverter

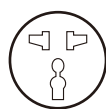
Available Socket



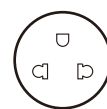
A: USA



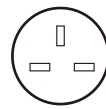
B: Australia



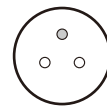
C: Universal



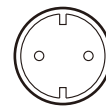
D: Europe-USA-Japan



E: UK



F: France



G: Germany

Application

- Pure sine wave output or modified wave output
- Low work noise, high efficiency.
- Small, light and artistic, benefited from adopting the SMD technology.
- Featured with high reliability and low failure rate by using the advanced Double-CPU single chip intellectual control technology.
- Cooling fan is intellectual controlled, and its working status is controlled by CPU, which boosts its service life and helps to save the power consumption, improve work efficiency and lower the work noise.
- With complete protection: overload protection, internal over-temperature protection, output short-circuit protection, input under-voltage protection, input over-voltage protection, etc, improving the reliability of the products greatly.

Specification

Input	Rated DC Voltage	12V or 24V or 48V
	Voltage Range	10-16VDC or 20-33VDC or 40-63VDC
	Efficiency	> 90%
	DC Connection	Cables with Clips or Car Adaptor
Output	AC Voltage	100/110/120VAC or 220/230/240 VAC
	Waveform	Pure sine wave / Modified wave
	Frequency	50Hz or 60Hz
	AC Regulation	3%
Protection	Low Voltage Alarm	10.5DC±0.5V or 21DC±1V or 42VDC±1V or 100VDC±1V
	Low Voltage Shut Down	10DC±0.5V or 20DC±1V or 40VDC±1V or 96VDC±5V



TZ-2000M
Modified Wave Inverter



TZ-1000S
Pure Sine Wave Inverter

Specification

Pure sine wave

Model		TZ-300S	TZ-500S	TZ-600S	TZ-1000S	TZ-1500S
Input	Idling Current	< 0.7A	< 0.5A		< 0.8A	< 0.8A
Output	Continuous Power	300VA	500VA	600VA	1000VA	1500VA
	Surge Power	600VA	1000VA	1200VA	2000VA	3000VA

Model		TZ-2000S	TZ-3000S	TZ-4000S	TZ-5000S
Input	Idler Load Current	< 1.1A	< 2.5A		
Output	Continuous Power	2000VA	3000VA	4000VA	5000VA
	Surge Power	4000VA	6000VA	8000VA	10000VA

Modified wave

Model		TZ-300M	TZ-500M	TZ-600M	TZ-1000M
Input	Idling Current	< 0.7A	< 0.5A		< 0.8A
Output	Continuous Power	300VA	500VA	600VA	1000VA
	Surge Power	600VA	1000VA	1200VA	2000VA

Model		TZ-1500M	TZ-2000M	TZ-3000M	TZ-4000M
Input	Idler Load Current	< 0.8A	< 1.1A	< 2.5A	
Output	Continuous Power	1500VA	2000VA	3000VA	4000VA
	Surge Power	3000VA	4000VA	6000VA	8000VA

Solar Charge Controller



SPT-20A

Model	SPT-10A	SPT-15A	SPT-20A	SPT-25A
Nominal System Voltage	12V/24V AUTO			
Rated Charge Current	10A	15A	20A	25A
Rated Discharge Current	10A	15A	20A	25A
Battery Input Voltage Range	8-32V			
Max. PV Open Circuit Voltage	100V			
	at minimum operating environment temperature			
MPP Voltage Range	92V			
	at 25°C environment temperature			
Max. PV Input Power	390W/12V 780W/24V	576W/12V 1152W/24V	780W/12V 1560W/24V	936W/12V 1872W/24V
Self-consumption	≤20mA(12V); ≤16mA(24V)			
Discharge Circuit Voltage Drop	≤0.18V			
Temperature Compensate Coefficient	-3mV/°C/2V (Default)			
Grounding	Common positive			



SPT-40A

Model	SPT-30A	SPT-35A	SPT-40A	SPT-45A
Nominal System Voltage	12V/24V AUTO			
Rated Charge Current	30A	35A	40A	45A
Rated Discharge Current	30A	35A	40A	45A
Battery Input Voltage Range	8-32V			
Max. PV Open Circuit Voltage	100V			
	at minimum operating environment temperature			
MPP Voltage Range	92V			
	at 25°C environment temperature			
Max. PV Input Power	1170W/12V 2340W/24V	1296W/12V 2592W/24V	1560W/12V 3120W/24V	1656W/12V 3312W/24V
Self-consumption	≤20mA(12V); ≤16mA(24V)			
Discharge Circuit Voltage Drop	≤0.18V			
Temperature Compensate Coefficient	-3mV/°C/2V (Default)			
Grounding	Common positive			

Model	PV2410U-25U			
System Voltage	12V/24V			
Max. Input Voltage of Solar Panel	55V			
Self-consumption	≤12mA			
Max. Charge Current	10A	15A	20A	25A
Max. Discharge Current	10A	15A	20A	25A
LVD	11.0V ADJ9V....12V, x2/24V			
LVR	12.6V ADJ11V....13.5V, x2/24V			
Float Voltage	13.8V ADJ13V....15V, x2/24V			
Boost Charging	14.4V, x2 24V Battery Voltage less than 12Vstart boost charging 2 hours			
Battery Over Voltage Protection	16.5V, x2/24V			
Reverse Connection Protection	yes			
Load Over Current Protection	Yes, each two minutes restart once			
Charge Type	PWM			
USB Output	5V 1.0A			
Temperature Compensation Working	-24mV/°C for 12V system, x2/24V			
Temperature	-20°C ---+55°C			
Terminal Scale	28-10 AWG			
Waterproof grade	IP32			



PV2420U

Model	PV2430U-40U		PV2450U-60U	
System Voltage	12V/24V	48V	12V/24V	48V
Max. Input Voltage of Solar Panel	55V	100V	55V	100V
Self-consumption	≤12mA	-	≤10mA	≤12mA
Max. Charge Current	30A/40A		50A/60A	
Max. Discharge Current	30A/40A		50A/60A	
LVD	11.0V ADJ9V....12V, x2/24V; x4/48V			
LVR	12.6V ADJ11V....13.5V, x2/24V; x4/48V			
Float Voltage	13.8V ADJ13V....15V, x2 24V; x4/48V			
Boost Charging	14.4V, x2 24V; x4/48V Battery Voltage less than 12Vstart boost charging 2 hours			
Battery Over Voltage Protection	16.5V; x2 24V; x4/48V			
Reverse Connection Protection	yes			
Load Over Current Protection	Yes, each two minutes restart once			
Charge Type	PWM			
Temperature Compensation Working	-24mV/°C for 12V system, x2/24V; x4/48V			
Temperature	-20°C ---+55°C			
Terminal Scale	14-6 AWG		28-10 AWG 25mm²	
Strip length	-		16mm	
Waterproof Grade	IP32			



PV2440U

Solar Pump Inverter



Voltage Degree

Model	-SS2	-S2	-2	-4
AC Input Voltage (VAC)	1Phase 220(-15%)~240(+10%)		3Phase 220(-15%)~240(+10%)	3Phase 380(-15%)~440(+10%)
Output Voltage (VAC)	1Phase 0~220V		3Phase 0~220V	
Max. DC Voltage(VDC)	400			800
Start-up Voltage(VDC)	200			300
Lowest Working Voltage(VDC)	150			250
Recommend DC Input Voltage Range (VDC)	200~400			300~750
Recommend MPP Voltage(V)	330			550
Output Frequency	0~300Hz			

Specification

Series	Model	Rated Output Power (kW)	Rated Input Current (A)	Rated Output Current (A)
-SS2(0.75kW-4kW)	TS9000SI-OR7G-SS2	0.75	9.3	7.2
	TS9000SI-1R5G-SS2	1.5	15.7	10.2
	TS9000SI-2R2G-SS2	2.2	24	14
	TS9000SI-004G-SS2	4	32	25
-S2(0.75kW-2.2kW)	TS9000SI-OR7G-S2	0.75	9.3	4.2
	TS9000SI-1R5G-S2	1.5	15.7	7.5
	TS9000SI-2R2G-S2	2.2	24	10
-4(0.75kW-110kW)	TS9000SI-OR7G-4	0.75	3.4	2.5
	TS9000SI-1R5G-4	1.2	5	4.2
	TS9000SI-2R2G-4	2.2	5.8	5.5
	TS9000SI-004G-4	4	13.5	9.5
	TS9000SI-5R5G-4	5.5	19.5	14
	TS9000SI-7R5G-4	7.5	25	18.5
	TS9000SI-011G-4	11	32	25
	TS9000SI-015G-4	15	40	32
	TS9000SI-018G-4	18.5	47	38
	TS9000SI-022G-4	22	51	45
	TS9000SI-030G-4	30	70	60
	TS9000SI-037G-4	37	80	75
	TS9000SI-045G-4	45	94	92
	TS9000SI-055G-4	55	128	115
	TS9000SI-075G-4	75	160	150
	TS9000SI-090G-4	90	190	180
	TS9000SI-110G-4	110	225	215
	TS9000SI-132G-4	132	265	260
	TS9000SI-160G-4	160	310	305
	TS9000SI-185G-4	185	345	340
	TS9000SI-200G-4	200	385	380
	TS9000SI-250G-4	250	468	465
	TS9000SI-280G-4	280	525	520
	TS9000SI-315G-4	315	590	585

Electrical Car Charger



Specification

Type	E5T1132/E5T2132	E5T2332	E5T2232	E5T2432
AC Power	1P+N+PE	3P+N+PE	1P+N+PE	3P+N+PE
Power Supply Voltage	AC230~±10%	AC400~±10%	AC230~±10%	AC400~±10%
Rated Current	10-32A			
Maximum Power	7.4kW	22kW	7.4kW	22kW
Frequency	50-60Hz			
Cable Length	5m		Socket	
Sockets/plugs	Type1/Type2	Type2		
Weight	4.4kg	5.6kg	2.65kg	2.8kg
IP Grade	IP55			
Working Temperature	-40°C~+45°C			
Cooling Way	natural cooling			
Shell Color	white/black			
Flip Shell	optional			
Special Function	RCMU/DLB/RFID optional			
Installation Mode	wall(default)/column			

Special Function

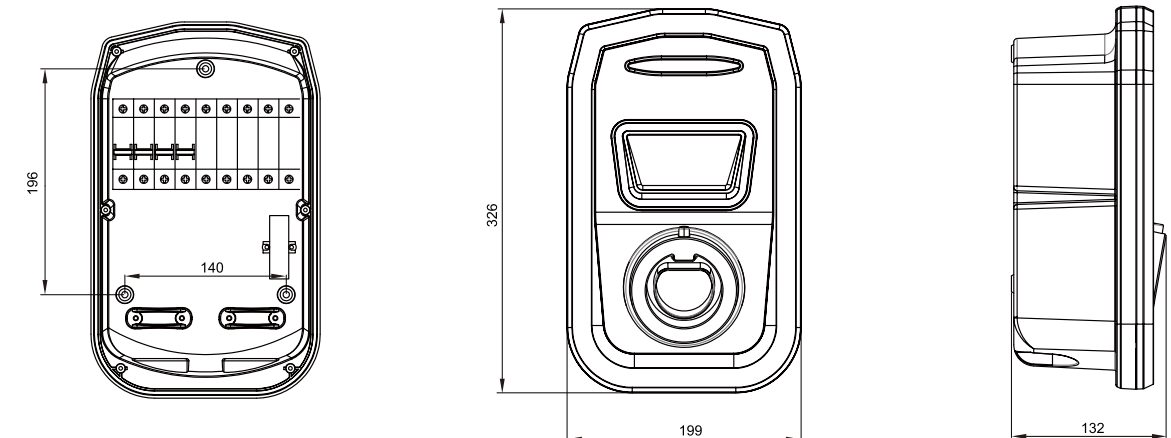
RCMU

If DC leakage occurs during charging process, the charging pile will be disconnected, automatically recovered after eliminating leakage fault without manual operation. The controller will automatically inspect RCMU before every charging process to confirm normal condition of RCMU.

DLB

Dynamic load balancing (DLB) type is designed for reasonable usage of household electricity by connecting an external transformer to the charging pile. When the total current volume detected by the transformer exceeds the set current, the charging pile will gradually decrease charging current until the charging pile stops charging. When the total current detected by the transformer is less than the set current after the peak of electricity consumption, the charging pile automatically starts to realize dynamic balancing by selecting suitable current for charging. The charging current of the charging pile is not fixed, varied from 10A to 32A based on actual requirement, which cannot be set.

Dimensions



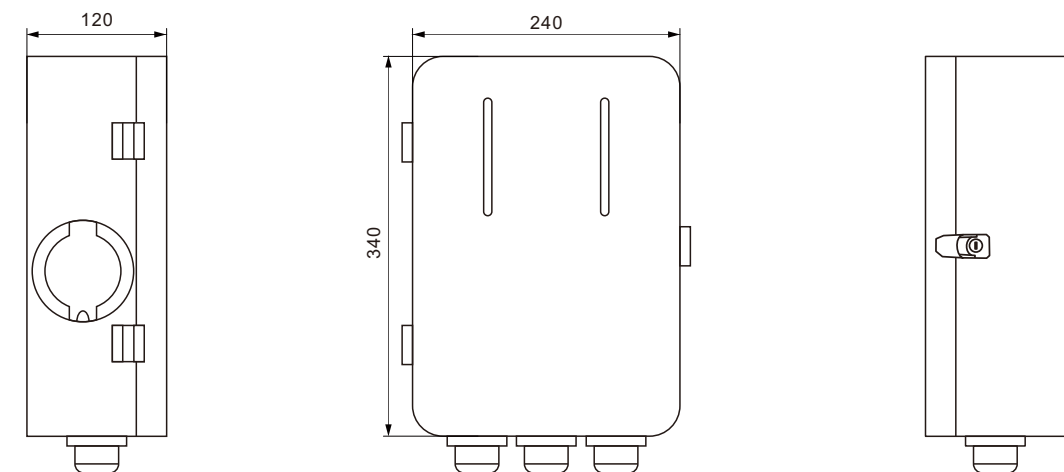
Electrical Car Charger



Specification

Type	TC132	TC232	TC332	TC432
AC Power	1P+N+PE		3P+N+PE	
Power Supply Voltage	AC 230V±15%		AC 400V±15%	
Rated Current	10-32A			
Frequency	50-60HZ			
Cable Length	5M	Socket	5M	Socket
Sockets/plugs	2*plug type 2(1)	2*socket type 2(1)	2*plug type 2(1)	2*socket type 2(1)
IP Grade	IP55			
Environment Temperature	-40°C~+45°C			
Humidity	no condensation			
Cooling Way	natural cooling			
Dimension(D*W*Hmm)	240*340*120		395*260*125	
Weight(kg)	9.9	6.3	16	12
Installation Mode	wall(default)/column			
Special Function	RCMU/DLB optional			

Dimensions



Electrical Car Charger



Specification

Type	E3T1132/E3T2132	E3T2332	E3T2232	E3T2432
AC Power	1P+N+PE	3P+N+PE	1P+N+PE	3P+N+PE
Power Supply Voltage	AC230~±10%	AC400~±10%	AC230~±10%	AC400~±10%
Rated Current	10-32A			
Maximum Power	7.4kW	22kW	7.4kW	22kW
Frequency	50-60Hz			
Cable Length	5m		Socket	
Sockets/plugs	Type1/Type2	Type2		
Weight	5.5kg	6.8kg	3.45kg	3.7kg
IP Grade	IP55			
Working Temperature	-40°C~+45°C			
Cooling Way	natural cooling			
Shell Color	white/black			
Special Function	RCMU/DLB/RFID optional			
Installation Mode	wall(default)/column			

Dimensions

