

USFULL 满毅电气

ZHEJIANG FULLWILL ELECTRIC CO., LTD.



USFULL

ZHEJIANG FULLWILL ELECTRIC CO., LTD.

No.699 Lingzhan Road, Kunpeng Street, Dongtou District, Wenzhou City, Zhejiang Prov. China.

Mobile: +86 137 0677 0280

Website: www.usfull.com E-mail: scarlett@usfull.com



+86 137 0677 0280



www.usfull.com



Scarlett@usfull.com



USFULL.....



Company Introduction



Full of confidence,
Will only offer satisfactory quality.

Zhejiang Fullwill Electric Co., Ltd. (brand: USFULL) was established in 2005. The company focuses on the R&D, manufacture and sales of products in four major areas, including solar pump inverter, PV accessories, low-voltage electrical products, and industrial VFD.

We have a strong manufacturing department and quality control department, to ensure state-of-art quality, stable performance and in-time delivery.

Full of energy, full of goodwill. USFULL team will keep moving to supply customized solutions to make users happier.



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USFULL

CE

Model: FU9000SI-5R5G-4

V3

Power: 5.5kW

IP20

Input: DC 250V-800V

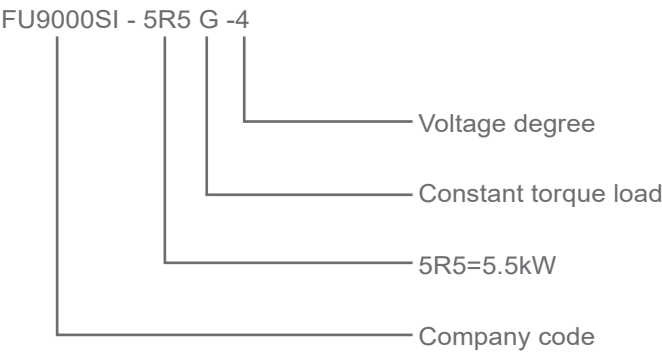
AC 3PH 380V(-15%)-440V(+10%) 19.5A 47Hz-63Hz

Output: AC 3PH 0V-Uinput 14A 0Hz-400Hz

S/N:

Made in China

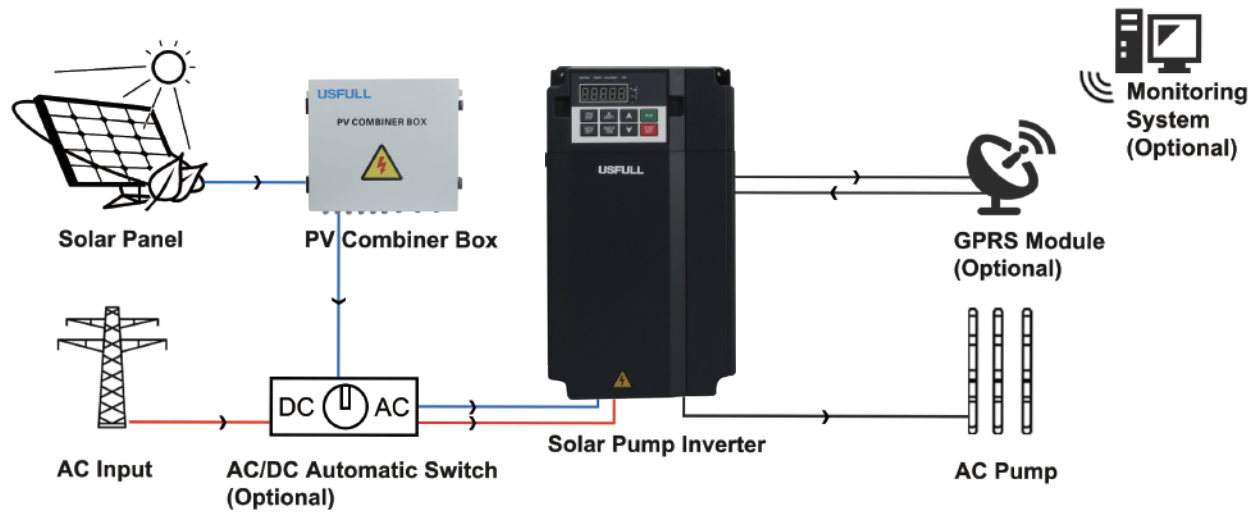
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Voltage Degree

Model	-SS2	-S2	-4	-9
AC Input Voltage (VAC)	1PH 220(-15%)~240(+10%)		3PH 380(-15%)~440(+10%)	
Output Voltage (VAC)	1PH 0-220V	3PH 0-220V	3PH 0-380V	
Max. DC Voltage (VDC)	450		800	900
Start-up Voltage (VDC)	200		300	
Lowest Working Voltage (VDC)	150		250	
Recommend DC Input Voltage Range (VDC)	200~450		300~750	300~850
Recommend MPP Voltage (VDC)	330		550	
Output Frequency (Hz)	0~400Hz			

Series	Model	Rated Output Power (KW)	Rated input Current (A)	Rated Output Current (A)
FU9000SI-SS2 (0.75kW~4kW)	FU9000SI-0R7G-SS2	0.75	9.3	7.2
	FU9000SI-1R5G-SS2	1.5	15.7	10.2
	FU9000SI-2R2G-SS2	2.2	24	14
	FU9000SI-004G-SS2	4	32	25
FU9000SI-S2 (0.75kW~2.2kW)	FU9000SI-0R7G-S2	0.75	9.3	4.2
	FU9000SI-1R5G-S2	1.5	15.7	7.5
	FU9000SI-2R2G-S2	2.2	24	10
FU9000SI-4 (0.75kW-315kW)	FU9000SI-0R7G-4	0.75	3.4	2.5
	FU9000SI-1R5G-4	1.5	5	4.2
	FU9000SI-2R2G-4	2.2	5.8	5.5
	FU9000SI-004G-4	4	13.5	9.5
	FU9000SI-5R5G-4	5.5	19.5	14
	FU9000SI-7R5G-4	7.5	25	18.5
	FU9000SI-011G-4	11	32	25
	FU9000SI-015G-4	15	40	32
	FU9000SI-018G-4	18.5	47	38
	FU9000SI-022G-4	22	51	45
	FU9000SI-030G-4	30	70	60
	FU9000SI-037G-4	37	80	75
	FU9000SI-045G-4	45	94	92
	FU9000SI-055G-4	55	128	115
	FU9000SI-075G-4	75	160	150
	FU9000SI-090G-4	90	190	180
	FU9000SI-110G-4	110	225	215
	FU9000SI-132G-4	132	265	260
	FU9000SI-160G-4	160	310	305
	FU9000SI-185G-4	185	345	340
	FU9000SI-200G-4	200	385	380
	FU9000SI-250G-4	250	468	465
	FU9000SI-280G-4	280	525	520
	FU9000SI-315G-4	315	590	585



- High Efficiency Automatic MPPT**
Maximum power point tracking function guarantees the system to get the highest power output from solar panel and maximizes the efficiency of pumping system.
- Best Off-grid Solution**
For off-grid area, solar pump inverter without battery is the most ideal solution for pumping.
- Professional Pump Protection**
Automatic start and stop in the morning, for full tank and water shortage of water well.
- Easy Operation Program**
The inverter is fully automatic. After connecting cables correctly, power on and it will run.



Rated Power: 0.75kW - 4kW (220V)
0.75kW - 7.5kW (380V)

Feature: Flexible for installation, no need enclosure for protection.



Rated Power: 0.75kW-37KW (220V)
4kW-110KW (380V)

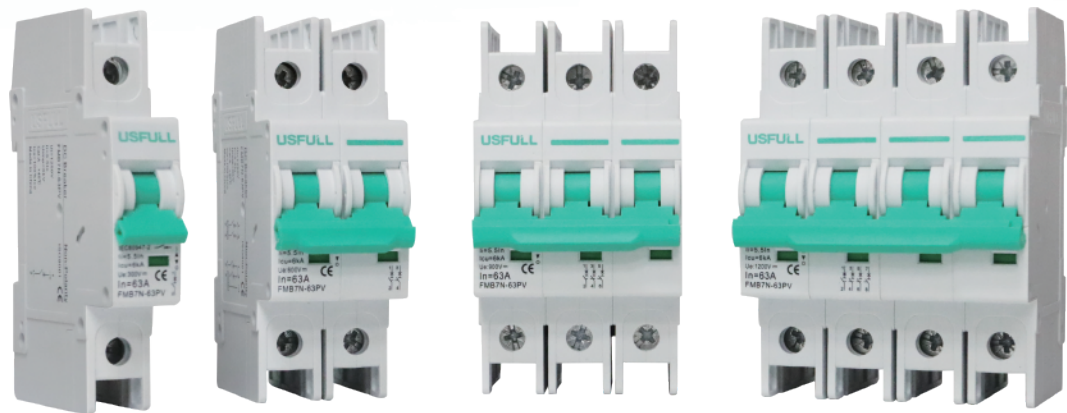
Feature: High waterproof and dustproof, excellent performance.



Rated Power: 0.75kW - 4kW (220V)
0.75kW - 315kW (380V)

Feature: High quality enclosure.
Support electrical components build in.

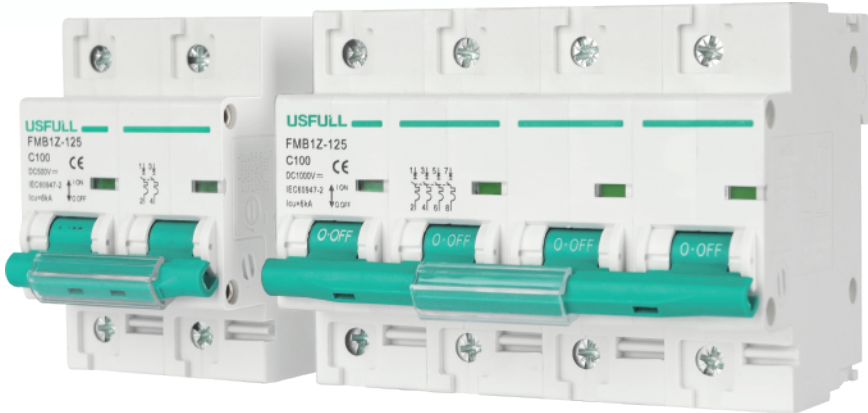




FMB7N-63PV DC Breaker (DC MCB)

Specification

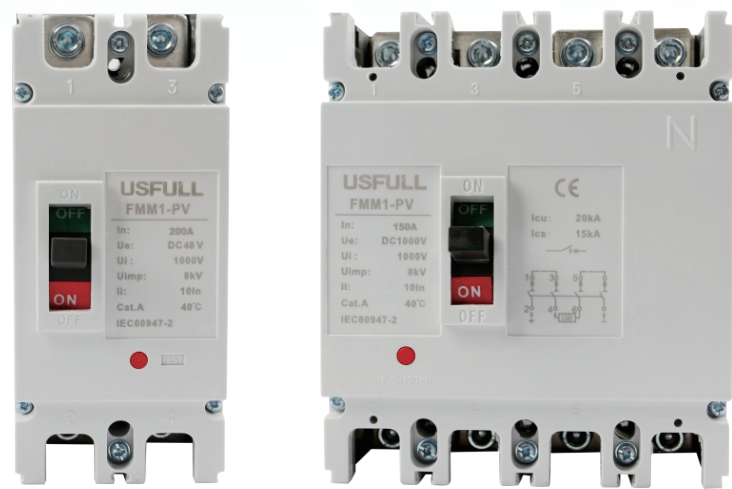
Model		FMB7N-63PV			
Frame Degree Rated Current		63A			
Pole		1P / 2P / 3P / 4P			
Rated Operating Voltage (VDC)		12V, 24V, 48V, 300V, 600V, 900V, 1200V			
Rated Current In (A)		10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A			
Rated Insulation Voltage Ui (VDC)		1250VDC			
Rated Impact Voltage Uimp (kV)		6 kV			
Ultimate Breaking Capacity Icu (kA)		6			
Run Breaking Capacity Ics (%Icu)		100			
Curve Type		C			
Trip Type		Thermal-magnetic			
Mechanical	Actual average value	20000 times			
	Standard value	8500 times			
Electrical	Actual average value	2500 times			
	Standard value	1500 times			
Wiring Capacity (mm²)		In≤32A, 1.5~6mm²; In ≥40A, 10~16mm²			
Ambient Temperature (°C)		-20°C~+70°C			
Altitude		≤2000m			
Relative Humidity		≤9.5%			
Pollution Level		2,3			
Installation Environment		No obvious shock and vibration			
Installation Category		Class II, Class III			
Installation		Standard din rail			
Dimensions(W)*(H)*(D)(mm)	W	18	36	54	72
	H	98	98	98	98
	D	71	71	71	71
Weight (kg)		0.12	0.24	0.36	0.48



FMB1Z-125 DC Breaker (DC MCB)

Specification

Model		FMB1Z-125			
Frame Degree Rated Current		125A			
Pole		1P / 2P / 3P / 4P			
Rated Operating Voltage (VDC)		12V, 24V, 48V, 250V, 500V, 750V, 1000V			
Rated Current In (A)		80A, 100A, 125A			
Rated Insulation Voltage Ui (VDC)		1050VDC			
Rated Impact Voltage Uimp (kV)		6 kV			
Ultimate Breaking Capacity Icu (kA)		6			
Run Breaking Capacity Ics (%Icu)		100			
Curve Type		C			
Trip Type		Thermal-magnetic			
Mechanical	Actual average value	20000 times			
	Standard value	8500 times			
Electrical	Actual average value	2500 times			
	Standard value	1500 times			
Wiring Capacity (mm²)		25~50mm²			
Ambient Temperature (°C)		-20°C~+70°C			
Altitude		≤2000m			
Relative Humidity		≤9.5 %			
Pollution Level		2,3			
Installation Environment		No obvious shock and vibration			
Installation Category		Class II, Class III			
Installation		Standard din rail			
Dimensions(W)*(H)*(D)(mm)	W	27	54	81	108
	H	80	80	80	80
	D	71	71	71	71
Weight (kg)		0.18	0.36	0.54	0.72



FMM1-PV DC Breaker (DC MCCB)

Specification

Model		FMM1-PV-125				FMM1-PV-250			FMM1-PV-400			FMM1-PV-630		
Pole		1P	2P	3P	4P	2P	3P	4P	2P	3P	4P	2P	3P	4P
Rated Working Voltage Ue (VDC)		250V	500V	750V	1000V	500V	750V	1000V	500V	750V	1000V	500V	750V	1000V
Max Ralated Current		125A				250A			400A			630A		
Rated Current In (A)		16/20/25/32/40/ 50/63/80/100/125				100/125/150/ 200/225/250			250/300/ 350/400			400/500/630		
Rated Insulated Voltage Ui (V)		1000V												
Rated Impulse Withstand Voltage		8 kV												
Test Voltage One Minute (V)		3550V												
Ultimate short circuit breaking capacity (kA) Icu(Ics=75%Icu)	250V	20				20			35			35		
	500V													
	750V													
	1000V													
Mechanical life	Total times	7000				7000			4000			4000		
Electrical life	Total times	2000				2000			1000			1000		
Total break time (ms)		20				20			20			20		
Isolator Capacity		Yes												
Operating Temperature		-25℃~-+50℃												
Protection Grade		IP20												
Flashover Distance		≥50												
Instantaneous Action Value		10In±10%												
Installation Method		Fixed type												
Technical Standard		IEC60947-2,IEC60947-1,GB14048.1,GB14048.2												



FMM3-PV DC Breaker (DC MCCB)

Specification

Model	FMM3-PV 320		FMM3-PV 400		FMM3-PV 630		FMM3-PV 800	
Pole	3P		2P	3P	2P	3P	2P	3P
Rated Current of Shell Frame Grade In (A)	320A		400A		630A		800A	
Rated Current In (A)	140/160/180/200/ 225/250/280/315/320		225/250/315/ 350/400		500/630		700/800	
Rated Working Voltage Ue (VDC)	1500V / 2000V							
Rated Insulated Voltage Ui (V)	1500V / 2000V							
Rated Impulse Withstand Voltage Uimp (kA)	12 kV							
Short-Circuit Breaking Capacity (kA)	20	20	20① 40②	20	20① 40②	20	20① 40②	
Icu (Ics=100% Icu)	/	40	40① 50②	40	40① 50②	40	40① 50②	
Wiring Mode	Up incoming and Down outcoming, Down incoming and Up outcoming (2P320/3P) Down incoming and Down outcoming, Up incoming and Up outcoming (3P)							
Mechanical Life (Total times)	20000		10000		5000			
Electrical Life (Total times)	1500		700	500	700	500	700	500
Isolator Capacity	Yes							
Standard	IEC60947-2,GB/T 14048.2							
Operating Temperature	-40°C~+70°C							
Protection Grade	IP20							
Arcing Distance(mm)	≤ 50 (Zero arc, with arcing cover)							
Transient Action Value	10In							
With Accessories	Auxiliary, Alarm, Off load, Hand operation, Electric operation							
Overall Dimensions L*W*H(mm)	180	250	250	250	250	250	250	
	107	124	182	124	182	124	182	
	126	165	165	165	165	165	165	

Note:
① 2P connection in series
② 3P connection in series





FLY1-PV DC Surge Protect Device (DC SPD)

Specification

Model		FLY1-20PV	FLY1-40PV	FLY1-60PV
Pole		2P/3P		
Rated Voltage	2P	DC 500V ,600V, 800V, 1000V		
	3P	DC 500V, 600V, 800V, 1000V, 1200V, 1500V		
Min. Discharge Current (In)		10kA	20kA	30kA
Max. Discharge Current (Imax)		20kA	40kA	60kA
Voltage Protection Level		1.9kV~5.5kV		
Operating Temperature		-40°C~+85°C		
Relative Humidity		≤95% (25°C)		
Installation Method		35mm Din Rail		
Window Indicates		Normal: Green Feailure: Red		
Degree of Protection		IP20		
Leakage		<20		



FRPV Series DC Fuse

Specification

Model	FRPV1-32	FRPV-63
Pole	1P / 2P	
Rated Voltage	DC 1000V	DC 1500V
Rated Current (A)	4,5,6,8,10,12,15,20,25,30,32	4,5,6,8,10,12,15,20,25,30,32,40,50,63
Short-Circuit Breaking Capacity	20kA	33kA
Max. Power Attenuation	4.0W	6.0W
Protection Grade	IP20	
Connection	1.5-16mm ²	
Operation Ambient Temperature	-30°C~+70°C	
Resistance and Damp Hot	Class 2	
Elevation	≤2000m	
Installation Way	TH35-7 .5/DIN35 Rail Installation	
RH (relative air humidity)	when+20°C,not exceed 95%; when+40°C,not exceed 50%	
Pollution Class	2 / 3	
Installation Environment	the place of no abvious vibrate & impact	
Installation Class	III	
W*H*L(mm)	18*69*80	24*65*136



Specification

Model	FUCB-MDP2/1N	FUCB-MDP3/1N	FUCB-MDP4/1N
Number of DC Inputs	2	3	4
Material of Box	ABS		
Max. Rated Voltage DC	1000V		
DC Fuse	20A (Recommend 20A, support other ampere)		
Fuse Holder	1000V DC 32A		
DC Breaker	40A	63A	80A
Surge Protection DC	Type II, In =20kA, I _{max} =40kA, U _{cp} V=1000V DC		
Over-Voltage Category	Cat III		
Connection Type Dc Input	PG09/PV Connector, IP68		
Input Cable Size for Negative and Positive	Φ4-8mm		
Number of DC Outputs	1 (Support customize for output number)		
Connection Type DC Output	PG13.5		
Ambient Temperature Range/Humidity	Temperature: -20℃~+60℃, Humidity: 0-99%		
Altitude	≤2000m Derating for above 2000m		
Installation	Wall mounting / Padlockable latch		

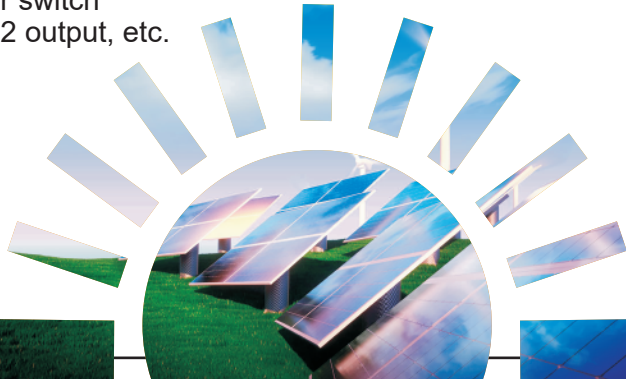
- Optional Customized Service:
1. Support PV connector
 2. Support drawing customization
 3. Support installation of DC isolator switch
 4. Support 2 input 2 output, 4 input 2 output, etc.



Specification

Model (FUCB Series)	MD2/1	MD4/1	MD6/1	MD8/1	MD10/1	MD12/1	MD16/1	MD20/1	MD24/1
Number of DC inputs	2	4	6	8	10	12	16	20	24
Material of Box	Coated Iron								
Protection Level	IP65								
IK Impact Resistance Class	IK08								
Max. Rated Voltage DC	1000V (support 1500v)								
DC Fuse	20A (Recommend 20A,support other ampere)								
Fuse Holder	1000V DC 32A								
DC Breaker	40A	80A	125A	160A	200A	225A	315A	400A	500A
Surge Protection DC	Type II, In=20kA, I _{max} =40kA, U _{cp} V=1000V DC (Support 1500V)								
Over-Voltage Category	Cat III								
Diode for The Function of Anti-reflux	Build in								
Connection Type DC Input	PG09/PV connector, IP68								
Input Cable Size for Negative and Positive	Φ4-8 mm								
Number of DC Outputs	1 (Support customize for output number)								
Gland Connectors	Material: Nylon Plastic, Seals: Nitrile Rubber Buna, IP68								
Ambient Temperature Range/Humidity	Temperature: -20℃~+60℃, Humidity: 0-99%								
Altitude	≤2000m Derating for above 2000m								
Installation	Wall mounting/Padlockable latch								

- Optional Customized Service:
1. Support 1500V
 2. Support PV connector
 3. Support monitoring function
 4. Support installation of DC isolator switch
 5. Support 2 input 2 output, 4 input 2 output, etc.





FMPV32-NL1 DC Isolator Switch

Specification

Model	FMPV32-NL1
Function	1000V / 1500V DC
Standard	Isolating, Controlling
Pole Number	4P
Max. Rated Current	32A
Rated Working Voltage (Ue)	1200VDC
Rated Current (Ie)	16A, 25A, 32A
Rated Insulated Voltage (Ui)	1200VDC
Rated Short-time Withstand Current (Icw)Rate	1kA, 1S
Overvoltage Category	8 kV
Polarity	Non polarity, "+"and "-"polarities could be interchanged
Mechanical Life	18000 times
Electrical Life	2000 times
Ingress Protection	IP20
Storge Temperature	-40°C~+85°C
Mounting Type	Vertically / Horizontally
Pollution Degree	3



Specification

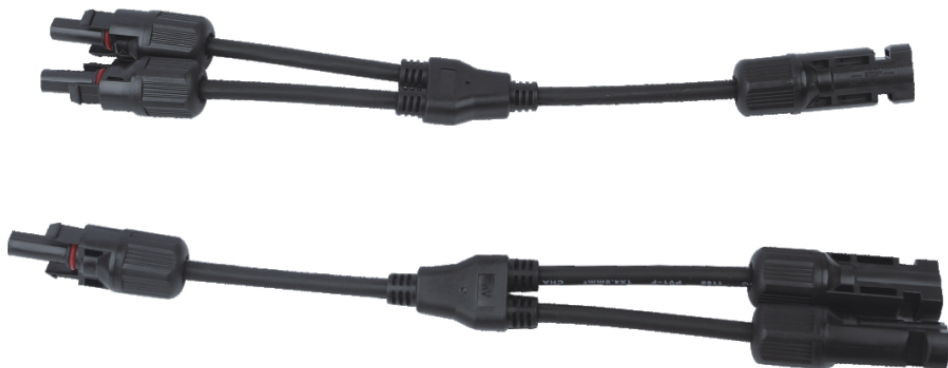
Rated Voltage	1000VDC	1500VDC
Connector System	Φ2.5mm Φ4mm Φ6mm	Φ2.5mm Φ4mm Φ6mm Φ10mm Φ16mm
Rated Current	30A(2.5mm², 4mm², 6mm²; 14AWG, 12AWG, 10AWG) 45A(4mm², 6mm²; 12AWG,10AWG)	30A(2.5mm², 4mm², 6mm²; 14AWG, 12AWG, 10AWG) 45A(4mm²; 6mm²; 12AWG,10AWG) 60A(10mm²; 8AWG) 80A(16mm²; 7AWG)
Test Voltage	6kV(50HZ, 1min.)	
Ambient Temperature Range	-40°C...+90°C(IEC) -40°F...+194°F(UL)	
Upper Limiting Temperature	+105°C(IEC)	
Degree of Protection, Mated, Unmated	IP67, IP2X	
Contact Resistance of Plug Connector	0.5mΩ	
Safety Class	II	
Contact Material	copper alloy, tin plated	
Insulation Material	PC / PPO	
Locking System	Snap-in	
Flame Class	UL-94-Vo	
Salt Mist Spray Test, Degree of Severity 5	IEC 60068-2-52	
Connector Type	General tye, Diode type, Fuse type	



Ttype

Specification

Connector Type	2T/ 3T/ 4T/ 5T/ 6T
Rated Voltage	1000VDC
Rated Current	20A (4mm²) 30A (6mm²)
Single Core Cable Section	1.5mm²~6mm²
Cable Outer Diameter	1.5mm²~6mm²
Ambient Temperature Range	-40℃~+105℃
Degree of Protection, Mated	IP67
Contact Resistance	≤0.5mΩ
Insulation Resistance	>500mΩ
Contact Material	Copper alloy, tin plated
Insulation Material	PPO, Black
Terminal Connection	Crimping
Flame Class	UL94-VO
Safety Class	II



Ytype

Specification

Connector Type	2Y/ 3Y/ 4Y
Rated Voltage	1000VDC
Rated Current	20A (4mm²) 30A (6mm²)
Single Core Cable Section	1.5mm²~6mm²
Cable Outer Diameter	1.5mm²~6mm²
Ambient Temperature Range	-40℃~+105℃
Degree of Protection, Mated	IP67
Contact Resistance	≤0.5mΩ
Insulation Resistance	>500mΩ
Contact Material	Copper alloy, tin plated
Insulation Material	PPO, Black
Terminal Connection	Crimping
Flame Class	UL94-VO
Safety Class	II

