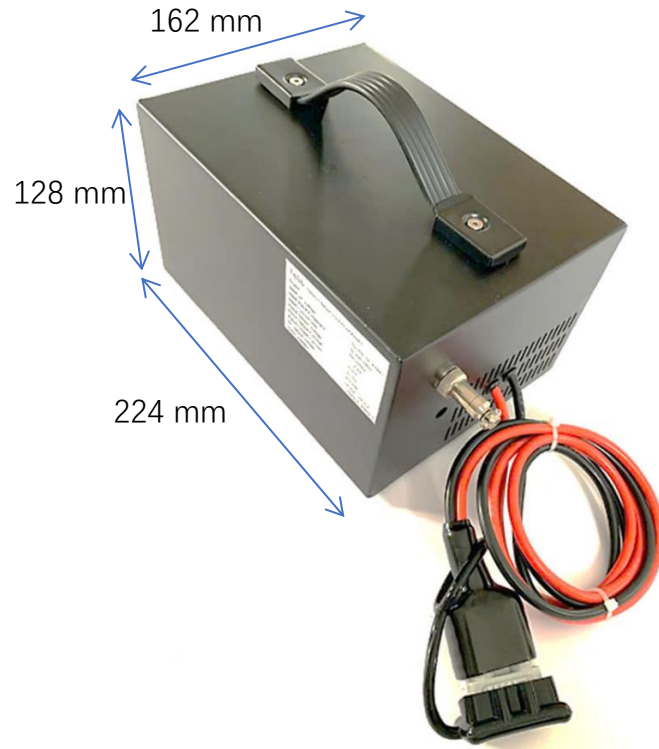


High frequency charger expert

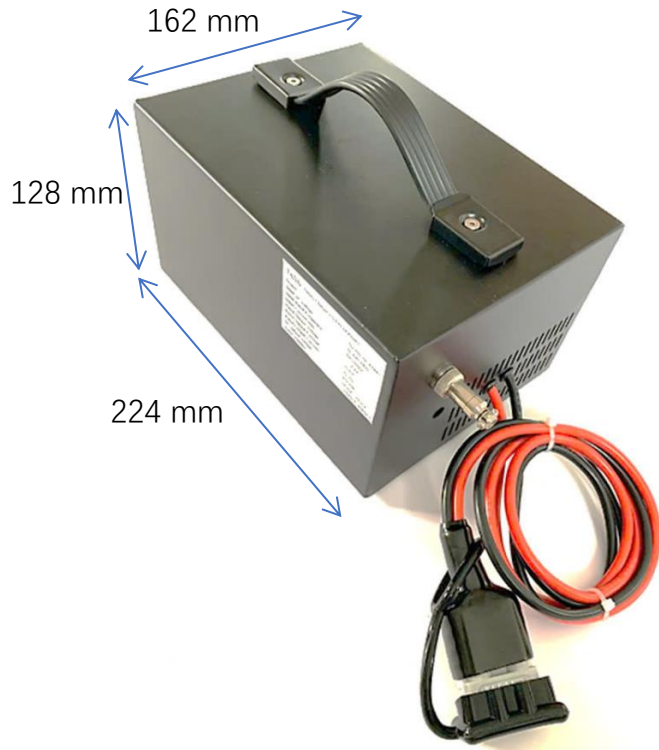
For Lithium Battery and Lead-Acid Battery
Picture and size of product may vary due to different market

TD- 450 - RS485 Serries



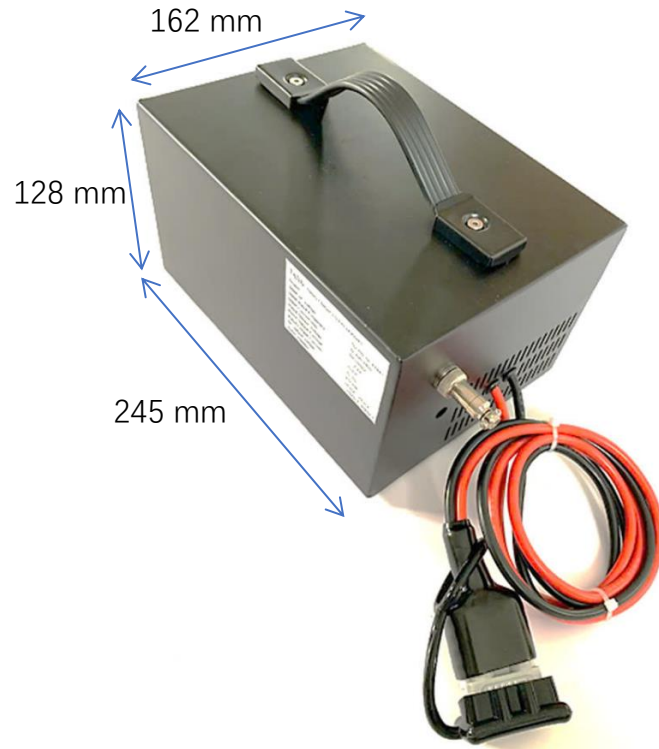
MODEL	TD-450-12-RS485	TD-450-24-RS485	TD-450-48-RS485	TD-450-72-RS485	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V	72V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V	69V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V	54 ~ 100V
	MAX. OUTPUT CURRENT (CC) Note.4	25A	13.5A	6.8A	5.5A
	MAX. POWER Note.4	420W	453.6W	456.96W	462W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	90 ~ 300AH	45 ~ 155AH	24 ~ 80AH	19 ~ 64AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA			
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load			
	EFFICIENCY (Typ.) Note.7	92%	93%	93%	93%
	AC CURRENT (Typ.)	4.5A/115VAC	2.2A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC			
	LEAKAGE CURRENT	<0.75mA/240VAC			
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover			
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V	102 ~ 120V
	REVERSE POLARITY	Protection type : Shut down and latch off o/p voltage, re-power on to recover			
	OVER TEMPERATURE	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed			
FUNCTION	CHARGING CURVE	Shut down O/P voltage, recovers automatically after temperature goes down			
	CHARGING PARAMETERS PROGRAMMABLE	2 or 3 stage selectable through DIP S.W on panel, or SBP-001 with computer			
		No			
		Manual setting: No			
	AUTO RANGING CHARGING CURVE (Typ.)	Please refer to functin manual for more detail (page 8)			
		Charging current adjustable 50~100% by via potentiometer on panel (Only for auto ranging mode)			
	RS485	RS485 communication			
	CHARGER OK	The TTL signal out, Charger OK = H(4.5 ~ 5.5V) ; Charger failure or protection status =L(-0.5 ~ +0.5V)			
	BATTERY FULL SIGNAL	The TTL signal out, Battery full = H(4.5 ~ 5.5V) ; Charging = L(-0.5 ~ +0.5V)			
REMOTE CONTROL	Short : Charger normal work Open : Charger stop charging				
TEMPERATURE COMPENSATION	By external NTC				
FAN SPEED CONTROL	Depends on internal temperature				
ENVIRON- MENT	WORK TEMP.	-30 ~ +70°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 95% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing			
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
OTHER	MTBF	273.7K hrs min. Telcordia SR-332(Bellcore) ; 83.4K hrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	As Design			
	PACKING	1.02Kg; 8pcs/10Kg/1.71CUFT			

TD- 450 - RS485-SS Serries



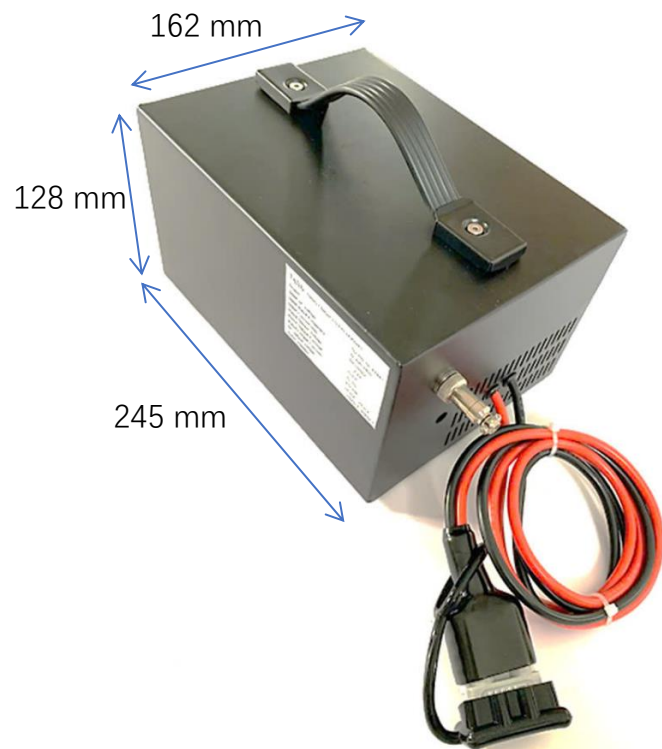
MODEL	TD-450-12-RS485	TD-450-24-RS485	TD-450-48-RS485	TD-450-72-RS485	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V	72V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V	69V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V	54 ~ 100V
	MAX. OUTPUT CURRENT (CC) Note.4	25A	13.5A	6.8A	5.5A
	MAX. POWER Note.4	420W	453.6W	456.96W	462W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	90 ~ 300AH	45 ~ 155AH	24 ~ 80AH	19 ~ 64AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA			
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz			
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load			
	EFFICIENCY (Typ.) Note.7	92%	93%	93%	93%
	AC CURRENT (Typ.)	4.5A/115VAC	2.2A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC			
	LEAKAGE CURRENT	<0.75mA/240VAC			
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover			
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V	102 ~ 120V
	REVERSE POLARITY	Protection type : Shut down and latch off o/p voltage, re-power on to recover			
	OVER TEMPERATURE	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed			
	CHARGING CURVE	Shut down O/P voltage, recovers automatically after temperature goes down			
FUNCTION	CHARGING CURVE	2 or 3 stage selectable through DIP S.W on panel, or SBP-001 with computer			
	CHARGING PARAMETERS PROGRAMMABLE	No			
	AUTO RANGING CHARGING CURVE (Typ.)	Manual setting: No			
	RS485	Please refer to functin manual for more detail (page 8) Charging current adjustable 50~100% by via potentiometer on panel (Only for auto ranging mode)			
	CHARGER OK	RS485 communication			
	BATTERY FULL SIGNAL	The TTL signal out, Charger OK = H(4.5 ~ 5.5V) ; Charger failure or protection status =L(-0.5 ~ +0.5V)			
	REMOTE CONTROL	The TTL signal out, Battery full = H(4.5 ~ 5.5V) ; Charging = L(-0.5 ~ +0.5V)			
	TEMPERATURE COMPENSATION	Short : Charger normal work Open : Charger stop charging			
	FAN SPEED CONTROL	By external NTC			
ENVIRON- MENT	WORK TEMP.	Depends on internal temperature			
	WORKING HUMIDITY	-30 ~ +70°C (Refer to "Derating Curve")			
	STORAGE TEMP., HUMIDITY	20 ~ 95% RH non-condensing			
	TEMP. COEFFICIENT	-40 ~ +85°C, 10 ~ 95% RH non-condensing			
	VIBRATION	±0.05%/°C (0 ~ 50°C)			
OTHER	MTBF	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
	DIMENSION	273.7K hrs min. Telcordia SR-332(Bellcore) ; 83.4K hrs min. MIL-HDBK-217F (25°C)			
	PACKING	As Design			
		1.02Kg; 8pcs/10Kg/1.71CUFT			

TD- 750 - RS485 Series



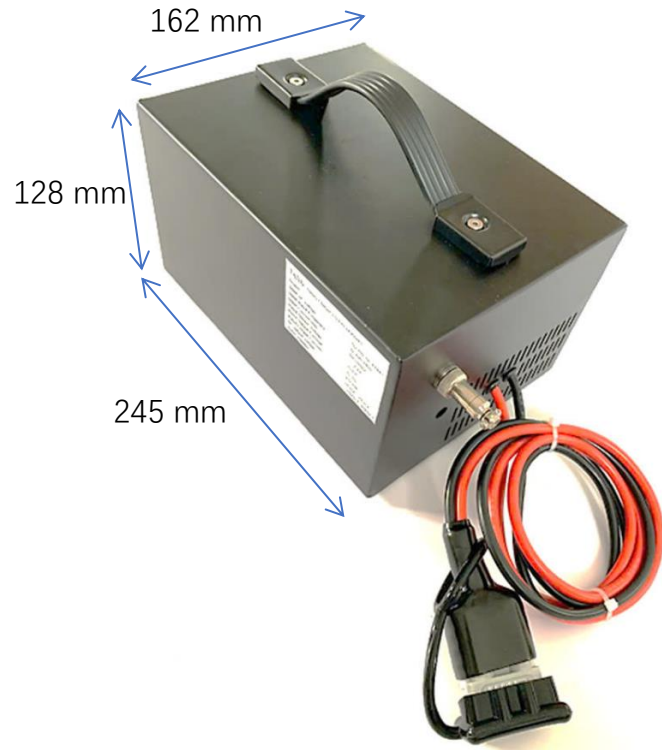
MODEL	TD-750-12-RS485	TD-750-24-RS485	TD-750-48-RS485	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V
	MAX. OUTPUT CURRENT (CC) Note.4	43A	22.5A	11.3A
	MAX. POWER Note.4	722.4W	756W	759.36W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	150 ~ 500AH	80 ~ 260AH	40 ~ 130AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA		
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load		
	EFFICIENCY (Typ.) Note.7	92%	93%	93%
	AC CURRENT (Typ.)	8.7A/115VAC	4A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC		
	LEAKAGE CURRENT	<1mA/240VAC		
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover		
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V
	REVERSE POLARITY	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed		
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
FUNCTION	CHARGING CURVE	2 or 3 stage selectable through DIP S.W on panel, or SBP-001 with computer		
ENVIRON- MENT	WORK TEMP.	-30 ~ +70°C (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
OTHER	MTBF	227.6K hrs min.	Telcordia SR-332(Bellcore) ; 67.7K hrs min.	MIL-HDBK-217F (25°C)
	DIMENSION	As Design		
	PACKING	1.84Kg; 4pcs/9Kg/1.63CUFT		

TD- 750 - RS485 - SHE Series



MODEL	TD-750-12-RS485	TD-750-24-RS485	TD-750-48-RS485	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V
	MAX. OUTPUT CURRENT (CC) Note.4	43A	22.5A	11.3A
	MAX. POWER Note.4	722.4W	756W	759.36W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	150 ~ 500AH	80 ~ 260AH	40 ~ 130AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA		
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load		
	EFFICIENCY (Typ.) Note.7	92%	93%	93%
	AC CURRENT (Typ.)	8.7A/115VAC	4A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC		
	LEAKAGE CURRENT	<1mA/240VAC		
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover		
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V
	REVERSE POLARITY	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed		
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
FUNCTION	CHARGING CURVE	2 or 3 stage selectable through DIP S.W on panel, or SBP-001 with computer		
ENVIRON- MENT	WORK TEMP.	-30 ~ +70°C (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
OTHER	MTBF	227.6K hrs min.	Telcordia SR-332(Bellcore) ; 67.7K hrs min.	MIL-HDBK-217F (25°C)
	DIMENSION	As Design		
	PACKING	1.84Kg; 4pcs/9Kg/1.63CUFT		

TD-750-RS485-CHSET Series



MODEL	TD-750-12-RS485-CHSET	TD-750-24-RS485-CHSET	TD-750-48-RS485-CHSET	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V
	MAX. OUTPUT CURRENT (CC) Note.4	43A	22.5A	11.3A
	MAX. POWER Note.4	722.4W	756W	759.36W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	150 ~ 500AH	80 ~ 260AH	40 ~ 130AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA		
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load		
	EFFICIENCY (Typ.) Note.7	92%	93%	93%
	AC CURRENT (Typ.)	8.7A/115VAC	4A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC		
	LEAKAGE CURRENT	<1mA/240VAC		
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover		
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V
	REVERSE POLARITY	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed		
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
FUNCTION	CHARGING SET	Set up charging capacity manually		
ENVIRON- MENT	WORK TEMP.	-30 ~ +70°C (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
OTHER	MTBF	227.6K hrs min.	Telcordia SR-332(Bellcore) ; 67.7K hrs min.	MIL-HDBK-217F (25°C)
	DIMENSION	As Design		
	PACKING	2.5Kg		

TD- 1200 – RS485 Series



MODEL	TD-1200-12-RS485	TD-1200-24-RS485	TD-1200-48-RS485	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V
	MAX. OUTPUT CURRENT (CC) Note.4	70A	36A	18A
	MAX. POWER Note.4	1176W	1209.6W	1209.6W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	240 ~ 800AH	120 ~ 420AH	60 ~ 210AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA		
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load		
	EFFICIENCY (Typ.) Note.7	92%	93%	94%
	AC CURRENT (Typ.)	12A/115VAC	6.5A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC		
	LEAKAGE CURRENT	<1mA/240VAC		
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover		
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V
	REVERSE POLARITY	Protection type : Shut down and latch off o/p voltage, re-power on to recover		
	OVER TEMPERATURE	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed		
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
FUNCTION	CHARGING CURVE	2 or 3 stage selectable through DIP S.W on panel, or SBP-001 with computer		
	CHARGING PARAMETERS PROGRAMMABLE	No		
		Manual setting: No		
	AUTO RANGING CHARGING CURVE (Typ.)	Please refer to functin manual for more detail (page 8) Charging current adjustable 50~100% by via potentiometer on panel (Only for auto ranging mode)		
	CANBUS INTERFACE	CANBus 2.0B, Can control, Setting and monitoring(VO,IO,charging curve, internal temp. and DC output ON/OFF)		
	CHARGER OK	The TTL signal out, Charger OK = H(4.5 ~ 5.5V) ; Charger failure or protection status =L(-0.5 ~ +0.5V)		
	BATTERY FULL SIGNAL	The TTL signal out, Battery full = H(4.5 ~ 5.5V) ; Charging = L(-0.5 ~ +0.5V)		
	REMOTE CONTROL	Short : Charger normal work Open : Charger stop charging		
	TEMPERATURE COMPENSATION	By external NTC		
FAN SPEED CONTROL	Depends on internal temperature			
ENVIRON- MENT	WORK TEMP.	-30 ~ +70°C (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
OTHER	MTBF	172.5K hrs min.	Telcordia SR-332(Bellcore) ; 47.5K hrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	As Design		
	PACKING	1.93Kg; 4pcs/10Kg/1.72CUFT		

TD- 1700 – RS485 Series



MODEL	TD-1700-12-RS485	TD-1700-24-RS485	TD-1700-48-RS485	
OUTPUT	BOOST CHARGE VOLTAGE (Vboost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE (Vfloat)(default)	13.8V	27.6V	55.2V
	CHARGE VOLTAGE RANGE Note.3	10.5 ~ 21V	21 ~ 42V	42 ~ 80V
	MAX. OUTPUT CURRENT (CC) Note.4	85A	50A	25A
	MAX. POWER Note.4	1428W	1680W	1680W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.5	300 ~ 1000AH	200 ~ 640AH	100 ~ 330AH
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA		
INPUT	VOLTAGE RANGE Note.6	90 ~ 264VAC	127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC at full load		
	EFFICIENCY (Typ.) Note.7	92%	93%	94%
	AC CURRENT (Typ.)	14.8A/115VAC	9.3A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 50A at 230VAC		
	LEAKAGE CURRENT	<0.75mA/240VAC(60335-1/2-29), <1.5mA Peak/240VAC(62368-1)		
PROTECTION	SHORT CIRCUIT Note.8	Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover		
	OVER VOLTAGE Note.9	21.5 ~ 26V	43 ~ 52V	82 ~ 100V
	REVERSE POLARITY	Protection type : Shut down and latch off o/p voltage, re-power on to recover		
	OVER TEMPERATURE	Protected internal reverse detection, No damage, re-power on to recover after fault condition is removed		
	OVER TEMPERATURE	Shut down O/P voltage, recovers automatically after temperature goes down		
FUNCTION	CHARGING CURVE	2 or 3 stage selectable through DIP S.W on panel, or SBP-001 with computer		
	CHARGING PARAMETERS PROGRAMMABLE	No Manual setting: No		
	AUTO RANGING CHARGING CURVE (Typ.)	Please refer to functin manual for more detail (page 8) Charging current adjustable 50~100% by via potentiometer on panel (Only for auto ranging mode)		
	CANBUS INTERFACE	CANBus 2.0B, Can control, Setting and monitoring(VO,IO,charging curve, internal temp. and DC output ON/OFF)		
	CHARGER OK	The TTL signal out, Charger OK = H(4.5 ~ 5.5V) ; Charger failure or protection status =L(-0.5 ~ +0.5V)		
	BATTERY FULL SIGNAL	The TTL signal out, Battery full = H(4.5 ~ 5.5V) ; Charging = L(-0.5 ~ +0.5V)		
	REMOTE CONTROL	Short : Charger normal work Open : Charger stop charging		
	TEMPERATURE COMPENSATION	By external NTC		
	FAN SPEED CONTROL	Depends on internal temperature		
ENVIRON- MENT	WORK TEMP.	-30 ~ +70°C (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
OTHER	MTBF	190.0K hrs min.	Telcordia SR-332(Bellcore) ; 45.1K hrs min.	MIL-HDBK-217F (25°C)
	DIMENSION	As Design		
	PACKING	2.93Kg; 4cs/14Kg/2.58CUFT		

900W-B Series



900W-B	Model	24V20A	24V30A	48V10A	48V15A	60V13A
INPUT	AC Voltage	AC100-240V	AC100-240V	AC100-240V	AC100-240V	AC100-240V
	AC Phase	Single Phase	Single Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
	Input Current(Max)	<=6.5A	<=9.6A	<=6.4A	<=9.6A	<=10.5A
	Power factor	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99
	Input power	<=640W	<=960W	<=640W	<=960W	<=1054W
	AC Plug	L+N+PE	L+N+PE	L+N+PE	IL+N+PE	L+N+PE
OUTPUT	Conversion efficiency	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9
	Rated output voltage	28.8V	28.8V	57.6V	57.6V	73V
	Rated output current	20A	30A	10A	15A	13A
	Rated output power	576W	860W	576W	864W	949W
	DC output voltage	10Vdc ~ 32Vdc	10Vdc ~ 32Vdc	10Vdc ~ 60Vdc	10Vdc ~ 60Vdc	10Vdc ~ 75Vdc
	Output plug	Anderson SB50	Anderson SB50	Anderson SB50	Anderson SB50	Anderson SB50
COMM	CAN-BUS Protocol	Optional Customized	Optional Customized	Optional Customized	Optional Customized	Optional Customized
	Battery Type	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
OTHER	Dimension					
	Weight					
	Cooling mode	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP55	IP55	IP55	IP55	IP55
	IP Rating (Optional)	N/A	N/A	N/A	N/A	N/A
	Noise	<65dB	<65dB	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m	<2000m	<2000m

900W-B-RS485 Series



900W-B	Model	24V20A	24V30A	48V10A	48V15A	60V13A
INPUT	AC Voltage	AC100-240V	AC100-240V	AC100-240V	AC100-240V	AC100-240V
	AC Phase	Single Phase	Single Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
	Input Current(Max)	<=6.5A	<=9.6A	<=6.4A	<=9.6A	<=10.5A
	Power factor	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99
	Input power	<=640W	<=960W	<=640W	<=960W	<=1054W
	AC Plug	L+N+PE	L+N+PE	L+N+PE	IL+N+PE	L+N+PE
OUTPUT	Conversion efficiency	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9
	Rated output voltage	28.8V	28.8V	57.6V	57.6V	73V
	Rated output current	20A	30A	10A	15A	13A
	Rated output power	576W	860W	576W	864W	949W
	DC output voltage	10Vdc ~ 32Vdc	10Vdc ~ 32Vdc	10Vdc ~ 60Vdc	10Vdc ~ 60Vdc	10Vdc ~ 75Vdc
	Output plug	Anderson SB50	Anderson SB50	Anderson SB50	Anderson SB50	Anderson SB50
COMM	RS485 Protocol	RS485	Optional	Optional	Optional	Optional
	Customized Protocol	Customized	Customized	Customized	Customized	Customized
OTHER	Battery Type	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
	Dimension	Optional	Optional	Optional	Optional	Optional
	Weight					
	Cooling mode	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP55	IP55	IP55	IP55	IP55
	IP Rating (Optional)	N/A	N/A	N/A	N/A	N/A
	Noise	<65dB	<65dB	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m	<2000m	<2000m

1200W-A Series



1200W-A	Model	48V18A	60V15A	72V13A
INPUT	AC Voltage	AC220V±15%	AC220V±15%	AC220V±15%
	AC Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz
	Input Current(Max)	≤8A	≤7.6A	≤7.9A
	Power factor	≥ 0.94	≥ 0.7	≥ 0.7
	Input power	≤1500W	≤1165W	≤1211W
	AC Plug	Industrial / L+N+PE	Industrial / L+N+PE	Industrial / L+N+PE
OUTPUT	Conversion efficiency	≥ 0.9	≥ 0.9	≥ 0.9
	Rated output voltage	57.6V	73V	87.6V
	Rated output current	18A	15A	13A
	Rated output power	1200W	1095W	1139W
	DC output voltage	42Vdc ~ 80Vdc	10Vdc ~ 75Vdc	10Vdc ~ 100Vdc
	Output plug		Anderson SB175	Anderson SB175,
COMM	CAN-BUS	Optional	Optional	Optional
	Protocol	Customized	Customized	Customized
OTHER	Battery Type	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
	Dimension			
	Weight			
	Cooling mode	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-30 ~ +70°C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	N/A	IP67	IP67
	IP Rating (Optional)	N/A	N/A	N/A
	Noise		<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m

1200W-A-COM Series



1200W-A	Model	48V18A	60V15A	72V13A
INPUT	AC Voltage	AC220V±15%	AC220V±15%	AC220V±15%
	AC Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz
	Input Currentt(Max)	<=8A	<=7.6A	<=7.9A
	Power factor	≥ 0.94	≥ 0.7	≥ 0.7
	Input power	<=1500W	<=1165W	<=1211W
	AC Plug	Industrial / L+N+PE	Industrial / L+N+PE	Industrial / L+N+PE
OUTPUT	Conversion efficiency	≥ 0.9	≥ 0.9	≥ 0.9
	Rated output voltage	57.6V	73V	87.6V
	Rated output current	18A	15A	13A
	Rated output power	1200W	1095W	1139W
	DC output voltage	42Vdc ~ 80Vdc	10Vdc ~ 75Vdc	10Vdc ~ 100Vdc
	Output plug		Anderson SB175	Anderson SB175,
COMM	CAN-BUS-RS485	Optional	Optional	Optional
	Protocol	Customized	Customized	Customized
OTHER	Battery Type	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
	Dimension			
	Weight			
	Cooling mode	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-30 ~ +70°C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	N/A	IP67	IP67
	IP Rating (Optional)	N/A	N/A	N/A
	Noise		<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m

1200W-B Series



1200W-B	Model	48V20A	60V15A	72V13A
INPUT	AC Voltage	AC220V±15%	AC220V±15%	AC220V±15%
	AC Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz
	Input Currentt(Max)	<=8A	<=7.6A	<=7.9A
	Power factor	≥ 0.7	≥ 0.7	≥ 0.7
	Input power	<=1226W	<=1165W	<=1211W
	AC Plug	Industrial / L+N+PE	Industrial / L+N+PE	Industrial / L+N+PE
OUTPUT	Conversion efficiency	≥ 0.9	≥ 0.9	≥ 0.9
	Rated output voltage	57.6V	73V	87.6V
	Rated output current	20A	15A	13A
	Rated output power	1152W	1095W	1139W
	DC output voltage	10Vdc ~ 60Vdc	10Vdc ~ 75Vdc	10Vdc ~ 100Vdc
	Output plug	Anderson SB175, Male or Female plug, optional	Anderson SB175, Male or Female plug, optional	Anderson SB175, Male or Female plug, optional
COMM	CAN-BUS	Optional	Optional	Optional
	Protocol	Customized	Customized	Customized
OTHER	Battery Type	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
	Dimension			
	Weight	6KG	6KG	6KG
	Cooling mode	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP55	IP55	IP55
	IP Rating (Optional)	N/A	N/A	N/A
	Noise	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m

1500W-B Series



1500W-B	Model	24V40A	24V50A	48V30A	60V30A	72V25A
INPUT	AC Voltage	AC220V±15%	AC220V±15%	AC220V±15%	AC220V±15%	AC220V±15%
	AC Phase	Single Phase	Single Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
	Input Currentt(Max)	<=8A	<=10A	<=12A	<=15.1A	<=15.1A
	Power factor	≥ 0.7	≥ 0.7	≥ 0.7	≥ 0.7	≥ 0.7
	Input power	<=1226W	<=1532W	<=1838W	<=2330W	<=2330W
	AC Plug	Industrial / L+N+PE	Industrial / L+N+PE	Industrial / L+N+PE	Industrial / L+N+PE	Industrial / L+N+PE
OUTPUT	Conversion efficiency	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9	≥ 0.9
	Rated output voltage	28.8V	28.8V	57.6V	73V	87.6V
	Rated output current	40A	50A	30A	30A	25A
	Rated output power	1152W	1440W	1728W	2190W	2190W
	DC output voltage	10Vdc ~ 32Vdc	10Vdc ~ 32Vdc	10Vdc ~ 60Vdc	10Vdc ~ 75Vdc	10Vdc ~ 100Vdc
	Output plug	Anderson SB175, Male or Female plug, optional	Anderson SB175, Male or Female plug, optional	Anderson SB175, Male or Female plug, optional	Anderson SB175, Male or Female plug, optional	Anderson SB175, Male or Female plug, optional
	COMM	CAN-BUS Protocol	Optional	Optional	Optional	Optional
Customized		Customized	Customized	Customized	Customized	Customized
OTHER	Battery Type	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
	Dimension					
	Weight	6KG	6KG	6KG	6KG	6KG
	Cooling mode	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP55	IP55	IP55	IP55	IP55
	IP Rating (Optional)	N/A	N/A	N/A	N/A	N/A
	Noise	<65dB	<65dB	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m	<2000m	<2000m

3000W Series



3000W	Model	24V100A	48V50A	36V50A	36V100A	72V35A
INPUT	AC Voltage	AC100-240V	AC100-240V	AC100-240V	AC100-240V	AC100-240V
	AC Phase	Single Phase	Single Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
	Input Currentt(Max)	<=14.6A	<=14.4	10.8	21.6	<=15.3A
	Power factor	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99
	Input power	≤ 3164W	≤ 3164W	2373	4752	≤ 3369W
	AC Plug	L+N+PE	L+N+PE	L+N+PE	L+N+PE	L+N+PE
OUTPUT	Conversion efficiency	≥ 0.91	≥ 0.91	≥ 0.91	≥ 0.91	≥ 0.91
	Rated output voltage	28.8V	57.6V	43.2	43.2	87.6V
	Rated output current	100A	50A	50A	100A	35A
	Rated output power	2880W	2880W	2160	4320	3066W
	DC output voltage	10Vdc ~ 32Vdc	10Vdc ~ 60Vdc	10Vdc ~ 60Vdc	10Vdc ~ 60Vdc	10Vdc ~ 100Vdc
	Output plug	Rema160A	Rema80A	Rema80A	Rema80A	Rema80A
	COMM	CAN-BUS Protocol	Y Customized	Y Customized	Y Customized	Y Customized
Battery Type		Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
OTHER	Dimension					
	Weight	11KG	11KG	11KG	11KG	11KG
	Cooling mode	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP20	IP20	IP20	IP20	IP20
	IP Rating (Optional)	IP54	IP54	IP54	IP54	IP54
	Noise	<65dB	<65dB	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m	<2000m	<2000m

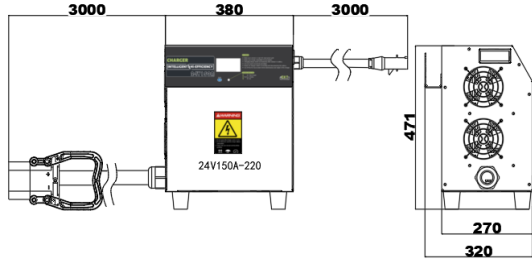
TD-3200W Series



Model		TD-3200W-24	TD-3200W-48
OUTPUT	BOOST CHARGE VOLTAGE(V _{boost})(default)	28.8V	57.6V
	FLOAT CHARGE VOLTAGE(V _{float})(default)	27.6V	55.2V
	CONSTANT CURRENT(CC)(default)	110A	55A
	VOLTAGE ADJ. RANGE	By built-in potentiometer, SVR 23.5 ~ 30V	
	RECOMMENDED BATTERY CAPACITY(AMP HOURS) Note.3	330 ~ 1000Ah	180 ~ 550Ah
	LEAKAGE CURRENT FROM BATTERY (Typ.)	1.5mA	
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370VDC	
	Note.4		
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	0.97/230VAC at full load	
	EFFICIENCY (Typ.)	93.5%	94.5%
	AC CURRENT (Typ.)	17A/230VAC	
	Note.4		
	INRUSH CURRENT (Typ.)	COLD START 55A/230VAC	
LEAKAGE CURRENT	<2mA / 230VAC		
PROTECTION	OVER VOLTAGE	31.5 ~ 37.5V	63 ~ 75V
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover Shut down o/p voltage, recovers automatically after temperature goes down	
FUNCTION	OUTPUT VOLTAGE PROGRAMMABLE(PV)	Adjustment of output voltage is allowable to 75 ~ 125% of nominal output voltage. Please refer to the Function Manual.	
	OUTPUT CURRENT PROGRAMMABLE(PC)	Adjustment of output voltage is allowable to 20 ~ 100% of rated current. Please refer to the Function Manual.	
	AUXILIARY POWER	5V @ 0.3A, tolerance ±10%, ripple 150mVp-p, 12V @ 0.8A, tolerance ±10%, ripple 450mVp-p	
	REMOTE ON-OFF CONTROL	By electrical signal or dry contact Power ON:short Power OFF:open. Please refer to the Function Manual	
	TEMPERATURE COMPENSATION	-3mV / °C / cell / (12V = 6 cells ; 24V = 12 cells ; 48V = 24 cells)	
ALARM SIGNAL	Isolated signal output for T-alarm and DC-OK		

ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)			
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes			
SAFETY & EMC (Note 6)	SAFETY STANDARDS	UL62368-1, TUV EN62368-1, EAC TP TC 004 approved			
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH			
	EMC EMISSION	Parameter	Standard	Test Level / Note	
		Conducted	EN55032 (CISPR32) / EN55011 (CISPR11)	Class B	
		Radiated	EN55032 (CISPR32) / EN55011 (CISPR11)	Class A	
		Harmonic Current	EN61000-3-2	-----	
		Voltage Flicker	EN61000-3-3	-----	
	EMC IMMUNITY	EN55024 , EN61204-3, EN61000-6-2			
		Parameter	Standard	Test Level / Note	
ESD		EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact		
Radiated		EN61000-4-3	Level 3		
EFT / Burst		EN61000-4-4	Level 3		
Surge		EN61000-6-2	2KV/Line-Line 4KV/Line-Earth		
Conducted		EN61000-4-6	Level 3		
Magnetic Field		EN61000-4-8	Level 4		
Voltage Dips and Interruptions		EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods		
OTHERS	MTBF	160.1K hrs min. Telcordia SR-332 (Bellcore) ; 38.9K hrs min. MIL-HDBK-217F (25°C)			
NOTE	<ol style="list-style-type: none"> Modification for charger specification may be required for different battery specification. Please contact battery vendor and TADA for details. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. This is TADA suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation. Derating may be needed under low input voltages. Please check the derating curve for more details. The charger is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 600mm*900mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.tadames.com) The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). 				

6000W-S Series



6000W-S	Model	24V150A	24V200A	48V100V-220	80V65A
INPUT	AC Voltage	AC100-240V	AC100-240V	AC100-240V	AC100-240V
	AC Phase	Single Phase	Single Phase	Single Phase	Single Phase
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
	Input Currentt(Max)	<=24A	<=29A	<=29A	<=29A
	Power factor	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99
	Input power	≤ 4.7KW	≤ 6.3KW	≤ 6.3KW	≤ 6.2KW
	AC Plug	L+N+PE	L+N+PE	L+N+PE	L+N+PE
OUTPUT	Conversion efficiency	≥ 0.92	≥ 0.92	≥ 0.92	≥ 0.92
	Rated output voltage	28.8V	28.8V	57.6V	87.6V
	Rated output current	150A	200A	100A	65A
	Rated output power	4.32KW	5.76KW	5.76KW	5.7KW
	DC output voltage	10Vdc ~ 32Vdc	10Vdc ~ 32Vdc	10Vdc ~ 60Vdc	10Vdc ~ 100Vdc
	Output plug	Rema320A	Rema320A	Rema160A	Rema80A
COMM	CAN-BUS	Y	Y	Y	Y
	Protocol	Customized	Customized	Customized	Customized
OTHER	Battery Type	Lithium	Lithium	Lead-Acid / Lithium	Lead-Acid / Lithium
	Dimension	380X320X471(mm)	380X320X471(mm)	380X320X471(mm)	380X320X471(mm)
	Weight	26KG	26KG	26KG	26KG
	Cooling mode	Air cooling	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP20	IP20	IP20	IP20
	IP Rating (Optional)	IP54	IP54	IP54	IP54
	Noise	<65dB	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m	<2000m

12000W Series



12000W	Model	80V65A	80V150A	80V150A	115.2V100A	153.6V70A
INPUT	AC Voltage	AC220V±15%	AC380V±15%	AC480V±15%	AC380V±15%	AC380V±15%
	AC Phase	Three phase four wire	Three phase four wire	Three phase four wire	Three phase four wire	Three phase four wire
	Rated Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
	Input Currentt(Max)	≤16.2A	≤22A	≤17.2A	≤21A	≤20A
	Power factor	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99	≥ 0.99
	Input power	≤6.2KW	≤14.3KW	≤14.3KW	≤14.1KW	≤ 13.2KW
	AC Plug	Three Phase + PE	Three Phase + PE	Three Phase + PE	Three Phase + PE	Three Phase + PE
OUTPUT	Conversion efficiency	≥ 0.92	≥ 0.92	≥ 0.92	≥ 0.92	≥ 0.92
	Rated output voltage	87.6V	87.6V	87.6V	129.6V	172.8V
	Rated output current	65A	150A	150A	100A	70A
	Rated output power	5.7KW	13.1KW	13.1KW	13KW	12.1KW
	DC output voltage	10Vdc ~ 100Vdc	10Vdc ~ 100Vdc	10Vdc ~ 100Vdc	10Vdc ~ 132Vdc	10Vdc ~ 176Vdc
	Output plug	Rema160A	Rema320A	Rema320A	Rema160A	Rema160A
COMM	CAN-BUS	Y	Y	Y	Y	Y
	Protocol	Customized	Customized	Customized	Customized	Customized
OTHER	Battery Type	Lithium	Lithium	Lithium	Lithium	Lithium
	Dimension	378X428X623(mm)	378X428X623(mm)	378X428X623(mm)	378X428X623(mm)	378X428X623(mm)
	Weight	40KG	40KG	40KG	40KG	40KG
	Cooling mode	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling
	Ambient Temperature	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C	-20° C ~ 50° C
	Working humidity	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%	0% ~ 95%
	IP Rating	IP20	IP20	IP20	IP20	IP20
	IP Rating (Optional)	IP54	IP54	IP54	IP54	IP54
	Noise	<65dB	<65dB	<65dB	<65dB	<65dB
	Altitude	<2000m	<2000m	<2000m	<2000m	<2000m

