



DC input side



User's Manual



Video



AC output side



IEC62368-1 BS EN/EN62368-1 (for 112/124 type GFCI only)



■ Features

- Built-in UPS function (AC by-pass)
- True sine wave output (THD<3%)
- High surge power up to 2000W
- Temperature controlled cooling fan
- AC output voltage and frequency selectable by DIP S.W
- -25°C ~ +70°C wide operating temperature
- Power ON-OFF remote control
- Front panel indicator for operation status
- Protections :

Input : Reverse polarity / DC low alarm / DC low shutdown / Over voltage

Output : Short circuit / Overload / Over temp.

- Battery over discharge protection (low voltage disconnect)
- Suitable for lead-acid or li-ion batteries
- Remote controller

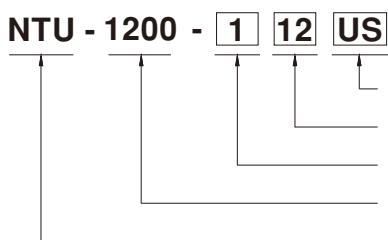
(IRC1, IRC2, IRC3 accessory sold separately, please refer to: <https://www.meanwell.com/webapp/product/search.aspx?prod=IRC1>)

- Support RS-232 communication(Communication cable order No.: DS-RJ11-RS232, sold separately)
- **Carry handle accessory available**(Order NO.: DS-Carry handle, sold separately)
- Conformal coating
- 3 years warranty

■ Description

NTU-1200 is a 1200W highly reliable off-grid true sine wave DC-AC power inverter with built-in UPS function(AC by-pass). Its key features include: digital design with MCU control, streamlined control circuitry that quickly responds to environmental changes and improves reliability, high quality fan with low acoustic noise, 2000W peak power, adjustable AC output voltage and frequency, -25~+70°C wide operating temperature range, complete protection features, and etc. Combined with batteries, the NTU-1200 is suitable for use in residential, commercial, marine, automobile, mine, construction site, and remote areas with no access to utility power, and the output can be used to power fans, TV, radio, phone charger, PC/laptop, lighting, induction stove, air conditioner, electromechanical tool, communication equipment, power distribution cabinet, outdoor camping equipment, marine AC power, factory equipment, and etc.

■ Model Encoding



AC output socket (Type US, EU, CN, AU, UK, UN, GFCI outlet)

DC input voltage (12: 12Vdc, 24: 24Vdc, 48: 48Vdc)

AC output voltage (1: 100/110/115/120Vac, 2:200/220/230/240Vac)

Rated wattage

Series name

SPECIFICATION

MODEL NO.		NTU-1200-112	NTU-1200-124	NTU-1200-148	NTU-1200-212	NTU-1200-224	NTU-1200-248													
		□ = US, GFCI, UN		□ = EU, CN, AU, UK, UN																
AC OUTPUT	RATED POWER(Continuous)	1200W																		
	OVER RATED POWER(3 Min.)	1380W																		
	PEAK POWER(10 Sec.)	1800W																		
	SURGE POWER(30 Cycles)	2000W																		
	AC VOLTAGE	Default setting set at 110VAC 100 / 110 / 115 / 120Vac selectable by DIP S.W		Default setting set at 230VAC 200 / 220 / 230 / 240Vac selectable by DIP S.W																
	FREQUENCY	Default setting set at 60±0.1Hz 50/60Hz selectable by DIP S.W		Default setting set at 50±0.1Hz 50/60Hz selectable by DIP S.W																
	WAVEFORM	Note.1 True sine wave (THD<3%)																		
	AC REGULATION	±3.0% at rated input voltage																		
	FRONT PANEL LED	Please see page 5																		
	DC VOLTAGE	12Vdc	24Vdc	48Vdc	12Vdc	24Vdc	48Vdc													
DC INPUT	VOLTAGE RANGE (Typ.)	10 ~ 16.5Vdc	20 ~ 33Vdc	40 ~ 66Vdc	10 ~ 16.5Vdc	20 ~ 33Vdc	40 ~ 66Vdc													
	DC CURRENT (Typ.)	120A	60A	30A	120A	60A	30A													
	NO LOAD DISSIPATION (Typ.)	NON-SAVING MODE 15W <8W			25W															
	SAVING MODE	Default disable, auto detect AC output load≤10W will be changed to saving mode																		
	OFF MODE CURRENT DRAW	≤1mA																		
	EFFICIENCY (Typ.)	Note.1 89%	90%	91%	90%	92%	93%													
PROTECTION	BATTERY TYPES		Lead Acid or li-ion																	
	FUSE (INTERNAL)		40A*4	40A*2	25A*2	40A*4	40A*2	25A*2												
	LOW	ALARM	11±0.3Vdc	22±0.5Vdc	44±1Vdc	11±0.3Vdc	22±0.5Vdc	44±1Vdc												
		SHUTDOWN	10±0.3Vdc	20±0.5Vdc	40±1Vdc	10±0.3Vdc	20±0.5Vdc	40±1Vdc												
		RESTART	12.5±0.3Vdc	25±0.5Vdc	50±1Vdc	12.5±0.3Vdc	25±0.5Vdc	50±1Vdc												
	HIGH	ALARM	15.5±0.3Vdc	31±0.5Vdc	62±1Vdc	15.5±0.3Vdc	31±0.5Vdc	62±1Vdc												
		SHUTDOWN	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc												
		RESTART	15±0.3Vdc	30±0.5Vdc	60±1Vdc	15±0.3Vdc	30±0.5Vdc	60±1Vdc												
	BAT. POLARITY		By internal fuse open																	
	AC OUTPUT	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover																	
		OUTPUT SHORT	Protection type : Shut down o/p voltage, re-power on to recover																	
		OVER LOAD (Typ.)	105 ~ 115% load for 180 sec., 115% ~ 150% load for 10 sec. Protection type : Shut down o/p voltage, re-power on to recover																	
FUNCTION	REMOTE CONTROL	CONNECTOR ACCESSORY	Power ON-OFF remote control by front panel dry contact connector(by RELAY), Open : Normal work ; Short : Remote off Remote controller sold separately, Order No.: IRC1,IRC2,IRC3																	
	RS-232 COMMUNICATION		RS-232 ~ RJ11 Type connector (Please refer to page 4 for more details)																	
AC UPS MODE	AC INPUT RANGE		100/110/115/120Vac±16%, recover±13%																	
	FREQUENCY RANGE		45 ~ 65Hz																	
ENVIRONMENT	TRASFER TIME(Typ.)		10ms inverter ←→ AC by pass																	
	WORKING TEMP.		-25 ~ +70°C (Refer to "Derating curve")																	
	WORKING HUMIDITY		20% ~ 90% RH non-condensing																	
	STORAGE TEMP., HUMIDITY		-30 ~ +70°C / -22 ~ +158°F, 10 ~ 95% RH non-condensing																	
SAFETY & EMC (Note.4)	VIBRATION		10 ~ 500Hz, 3G 10min./cycle, 60min. each along X, Y, Z axes																	
	SAFETY STANDARDS		CB IEC62368-1, Dekra BS EN/EN62368-1, UL458, E13, EAC TP TC 004 approved; Design refer to AS/NZS 62368.1 (Please refer to next page "AC output socket" table for more details)																	
	WITHSTAND VOLTAGE		DC I/P - AC I/P:3.0kVAC DC I/P - AC O/P:3.0kVAC AC O/P - FG:1.5kVAC																	
	EMC EMISSION	Parameter	Standard				Test Level / Note													
		Radiated	FCC for 112,124,148 only(expect for Type-UN)				Class A													
			BS EN/EN55032(CISPR32) for 212,224,248 only(expect for Type-UN)				Class A													
		Conducted	FCC for 112,124,148 only(expect for Type-UN)				Class A													
			BS EN/EN55032(CISPR32) for 212,224,248 only(expect for Type-UN)				Class A													
	Harmonic Current		BS EN/EN61000-3-2				Class A													
	Voltage Flicker		BS EN/EN61000-3-3				-----													
	EMC IMMUNITY		BS EN/EN55024, BS EN/EN55035																	
	Parameter	Standard			Test Level / Note															
	ESD	BS EN/EN61000-4-2			Level 3, 8kV air ; Level 2, 4kV contact															
		Radiated			Level 2															
	EFT / Burst	BS EN/EN61000-4-4			Level 2, 1kV															
		Surge			Level 3, 1kV/Line-Line 2kV/Line-Earth															
	Conducted	BS EN/EN61000-4-6			Level 2															
		Magnetic Field			Level 1															
		Voltage Dips and Interruptions		BS EN/EN61000-4-11					>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods											
OTHERS		MTBF		166.3K hrs min. Telcordia TR/SR-332 (Bellcore) ; 58.3K hrs min. MIL-HDBK-217F (25°C)																
		DIMENSION		333*184*70mm (L*W*H)																
		PACKING		3.3Kg; 2pcs/ 7.6Kg/ 1.25CUFT																
NOTE		1. Efficiency, AC regulation and THD are tested by 900W load, linear load at 12.5Vdc/25Vdc/50Vdc input voltage. 2. All parameters not specified above are measured at rated load, 25°C of ambient temperature and set to factory setting. 3. Internal pre-start circuit, the setup time is 8s. 4. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the 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.meanwell.com)																		
		※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx																		



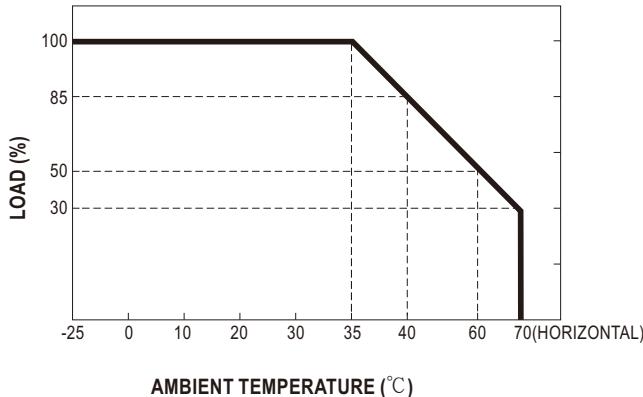
1200W High Reliable True Sine Wave with UPS DC-AC Power Inverter

NTU-1200 series

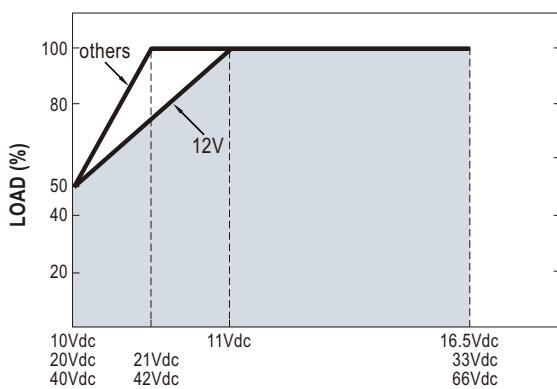
■ AC Output Socket

MODEL NO.	NTU-1200-112	NTU-1200-124	NTU-1200-148	NTU-1200-212	NTU-1200-224	NTU-1200-248
Socket type						
	TYPE-US	TYPE-GFCI	TYPE-UN	TYPE-EU	TYPE-CN	TYPE-UK
	Standard	Optional	Standard	Standard	Standard	Optional
Country	USA	USA	UNIVERSAL	EUROPE	CHINA	U.K
Certificate	CB FC (Except for 48V input)	CB FC (Except for 48V input)	None	CB		

■ DERATING CURVE



AMBIENT TEMPERATURE (°C)

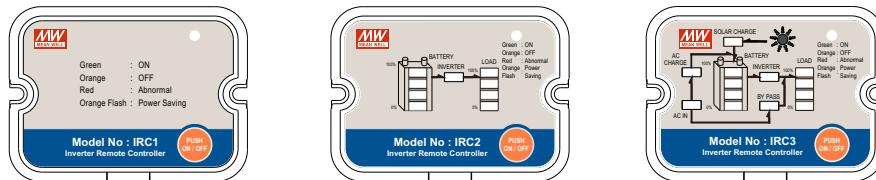


10Vdc 20Vdc 30Vdc 40Vdc 50Vdc 60Vdc 70Vdc 80Vdc 90Vdc 100Vdc

■ IRC1/2/3 Remote Controller (Accessory sold separately)

- IRC1/IRC2/IRC3 is the monitoring and control unit.
- IRC1/IRC2/IRC3 can decode the RS-232 signals sent by the inverter series and display through digital meters.

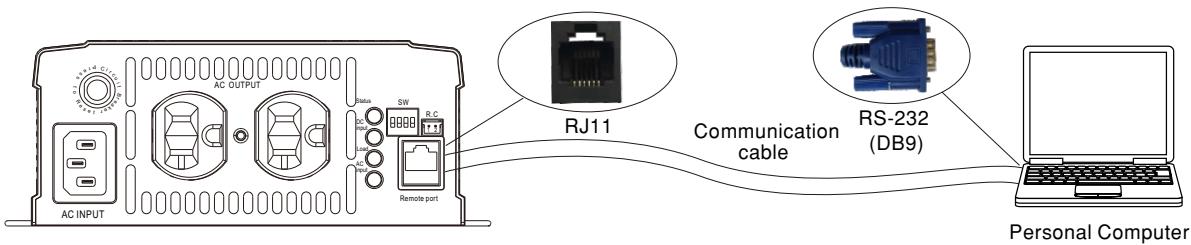
Note: Part of the control signals will not function properly due to different compliance of each model.



※ Please refer to for more detail: <https://www.meanwell.com/webapp/product/search.aspx?prod=IRC1>

■ Support RS-232 Communication

- The internal data of single NTU-1200 can be read through RS-232.



※ Please refer to for more detail: <http://www.meanwell.com/manual.html>

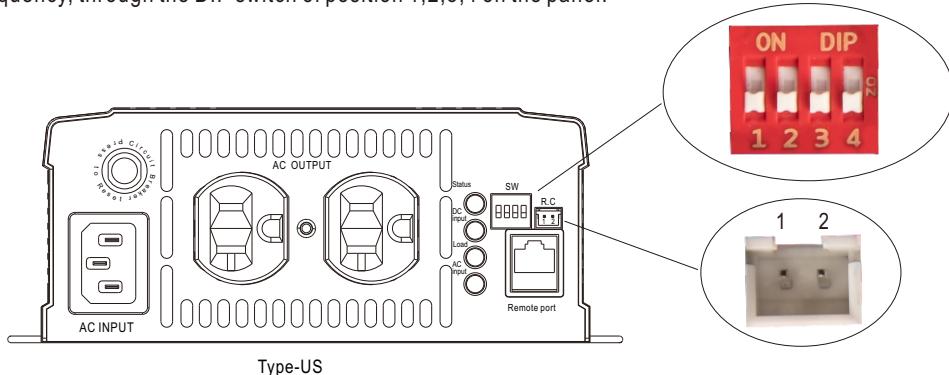
※ RJ11-RS232 Communication cable should be ordered separately, Order No.: DS-RJ11-RS232

■ Remote ON-OFF Control (Built-in)

Remote ON-OFF	AC Output Status
Open	power inverter ON
Short	power inverter OFF

■ AC Output Voltage, Frequency, Power saving mode selectable by DIP SW

Output voltage and frequency setting factory settings are either 110Vac/60Hz or 230Vac/50Hz, users are able to adjust the voltage and frequency, through the DIP switch of position 1,2,3,4 on the panel.



AC Output Voltage, Frequency, Power saving mode selectable by DIP SW

SW1	SW2	SW3	SW4
OFF	OFF : 100Vac or 200Vac	ON : 50Hz	ON : Saving mode
OFF	ON : 110Vac or 220Vac		
ON	OFF : 115Vac or 230Vac	OFF: 60Hz	OFF: Non-Saving mode
ON	ON : 120Vac or 240Vac		



1200W High Reliable True Sine Wave with UPS DC-AC Power Inverter

NTU-1200 series

■ LED STATUS

Normal work:

Status	Green	Orange	Red
	Inverter OK	Remote off Saving mode	Abnormal Status (See below table)

DC Input	Green	Orange	Red
	12.5~15.5Vdc 25~31Vdc 50~62Vdc	11~12.5Vdc 22~25Vdc 44~50Vdc	<11Vdc or >15.5Vdc <22Vdc or >31Vdc <44Vdc or >62Vdc

Load	Green	Orange	Red
	<40% load	40~80% load	>80% load

AC Input	Green	-----	-----
	Utility OK Utility error Utility disconnected	-----	-----

Abnormal status :

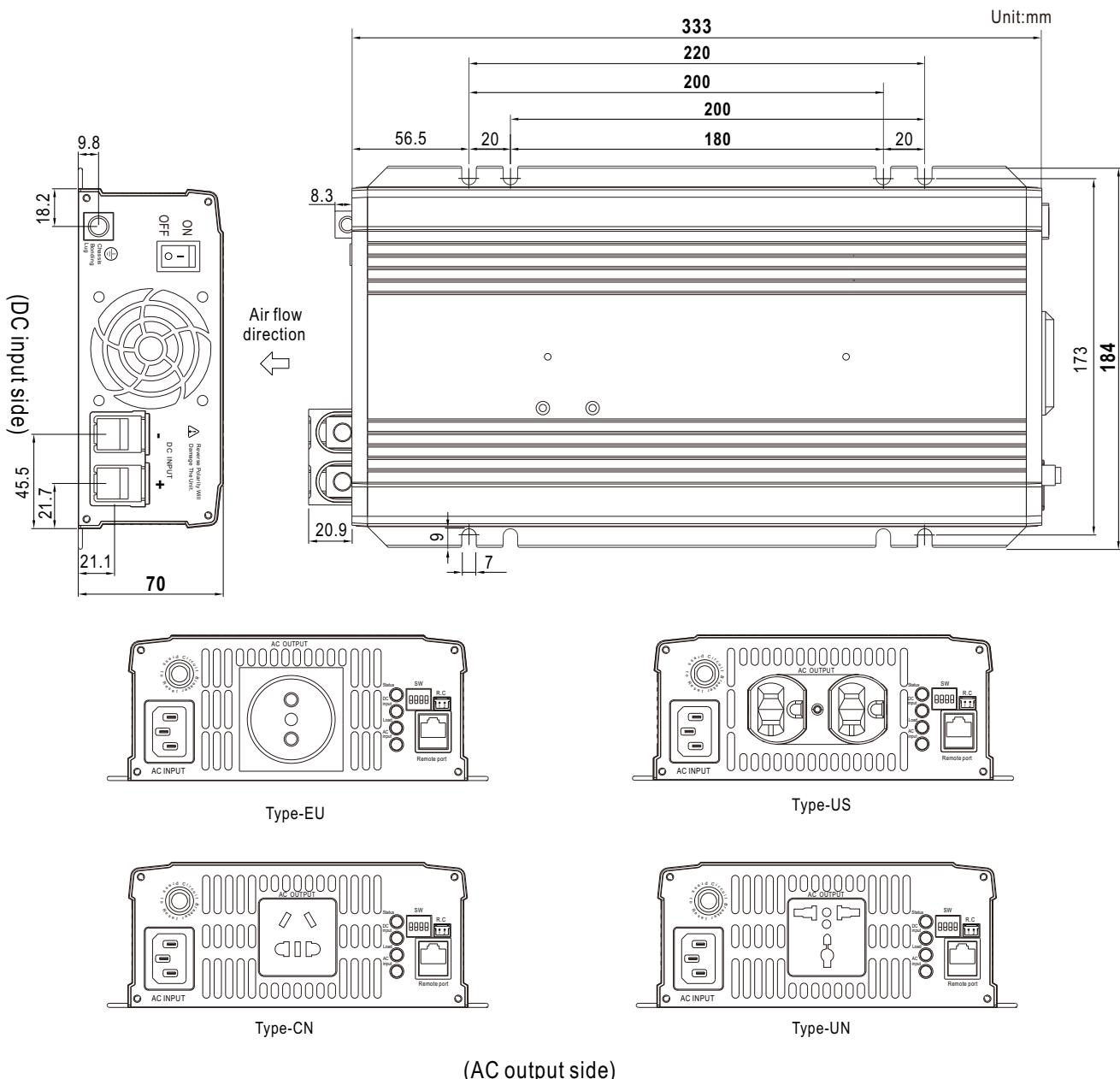
LED Indicator	Abnormal Indication
Status DC Input Load	Output overload or AC output short circuit
Status DC Input Load	Abnormal DC voltage
Status DC Input Load	Over temperature or Fan lock
Status DC Input Load	Inverter fail

Light

Light off

Flash

■ MECHANICAL SPECIFICATION



R.C Connector : JST B-XH or equivalent

Remote Control	Mating Housing	Terminal
Pin 1,2 Open: Normal work	JST XHP or equivalent	JST SXH-001T or equivalent
Pin 1,2 Short: Remote off		

Remote port connector (RJ11)



Assignment	Rx	GND	Tx
Remote port	2	3	4
DB9	3	5	2



1200W High Reliable True Sine Wave with UPS DC-AC Power Inverter

NTU-1200 series

■ Accessory List

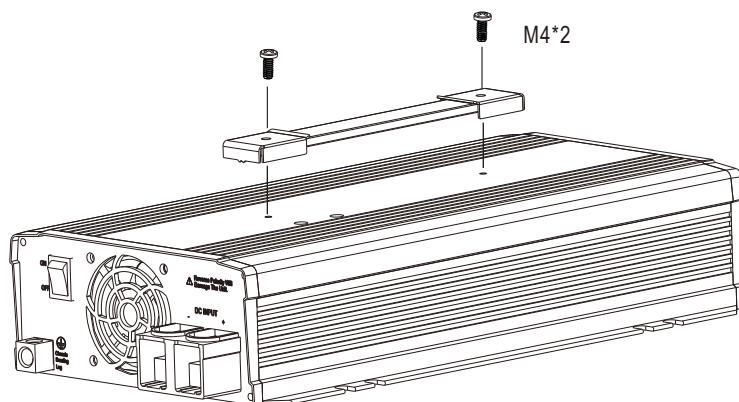
※ Communication cable (Optional accessory, Power inverter and Communication cable should ordered separately)

MW's Order No.	Item	Quantity
DS-RJ11-RS232		1

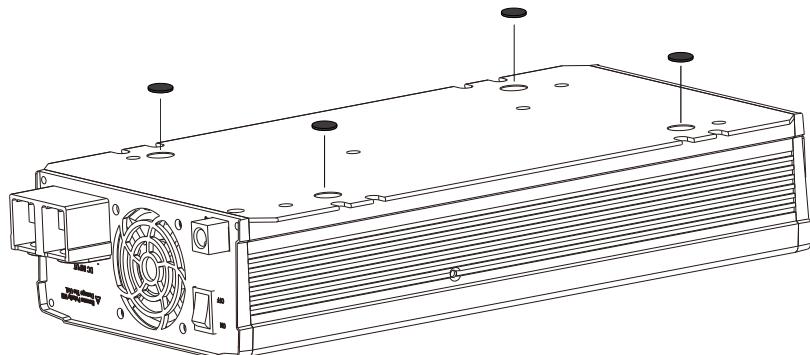
※ Carry handle (Optional accessory, Power inverter and Pull handle should ordered separately)

MW's Order No.	Item	Quantity
DS-Carry Handle	① Handle 	1
	② Foot pad 	4
	③ Screw 	2

① Handle



② Foot pad



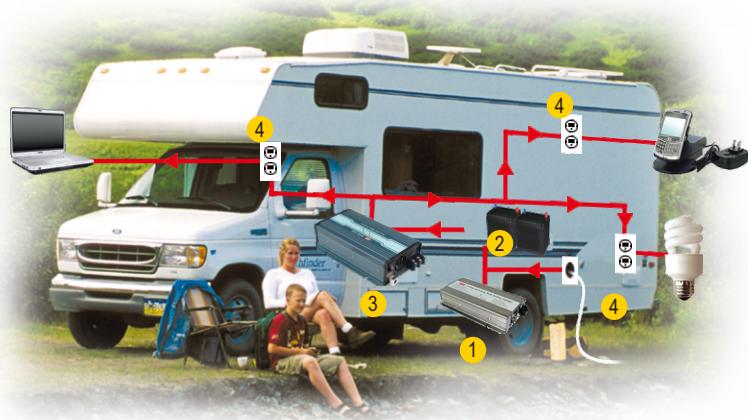
■ TYPICAL APPLICATION



- 1 Battery Bank
- 2 Off-Grid DC/AC Solar Inverter (NTU series)
- 3 AC Outlet



- 1 Utility Input (Shore)
- 2 AC/DC Battery Charger (PB/NPB/NPP series)
- 3 Battery Bank
- 4 Off-Grid DC/AC Power Inverter (NTU series)
- 5 AC Outlet



- 1 AC/DC Battery Charger (PB/NPB/NPP series)
- 2 Battery Bank
- 3 Off-Grid DC/AC Inverter (NTU series)
- 4 AC Outlet

■ INSTALLATION MANUAL

Please refer to : <http://www.meanwell.com/manual.html>