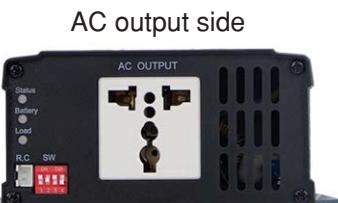




450W High Reliable True Sine Wave DC-AC Power Inverter

NTS-450 series



■ Features

- Compact size and light weight
- True sine wave output (THD<3%)
- High surge power up to 900W
- Temperature controlled cooling fan
- AC output voltage and frequency selectable by DIP S.W
- No load dissipation <1.5W max. at standby saving mode
- -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
- [Carry handle accessory available](#)(Order NO.: DS-Carry handle, sold separately)
- Conformal coating
- 3 years warranty

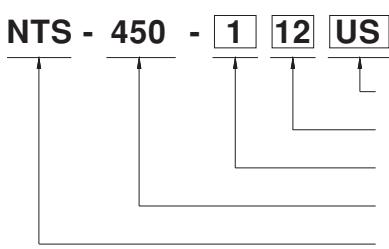
■ Applications

- Mobile device
- Home and office appliance
- Power tools
- Portable equipment
- Vehicle
- Yacht
- Off-grid solar power system
- Wireless network
- Telecom or datacom system

■ Description

NTS-450 is a 450W highly reliable off-grid true sine wave DC-AC power inverter. 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, 900W peak power, adjustable AC output voltage and frequency, -25~+70°C wide operating temperature range, complete protections features, and etc. combined with batteries, the NTS-450 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, 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.		NTS-450-112□	NTS-450-124□	NTS-450-148□	NTS-450-212□	NTS-450-224□	NTS-450-248□		
		□ = US, GFCI, UN							
AC OUTPUT	RATED POWER(Continuous)	450W							
	OVER RATED POWER(3 Min.)	517.5W							
	PEAK POWER(10 Sec.)	675W							
	SURGE POWER(30 Cycles)	900W							
	AC VOLTAGE	Default setting set at 110VAC			Default setting set at 230VAC				
		100 / 110 / 115 / 120Vac selectable by DIP S.W			200 / 220 / 230 / 240Vac selectable by DIP S.W				
	FREQUENCY	Default setting set at 60Hz±0.1Hz			Default setting set at 50Hz±0.1Hz				
		50/60Hz selectable by DIP S.W			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 refer to page5							
DC INPUT	DC VOLTAGE	12V	24V	48V	12V	24V	48V		
	VOLTAGE RANGE (Typ.)	10 ~ 16.5Vdc	20 ~ 33Vdc	40 ~ 66Vdc	10 ~ 16.5Vdc	20 ~ 33Vdc	40 ~ 66Vdc		
	DC CURRENT (Typ.)	50A	25A	14A	50A	25A	14A		
	NO LOAD DISSIPATION (Typ.)	10W	10W	12W	10W	10W	12W		
	SAVING MODE	Default disable, ≤1.2W ~ 1.5W by models @ auto detec AC output load ≤10W will be changed to saving mode							
	1.2W	1.3W	1.5W	1.2W	1.3W	1.5W			
	OFF MODE CURRENT DRAW	≤1mA							
EFFICIENCY (Typ.)		Note.1 88%	91%	91%	90%	93%	93%		
BATTERY TYPES		Lead Acid or li-ion							
PROTECTION	DC INPUT	FUSE (Internal)	40A*2	40A*1	10A*2	40A*2	40A*1		
		ALARM	11±0.3Vdc	22±0.5Vdc	44±1Vdc	11±0.3Vdc	22±0.5Vdc		
		LOW SHUTDOWN	10±0.3Vdc	20±0.5Vdc	40±1Vdc	10±0.3Vdc	20±0.5Vdc		
		RESTART	12.5±0.3Vdc	25±0.5Vdc	50±1Vdc	12.5±0.3Vdc	25±0.5Vdc		
		HIGH	15.5±0.3Vdc	31±0.5Vdc	62±1Vdc	15.5±0.3Vdc	31±0.5Vdc		
		ALARM	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc	16.5±0.3Vdc	33±0.5Vdc		
	AC OUTPUT	SHUTDOWN	15±0.3Vdc	30±0.5Vdc	60±1Vdc	15±0.3Vdc	30±0.5Vdc		
		RESTART							
		BAT. POLARITY	By internal fuse open						
		OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover						
FUNCTION		OUTPUT SHORT	Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	OVER LOAD (Typ.)		105 ~ 115% load for 180 sec., 115% ~ 150% load for 10 sec.						
	GFCI PROTECTION		Protection type : Shut down o/p voltage, re-power on to recover						
	OVER TEMPERATURE		Design refer to UL458 (Only for "GFCI" AC socket, by request)						
	GFCI PROTECTION		None						
SAFETY & EMC (Note.4)		REMOTE CONTROL	Power ON-OFF remote control by front panel dry contact connector (by RELAY); Open : Normal work ; Short , Remote off						
ENVIRONMENT	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						
	VIBRATION		10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes						
SAFETY & EMC (Note.4)	SAFETY STANDARDS		CB IEC62368-1,Dekra BS EN/EN62368-1,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) ; Design refer to UL458 (By request)						
	WITHSTAND VOLTAGE		DC I/P - AC O/P:3.0KVac AC O/P - FG:1.5KVac						
	EMC EMISSION	Parameter	Standard						
		Radiated	FCC for 112,124,148 only(expect for Type-UN)						
		Harmonic Current	BS EN/EN55032(CISPR32) for 212,224,248 only(expect for Type-UN)						
		Voltage Flicker	BS EN/EN61000-3-3						
	EMC IMMUNITY		BS EN/EN55024, BS EN/EN55035						
	Parameter	Standard							
	ESD	BS EN/EN61000-4-2							
	Radiated	BS EN/EN61000-4-3							
OTHERS	Magnetic Field		BS EN/EN61000-4-8						
	MTBF		281.3K hrs min. Telcordia TR/SR-332 (Bellcore); 85K hrs min. MIL-HDBK-217F (25°C)						
	DIMENSION		210*130*55mm (L*W*H)						
NOTE		PACKING						1.3Kg; 8pcs/ 11.4Kg/ 1.74CUFT	
		1.Efficiency, AC regulation and THD are tested by 450W, 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							



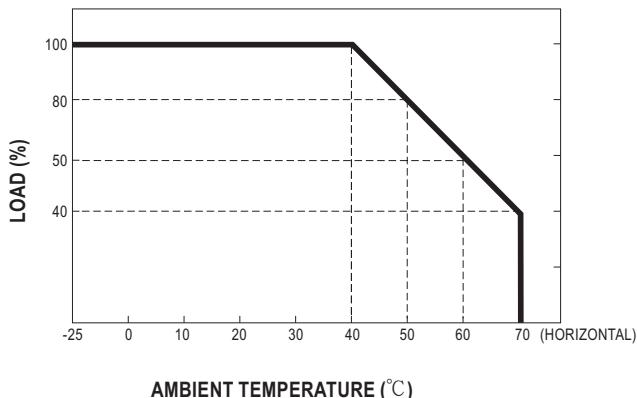
450W High Reliable True Sine Wave DC-AC Power Inverter

NTS-450 series

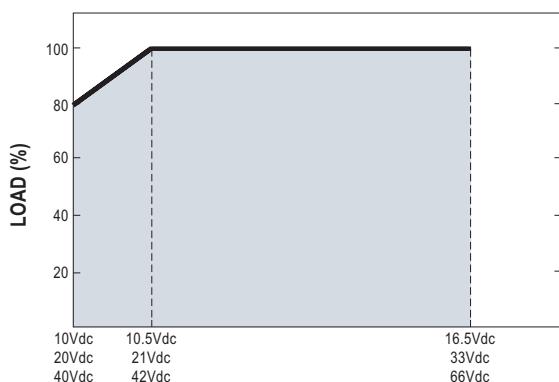
■ AC Output Socket

MODEL NO.	NTS-450-112	NTS-450-124	NTS-450-148	NTS-450-212	NTS-450-224	NTS-450-248
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 DEKRA	CB FC	None	CB E13 DEKRA EAC CE UK CA	CB E13 DEKRA EAC CE UK CA	E13 EAC

■ DERATING CURVE



AMBIENT TEMPERATURE (°C)

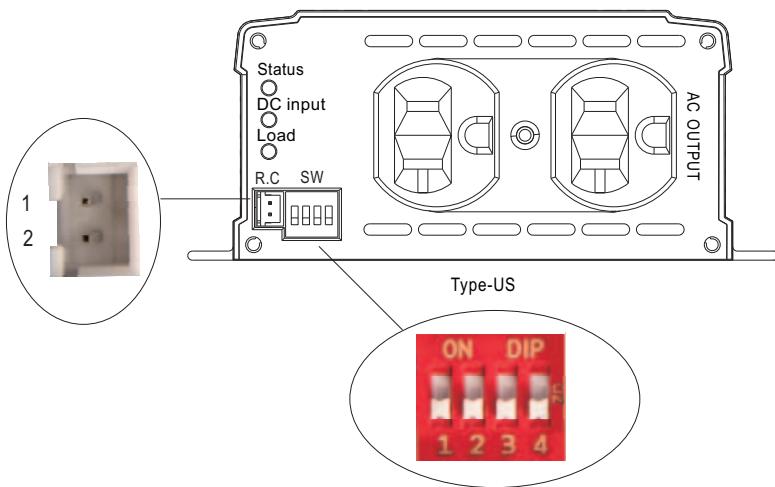


■ Remote ON-OFF Control

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		



450W High Reliable True Sine Wave DC-AC Power Inverter

NTS-450 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

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

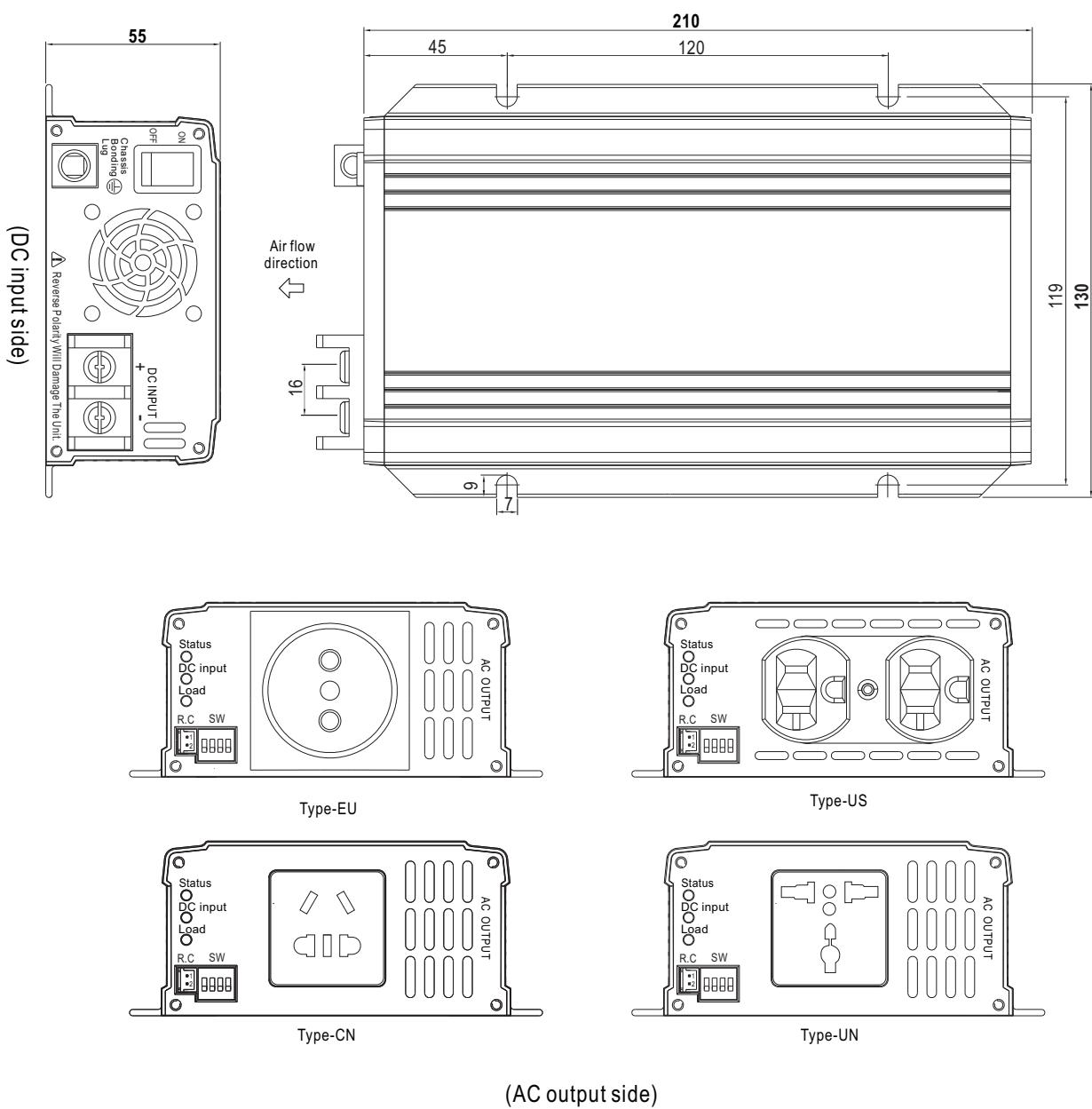
Light

Light off

Flash

■ MECHANICAL SPECIFICATION

Unit:mm



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		



450W High Reliable True Sine Wave DC-AC Power Inverter

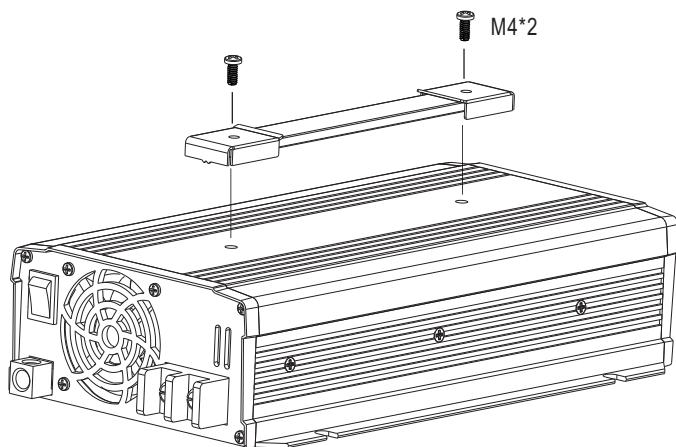
NTS-450 series

■ Accessory List

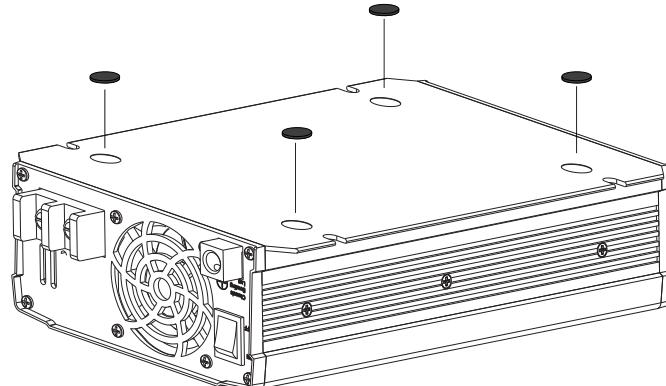
※ Carry handle (Optional accessory, Power inverter and Pull handle should ordered separately)

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

① Handle



② Foot pad



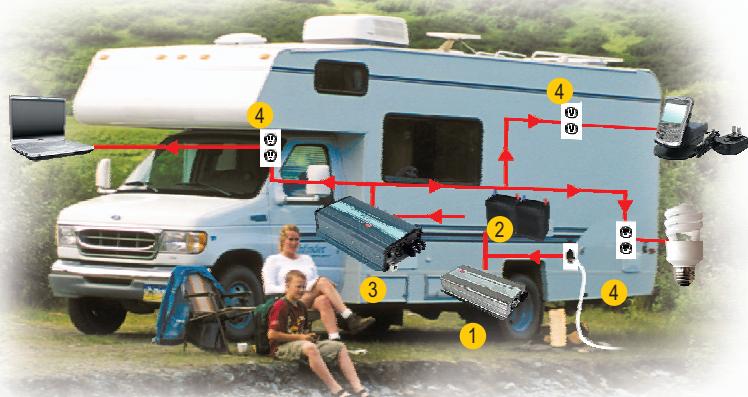
■ TYPICAL APPLICATION



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



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

■ INSTALLATION MANUAL

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