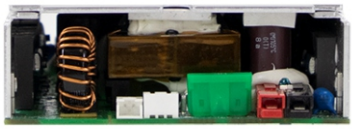
250W High Reliable Built-in Type True Sine Wave DC-AC Power Inverter NTS-250P series





(DC input side)



(AC output side)

User's Manual Click Me

Video Click Me

CSA/UL 62368-1 IEC62368-1 TPTC004 AS/NZS 62368.1

Please refer to page3 for more details.

Household Railway Car Use Marine Network Telecom

Features

- Compact size and light weight
- True sine wave output (THD<3%)
- High surge power up to 500W
- Fanless design, cooling by free air convention
- AC output voltage and frequency selectable by DIP S.W
- No load disspation <1.5W max. at standby saving mode
- -20℃~+70℃ wide operating temperature
- Power ON-OFF remote control
- 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
- Support Tx/Rx for monitoring power inverter status
- Conformal coating
- 3 years warranty

Applications

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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

NTS-250P is a 250W highly reliable built-in type 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, compact size, light weight, fanless quiet design, 500W peak power, adjustable AC output voltage and frequency, -20~+70℃ wide operating temperature range, built-in remote ON/OFF control, low no-load power consumption (energy saving mode < 1.5W max.), complete protection features, and etc. Combined with batteries, the NTS-250P is suitable for use in residential, commercial, marine, automobile, 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, outdoor camping equipment, marine AC power, and etc.

Model Encoding

NTS - 250 P - 1 12

- 12: DC input voltage (12: 12Vdc, 24: 24Vdc, 48: 48Vdc)
- 1: AC output voltage (1: 100/110/115/120Vac, 2:200/220/230/240Vac)
- P: PCB built-in type
- 250: Rated wattage
- NTS: Series name

250W High Reliable Built-in Type True Sine Wave DC-AC Power Inverter NTS-250P series

SPECIFICATION

MODEL NO.			NTS-250P-112	NTS-250P-124	NTS-250P-148	NTS-250P-212	NTS-250P-224	NTS-250P-248
AC OUTPUT	RATED POWER(Continuous)		250W					
	OVER RATED POWER(3 Min.)		287.5W					
	PEAK POWER(10 Sec.)		375W					
	SURGE POWER(30 Cycles)		500W					
	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 output voltage					
	LED STATUS		Please refer to page3					
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.)		25A	13A	7A	25A	13A	7A
	NO LOAD DISSPATION (Typ.)	Non-Saving mode	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 at battery ~DC input must be disconnected					
	EFFICIENCY (Typ.) Note.1		91%	91%	92%	92%	93%	93%
	BATTERY TYPES		Lead Acid or Li-ion					
PROTECTION DC INPUT	FUSE(Internal)		30A*2	30A*1	10A*2	30A*2	30A*1	10A*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		Power ON-OFF remote control by front panel dry contact connector (by RELAY), Open : Normal work ; Short : Remote off					
	Tx/Rx		Support Tx/Rx for monitoring power inverter status					
ENVIRONMENT	WORKING TEMP.		-20 ~ +70℃ (Refer to "Derating curve")					
	WORKING HUMIDITY		20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-30 ~ +70℃ / -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 2ed, CSA/UL 62368-1 3ed for all models; E13, EAC TPTC004, AS/NZS 62368.1 for NTS-250P-212/224/248 approved (Please refer to next page "Safety overview" table for more details)					
	WITHSTAND VOLTAGE		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		Class A	
					BS EN/EN55032(CISPR32) for 212,224,248 only		Class A	
			Harmonic Current		BS EN/EN61000-3-2		-----	
			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 4, 15KV air ; Level 4, 8KV contact	
			Radiated		BS EN/EN61000-4-3		Level 3, 10V/m	
			Magnetic Field		BS EN/EN61000-4-8		Level 4, 30A/m	
OTHERS	MTBF		836.9K hrs min. Telcordia TR/SR-332 (Bellcore) ; 84K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		186*100.5*34mm (L*W*H)					
	PACKING		0.87Kg; 18pcs/ 16.6Kg/ 1.01CUFT					

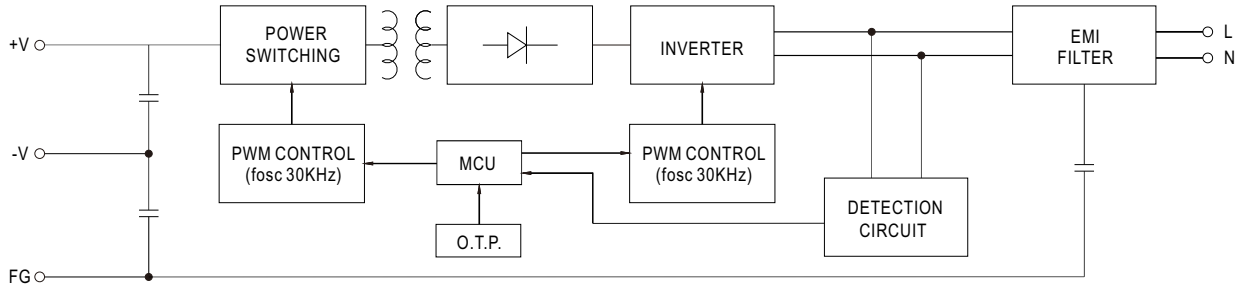
NOTE

1.Efficiency, AC regulation and THD are tested by 250W, linear load at 12.5Vdc/25Vdc/50Vdc input voltage.
2.All parameters not specified above are measured at rated load, 25℃ 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 https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

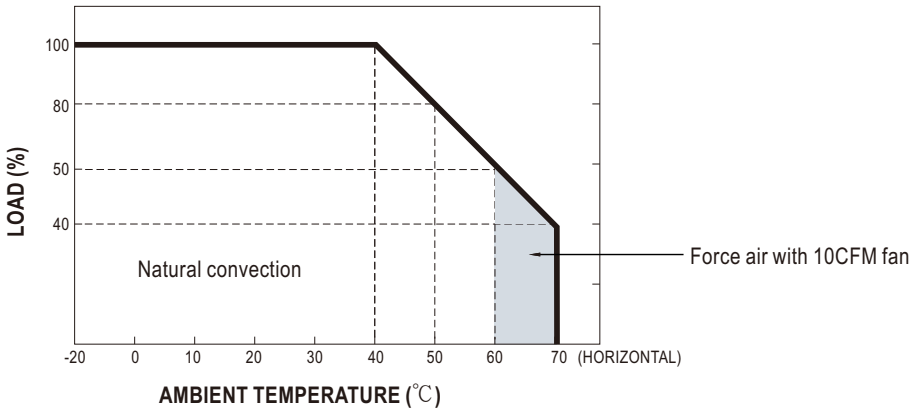
■ Safety Overview

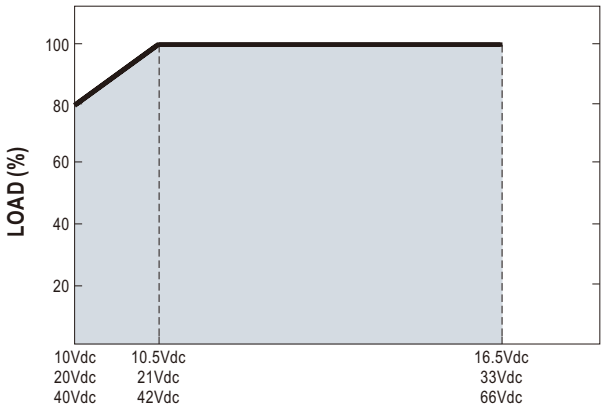
MODEL NO.	Certificate
NTS-250P-112/124/148	
NTS-250P-212/224/248	

■ Block Diagram



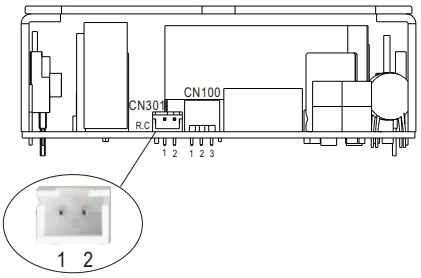
■ DERATING CURVE





■ Remote ON-OFF Control

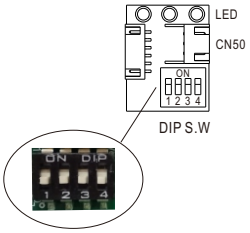
Remote ON-OFF (CN301 PIN1,2)	AC Output Status
Open	power inverter ON
Short	power inverter OFF



■ 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.

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		



■ Support Tx/Rx for monitoring power inverter status

Users can monitor the status of the power inverter through Tx/Rx, and can modify the input and output parameters set internally.

■ LED STATUS

Normal work:

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

	Green	Orange	Red
DC Input	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

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

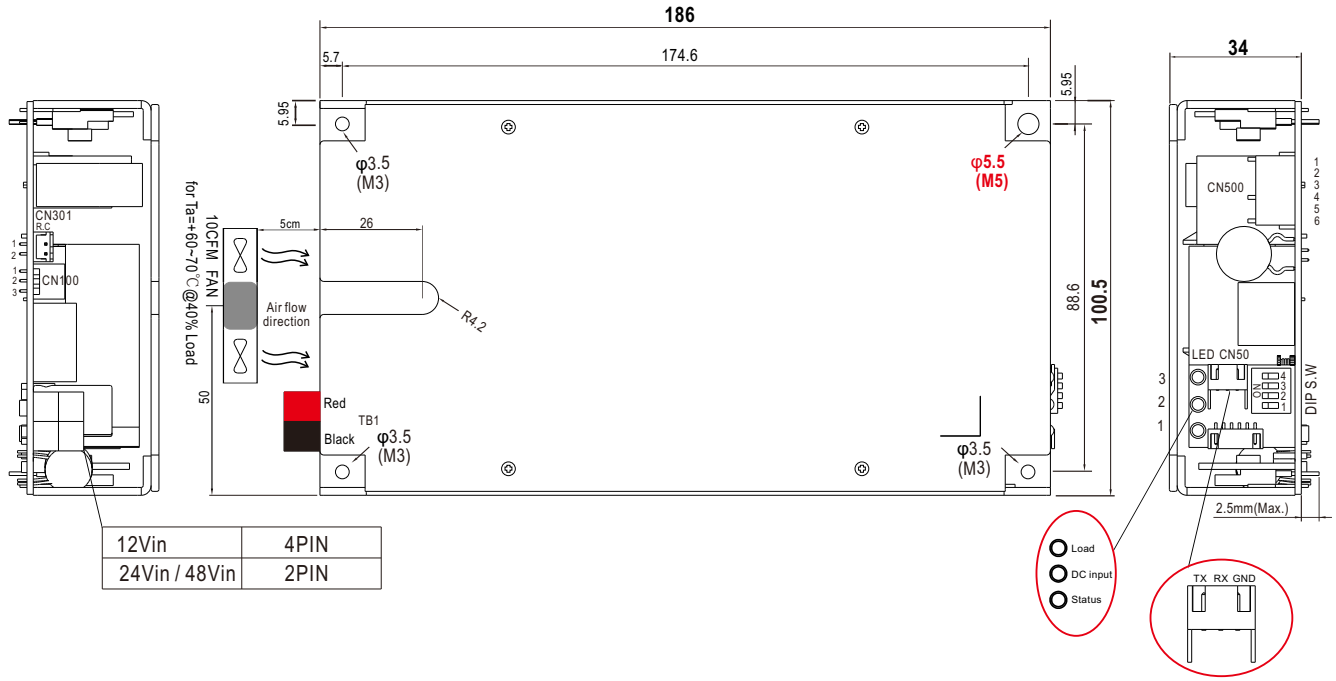
Abnormal status :

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 , tolerance ± 1mm)



DC Input Connector(TB1): Anderson 1327 &1327G6 or equivalent

Pin No.	Description	Mating Housing	Terminal
Red	DC Input +V	1327 or equivalent	261G2-LPBK or equivalent
Black	DC Input -V	1327G6 or equivalent	

AC Output Connector(CN500): JST B6P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	FG	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2,3	NC		
4	Output AC/N		
5	NC		
6	Output AC/L		

Remote ON-OFF Control Connector(CN301): JST S2B-XH-A or equivalent

Pin No.	Description	Mating Housing	Terminal
1	Pin 1,2 Open: Inverter Normal work	JST XHP or equivalent	JST SXH-001T or equivalent
2	Pin 1,2 Short: Inverter Remote off		

Communicating Function Connector(CN50): CHYAO SHIUN JS-100R-03 or equivalent

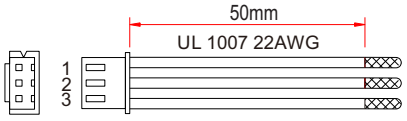
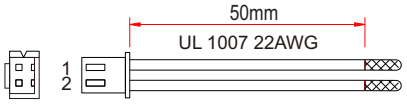
Pin No.	Description	Mating Housing	Terminal
1	Signal GND	CHYAO SHIUNN JS-2001 or equivalent	CHYAO SHIUNN JS-2001-TX or equivalent
2	UART-RX		
3	UART-TX		

FAN Connector(CN100): JST B3B-XH-A or equivalent
Suggested Fan model: CCHV CHT4012BH-W20D 4020B

Pin No.	Description		Mating Housing	Terminal
1	Fan supply +V	12V/0.4A max.	JST XHP or equivalent	JST SXH-001T or equivalent
2	Fan supply -V			
3	PWM signal for Fan speed control			

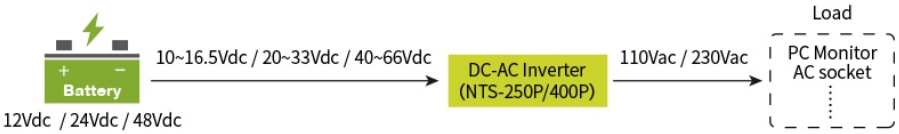
DIP SW： Please refer to page4 for more detail

■ Accessory List

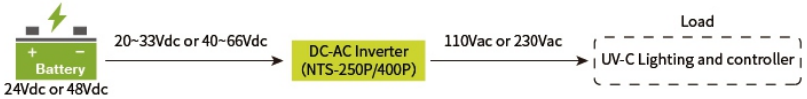
No.	Item		Quantity
1	Control function interface(CN50,CN100) mating wire along with NTS-250P (standard accessory)	 CHYAO SHIUNN JS-2001-TX or equivalent	2pcs/per model
2	Control function interface(CN301) mating wire along with NTS-250P (standard accessory)	 JST SXH-001T or equivalent	1pcs/per model

■ TYPICAL APPLICATION









■ INSTALLATION MANUAL

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

300W High Reliable True Sine Wave DC-AC Power Inverter

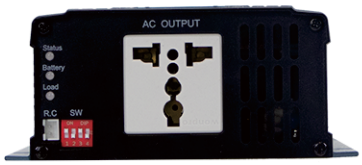
NTS-300 series



DC input side



AC output side



User's Manual

Video

IEC62368-1 CSA/UL62368-1 BS EN/EN62368-1 TPTC004 AS/NZS 62368.1

Please refer to page3 for more details.

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Features

- Compact size and light weight
- True sine wave output (THD<3%)
- High surge power up to 600W
- **Fanless design**
- AC output voltage and frequency selectable by DIP S.W
- No load disspation **<1.5W** max. at standby saving mode
- -25℃~+65℃ 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.: 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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

NTS-300 is a 300W 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, 600W peak power, adjustable AC output voltage and frequency, -25~+65℃ wide operating temperature range, complete protections features, and etc. combined with batteries, the NTS-300 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

NTS - 300 - 1 12 US

- US: AC output socket (Type US, EU, CN, AU, UK, UN, GFCI outlet)
- 12: DC input voltage (12: 12Vdc, 24: 24Vdc, 48: 48Vdc)
- 1: AC output voltage (1: 100/110/115/120Vac, 2:200/220/230/240Vac)
- 300: Rated wattage
- NTS: Series name

300W High Reliable True Sine Wave DC-AC Power Inverter NTS-300 series

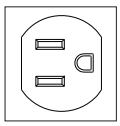
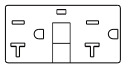
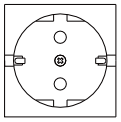
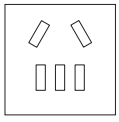
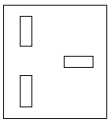
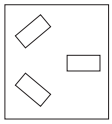
SPECIFICATION

MODEL NO.			NTS-300-112☐	NTS-300-124☐	NTS-300-148☐	NTS-300-212☐	NTS-300-224☐	NTS-300-248☐
			☐ = US, GFCI, UN			☐= EU, CN, AU, UK, UN		
AC OUTPUT	RATED POWER(Continuous)		300W					
	OVER RATED POWER(3 Min.)		345W					
	PEAK POWER(10 Sec.)		450W					
	SURGE POWER(30 Cycles)		600W					
	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 output 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.)		30A	15A	8A	30A	15A	8A
	NO LOAD DISSIPATION (Typ.)	NON-SAVING MODE	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		90%	92%	92%	92%	93%	93%
	BATTERY TYPES		Lead Acid or li-ion					
PROTECTION	DC INPUT	FUSE (Internal)	30A*2	30A*1	10A*2	30A*2	30A*1	10A*2
		LOW ALARM	11±0.3Vdc	22±0.5Vdc	44±1Vdc	11±0.3Vdc	22±0.5Vdc	44±1Vdc
		LOW SHUTDOWN	10±0.3Vdc	20±0.5Vdc	40±1Vdc	10±0.3Vdc	20±0.5Vdc	40±1Vdc
		LOW 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
		HIGH SHUTDOWN	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc
		HIGH 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					
		GFCI PROCTECTION	Design refer to UL458 (Only for "GFCI" AC socket , by request)	None				
FUNCTION	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 ~ +65℃ (Refer to "Derating curve")					
	WORKING HUMIDITY		20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-30 ~ +70℃ / -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,CSA/UL62368-1,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	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			
			Harmonic Current	BS EN/EN61000-3-2	-----			
			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	BS EN/EN61000-4-3	Level 2, 3V/m			
			Magnetic Field	BS EN/EN61000-4-8	Level 1, 1A/m			
OTHERS	MTBF		845.6K hrs min. Telcordia TR/SR-332 (Bellcore) ; 85.3K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		210*130*55mm (L*W*H)					
	PACKING		1.3Kg; 8pcs/ 11.4Kg/ 1.74CUFT					

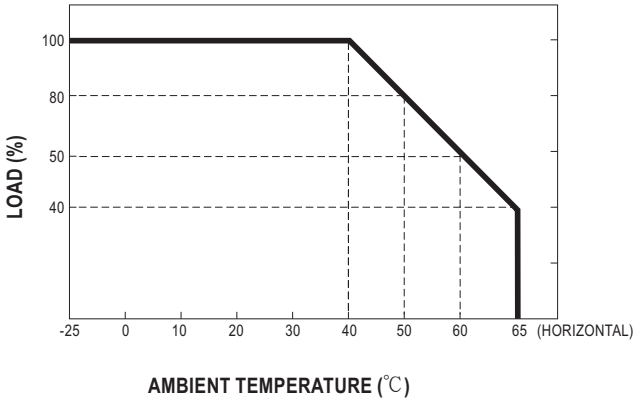
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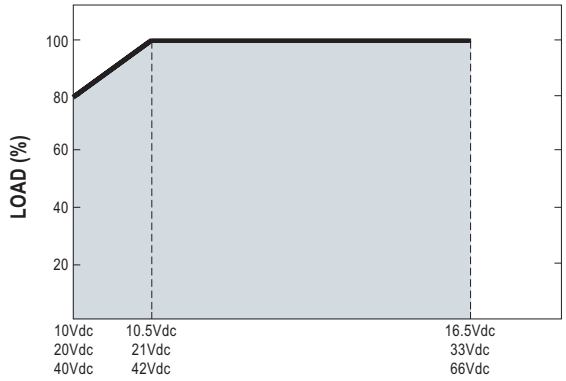
1.Efficiency, AC regulation and THD are tested by 300W, linear load at 12.5Vdc/25Vdc/50Vdc input voltage.
2.All parameters not specified above are measured at rated load, 25℃ of ambient temperature and set to factory setting.
3.Internal pre-start circuit, the setup time is 8s.
4.The power supply is considered 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 https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ AC Output Socket

MODEL NO.	NTS-300-112☐	NTS-300-124☐	NTS-300-148☐	NTS-300-212☐		NTS-300-224☐		NTS-300-248☐	
Socket type									
	TYPE-US	TYPE-GFCI	TYPE-UN	TYPE-EU	TYPE-CN	TYPE-UK	TYPE-AU	TYPE-UN	
	In Stock	By request	In Stock	In Stock	In Stock	By request	By request	In Stock	
Country	USA	USA	UNIVERSAL	EUROPE	CHINA	U.K	AUSTRALIA	UNIVERSAL	
Certificate	CB FC DEKRA SP C US	CB FC SP C US	None	CB E13 DEKRA EAC CE UK CA			CB E13 DEKRA EAC CE UK CA	E13 EAC	

■ DERATING CURVE



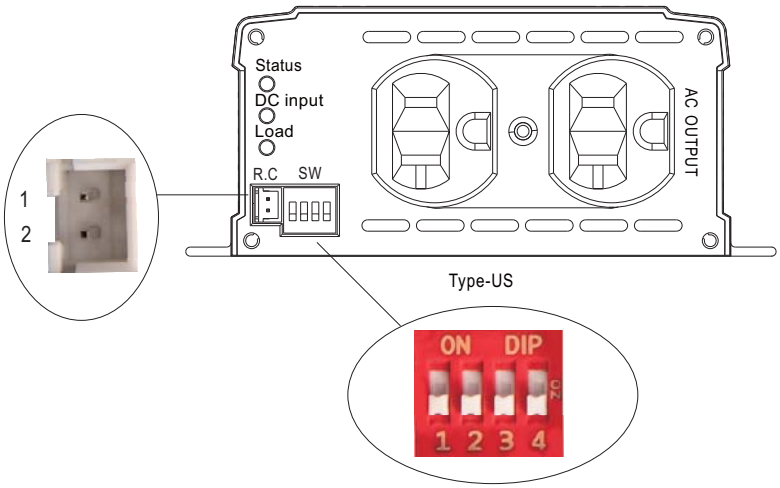


■ Remote ON-OFF Control

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		

■ LED STATUS

Normal work:

Status	Green	Orange	Red
	System check 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 :

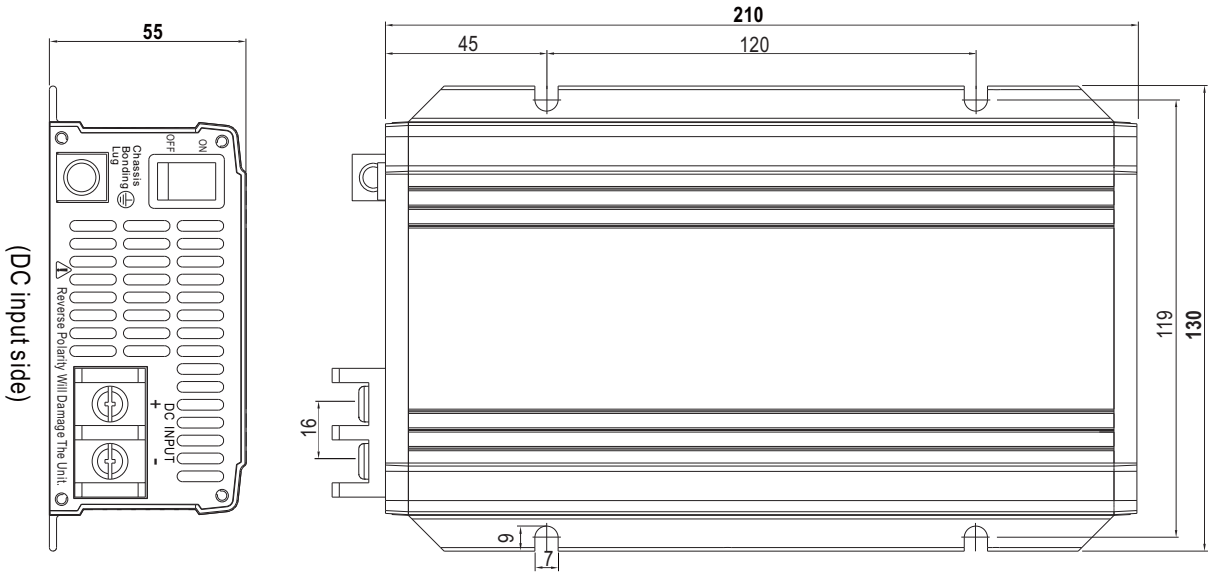
LED Indicator	Abnormal Indication
Status ● DC Input ○ Load ☀	Output overload or AC output short circuit
Status ● DC Input ☀ Load ○	Abnormal DC voltage
Status ● DC Input ☀ Load ☀	Over temperature or Fan lock
Status ☀ DC Input ○ Load ○	Inverter fail

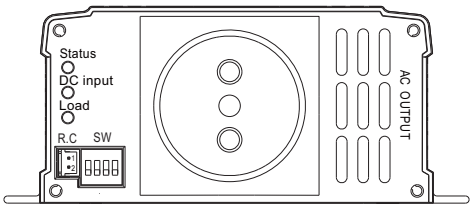
● Light
○ Light off
☀ Flash

■ MECHANICAL SPECIFICATION

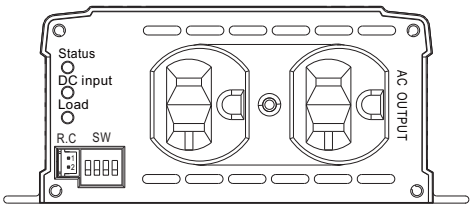
(Unit: mm , tolerance ± 1mm)

Case No. 282A

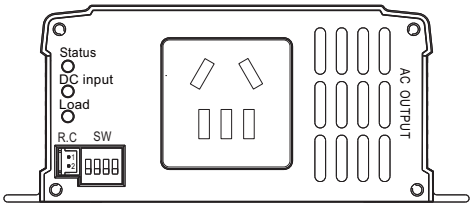




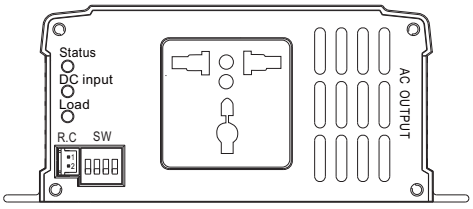
Type-EU



Type-US



Type-CN



Type-UN

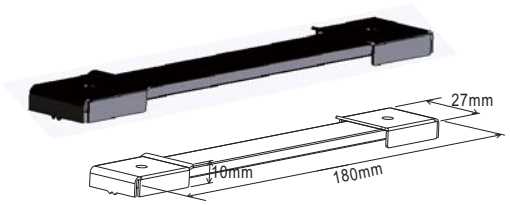
(AC output side)

R.C Connector : JST B-XH or equivalent

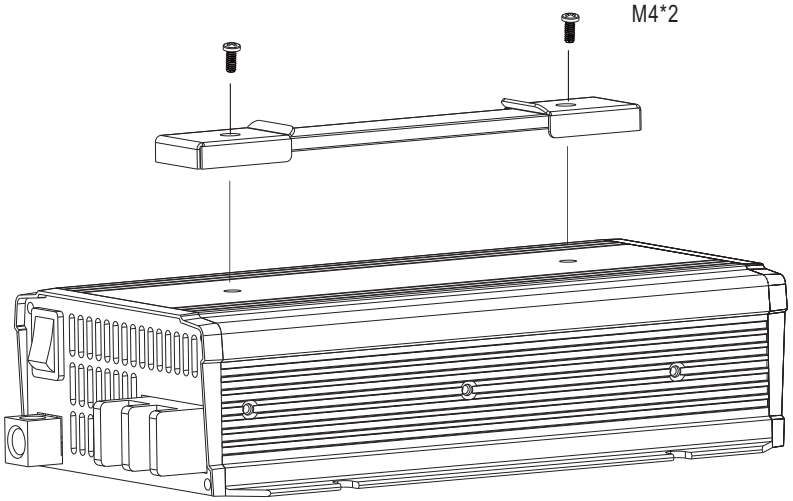
Remote Control	Mating Housing	Terminal
Pin 1,2 Open: Normal work	JST XHP or equivalent	JST SXH-001T or equivalent
Pin 1,2 Short: Remote off		

■ Accessory List

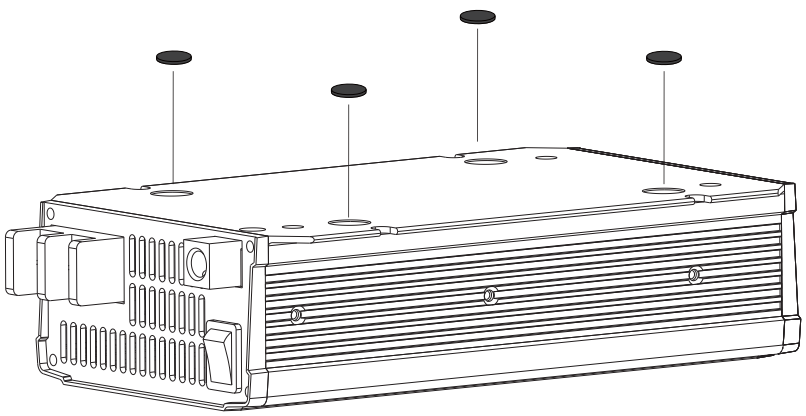
※ Carry handle (Optional accessory, Power inverter and Pull handle should ordered seperately)

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

① Handle



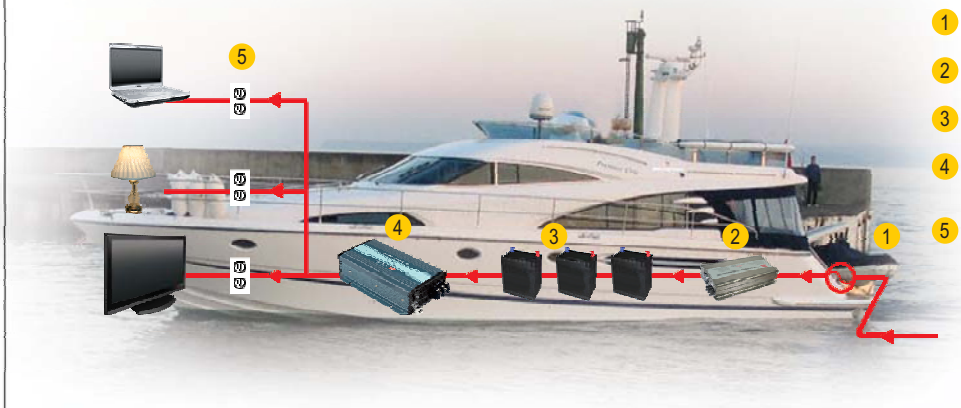
② Foot pad



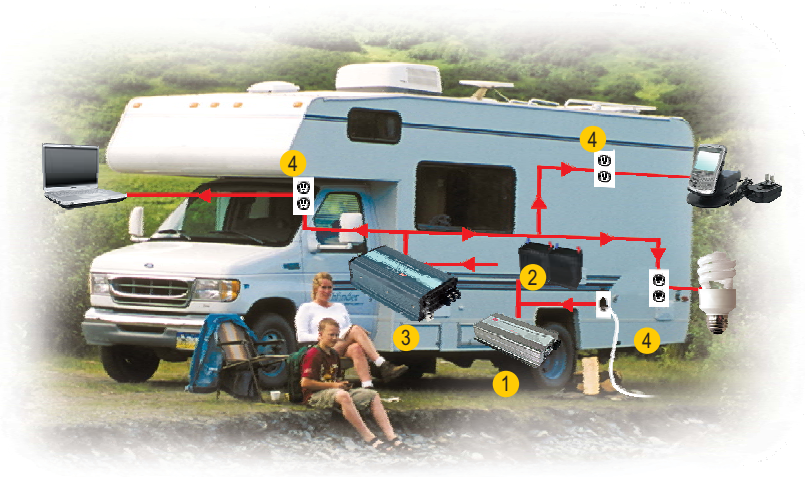
■ TYPICAL APPLICATION



1 Battery Bank
2 Off-Grid DC/AC Solar Inverter (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



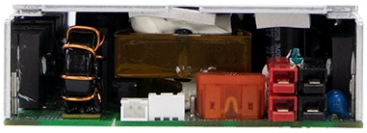
1 AC/DC Battery Charger (PB/NPB/NPP series)
2 Battery Bank
3 Off-Grid DC/AC Inverter (NTS series)
4 AC Outlet

■ INSTALLATION MANUAL

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

400W High Reliable Built-in Type True Sine Wave DC-AC Power Inverter NTS-400P series





(DC input side)



(AC output side)

User's Manual Click Me

Video Click Me

CSA/UL 62368-1 IEC62368-1 TPTC004 AS/NZS 62368.1

Please refer to page3 for more details.

Household Railway Car Use Marine Network Telecom

Features

- Compact size and light weight
- True sine wave output (THD<3%)
- High surge power up to 800W
- 250W convection, 400W forced air
- AC output voltage and frequency selectable by DIP S.W
- No load disspation <1.5W max. at standby saving mode
- -20℃~+70℃ wide operating temperature
- Power ON-OFF remote control
- 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
- Support Tx/Rx for monitoring power inverter status
- Conformal coating
- 3 years warranty

Applications

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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

NTS-400P is a 400W highly reliable built-in type 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, compact size, light weight, 800W peak power, adjustable AC output voltage and frequency, -20~+70℃ wide operating temperature range, built-in remote ON/OFF control, low no-load power consumption (energy saving mode < 1.5W max.), complete protection features, and etc. Combined with batteries, the NTS-400P is suitable for use in residential, commercial, marine, automobile, 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, outdoor camping equipment, marine AC power, and etc.

Model Encoding

NTS - 400 P - 1 12

- 12: DC input voltage (12: 12Vdc, 24: 24Vdc, 48: 48Vdc)
- 1: AC output voltage (1: 100/110/115/120Vac, 2:200/220/230/240Vac)
- P: PCB Built-in type
- 400: Rated wattage
- NTS: Series name

SPECIFICATION

MODEL NO.			NTS-400P-112	NTS-400P-124	NTS-400P-148	NTS-400P-212	NTS-400P-224	NTS-400P-248
AC OUTPUT	RATED POWER(Continuous)		400W					
	OVER RATED POWER(3 Min.)		460W					
	PEAK POWER(10 Sec.)		600W					
	SURGE POWER(30 Cycles)		800W					
	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 output voltage					
	LED STATUS		Please refer to page3					
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.)		40A	20A	10A	40A	20A	10A
	NO LOAD DISSPATION (Typ.)	Non-Saving mode	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 at battery ~DC input must be disconnected					
	EFFICIENCY (Typ.) Note.1		89%	91%	91%	91%	93%	93%
	BATTERY TYPES		Lead Acid or Li-ion					
PROTECTION DC INPUT	FUSE(Internal)		40A*2	30A*2	10A*2	40A*2	30A*2	10A*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					
PROTECTION 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		Power ON-OFF remote control by front panel dry contact connector (by RELAY), Open : Normal work ; Short : Remote off					
	Tx/Rx		Support Tx/Rx for monitoring power inverter status					
ENVIRONMENT	WORKING TEMP.		-20 ~ +70℃ (Refer to "Derating curve")					
	WORKING HUMIDITY		20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-30 ~ +70℃ / -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 2ed, CSA/UL 62368-1 3ed for all models; E13, EAC TPTC004, AS/NZS 62368.1 for NTS-400P-212/224/248 approved (Please refer to next page "Safety overview" table for more details)					
	WITHSTAND VOLTAGE		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		Class A		
				BS EN/EN55032(CISPR32) for 212,224,248 only		Class A		
			Harmonic Current	BS EN/EN61000-3-2		-----		
			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 4, 15KV air ; Level 4, 8KV contact		
			Radiated	BS EN/EN61000-4-3		Level 3, 10V/m		
			Magnetic Field	BS EN/EN61000-4-8		Level 4, 30A/m		
OTHERS	MTBF		836.2K hrs min. Telcordia TR/SR-332 (Bellcore) ; 84K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		186*100.5*34mm (L*W*H)					
	PACKING		0.75Kg; 18pcs/ 14.5Kg/ 1.01CUFT					

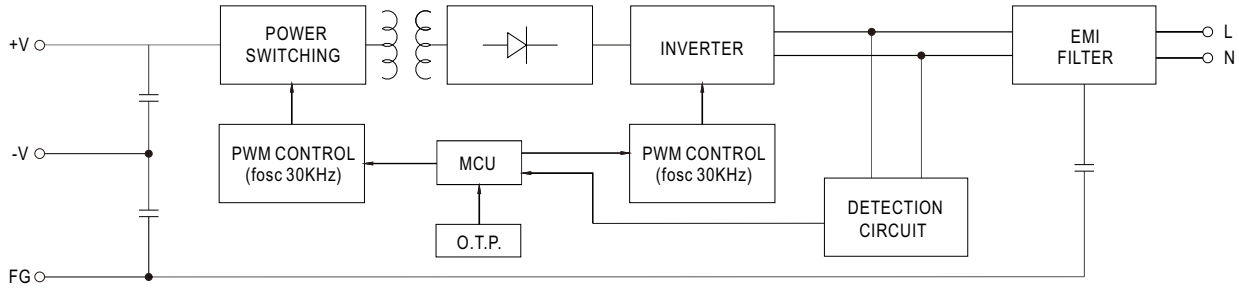
NOTE

1.Efficiency, AC regulation and THD are tested by 400W, linear load at 12.5Vdc/25Vdc/50Vdc input voltage.
2.All parameters not specified above are measured at rated load, 25℃ 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 https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

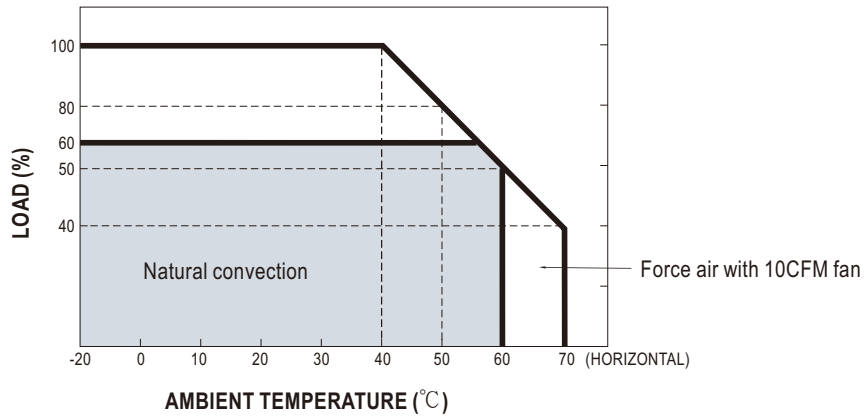
■ Safety Overview

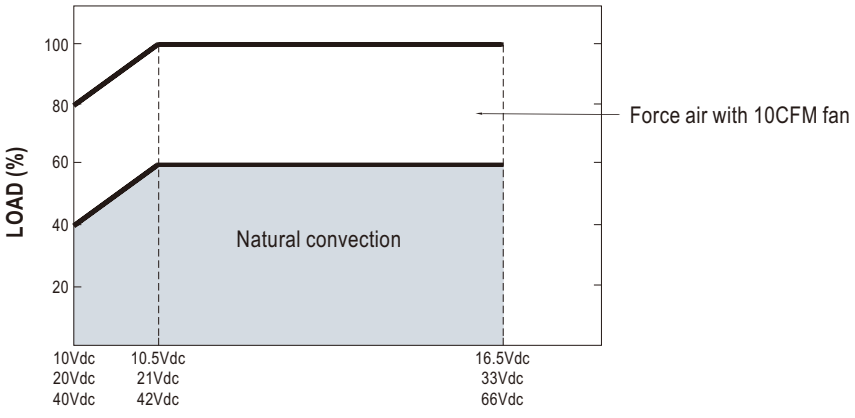
MODEL NO.	Certificate
NTS-400P-112/124/148	
NTS-400P-212/224/248	

■ Block Diagram



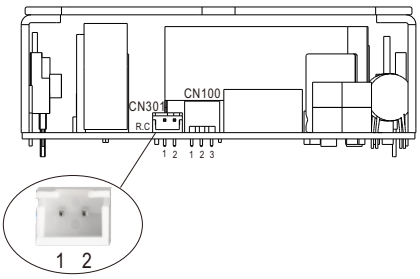
■ DERATING CURVE





■ Remote ON-OFF Control

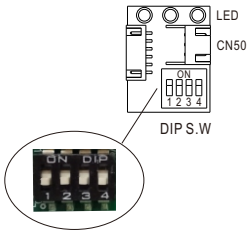
Remote ON-OFF (CN301 PIN1,2)	AC Output Status
Open	power inverter ON
Short	power inverter OFF



■ 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.

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		



■ Support Tx/Rx for monitoring power inverter status

Users can monitor the status of the power inverter through Tx/Rx, and can modify the input and output parameters set internally.

■ LED STATUS

Normal work:

Status	Green	Orange	Red
	System check 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

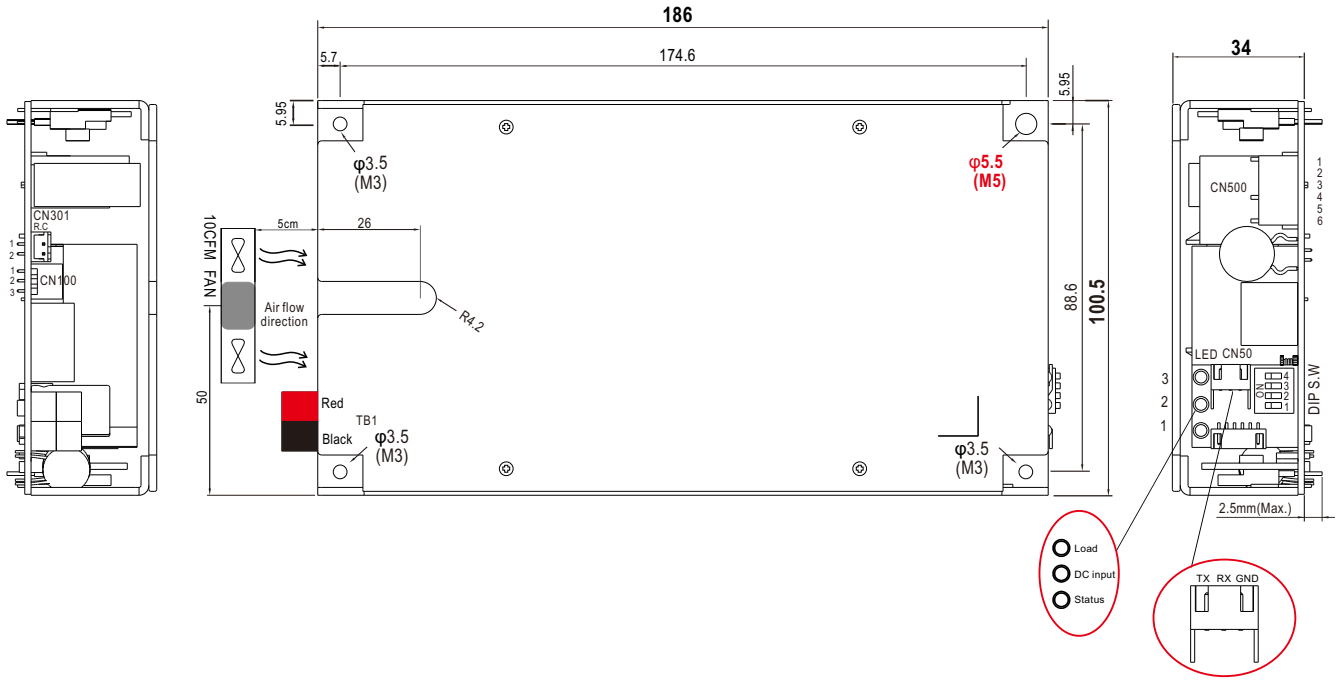
Abnormal status :

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 , tolerance ± 1mm)



DC Input Connector(TB1): Anderson 1327 &1327G6 or equivalent

Pin No.	Description	Mating Housing	Terminal
Red	DC Input +V	1327 or equivalent	261G2-LPBK or equivalent
Black	DC Input -V	1327G6 or equivalent	

AC Output Connector(CN500): JST B6P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	FG	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2,3	NC		
4	Output AC/N		
5	NC		
6	Output AC/L		

Remote ON-OFF Control Connector(CN301): JST S2B-XH-A or equivalent

Pin No.	Description	Mating Housing	Terminal
1	Pin 1,2 Open: Inverter Normal work	JST XHP or equivalent	JST SXH-001T or equivalent
2	Pin 1,2 Short: Inverter Remote off		

Communicating Function Connector(CN50): CHYAO SHIUN JS-100R-03 or equivalent

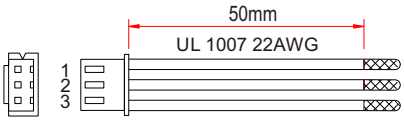
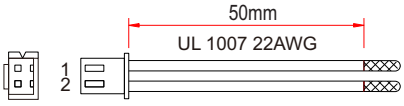
Pin No.	Description	Mating Housing	Terminal
1	Signal GND	CHYAO SHIUNN JS-2001 or equivalent	CHYAO SHIUNN JS-2001-TX or equivalent
2	UART-RX		
3	UART-TX		

FAN Connector(CN100): JST B3B-XH-A or equivalent
Suggested Fan model: CCHV CHT4012BH-W20D 4020B

Pin No.	Description		Mating Housing	Terminal
1	Fan supply +V	12V/0.4A max.	JST XHP or equivalent	JST SXH-001T or equivalent
2	Fan supply -V			
3	PWM signal for Fan speed control			

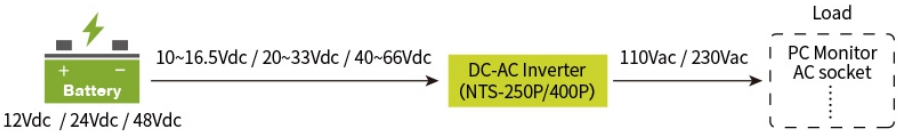
DIP SW： Please refer to page4 for more detail

■ Accessory List

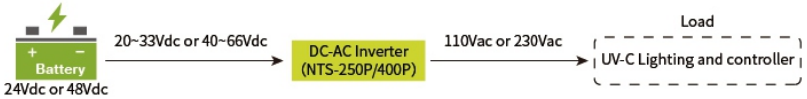
No.	Item		Quantity
1	Control function interface(CN50,CN100) mating wire along with NTS-400P (standard accessory)	 CHYAO SHIUNN JS-2001-TX or equivalent	2pcs/per model
2	Control function interface(CN301) mating wire along with NTS-400P (standard accessory)	 JST SXH-001T or equivalent	1pcs/per model

■ TYPICAL APPLICATION









■ INSTALLATION MANUAL

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

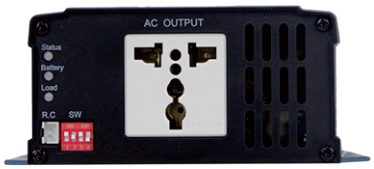
450W High Reliable True Sine Wave DC-AC Power Inverter NTS-450 series



DC input side



AC output side



User's Manual

Video

IEC62368-1 CSA/UL62368-1 BS EN/EN62368-1 TPTC004 AS/NZS 62368.1

Please refer to page3 for more details.

Household Railway Car Use Marine Network Telecom

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 disspation **<1.5W** max. at standby saving mode
- -25℃~+70℃ 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.: 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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

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℃ 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

NTS - 450 - 1 12 US

- US: AC output socket (Type US, EU, CN, AU, UK, UN, GFCI outlet)
- 12: DC input voltage (12: 12Vdc, 24: 24Vdc, 48: 48Vdc)
- 1: AC output voltage (1: 100/110/115/120Vac, 2:200/220/230/240Vac)
- 450: Rated wattage
- NTS: Series name

SPECIFICATION

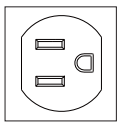
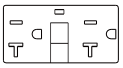
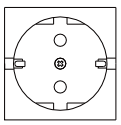
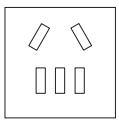
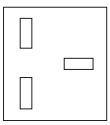
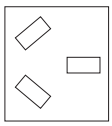
MODEL NO.			NTS-450-112☐	NTS-450-124☐	NTS-450-148☐	NTS-450-212☐	NTS-450-224☐	NTS-450-248☐
			☐ = US, GFCI, UN			☐= EU, CN, AU, UK, UN		
AC OUTPUT	RATED POWER(Continuous)		450W					
	OVER RATED POWER(3 Min.)		517.5W					
	PEAK POWER(10 Sec.)		675W					
	SURGE POWER(30 Cycles)		900W					
	AC VOLTAGE		Default 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 output 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.)	NON-SAVING MODE	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	10A*2
		LOW ALARM	11±0.3Vdc	22±0.5Vdc	44±1Vdc	11±0.3Vdc	22±0.5Vdc	44±1Vdc
		LOW SHUTDOWN	10±0.3Vdc	20±0.5Vdc	40±1Vdc	10±0.3Vdc	20±0.5Vdc	40±1Vdc
		LOW 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
		HIGH SHUTDOWN	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc
		HIGH 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					
		GFCI PROCTECTION	Design refer to UL458 (Only for "GFCI" AC socket , by request)		None			
FUNCTION	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℃ (Refer to "Derating curve")					
	WORKING HUMIDITY		20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-30 ~ +70℃ / -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,CSA/UL62368-1,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**				**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
			Harmonic Current	BS EN/EN61000-3-2				-----
			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	BS EN/EN61000-4-3				Level 2 , 3V/m
			Magnetic Field	BS EN/EN61000-4-8				Level 1 , 1A/m
OTHERS	MTBF		843.9K hrs min. Telcordia TR/SR-332 (Bellcore) ; 85K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		210*130*55mm (L*W*H)					
	PACKING		1.66Kg; 8pcs/ 14.3Kg/ 1.74CUFT for Type-US 1.3Kg; 8pcs/ 11.4Kg/ 1.74CUFT for other types					

NOTE

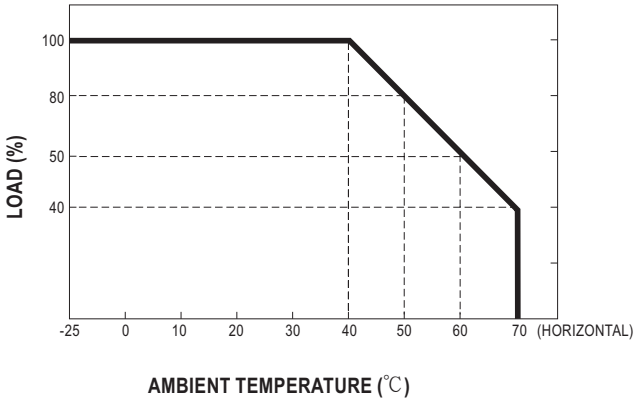
1.Efficiency, AC regulation and THD are tested by 450W, linear load at 12.5Vdc/25Vdc/50Vdc input voltage.
2.All parameters not specified above are measured at rated load, 25℃ of ambient temperature and set to factory setting.
3.Internal pre-start circuit, the setup time is 8s.
4.The power supply is considered 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 https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

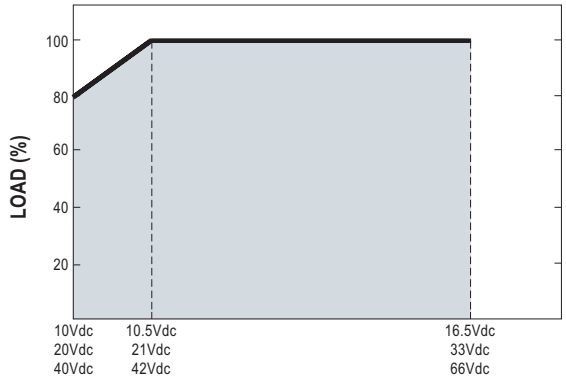
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ 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	TYPE-AU	TYPE-UN
	In Stock	By request	In Stock	In Stock	In Stock	By request	By request	In Stock
Country	USA	USA	UNIVERSAL	EUROPE	CHINA	U.K	AUSTRALIA	UNIVERSAL
Certificate	CB FC DEKRA SP C US	CB FC SP C US	None	CB E13 DEKRA EAC CE UK CA			CB E13 DEKRA EAC CE UK CA	E13 EAC

■ DERATING CURVE



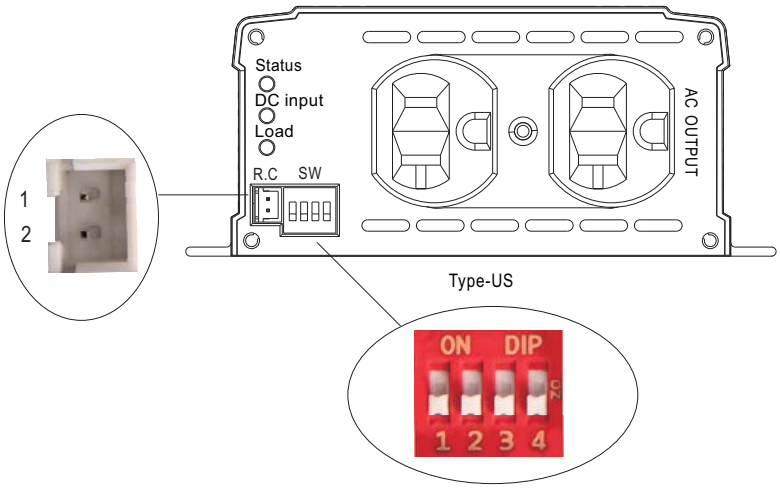


■ Remote ON-OFF Control

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		

■ LED STATUS

Normal work:

Status	Green	Orange	Red
	System check 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 :

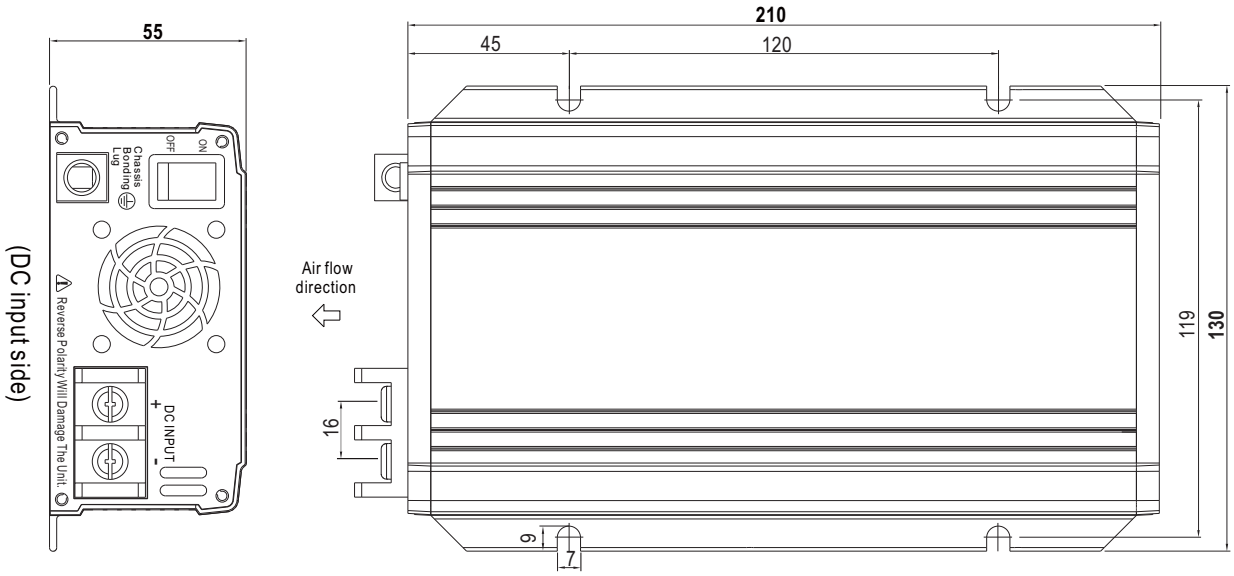
LED Indicator	Abnormal Indication
Status ● DC Input ○ Load ☀	Output overload or AC output short circuit
Status ● DC Input ☀ Load ○	Abnormal DC voltage
Status ● DC Input ☀ Load ☀	Over temperature or Fan lock
Status ☀ DC Input ○ Load ○	Inverter fail

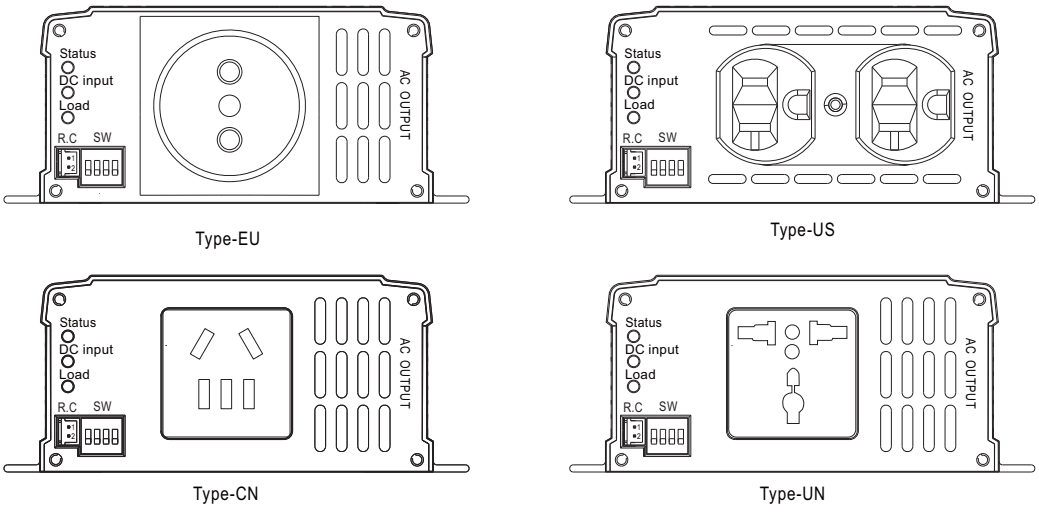
● Light
○ Light off
☀ Flash

■ MECHANICAL SPECIFICATION

(Unit: mm , tolerance ± 1mm)

Case No. 282A





Type-EU

Type-US

Type-CN

Type-UN

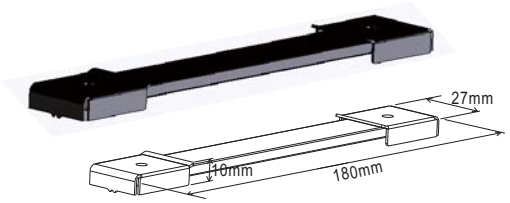
(AC output side)

R.C Connector : JST B-XH or equivalent

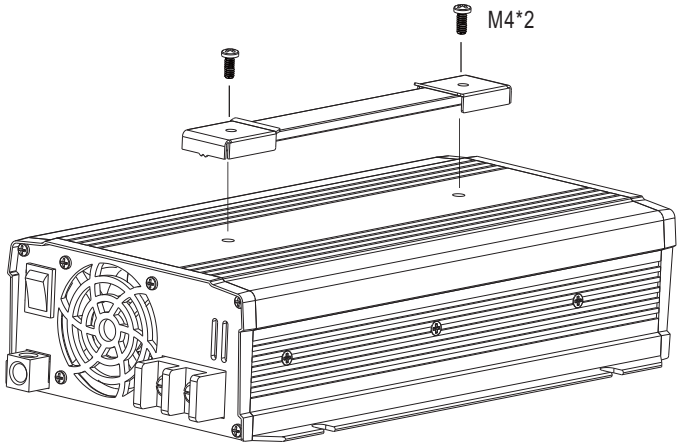
Remote Control	Mating Housing	Terminal
Pin 1,2 Open: Normal work	JST XHP or equivalent	JST SXH-001T or equivalent
Pin 1,2 Short: Remote off		

■ Accessory List

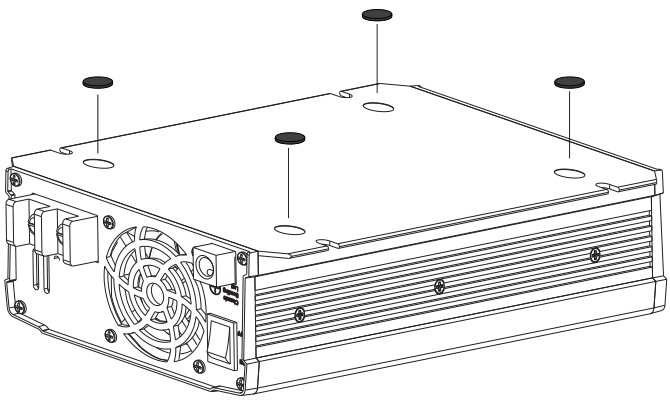
※ Carry handle (Optional accessory, Power inverter and Pull handle should ordered seperately)

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

① Handle



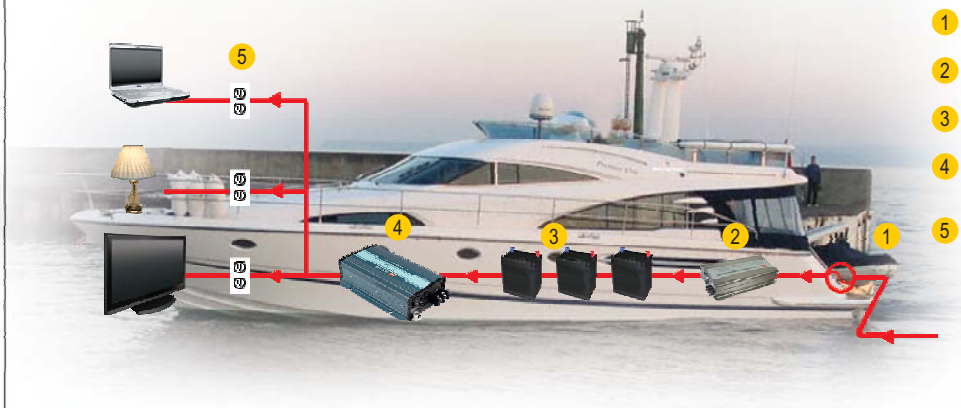
② Foot pad



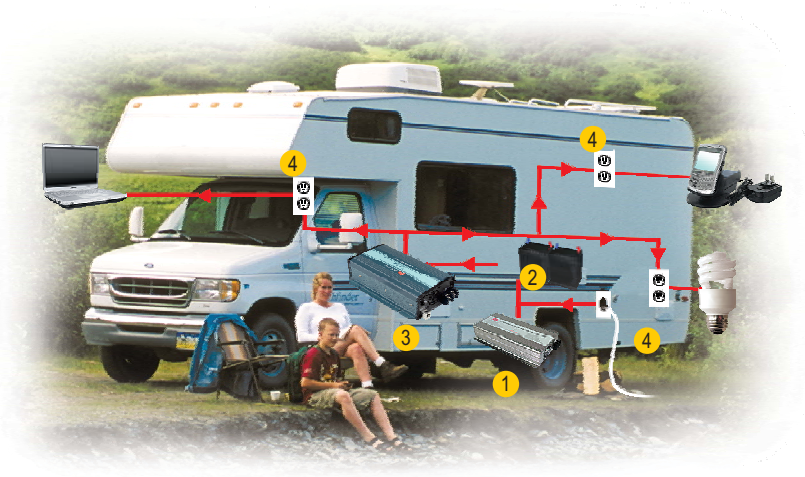
■ TYPICAL APPLICATION



1 Battery Bank
2 Off-Grid DC/AC Solar Inverter (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

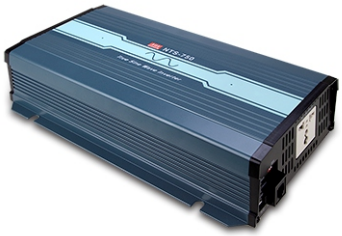


1 AC/DC Battery Charger (PB/NPB/NPP series)
2 Battery Bank
3 Off-Grid DC/AC Inverter (NTS series)
4 AC Outlet

■ INSTALLATION MANUAL

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

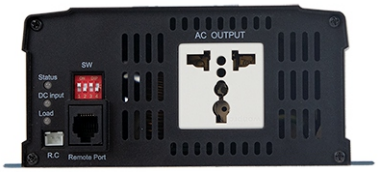
750W High Reliable True Sine Wave DC-AC Power Inverter NTS-750 series



DC input side



AC output side



User's Manual

Video

IEC62368-1 BS EN/EN62368-1 (for 112/124 type GFCI only) UL458 TPTC004 AS/NZS 62368.1

Household Railway Car Use Marine Network Telecom

Please refer to page3 for more details.

Features

- Compact size and light weight
- True sine wave output (THD<3%)
- High surge power up to 1500W
- Temperature controlled cooling fan
- AC output voltage and frequency selectable by DIP S.W
- No load disspation **<1.5W** at standby saving mode
- -25℃~+70℃ 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.: RJ11-RS232, sold sperately)
- Carry handle accessory available(Order NO.: Carry handle, sold separately)
- Conformal coating
- 3 years warranty

Applications

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

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

NTS-750 is a 750W 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, 1500W peak power, adjustable AC output voltage and frequency, -25~+70℃ wide operating temperature range, complete protection features, and etc. combined with batteries, the NTS-750 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

NTS - 750 - 1 12 US

- US: AC output socket (Type US, EU, CN, AU, UK, UN, GFCI outlet)
- 12: DC input voltage (12: 12Vdc, 24: 24Vdc, 48: 48Vdc)
- 1: AC output voltage (1: 100/110/115/120Vac, 2:200/220/230/240Vac)
- 750: Rated wattage
- NTS: Series name

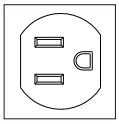
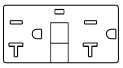
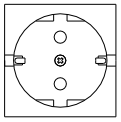
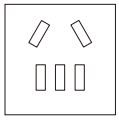
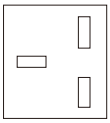
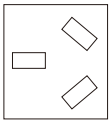
SPECIFICATION

MODEL NO.			NTS-750-112☐	NTS-750-124☐	NTS-750-148☐	NTS-750-212☐	NTS-750-224☐	NTS-750-248☐
			☐ = US, GFCI, UN			☐= EU, CN, AU, UK, UN		
AC OUTPUT	RATED POWER(Continuous)		750W					
	OVER RATED POWER(3 Min.)		862W					
	PEAK POWER(10 Sec.)		1125W					
	SURGE POWER(30 Cycles)		1500W					
	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 at 60Hz±0.1Hz			Default setting 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 output voltage					
	FRONT PANEL LED		Please see 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.)		75A	38A	19A	75A	38A	19A
	NO LOAD DISSIPATION (Typ.)	NON-SAVING MODE	10W	10W	12W	10W	10W	12W
		SAVING MODE	Default disable, ≦1.2W ~ 1.5W by models @ auto detect AC output load ≦10W will be changed to saving mode					
			1.2W	1.4W	1.5W	1.2W	1.4W	1.5W
	OFF MODE CURRENT DRAW		≦1mA					
	EFFICIENCY (Typ.) Note.1		89%	90%	91%	90%	93%	93%
	BATTERY TYPES		Lead Acid or li-ion					
PROTECTION	DC INPUT	FUSE (Internal)	40A*3	40A*2	25A*2	40A*3	40A*2	25A*2
		LOW ALARM	11±0.3Vdc	22±0.5Vdc	44±1Vdc	11±0.3Vdc	22±0.5Vdc	44±1Vdc
		LOW SHUTDOWN	10±0.3Vdc	20±0.5Vdc	40±1Vdc	10±0.3Vdc	20±0.5Vdc	40±1Vdc
		LOW 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
		HIGH SHUTDOWN	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc	16.5±0.3Vdc	33±0.5Vdc	66±1Vdc
		HIGH 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(except 112/124GFCI) Shut down o/p voltage,recovers automatically after temperature goes down(for 112/124GFCI)					
		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					
		GFCI PROCTECTION	UL458 (Only for "GFCI" AC socket, by request)	None				
FUNCTION	REMOTE CONTROL	DRY CONTACT	Power ON-OFF remote control by front panel dry contact connector (by RELAY), Open : Normal work ; Short : Remote off					
		ACCESSORY	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)					
ENVIRONMENT	WORKING TEMP.		-25 ~ +70℃ (Refer to "Derating curve")					
	WORKING HUMIDITY		20% ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-30 ~ +70℃ / -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,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 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	
			Harmonic Current	BS EN/EN61000-3-2			-----	
			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	BS EN/EN61000-4-3			Level 2, 3V/m	
			Magnetic Field	BS EN/EN61000-4-8			Level 1, 1A/m	
OTHERS	MTBF		715.7K hrs min. Telcordia TR/SR-332 (Bellcore) ; 78K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		270*158*67mm (L*W*H)					
	PACKING		2.3Kg; 4pcs/ 10.2Kg/ 1.9CUFT					

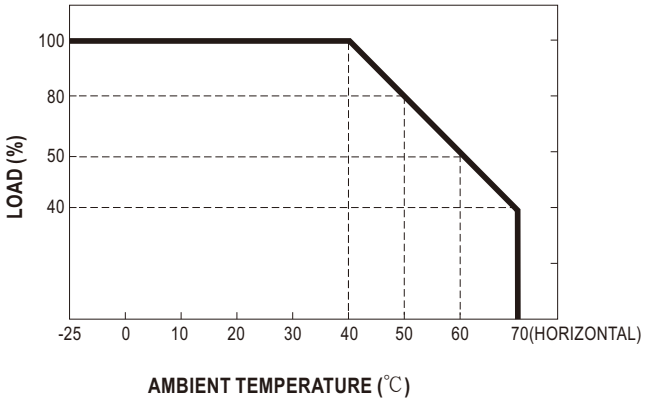
NOTE

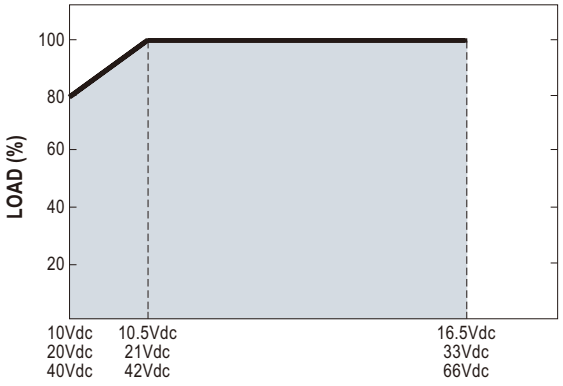
1.Efficiency, AC regulation and THD are tested by 600W, linear load at 12.5Vdc/25Vdc/50Vdc input voltage.
2.All parameters not specified above are measured at rated load, 25℃ of ambient temperature and set to factory setting.
3.Internal pre-start circuit, the setup time is 8s.
4.The power supply is considered 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 https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ AC Output Socket

MODEL NO.	NTS-750-112☐	NTS-750-124☐	NTS-750-148☐	NTS-750-212☐		NTS-750-224☐		NTS-750-248☐
Socket type								
	TYPE-US	TYPE-GFCI	TYPE-UN	TYPE-EU	TYPE-CN	TYPE-UK	TYPE-AU	TYPE-UN
	In Stock	By request	In Stock	In Stock	In Stock	By request	By request	In Stock
Country	USA	USA	UNIVERSAL	EUROPE	CHINA	U.K	AUSTRALIA	UNIVERSAL
Certificate	CB FC DEKRA	CB FC cULus (Except for 48V input)	None	CB E13 DEKRA EAC CE UKCA			CB E13 DEKRA EAC CE UKCA	E13 EAC

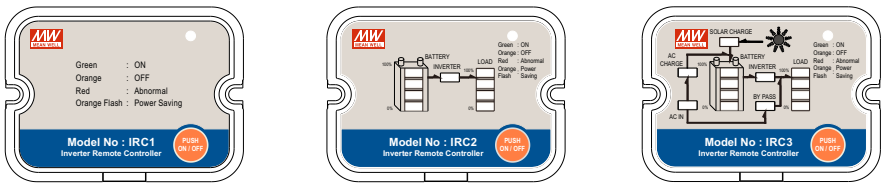
■ DERATING CURVE





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

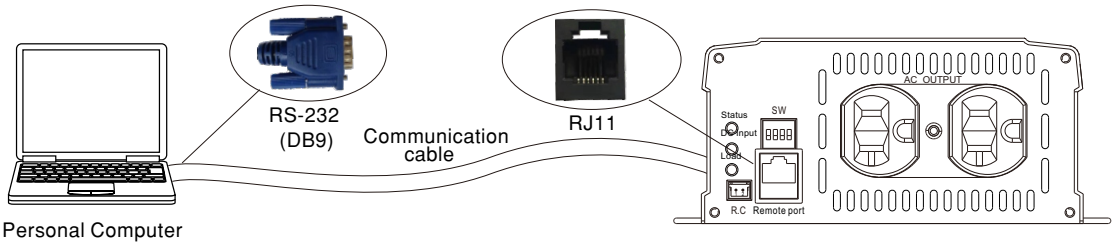
- IRC1/IRC2/IRC3 is the monitoring and control unit.
- IRC1/IRC2/IRC3 can decode the RS-232 signals sent by the inverter series and display through digital meters.
  Note: Part of the control signals will not function properly due to different compliance of each model.



※ 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 NTS-750 can read through RS-232.



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

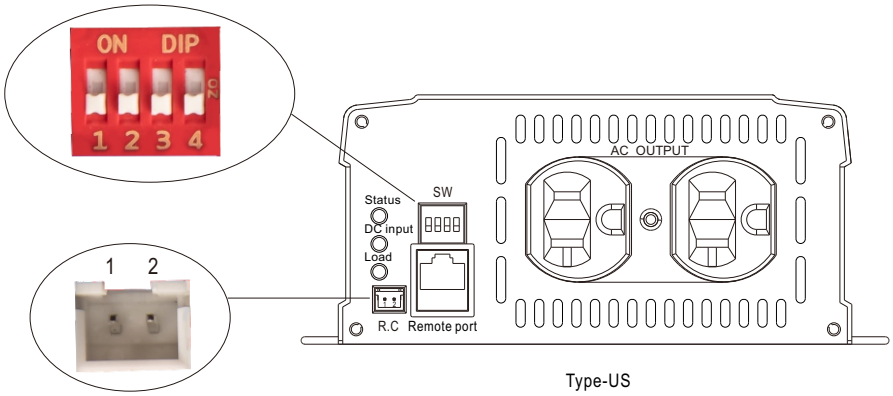
※ RJ11-RS232 Communication cable should be ordered seperately, Order No.: RJ11-RS232

■ 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.



Type-US

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		

■ LED STATUS

Normal work:

Status	Green	Orange	Red
	System check 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 :

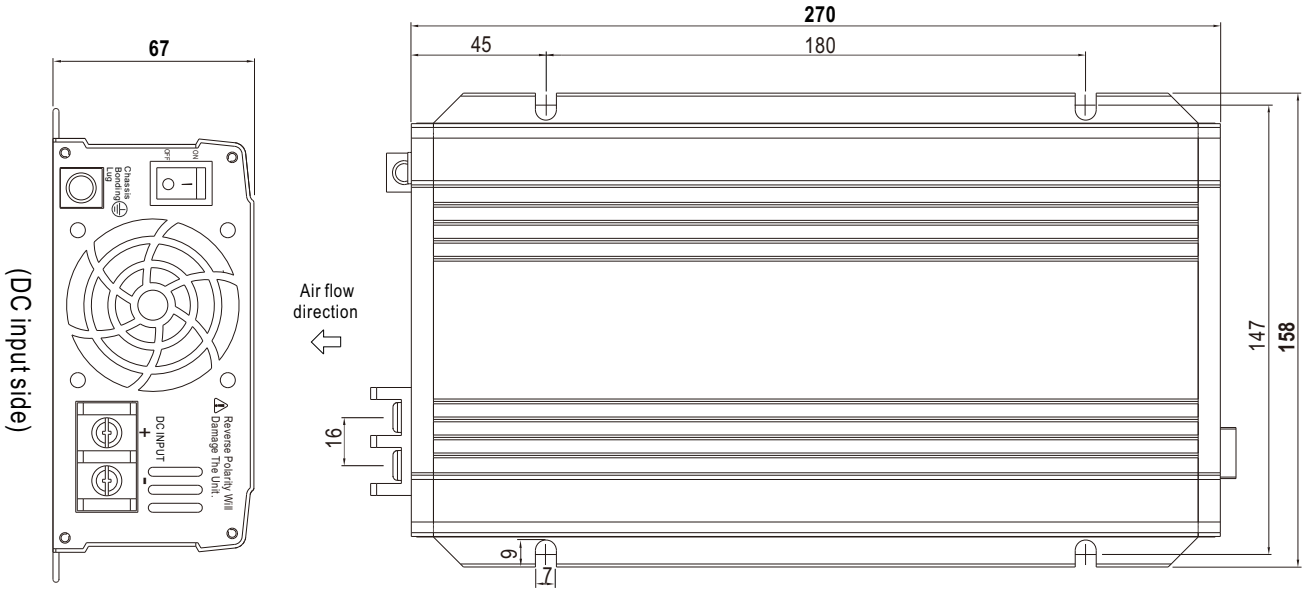
LED Indicator	Abnormal Indication
Status ● DC Input ○ Load ☀	Output overload or AC output short circuit
Status ● DC Input ☀ Load ○	Abnormal DC voltage
Status ● DC Input ☀ Load ☀	Over temperature or Fan lock
Status ☀ DC Input ○ Load ○	Inverter fail

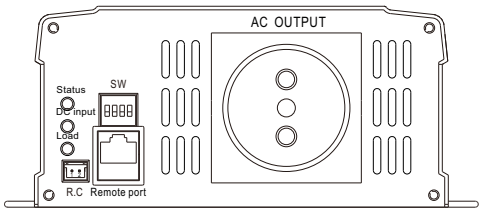
● Light
○ Light off
☀ Flash

■ MECHANICAL SPECIFICATION

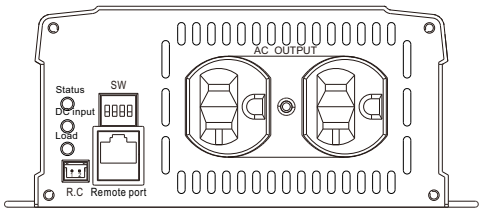
(Unit: mm , tolerance ± 1mm)

Unit:mm

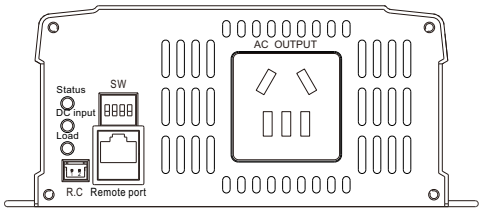




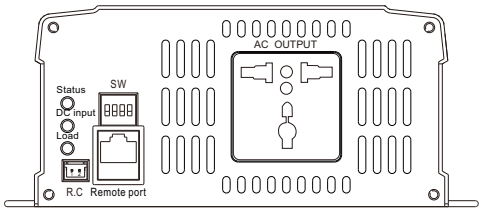
Type-EU



Type-US



Type-CN



Type-UN

(AC output side)

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)



Remote port

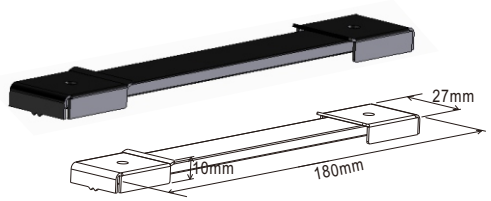
Assignment	Rx	GND	Tx
Remote port	2	3	4
DB9	3	5	2

■ Accessory List

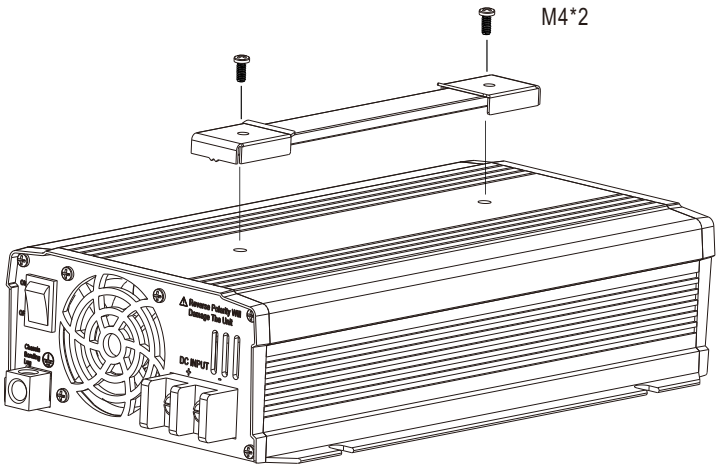
※ Communication cable (Optional accessory, Power inverter and Communication cable should ordered seperately)

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

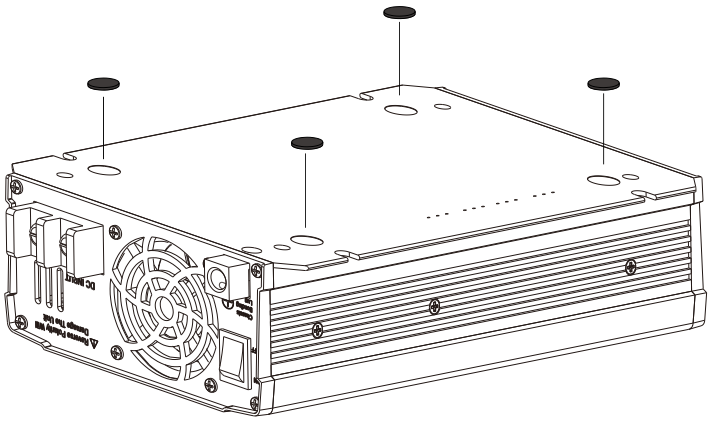
※ Carry handle (Optional accessory, Power inverter and Pull handle should ordered seperately)

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

① Handle



② Foot pad



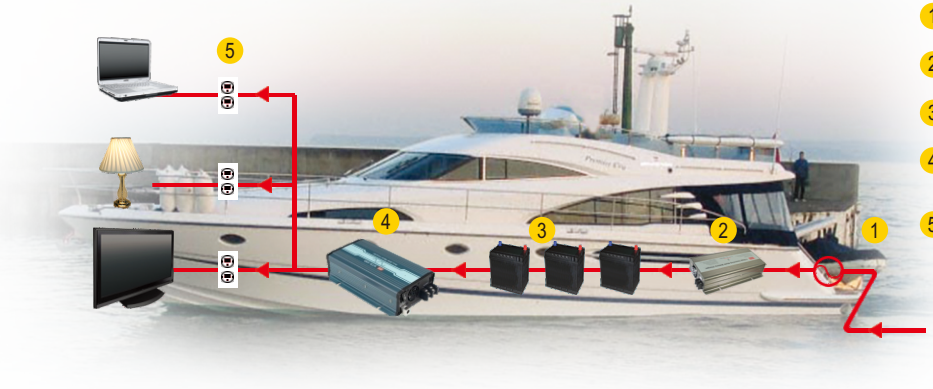
■ TYPICAL APPLICATION



1 Battery Bank

2 Off-Grid DC/AC Solar Inverter (NTS series)

3 AC Outlet



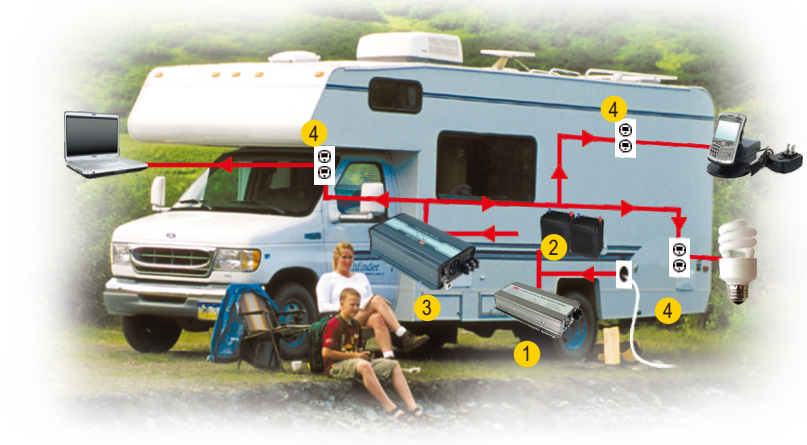
1 Utility Input (Shore)

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