



MEAN WELL NPB-240 Series 40W Compact Size and Wide Output Range Charger Instruction Manual

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**NPB-240 Series 40W Compact Size and Wide Output Range Charger
Instruction Manual**



**240W Compact Size and Wide Output Range Charger
N P B – 2 4 0 series**

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NPB-240 Series 40W Compact Size and Wide Output Range Charger

Output connector: TB type



Output connector: AD1/XLR type



User's Manual



<https://www.meanwell.com/Upload/PDF/NPB,NPP-E.pdf>



Features

- 90'-264Vac universal AC input, built-in PFC
- Charger for compatible with lead-acid and li-ion batteries
- Fan less design
- Wide adjustable output range by VR:
- Charging voltage adjustable(10.5-'15.2V, 21-30.4V, 42-60.8V)
- Charging current adjustable(50-100% rated current)
- 2 or 3 stage selectable by DIP S.W
- No load power consumption< 0.15W(AC S.W off)
- -30`C -+70 C wide operating temperature
- Protections: Short circuit / Over voltage /Over temperature / Battery reverse polarity protection
- Comply with UL/EN62368-1 and EN60335-1/2-29 dual certification
- Front panel LED indicator for charging status
- 3 years warranty



Applications

- Radio system backup solution
- Electric scooter charger
- Camping car
- Buses Heavy duty truck Specialty vehicles
- Surveillance system
- Portable power tools

GTIN CODE

MW Search. <https://www.meanwell.comfserviceGTIN.aspx>





Description

NPB-240 series is a 240W charger for compatible with lead-acid (Flooded, Gel, AGM) and li-ion(Lithium iron, lithium manganese) batteries. This product is a class I power unit (with FG), equipped with a standard IEC320-C14 AC inlet and two or three-stage charging control. The entire series supplies different models with output voltages ranging between 10.5VDC and 60.8VDC that can satisfy the demands for various types of batteries devices.

Model Encoding

NPB - 240 - 24 XLR

- Output connector type
(other options available by customers requested, please refer to page 6)
- Nominal voltage (14.4V/28.8V/57.6V)
- Rated wattage
- Series name

Type	Output Connector	Safety	Note
XLR	4 pin power pin 		In Stock
AD1	Anderson Equivalent Connector 		In Stock
TB	Terminal Block 		In Stock

SPECIFICATION

MODEL		NPB-240-12	NPB-240-24	NPB-240-48
		=XLR, AD1, TB		
OUTPUT	BOOST CHARGE VOLTAGE(Boost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE(Float)(default)	13.8V	27.6V	55.2V
	VOLTAGE ADJUSTABLE RANGE	10.5 ~ 15.2V	21 ~ 30.4V	42 ~ 60.8V
	OUTPUT CURRENT(Typ.) Note.5	13.5A	8A	4A
	CURRENT ADJUSTABLE RANGE	50% ~ 100%		
	MAX. POWER Note.3	205.2W	243.2W	243.2W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.4	55 ~ 180AH	30 ~ 100AH	15 ~ 50AH

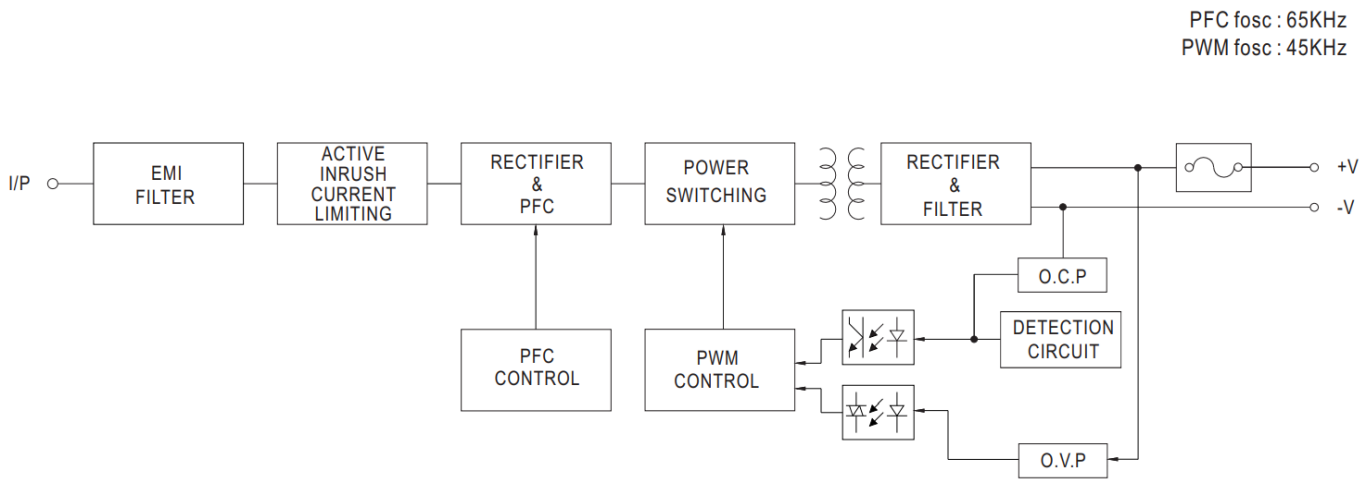
	LEAKAGE CURRENT FROM BATTERY (Typ.)		<1mA		
INPUT	VOLTAGE RANGE Note.5		90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE		47 ~ 63Hz		
	POWER FACTOR (Typ.)		PF>0.98/115VAC, PF>0.95/230VAC at full load		
	EFFICIENCY (Typ.)	XLR	88.5%	92%	92.5%
		AD1	88.5%	92%	92.5%
		TB	89%	92%	93%
	AC CURRENT (Typ.)		3A/115VAC 1.5A/230VAC		
	INRUSH CURRENT (Typ.)		COLD START 50A at 230VAC		
LEAKAGE CURRENT		<0.75mA/240VAC			
PROTECTION	SHORT CIRCUIT Note.6		Protection type : Constant current limiting, charger will shutdown after 5 sec, re-power on to recover		
	OVER VOLTAGE		16 ~ 20V	32 ~ 40V	64 ~ 75V
			Protection type : Shut down and latch off o/p voltage, re-power on to recover		
	REVERSE POLARITY		By internal fuse open		
OVER TEMPERATURE		Hiccup mode, recovers automatically after temperature goes down			
FUNCTION	CHARGING CURVE		2 or 3 stage adjustable by DIP S.W		
ENVIRONMENT	WORKING TEMP.		-30 ~ +70°C (Refer to “Derating Curve”)		
	WORKING HUMIDITY		20 ~ 95% RH non-condensing		
	STORAGE TEMP. , HUMIDITY		-40 ~ +85°C, 10 ~ 95% RH non-condensing		

	TEMP. COEFFICIENT	±0.05%/°C (0 ~ 45°C)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 7)	SAFETY STANDARDS	CB IEC62368-1, IEC60335-1/2-29, De'Kra BS EN/EN62368-1, BS EN/EN60335-1/2-29, UL62368-1, AS/NZS60335-1/2-29, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH		
	EMC EMISSION	Parameter	Standard	Test Level / Note
		Conducted	BS EN/EN55032 (CISPR 32), BS EN/EN55014-1	Class B
		Radiated	BS EN/EN55032 (CISPR 32), BS EN/EN55014-1	Class B
		Harmonic Current	BS EN/EN61000-3-2	Class A
		Voltage Flicker	BS EN/EN61000-3-3	—
	EMC IMMUNITY	BS EN/EN55014-2, 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
		EFT / Burst	BS EN/EN61000-4-4	Level 2, 1KV
		Surge	BS EN/EN61000-4-5	Level 2, 1KV/Line-Line, Level 3, 2KV/Line-Earth
		Conducted	BS EN/EN61000-4-6	Level 2, 3Vrms
		Magnetic Field	BS EN/EN61000-4-8	Level 1, 1A/m
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS	MTBF	1284.9K hrs min. Telcordia TR/SR-332 (Bell core) ; 157.5K hrs min. MIL-HDBK-217F (25°C)		
	DIMENSION	182.7*96*49mm (L*W*H)		
	PACKING	1.3Kg; 10pcs/ 14Kg / 1.13CUFT		

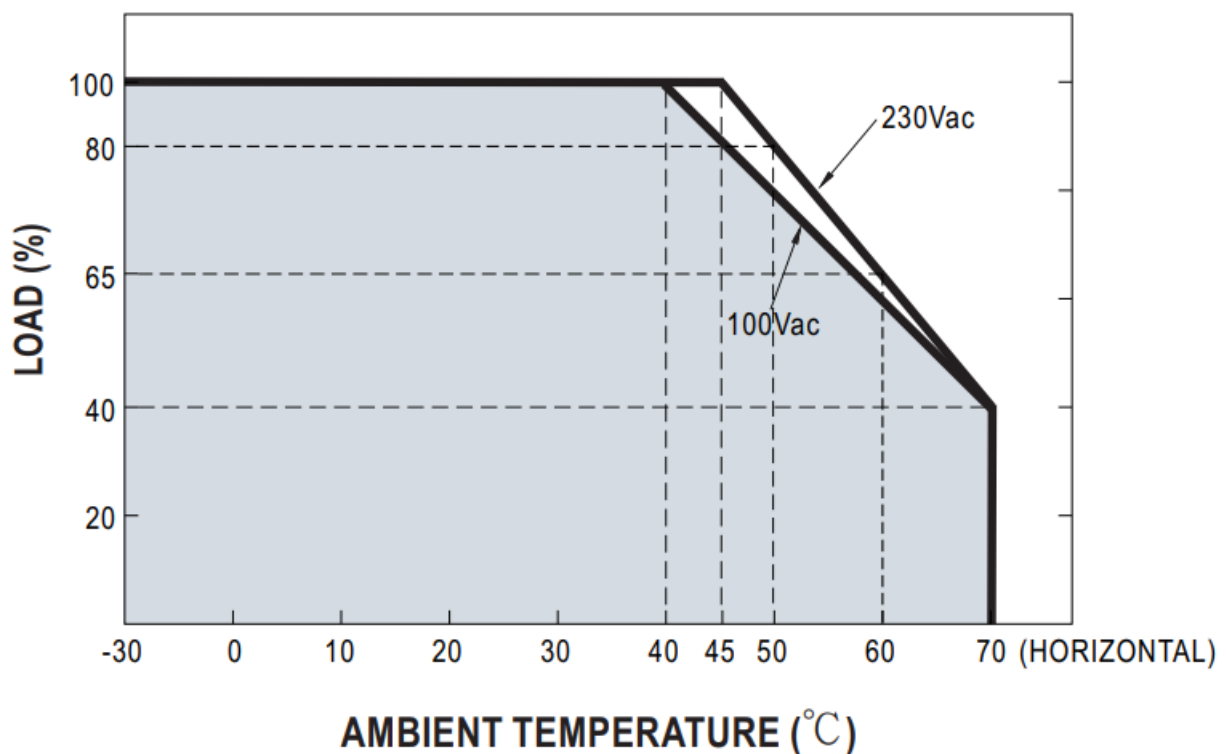
NOTE

1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details.
 2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
 3. Refer to derating curve.
 4. This is MEAN WELL's suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.
 5. Derating may be needed under low input voltages. Please check the derating curve for more details.
 6. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.
 7. The charger is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to EMI testing of component power supplies. (as available on <http://www.meanwell.com>)
- ※ Product Liability Disclaimer For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

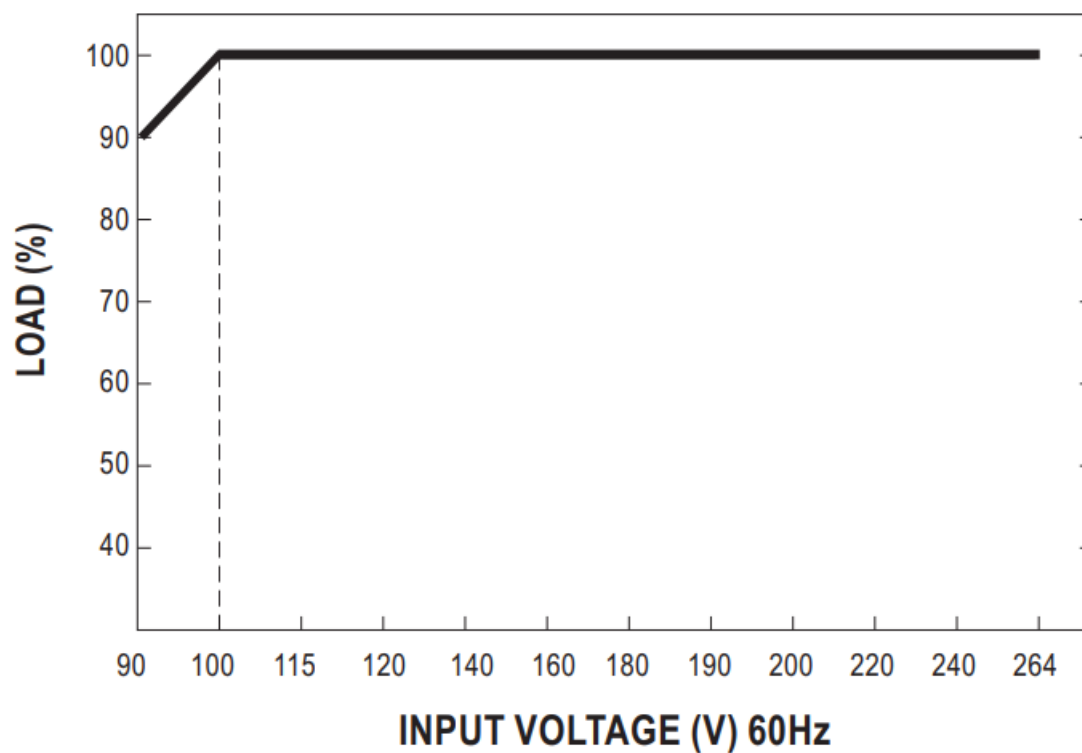
Block Diagram



Derating Curve



Static Characteristics

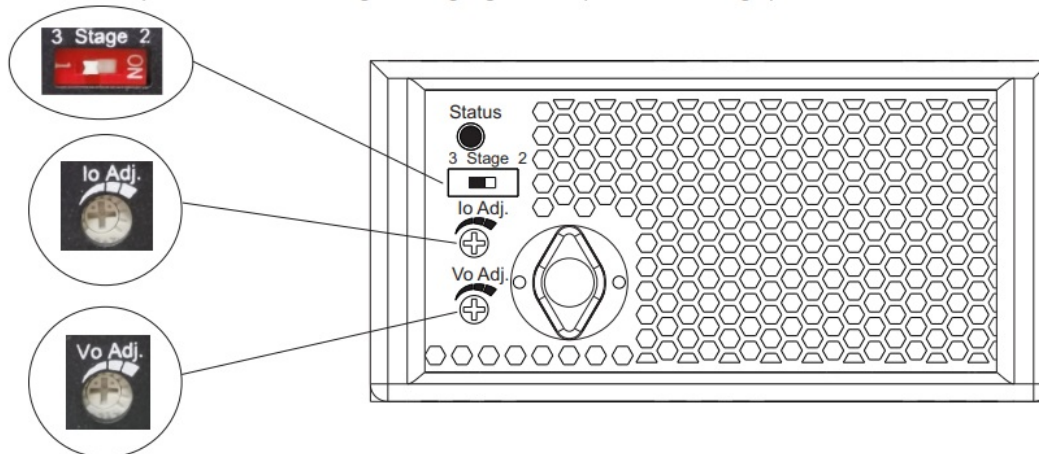


Function Manual

1.Charging Curve

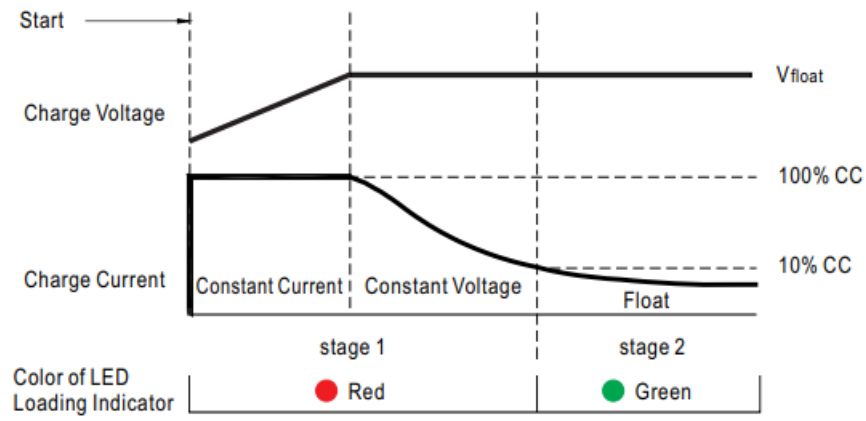
1-1 2 or 3 stage selectable by DIP S.W

※ This series provides 2 or 3 stage charging curve.(Default 3 stage)



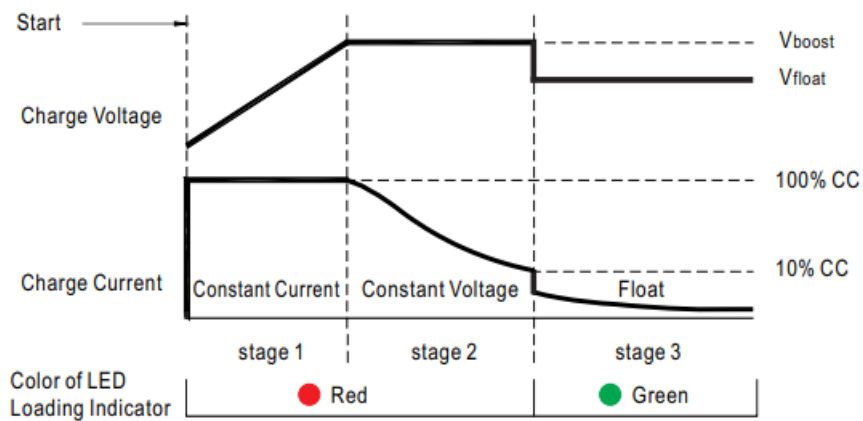
1-2 Charging Curve by DIP S.W

◎ 2 stage charging curve



State	NPB-240-12	NPB-240-24	NPB-240-48
Constant Current	13.5A	8A	4A
Float	13.8V	27.6V	55.2V

© 3 stage charging curve



State	NPB-240-12	NPB-240-24	NPB-240-48
Constant Current	13.5A	8A	4A
Boost	14.4V	28.8V	57.6V
Float	13.8V	27.6V	55.2V

© 2 stage charging cure is suitable for Li-ion batteries(lithium iron and lithium manganese),
3 stage charging cure is suitable for lead-acid batteries (flooded ,Gel and AGM).

2.Charging voltage adjustable by VR

Model	NPB-240-12	NPB-240-24	NPB-240-48
Output voltage adjustable range	10.5~15.2V	21~30.4V	42~60.8V





3.Charging current adjustable by VR

Model	NPB-240-12	NPB-240-24	NPB-240-48
Output current adjustable range	6.75~13.5A	4~8A	2~4A



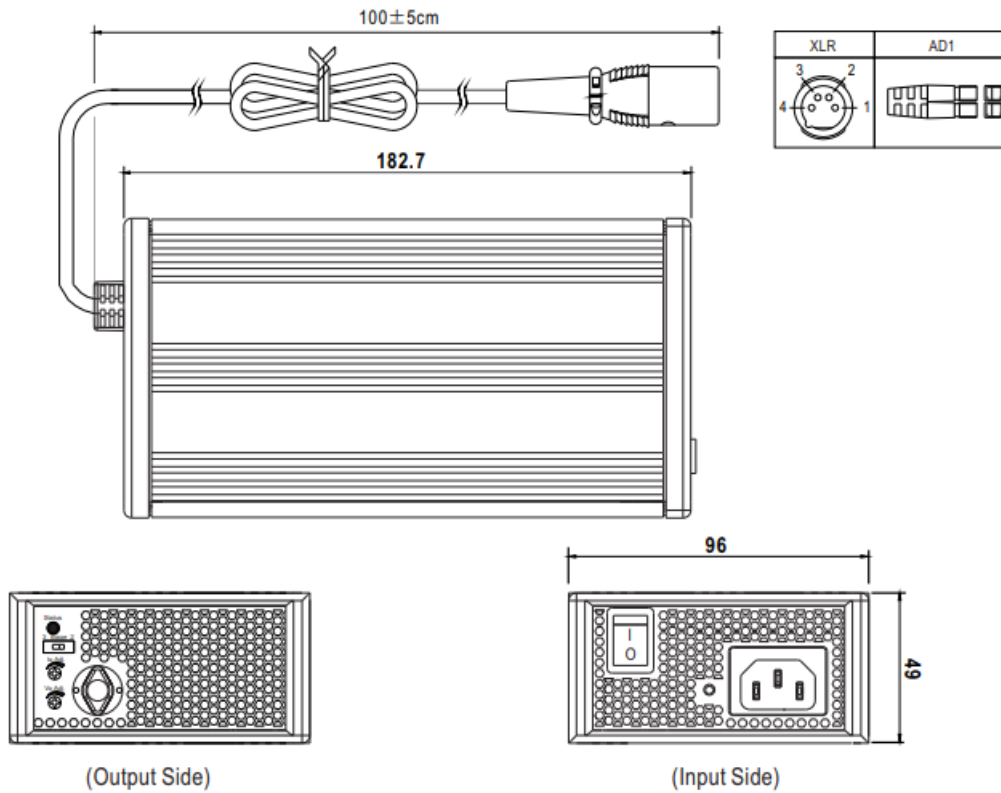
4. Front panel LED indicators & Corresponding signal at function pins

LED	Description
 Green	Float (stage 3) or Battery full
 Red	Charging (stage 1 or stage 2)

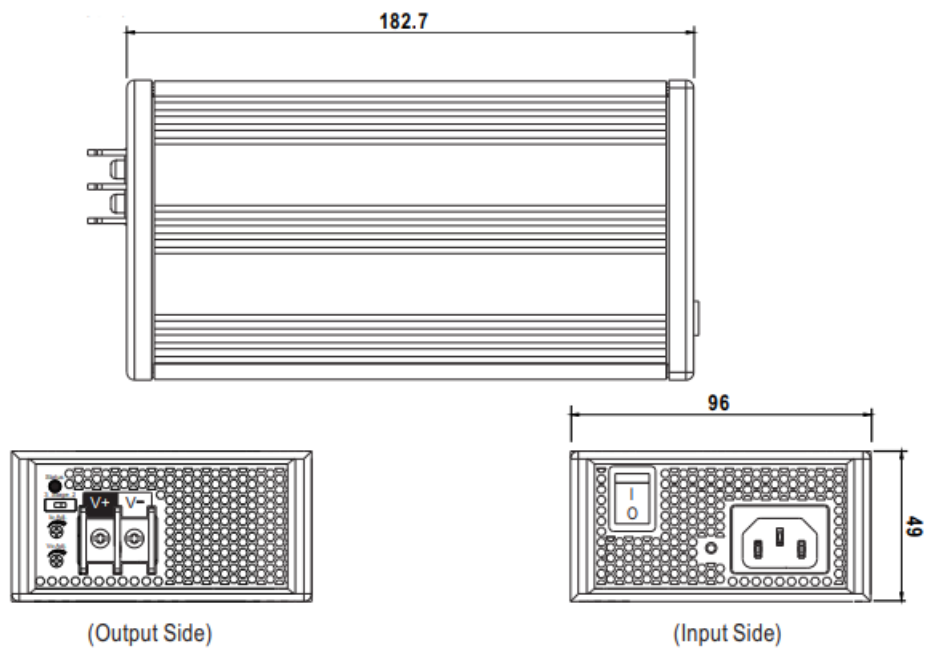


Mechanical Specification

© NPB-240-xx XLR/AD1 (Cable Type)



© NPB-240-xx TB (Terminal Block Type)

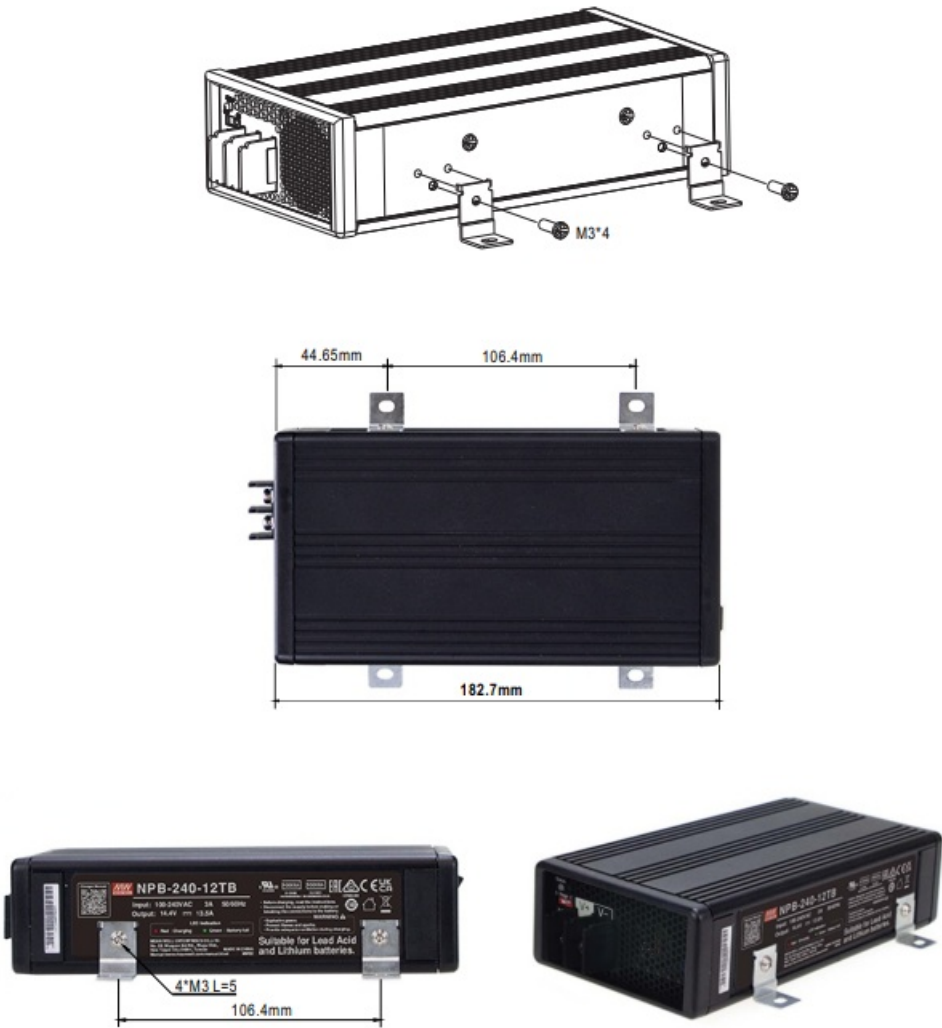


Accessory List

※ Bracket (Optional accessory, Should ordered separately)

MW's Order No.	Item	Quantity
DGG2MHS012D		4pcs/per model

Installation Diagram

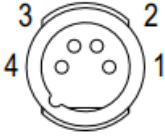



Plug Assignment

© Standard Output Connector

4pin XLR



UNICABLE 89M103-4P or equivalent

	PIN NO.	OUTPUT
	1,2	+V
	3,4	-V





AD1

housing: Anderson 1327(red), 1327G6(black) equivalent contacts: Anderson 261G2 (45A) equivalent

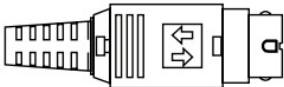
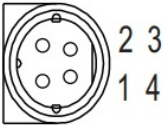

<div>Red(+V)  Black(-V)</div>



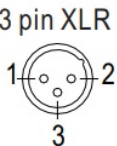


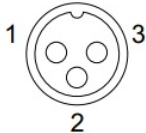


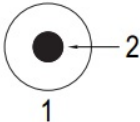
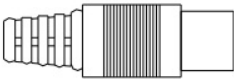

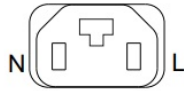
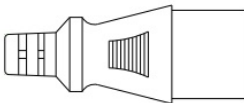


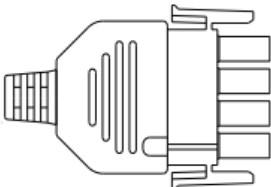
TB

DT-66-B11W-02 or equivalent Rating: 300V 40A

<div>+V  -V</div>


© **Optional DC plug:** (Available in customized)

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output(<7A)
<div> KYCON KPPX-4P equivalent</div>	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo


DIN 3 Pin XLR	Type No.	Pin Assignment	
		PIN No.	Output(<10A)
  	XLR3	1	+Vo
		2	+Vo
		3	-Vo
DIN 3 Pin	Type No.	Pin Assignment	
		PIN No.	Output(<7A)
  	D3P	1	+Vo
		2	-Vo
		3	-Vo
DIN 2 Pin	Type No.	Pin Assignment	
		PIN No.	Output(<5A)
  	D2P	1	-Vo
		2	+Vo
DIN 3 Pin	Type No.	Pin Assignment	
		PIN No.	Output(<10A)
  	INL3	N	+Vo
		L	-Vo
AMP 1-480702-0 (6.35mm) equivalent	Type No.	Pin Assignment	
		PIN No.	Output(<7A)
   <p>FG not connected to output connector</p>	C4P	1	+Vo
		2	+Vo
		3	-Vo
		4	-Vo



INSTALLATION MANUAL

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

Documents / Resources

	<p>MEAN WELL NPB-240 Series 40W Compact Size and Wide Output Range Charger [pdf] Instruction Manual</p> <p>NPB-240 Series 40W Compact Size and Wide Output Range Charger, NPB-240, Series 40W Compact Size and Wide Output Range Charger, Wide Output Range Charger, Range Charger</p>
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References

- [MEAN WELL Installation Manual-MEAN WELL Switching Power Supply Manufacturer](#)
- [MEAN WELL Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer](#)
- [MEAN WELL Global Trade Item Number \(GTIN\)-MEAN WELL Switching Power Supply Manufacturer](#)