



MEAN WELL NPB-120 120W Compact Size and Wide Output Range Charger Instructions

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MEAN WELL NPB-120 120W Compact Size and Wide Output Range Charger Instructions



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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(1 0.5~ 15.2V, 21 ~30.4 V, 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

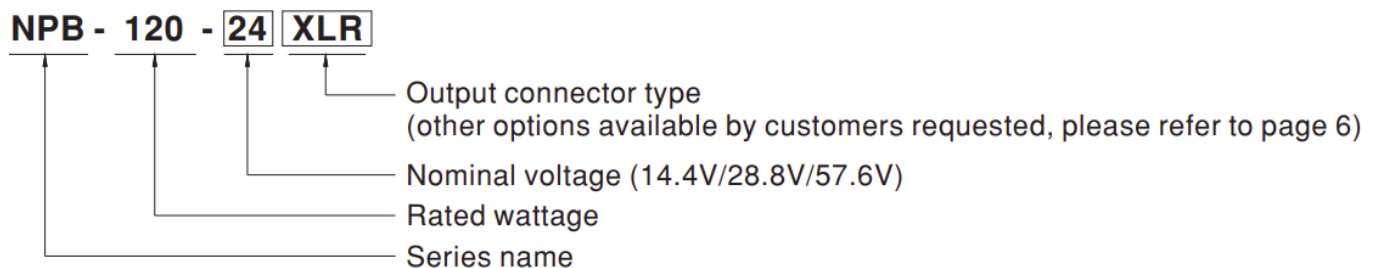


- Radio system backup solution
- Electric scooter charger
- Camping car, Buses, Heavy duty truck, Specialty vehicles
- Surveillance system
- Portable power tools

Description

NPB-120 series is a 120W 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



Type	Output Connector		Safety	Note
XLR	3 pin power pin		 (48V UL certificated same as TB Type)	In Stock
AD1	Anderson connector			In Stock
TB	Terminal Block			In Stock

SPECIFICATION

MODEL		NPB-120-12□	NPB-120-24 □	NPB-120-48 □
		□ =XLR, AD1, TB		
OUTP UT	BOOST CHARGE VOLTAGE(V boost) default)	14.4V	28.BV	57.6V
	FLOAT CHARGE VOLTAGE(V float)l default)	13.BV	27.6V	55.2V
	VOLTAGE ADJUS TABLE RANGE	10.5-15.2V	21 – 30.4V	42 – 60.8V
	OUTPUT CURRE NT(Typ.) Note.5	6.8A	4A	2A
	CURRENT ADJU STABLE RANGE	50% -100%		
	MAX. POWER Note.3	103.4W	121.6W	121.6W
	RECOMMENDED BATTERY CAPA CITY (AMP HOU RS) Note.4	20 – 90AH	15 – 50AH	7- 25AH

INPUT	VOLTAGE RANGE Note.5		90 – 264VAC 127- 370VDC		
	FREQUENCY RANGE		47 – 63Hz		
	POWER FACTOR (Typ.)		PF>0 .98/115VAC, PF>0 .92/230VAC@12V,PF>0.93/230VAC@24/48V at full load		
	EFFICIENCY (Typ.)	XLR	86.5%	89%	90.5%
		AD1	86.5%	89%	90.5%
		TB	87%	89.5%	90.5%
	AC CURRENT (Typ.)		1.5A/115VAC 0.8A/230VAC		
	INRUSH CURRENT (Typ.)		COLD START 55A at 230VAC		
	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		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 STANDARDS	CB IEC62368-1 ,IEC60335-1/2-29, Dekra BS EN/EN62368-1 ,BS EN/EN60335-1/2-29, UL62368-1 , EAC TP TC 004 approved

SAFE TY &E MC (N ote 7)	WITHSTAND VO LTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESI STANCE	I/P-O/P, 1 /P-FG , O/P-FG:100M Ohms/ 500VDC / 25°C/ 70% RH		
	EMC EMISSION	Parameter	Standard	Test Level Note
		Conducted	BS ENIEN55032 (CISPR 32),BS EN/EN55014-1	Class B
		Radiated	BS EN/EN55032 (CISPR 32),BS EN/EN55014-1	Class B
		Harmonic Current	BS ENIEN61000-3-2	Class A
		Voltage Flicker	BS ENIEN61000-3-3	—
		BS EN/EN55014-2,BS ENIEN55024,BS EN/EN55035		
		Parameter	Standard	Test Level Note
		ESD	BS ENIEN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact
		Radiated	BS EN/EN61000-4-3	Level 2, 3V/m

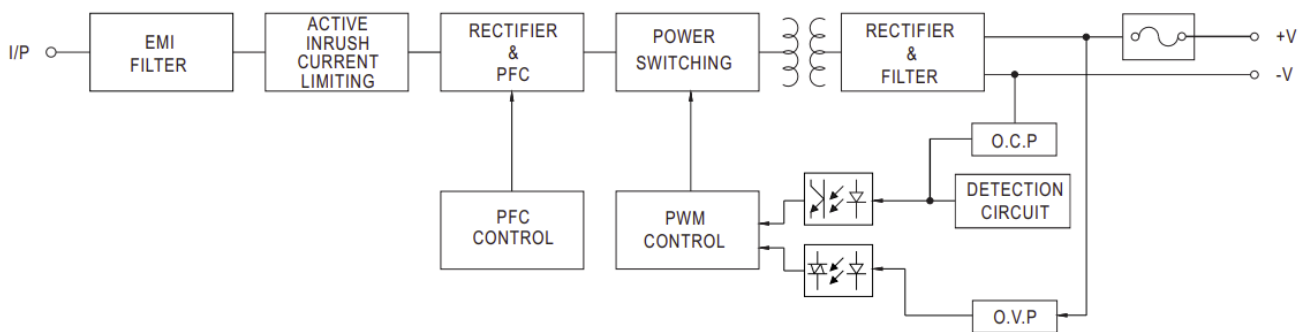
EMC IMMUNITY	EFT/ Burst	BS ENIEN61000-4-4	Level 2, 1KV
	Surge	BS ENIEN61000-4-5	Level 2, 1KV/L ine- Line. Level 3, 2KV/Line-Earth
	Conducted	BS EN/EN61000-4-6	Level 2, 3Vrms
	Magnetic Field	BS EN/EN61000-4-8	Level 1, 1A/m
	Voltage Dips and Interrup tions	BS ENIEN61000-4-11	>95% dip 0.5 periods, 30 % dip 25 periods, >95% i nterruptions 250 periods
OTHE RS	MTBF	631.BK hrs min. Telcordia TRISR-332 (Bellcore); 225.BK hrs min. MIL-HDBK-217F (25' C)	
	DIMENSION	180'96'49mm (L'W'H)	
	PACKING	1.3Kg; 1Opes/ 14Kg / 1.13CUFT	

NOTE

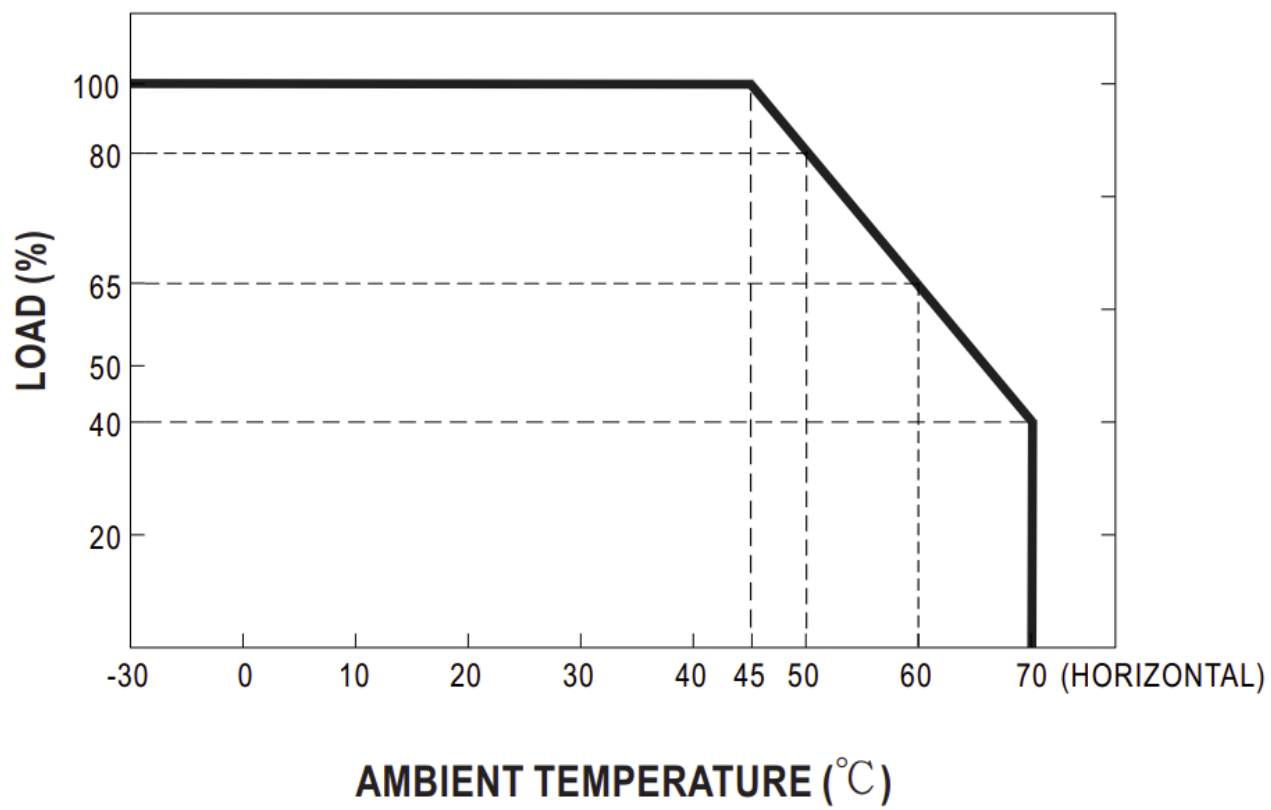
1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details.
2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
3. Refer to derating curve.
4. This 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>

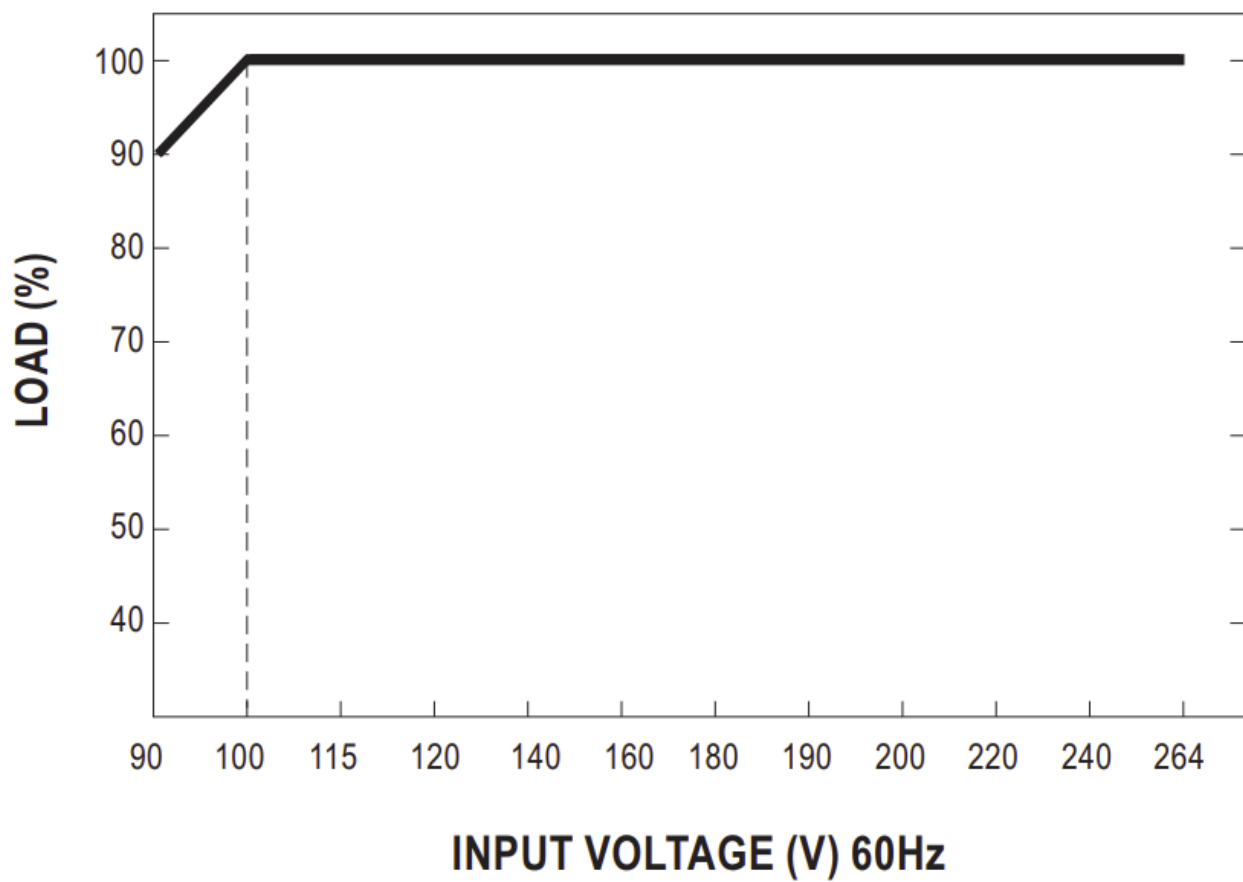
Block Diagram



Derating Curve



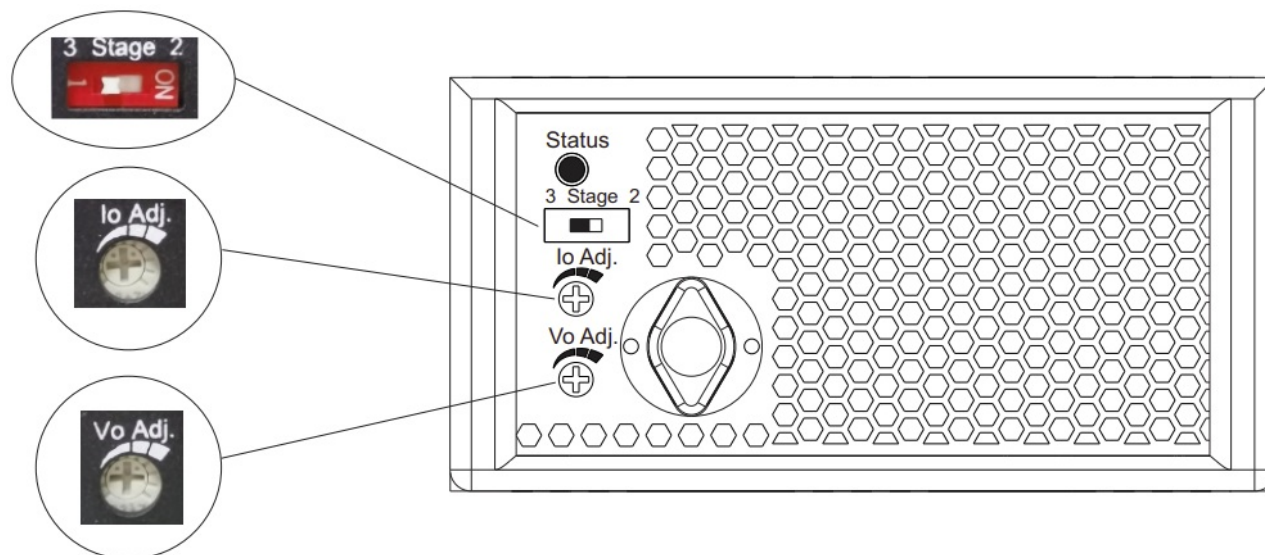
Static Characteristics



Charging Curve

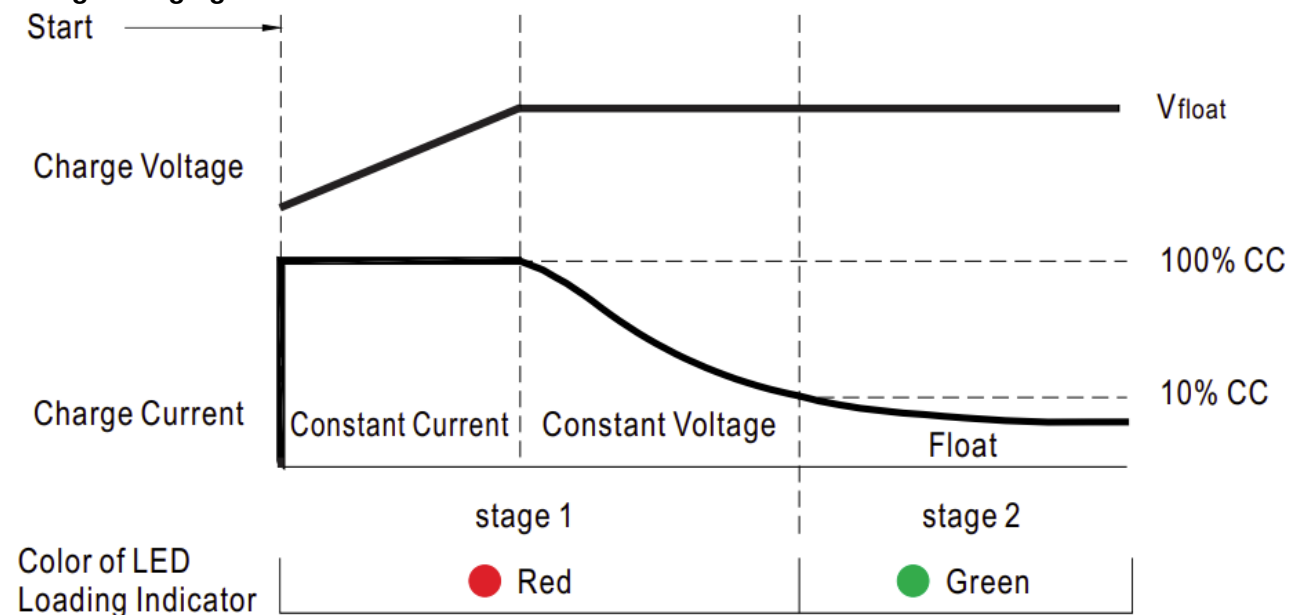
2 or 3 stage selectable by DIP S.W

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



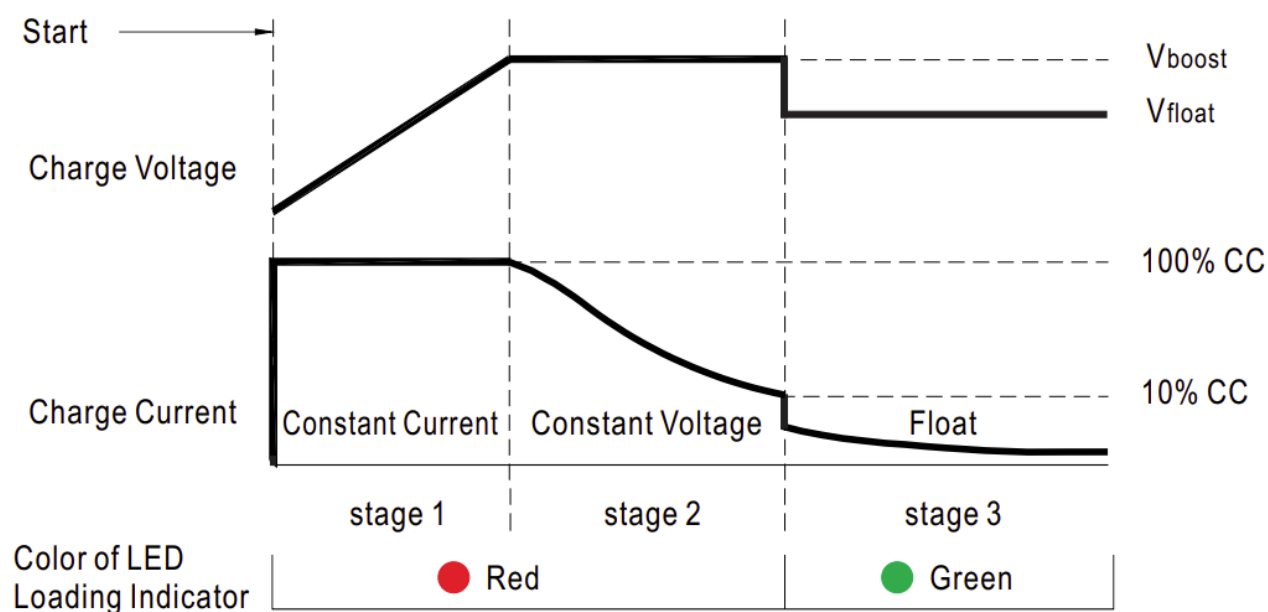
Charging Curve by DIP S.W

2 stage charging curve



State	NPB-120-12	NPB-120-24	NPB-120-48
Constant Current	6.8A	4A	2A
Vtloat	13.8V	27.6V	55.2V

3 stage charging curve



State	NPB-120-12	NPB-120-24	NPB-120-48
Constant Current	6.8A	4A	2A
V boost	14.4V	28.8V	57.6V
V 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).

Charging voltage adjustable by VR



Model	NPB-120-12 □	NPB-120-24 □	NPB-120-48 □
Output voltage adjustable range	10.5- 15.2V	21-30.4V	42-60.BV



Charging current adjustable by VR



Model	NPB-120-12 □	NPB-120-24 □	NPB-120-48 □
Output current adjustable range	3.4-6.8A	2-4A	1-2A

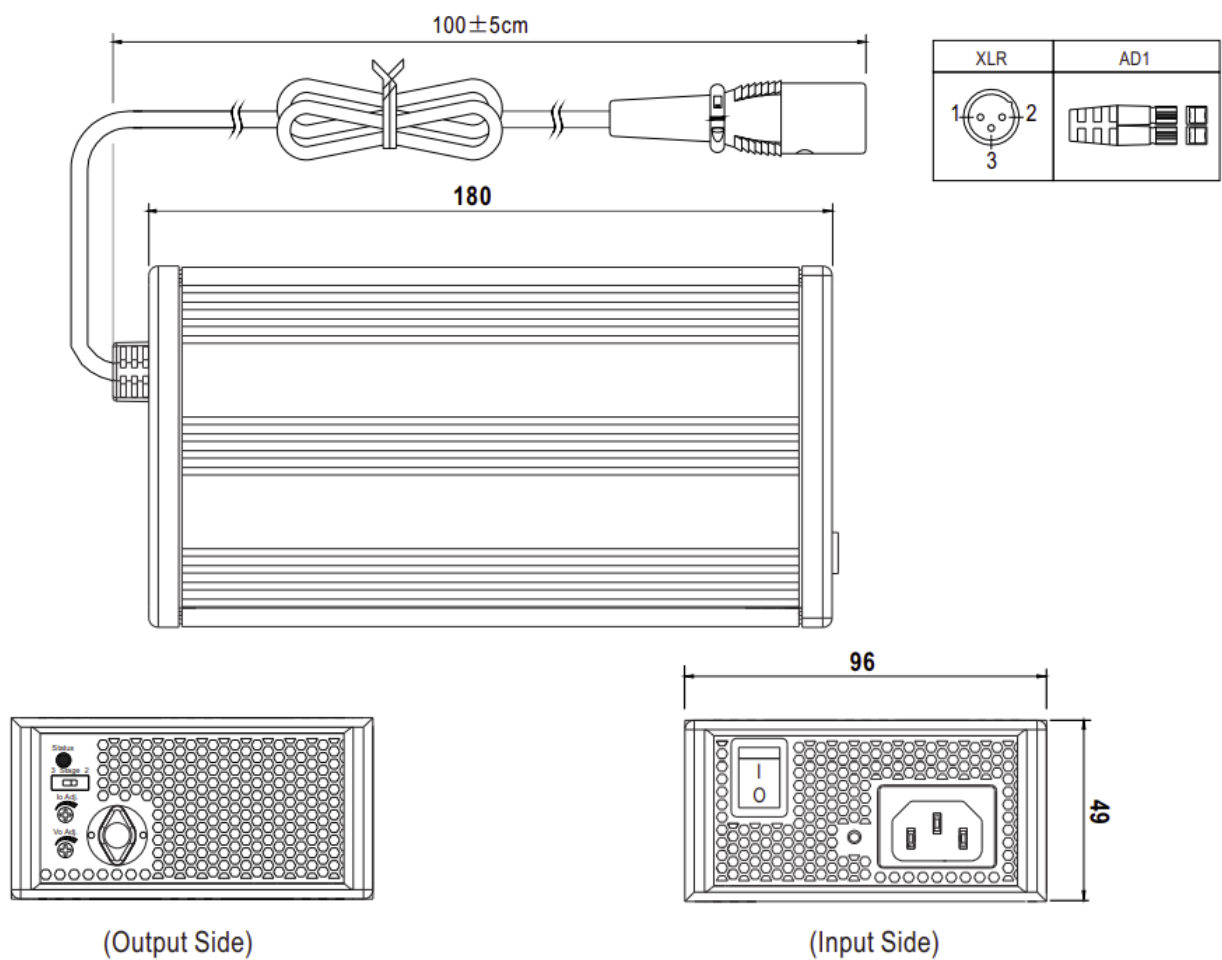
Front panel LED indicators & Corresponding signal at function pins



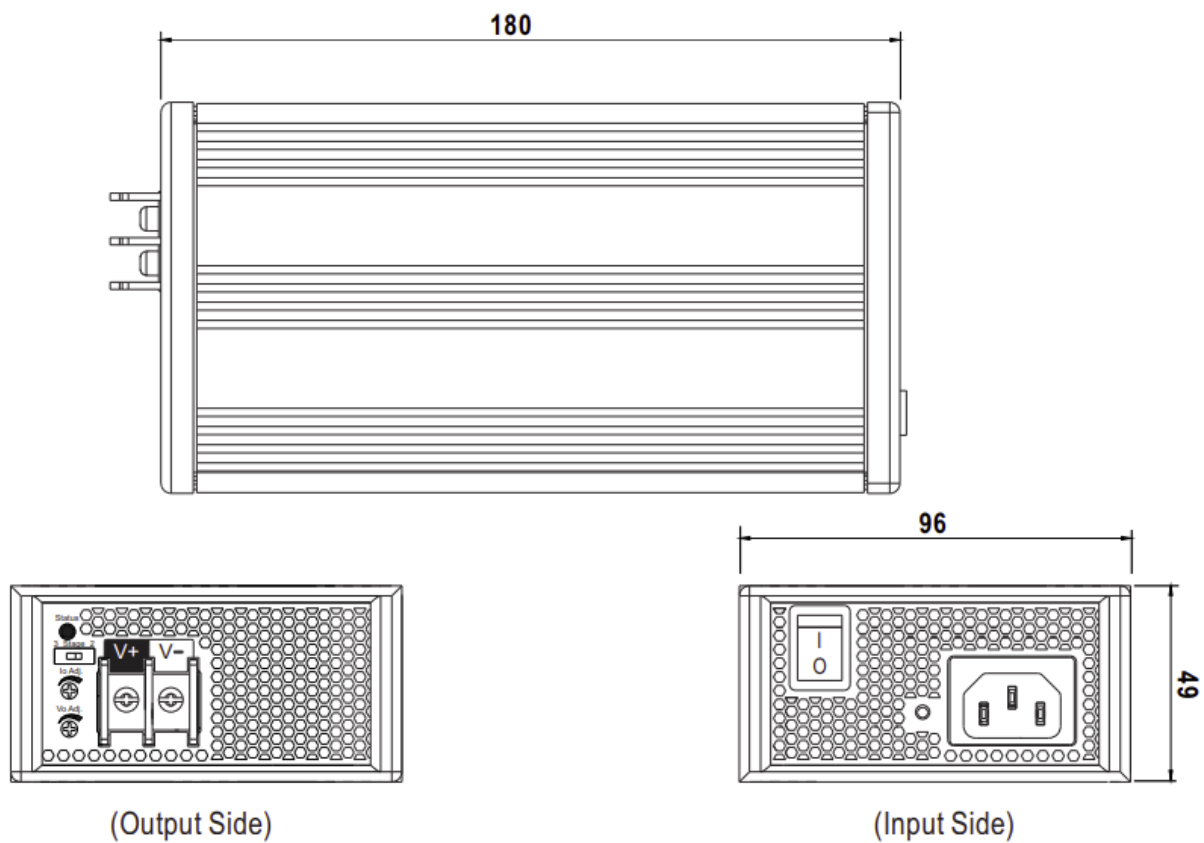
LED	Description
 Green	Float (stage 3) or Battery full
 Red	Charging (stage 1 or stage 2)

Mechanical Specification

NPB-120-xxXLR/AD1 (Cable Type)








NPB-120-xxTB (Terminal Block Type)





Plug Assignment


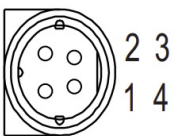
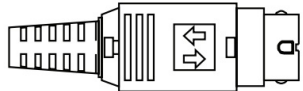

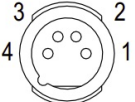

Standard Output Connector


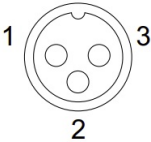


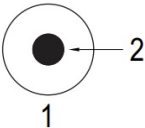
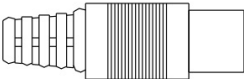

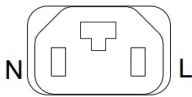
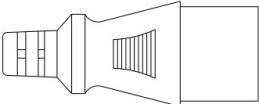
3pin XLR		
UNICABLE 89M103-3P or equivalent		
	PIN NO.	OUTPUT
	1	+V
	2,3	-V
		


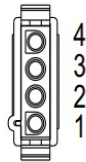
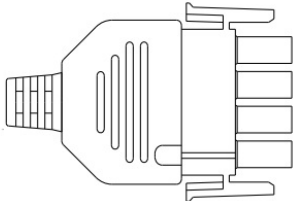
AD1	
housing: Anderson 1327FP(red), 1327G6FP(black) contacts: Anderson 261G2 (45A) or equivalent	
Red(+V)   Black(-V)	
	

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

Optional DC plug: (Available in customized)

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output(<7A)
   KYCON KPPX-4P equivalent	R?B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
DIN 4 Pin XLR	Type No.	Pin Assignment	
		PIN No.	Output(< 10A)
  	XLR4	1	+Vo
		2	+Vo
		3	-Vo
		4	-Vo


DIN 3 Pin	Type No.	Pin Assignment	
		PIN No.	Output(<7A)
  	03P	1	+Vo
		2	-Vo
		3	-Vo
DIN 2 Pin	Type No.	Pin Assignment	
		PIN No.	Output(<5A)
  	02P		-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-120 120W Compact Size and Wide Output Range Charger [pdf] Instructions NPB-120, 120W Compact Size and Wide Output Range Charger, Wide Output Range Charger, Range Charger, 120W Compact Size Charger, Charger </p>
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References

- [!\[\]\(b1b781be830eb908d845c527ab08d5f8_img.jpg\)
Installation Manual-MEAN WELL Switching Power Supply Manufacturer](#)
- [!\[\]\(2176a4ba510fa27404d783166e891577_img.jpg\)
Product Liability Disclaimer-MEAN WELL Switching Power Supply Manufacturer](#)