



MEAN WELL NPB-360 Series 360W Compact Size and Wide Output Range Charger Owner's Manual

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MEAN WELL NPB-360 Series 360W Compact Size and Wide Output Range Charger



360W Compact Size and Wide Output Range Charger

NPB-360 Series

The NPB-360 series is a compact size and wide output range charger with UL62368-1, UL62368-1 BS EN/EN62368-1 IEC62368-1 TPTC004 AS/NZS60335-1/2-29, BS EN/EN60335-1/2-29, and IEC60335-1/2-29 certifications. The charger comes with TB, AD1, and XLR output connectors.

Specifications:

Model	NPB-360-12	NPB-360-24	NPB-360-48
Voltage Adjustable Range	10.5 ~ 15.2V	21 ~ 30V	42 ~ 60V
Current Adjustable Range	50% ~ 100%	N/A	N/A
Output Current (Typ.)	20A	12.8A	6.4A
Max Power (Note.3)	304W	307.2W	307.2W
Recommended Battery Capacity (A mp Hours) (Note.4)	65 ~ 195AH	N/A	N/A
Leakage Current from Battery (Typ.)	0.98/115VAC, PF>0.95/230VAC at full load	N/A	N/A
Efficiency (Typ.)	XLR: 87%; AD1: 87%; TB: 88.5%	XLR: 91%; AD1: 91%; TB: 92%	XLR: 92%; AD1: 92%
AC Current (Typ.)	4.5A/115VAC 2.2A/230VAC	3.6A/115VAC 1.8A/230VAC	1.8A/115VAC 0.9A/230VAC
Inrush Current (Typ.) Cold Start	50A at 230VAC	N/A	N/A

Block Diagram:

Block Diagram of NPB-360

Function Manual:

1. 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: Start Charge Voltage – V float; 100% CC
 - 3 stage charging curve: Start Charge Voltage – V boost – V float; 100% CC
- Color of LED Loading Indicator:
 - Stage 1: Red; Constant Current
 - Stage 2: Float; Green; Constant Voltage; 10% CC
 - Stage 3: Green; Constant Current

Product Usage Instructions:

1. Ensure that the charger is properly grounded before use.
2. Connect the charger to the power source using the input connector.
3. Connect the battery to the output connector (TB, AD1, or XLR) of the charger.
4. Select the appropriate charging curve using the DIP S.W. (Default is 3 stage charging curve)
5. Adjust the voltage and current as per your battery specification using the voltage and current adjustment knobs.
6. Turn on the charger and monitor the LED loading indicator to ensure that the battery is being charged correctly.
7. Once the charging is complete, turn off the charger and disconnect the battery and power source.

Features

- 90~264Vac universal AC input, built-in PFC
- Charger for compatible with lead-acid and li-ion batteries
- 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)
- Fan ON-OFF control (Depends on internal temperature)
- -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://waw.meanwell.com/sernceGIIN.aspx>

Description

NPB-360 series is a 360W 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 - 360 - 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 	 (48V UL certificated same as TB Type)	In Stock
AD1	Anderson Equivalent Connector 		In Stock
TB	Terminal Block 		In Stock

MODEL		NPB-360-12	NPB-360-24	NPB-360-48
		=XLR, AD1, TB		
OUTPUT	BOOST CHARGE VOLTAGE(Vboost)(default)	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE(Vfloat)(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	20A	12A	6A
	CURRENT ADJUSTABLE RANGE	50% ~ 100%		
	MAX. POWER Note.3	304W	364.8W	364.8W
	RECOMMENDED BATTERY CAPACITY (AMP HOURS) Note.4	65 ~ 195AH	40 ~ 125AH	20 ~ 65AH

	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	87%	91%	92%
		AD1	87%	91%	92%
		TB	88.5%	92%	92.5%
	AC CURRENT (Typ.)		4.5A/115VAC 2.2A/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		
	FAN CONTROL (Typ.)		Internal RTH3≥50°C Fan ON, ≤45°C Fan OFF		
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)		

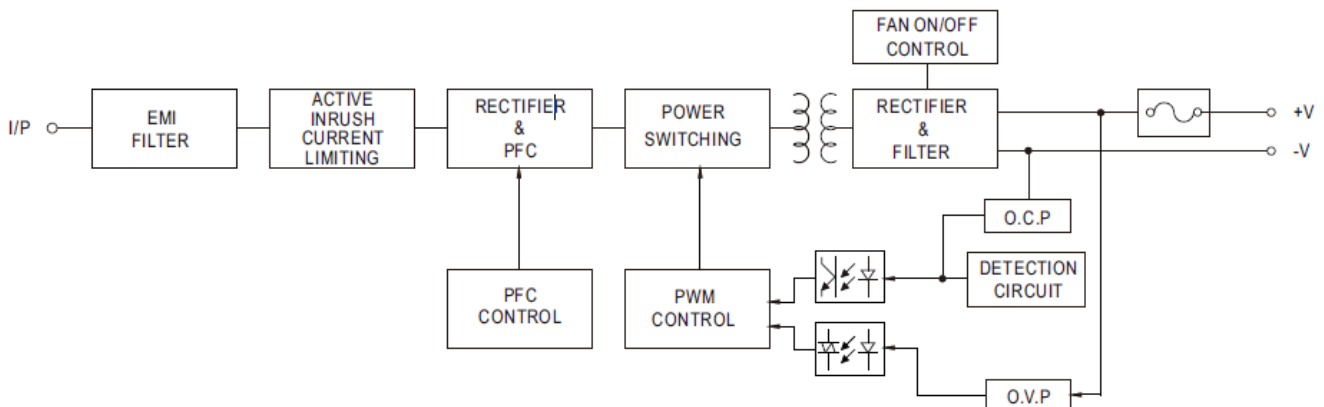
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFE TY & EMC (Note 7)	SAFETY STANDARDS	CB IEC62368-1, IEC60335-1/2-29, Dekra BS EN/EN62368-1, BS EN/EN60335-1/2-29, UL62368-1, AS/NZS60335-1/2-29, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	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	1324.7K hrs. min. Telcordia TR/SR-332 (Bell core) ; 173.9K hrs. min. MIL-HDBK-217F (25°C)		
	DIMENSION	182.7*96*49mm (L*W*H)		
	PACKING	1.3Kg; 10pcs/ 14Kg / 1.13CUFT		

NOTE

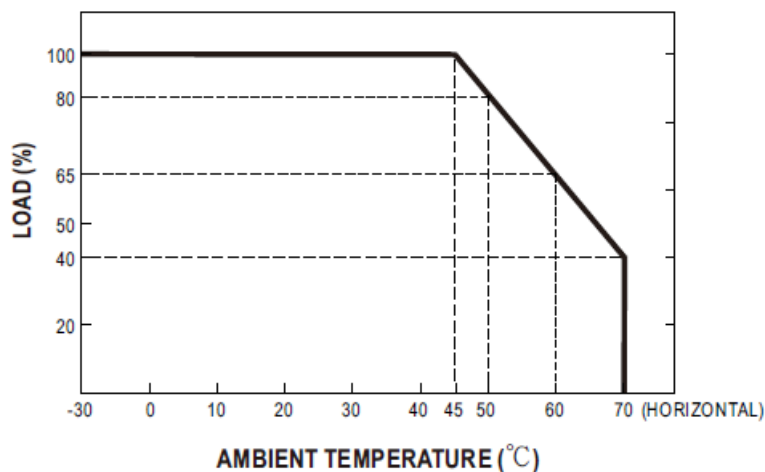
1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details.
 2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
 3. Refer to derating curve.
 4. 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 MC directives. For guidance on how to perform these MC tests, please refer to "EMI testing of component power supplies." (as available on <http://www.meanwell.com>)
- 5% Product Liability Disclaimer: For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

<https://www.meanwell.com/serviceDisclaimer.aspx>

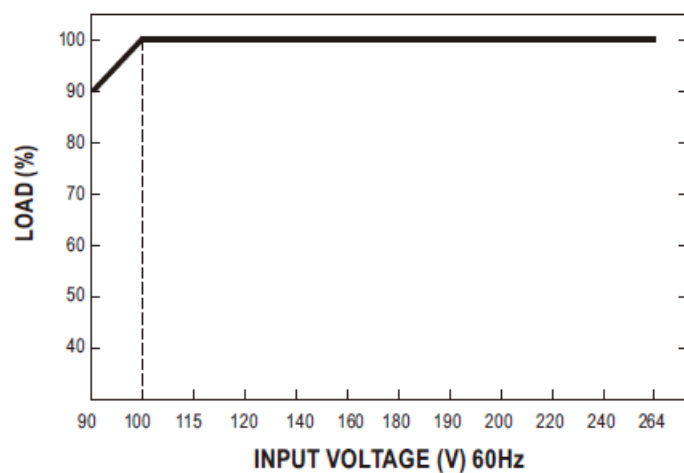
Block Diagram



Derating Curve



Static Characteristics

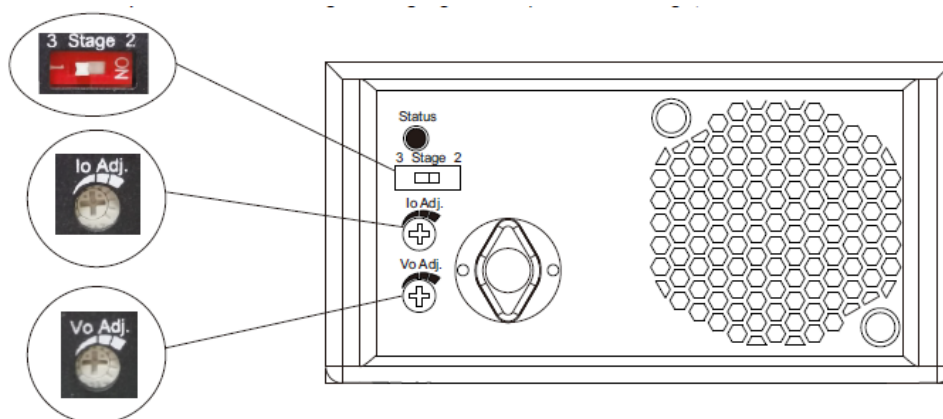


Function Manual

• Charging Curve

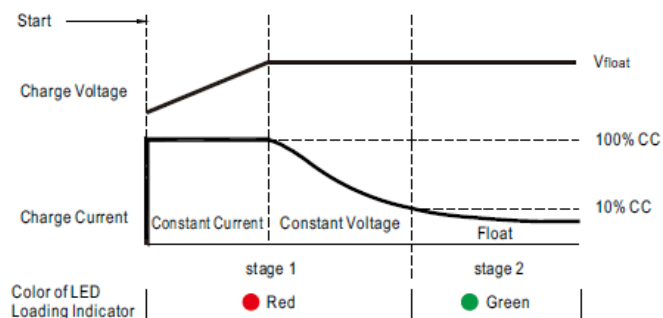
2 or 3 stage selectable by DIP S.W

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

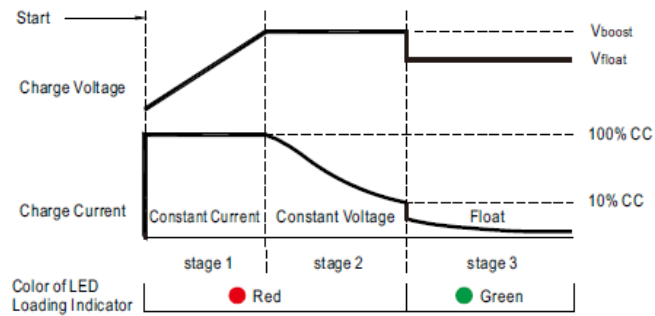


1-2 Charging Curve by DIP S.W

1. 2 stage charging curve



◎ 3 stage charging curve



State	NPB-360-12	NPB-360-24	NPB-360-48
Constant Current	20A	12A	6A
Vfloat	13.8V	27.6V	55.2V

State	NPB-360-12	NPB-360-24	NPB-360-48
Constant Current	20A	12A	6A
Vboost	14.4V	28.8V	57.6V
Vfloat	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-360-12	NPB-360-24	NPB-360-48
Output voltage adjustable range	10.5~15.2V	21~30.4V	42~60.8V



3. Charging current adjustable by VR

Model	NPB-360-12	NPB-360-24	NPB-360-48
Output current adjustable range	10~20A	6~12A	3~6A



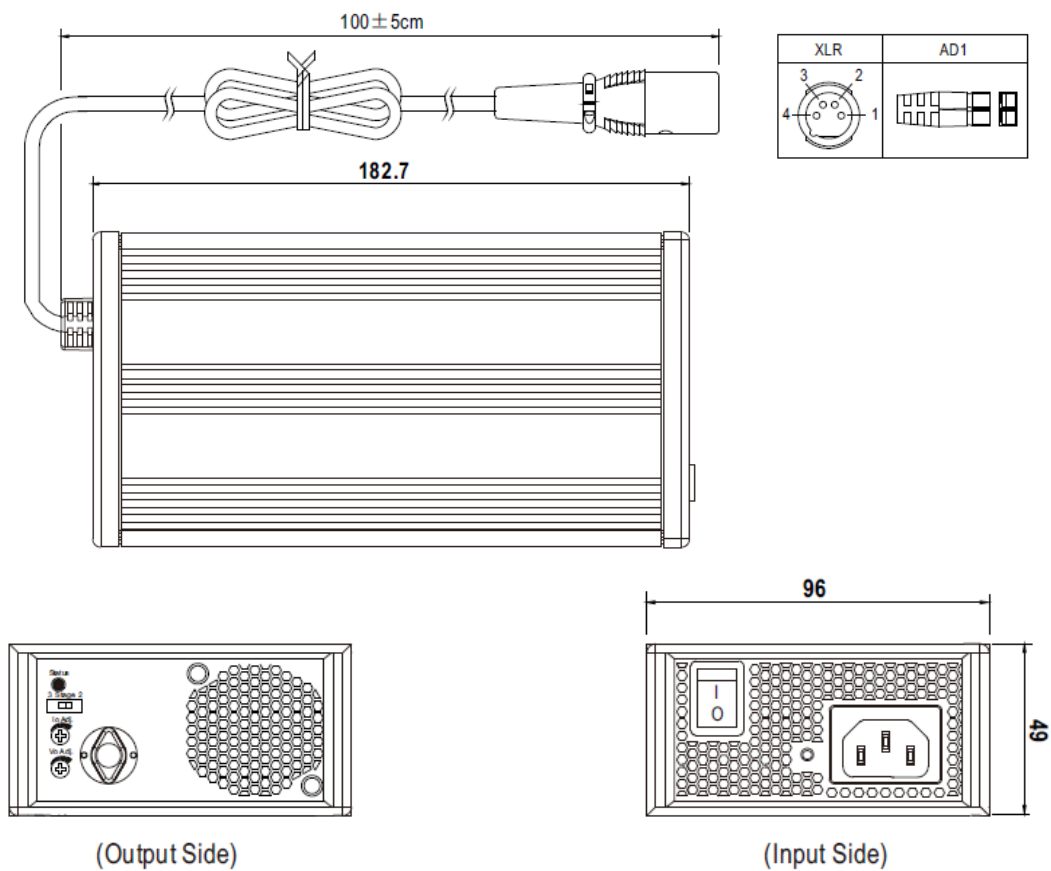
4. Front panel LED indicators & Corresponding signal at function pins

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

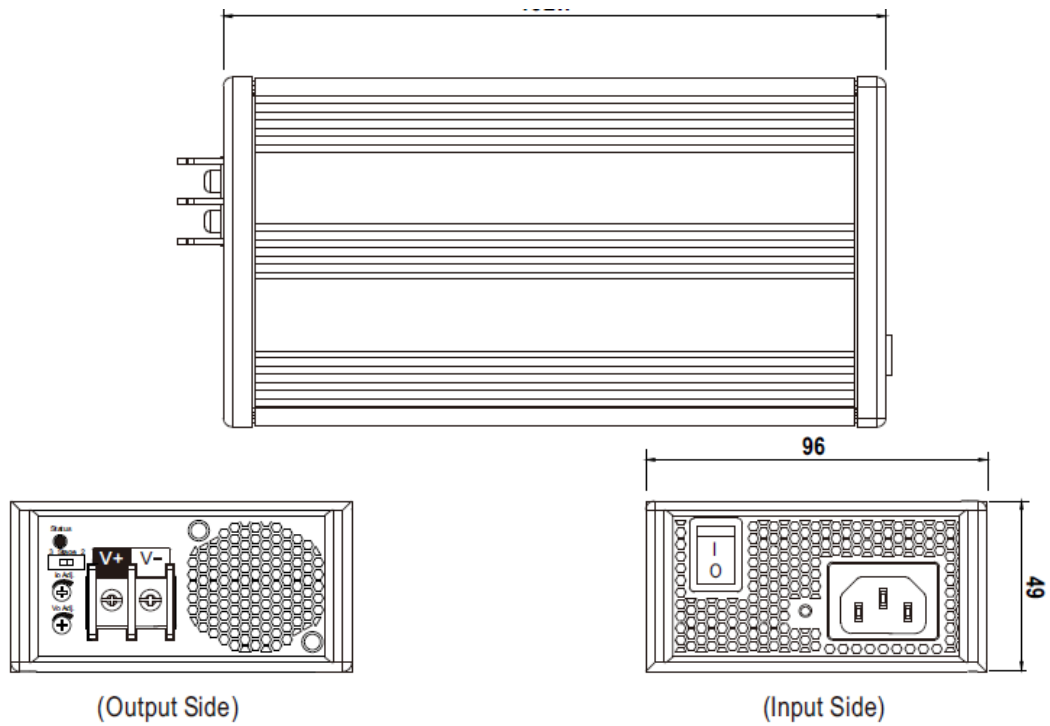
Mechanical Specification

NPB-360-xx XLR/AD1 (Cable Type)

Case No.PS-120F Unit:mm



NPB-360-xx TB (Terminal Block Type)

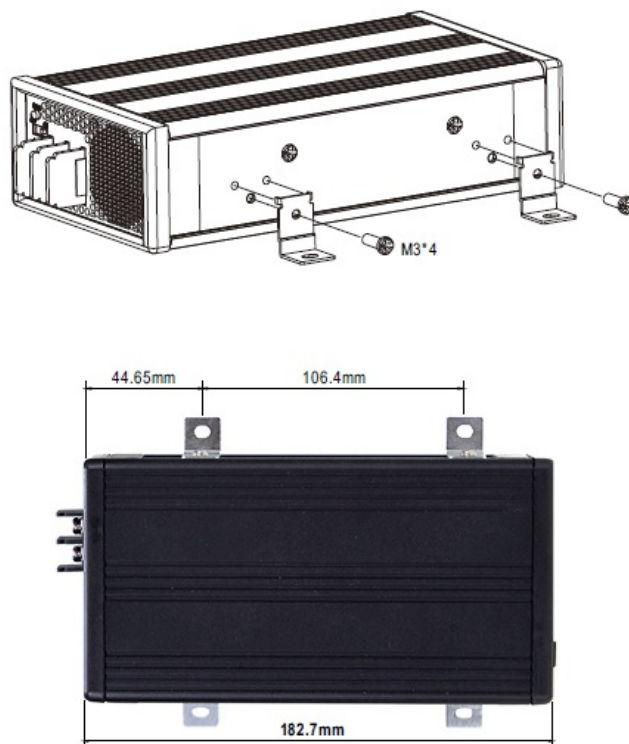


Accessory List

Bracket (Optional accessory, Should ordered separately)

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

Installation Diagram





Plug Assignment

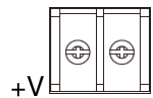
Standard Output Connector

4pin XLR UNICABLE 89M103-4P or equivalent		
	PIN NO.	OUTPUT
	1,2	+V
	3,4	-V

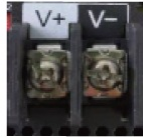
AD1 housing: Anderson 1327(red), 1327G6(black) equivalent contacts: Anderson 261G2 (45A) equivalent		
Red(+V)		Black(-V)

TB



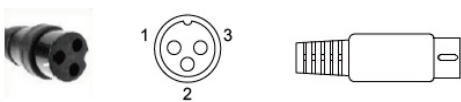
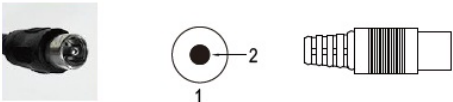
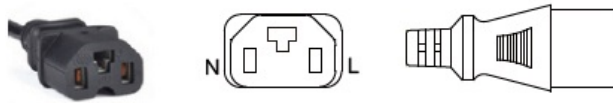

DT-66-B11W-02 or equivalent Rating: 300V 40A



-V




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

Min. DIN 4 Pin with Lock (male)	Type No.	Pin Assignment	
		PIN No.	Output(<7A)
	R7B	1	+Vo
		2	-Vo
		3	-Vo
		4	+Vo
DIN 3 Pin XLR	Type No.	Pin Assignment	
	XLR3	PIN No.	Output(<10A)
		1	+Vo
		2	+Vo
3	-Vo		
DIN 3 Pin	Type No.	Pin Assignment	
	D3P	PIN No.	Output(<7A)
		1	+Vo
		2	-Vo
3	-Vo		
DIN 2 Pin	Type No.	Pin Assignment	
	D2P	PIN No.	Output(<5A)
		1	-Vo
2	+Vo		
DIN 3 Pin	Type No.	Pin Assignment	
	INL3	PIN No.	Output(<10A)
		N	+Vo
L	-Vo		
AMP 1-480702-0 (6.35mm) equivalent	Type No.	Pin Assignment	
	C4P	PIN No.	Output(<7A)
		1	+Vo
		2	+Vo
		3	-Vo
4	-Vo		
FG not connected to output connector			

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

Documents / Resources

	<p>MEAN WELL NPB-360 Series 360W Compact Size and Wide Output Range Charger [pdf] Owner's Manual NPB-360 Series 360W Compact Size and Wide Output Range Charger, NPB-360 Series, 360W Compact Size and Wide Output Range Charger, 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](#)