

### 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

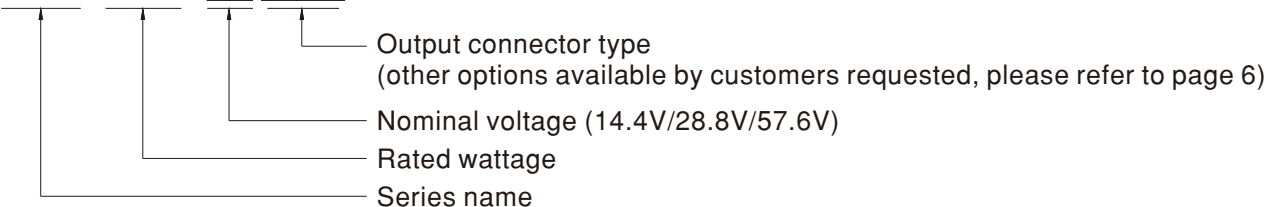
MW Search : <https://www.meanwell.com/serviceGTIN.aspx>

### 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



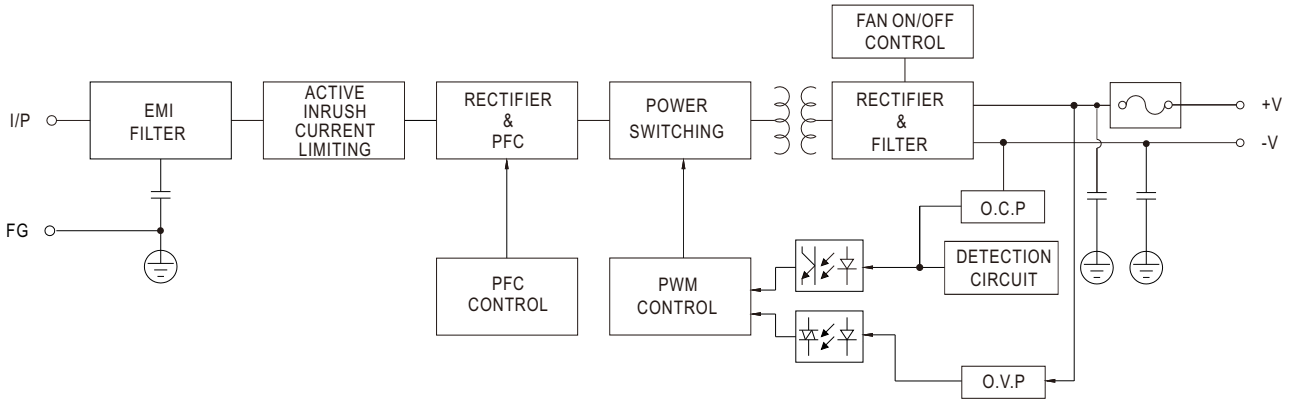
| Type | Output Connector              | Safety                                | Note     |
|------|-------------------------------|---------------------------------------|----------|
| XLR  | 4 pin power pin               |                                       | In Stock |
| AD1  | Anderson Equivalent Connector | (48V UL certificated same as TB Type) | In Stock |
| TB   | Terminal Block                |                                       | In Stock |

**SPECIFICATION**

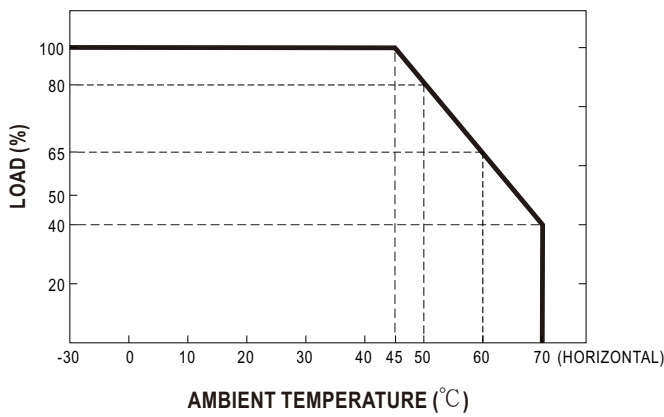
| MODEL                               |  | NPB-360-12□  | NPB-360-24□  | NPB-360-48□                             |       |
|-------------------------------------|--|--|--|---|-------|
|                                     |  | □ =XLR, AD1, TB  |  |   |       |
| OUTPUT                              | 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                                |       |
|                                     | 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   |  |   |       |
| SAFETY & 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, J62368-1(2020) (except for 48XLR & TB type) ,KC62368-1,EAC TP TC 004, BSMI CNS15598-1 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 (CISPR32),BS EN/EN55014-1,CNS15936                         | Class B                                 |       |
|                                     |  | Radiated   | BS EN/EN55032 (CISPR32),BS EN/EN55014-1,CNS15936                         | Class B                                 |       |
|                                     |  | Harmonic Current   | BS EN/EN61000-3-2  | Class A                                 |       |
|                                     | Voltage Flicker  | BS EN/EN61000-3-3  | -----  |   |       |
|                                     | EMC IMMUNITY   | 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 (Bellcore) ; 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                                | <p>1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details.</p> <p>2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>3. Refer to derating curve.</p> <p>4. This is MEAN WELL's suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.</p> <p>5. Derating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>6. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.</p> <p>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 <a href="https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf">https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf</a> )</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |  |  |   |       |

### Block Diagram

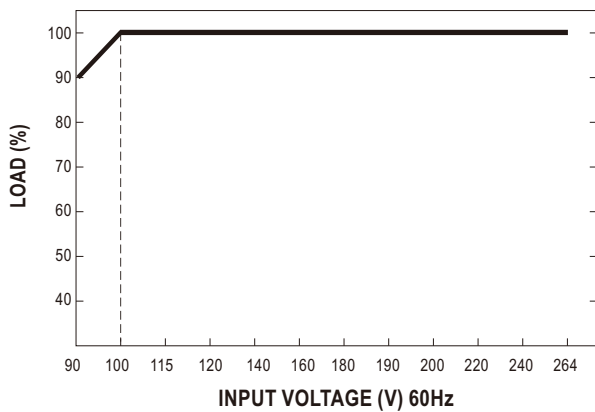
PFC fosc : 65KHz  
PWM fosc : 45KHz



### Derating Curve



### Static Characteristics

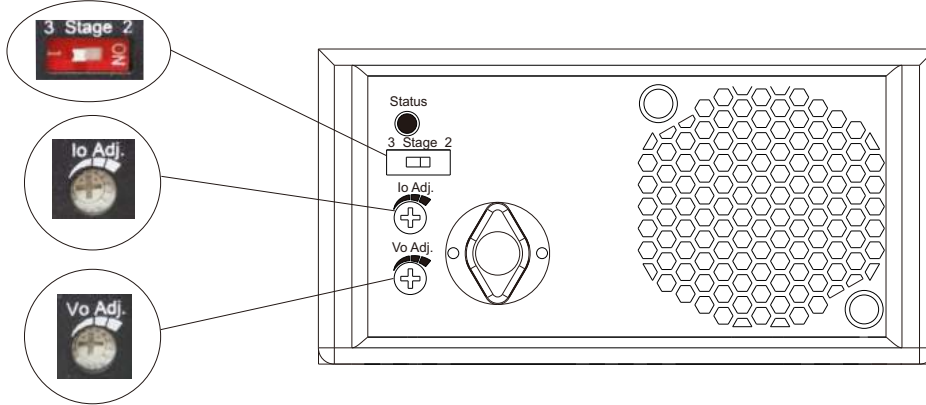


## Function Manual

### 1. Charging Curve

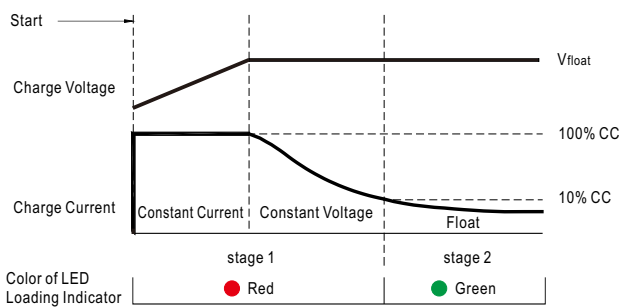
#### 1-1 2 or 3 stage selectable by DIP S.W

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



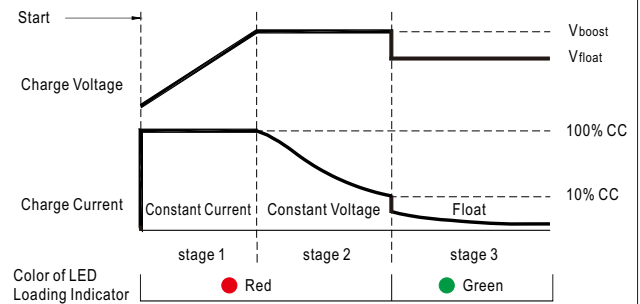
#### 1-2 Charging Curve by DIP S.W

##### Ⓒ 2 stage charging curve



| State              | NPB-360-12 | NPB-360-24 | NPB-360-48 |
|--------------------|------------|------------|------------|
| Constant Current   | 20A        | 12A        | 6A         |
| V <sub>float</sub> | 13.8V      | 27.6V      | 55.2V      |

##### Ⓓ 3 stage charging curve



| State              | NPB-360-12 | NPB-360-24 | NPB-360-48 |
|--------------------|------------|------------|------------|
| Constant Current   | 20A        | 12A        | 6A         |
| V <sub>boost</sub> | 14.4V      | 28.8V      | 57.6V      |
| V <sub>float</sub> | 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 <input type="checkbox"/> | NPB-360-24 <input type="checkbox"/> | NPB-360-48 <input type="checkbox"/> |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Output voltage adjustable range | 10.5~15.2V                          | 21~30.4V                            | 42~60.8V                            |



### 3. Charging current adjustable by VR

| Model                           | NPB-360-12 <input type="checkbox"/> | NPB-360-24 <input type="checkbox"/> | NPB-360-48 <input type="checkbox"/> |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 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)   |

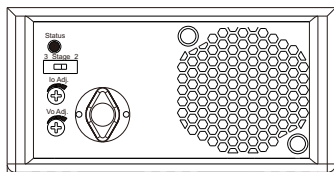
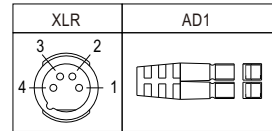
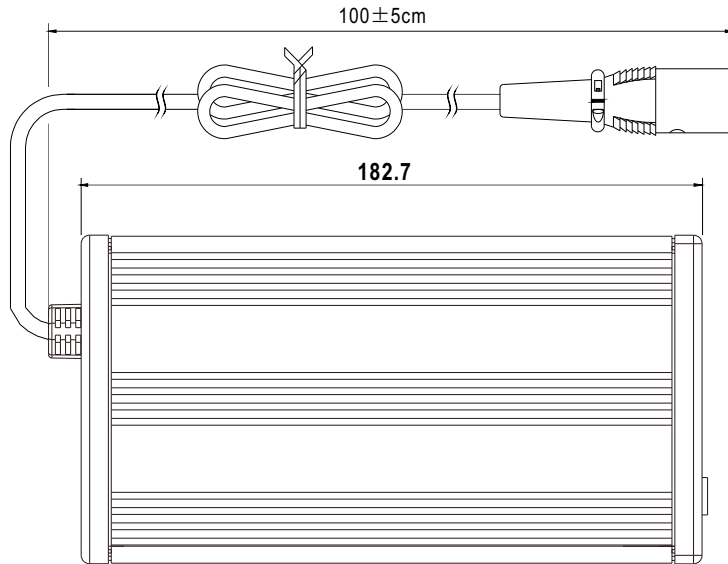


### ■ Mechanical Specification

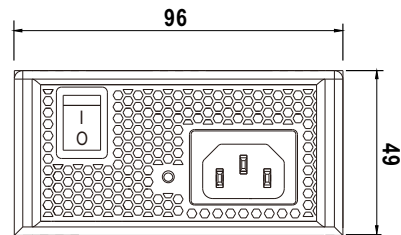
(Unit: mm , tolerance  $\pm 1$ mm)

Case No. PS-120F

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

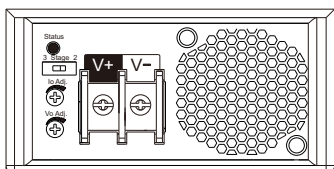
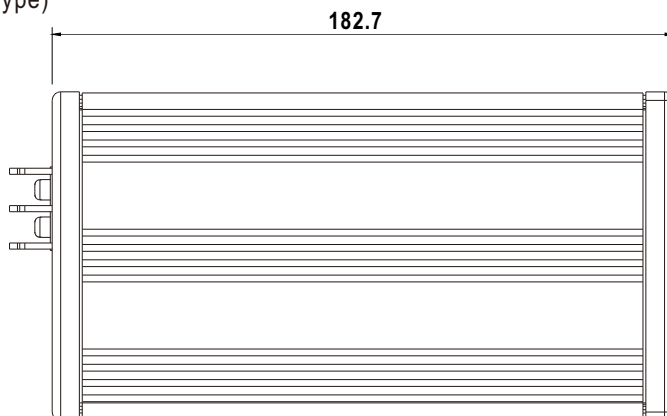


(Output Side)

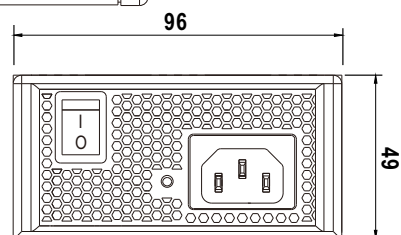


(Input Side)

#### ◎ NPB-360-xx TB (Terminal Block Type)




(Output Side)



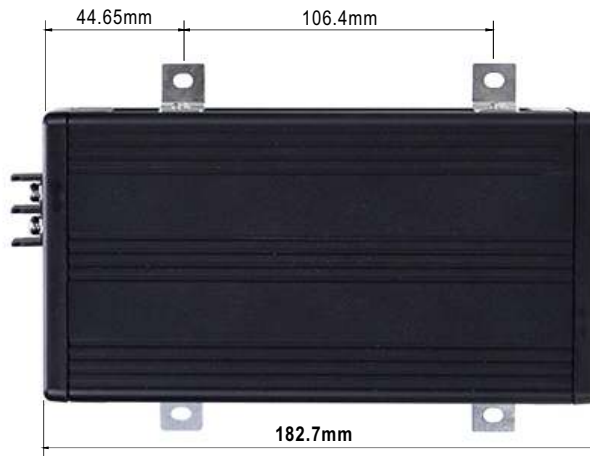
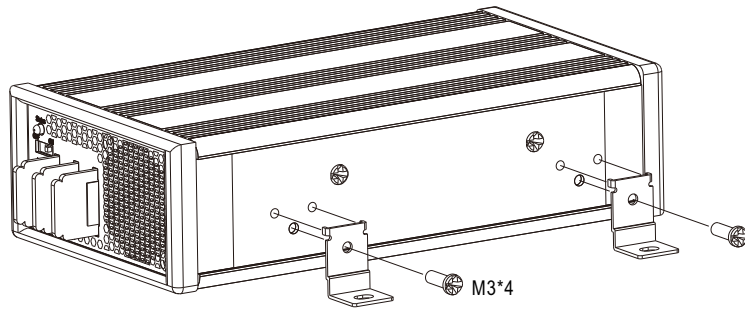
(Input Side)

■ **Accessory List**

※ Bracket (Optional accessory, Should ordered separately)

| MW's Order No. | Item  | Quantity       |
|----------------|---|----------------|
| PGG2MHS012D    |  | 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) 


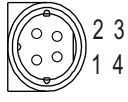
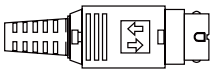

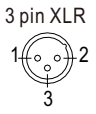


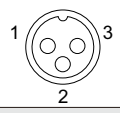


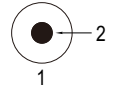
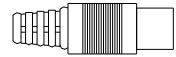

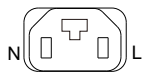
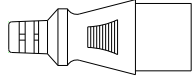


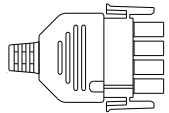


**TB**  
DT-66-B11W-02 or equivalent  
Rating: 300V 40A

+V  -V 



◎ Optional DC plug: (Available in customized)

| Min. DIN 4 Pin with Lock (male)   | Type No. | Pin Assignment |             |
|---|----------|----------------|-------------|
|   |          | PIN No.        | Output(<7A) |
|    <p>KYCON KPPX-4P equivalent</p>                   | R7B      | 1              | +Vo         |
|   |          | 2              | -Vo         |
|   |          | 3              | -Vo         |
|   |          | 4              | +Vo         |
| DIN 3 Pin XLR   | Type No. | Pin Assignment |             |
|     | XLR3     | 1              | +Vo         |
|   |          | 2              | +Vo         |
|   |          | 3              | -Vo         |
| DIN 3 Pin   | Type No. | Pin Assignment |             |
|      | D3P      | 1              | +Vo         |
|   |          | 2              | -Vo         |
|   |          | 3              | -Vo         |
| DIN 2 Pin   | Type No. | Pin Assignment |             |
|      | D2P      | 1              | -Vo         |
|   |          | 2              | +Vo         |
| DIN 3 Pin   | Type No. | Pin Assignment |             |
|      | INL3     | N              | +Vo         |
|   |          | L              | -Vo         |
| AMP 1-480702-0 (6.35mm) equivalent  | Type No. | Pin Assignment |             |
|    <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>