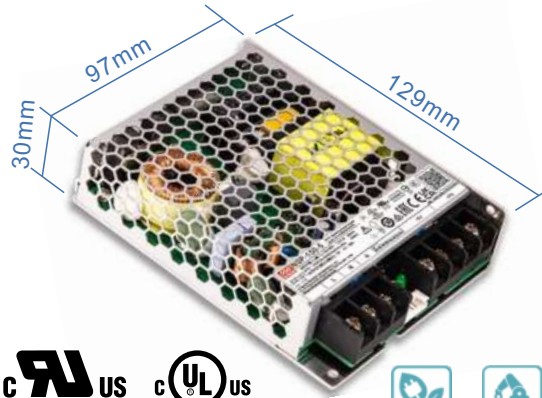




# 150W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply **NSP-150 series**



User's Manual



IEC62368-1  
IEC61558-1/-2-16  
IEC61010-1/-2-201  
IEC60601-1  
IEC60335-1  
IEC62477-1



BS EN/EN62368-1  
BS EN/EN61558-1/-2-16  
BS EN/EN61010-1/-2-201  
BS EN/EN60601-1  
BS EN/EN60335-1  
BS EN/EN62477-1



ANSI/AAMI ES60601-1



UL61010-1



AS/NZS61558-1/-2-16 GB4943.1 CNS15598-1 KC62368-1 (By request) TPTC004  
AS/NZS62368-1 (By request)

## ■ Features

- 85~305Vac input with PFC(277Vac available)
- No load power consumption <0.3W~0.5W by R.C.
- Global certificates in multi-fields  
(ITE 62368-1, Medical 60601-1, Household 60335-1, Industrial 61558-1/2-16/61010-1, Energy converter 62477-1)
- 200% peak power capability(12~60V models)
- High efficiency up to 93%
- -40~85°C wide range operation temperature(> +60°C derating)
- Extremely low leakage current<350μA, 2 x MOPP, suitable for BF medical applications
- Built-in constant current limiting circuit
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Fanless design for noise sensitive applications
- Built-in remote ON/OFF control
- Over voltage category III (OVC III)
- Operating altitude up to 5000 meters
- Conformal coating
- 5 years warranty

## ■ Description

The NSP-150 series is a 150W AC/DC power supply with PFC function, designed for high reliability and suitable for multiple industries. Key features include: compact size (129\*97\*30 mm) for better space utilization in system installations, ultra-wide input range of 85~305Vac for global compatibility, up to 93% efficiency and low standby power consumption (<0.3W~0.5W) for energy-saving and carbon reduction, constant current design with 200% peak power capability, fanless design, wide operating temperature range from -40 to +85°C (+60°C at full load), compliance with OVCI, built-in Remote Control /Remote Sense/DC OK signal, internal PCB coating, complete protections, certifications for multiple safety standards including 62368-1, 60601-1, 61558-1, 60335-1, 62477-1, and 61010-1, as well as 2 X MOPP compliance and extremely low leakage current (<350μA). It is suitable for BF-rated medical equipment and comes with a 5-years warranty, making it a highly cost-effective solution for industrial power supply needs.

## ■ Model Encoding

NSP -150 - 24

Output voltage (5V/7.5V/12V/15V/24V/27V/36V/48V/60V)

Output wattage

Series name

## ■ Applications

- Industrial automation machinery/ control system
- Security system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Network equipment
- Telecom devices
- Power sourcing equipment of PoE
- Home automation
- Medical devices

## ■ GTIN CODE

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



# 150W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply **NSP-150** series

| SPECIFICATION                   |                                                                 | NSP-150-5                                                                                                                                                                                                                                                                                                                                                                                                                                            | NSP-150-7.5 | NSP-150-12                                        | NSP-150-15 | NSP-150-24          | NSP-150-27 | NSP-150-36 | NSP-150-48 | NSP-150-60 |
|---------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------|------------|---------------------|------------|------------|------------|------------|
| OUTPUT                          |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                   |            |                     |            |            |            |            |
| DC VOLTAGE                      |                                                                 | 5V                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7.5V        | 12V                                               | 15V        | 24V                 | 27V        | 36V        | 48V        | 60V        |
| RATED CURRENT                   |                                                                 | 30A                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 20A         | 12.5A                                             | 10A        | 6.3A                | 5.6A       | 4.2A       | 3.15A      | 2.55A      |
| CURRENT RANGE                   |                                                                 | 0 ~ 30A                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0 ~ 20A     | 0 ~ 12.5A                                         | 0 ~ 10A    | 0 ~ 6.3A            | 0 ~ 5.6A   | 0 ~ 4.2A   | 0 ~ 3.15A  | 0 ~ 2.55A  |
| RATED POWER                     |                                                                 | 150W                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 150W        | 150W                                              | 150W       | 151.2W              | 151.2W     | 151.2W     | 151.2W     | 153W       |
| PEAK                            | CURRENT(5 sec.)                                                 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                  | N/A         | 25A                                               | 20A        | 12.5A               | 11.2A      | 8.4A       | 6.3A       | 5.1A       |
|                                 | POWER(5 sec.)                                                   | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                  | N/A         | 300W                                              | 300W       | 300W                | 300W       | 300W       | 300W       | 300W       |
| RIPPLE & NOISE (max.) Note.2    |                                                                 | 150mVp-p                                                                                                                                                                                                                                                                                                                                                                                                                                             | 150mVp-p    | 150mVp-p                                          | 150mVp-p   | 200mVp-p            | 240mVp-p   | 240mVp-p   | 240mVp-p   | 300mVp-p   |
| VOLTAGE ADJ. RANGE              |                                                                 | 4.7 ~ 5.5V                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.8 ~ 9V    | 10.8 ~ 14V                                        | 15 ~ 19V   | 21 ~ 26V            | 26 ~ 32V   | 32 ~ 43V   | 44 ~ 57V   | 54 ~ 72V   |
| VOLTAGE TOLERANCE Note.3        |                                                                 | ±2.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±2.0%       | ±2.0%                                             | ±2.0%      | ±1.0%               | ±1.0%      | ±1.0%      | ±1.0%      | ±1.0%      |
| LINE REGULATION                 |                                                                 | ±0.5%                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%       | ±0.5%                                             | ±0.5%      | ±0.5%               | ±0.5%      | ±0.5%      | ±0.5%      | ±0.5%      |
| LOAD REGULATION                 |                                                                 | ±1.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±1.0%       | ±0.5%                                             | ±0.5%      | ±0.5%               | ±0.5%      | ±0.5%      | ±0.5%      | ±0.5%      |
| SETUP, RISE TIME                |                                                                 | 1500ms, 80ms/115Vac                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | 1000ms, 80ms/230Vac                               |            | 1000ms, 80ms/277Vac |            |            |            |            |
| HOLD UP TIME (Typ.)             |                                                                 | 16ms at full load                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                   |            |                     |            |            |            |            |
| INPUT                           |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                   |            |                     |            |            |            |            |
| VOLTAGE RANGE Note.4            |                                                                 | 85 ~ 305Vac 120 ~ 431Vdc                                                                                                                                                                                                                                                                                                                                                                                                                             |             |                                                   |            |                     |            |            |            |            |
| NO LOAD POWER CONSUMPTION(Typ.) | Remote Power OFF                                                | 0.3W/115Vac                                                                                                                                                                                                                                                                                                                                                                                                                                          |             | 0.5W/230Vac                                       |            | 0.5W/277Vac         |            |            |            |            |
|                                 | Remote Power ON                                                 | 3W/115Vac                                                                                                                                                                                                                                                                                                                                                                                                                                            |             | 3W/230Vac                                         |            | 3W/277Vac           |            |            |            |            |
| FREQUENCY RANGE                 |                                                                 | 47 ~ 63Hz                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                                   |            |                     |            |            |            |            |
| POWER FACTOR (Typ.)             |                                                                 | PF>0.98/115Vac, PF>0.93/230Vac, PF>0.9/277Vac at full load                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                   |            |                     |            |            |            |            |
| EFFICIENCY (Typ.)               |                                                                 | 91%                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 91.5%       | 93%                                               | 93%        | 92%                 | 92%        | 92.5%      | 92.5%      | 93%        |
| AC CURRENT (Typ.)               |                                                                 | 1.55A/115Vac                                                                                                                                                                                                                                                                                                                                                                                                                                         |             | 0.75A/230Vac                                      |            | 0.63A/277Vac        |            |            |            |            |
| INRUSH CURRENT (Typ.)           |                                                                 | COLD START 23A/115Vac 45A/230Vac 55A/277Vac                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                   |            |                     |            |            |            |            |
| LEAKAGE CURRENT                 |                                                                 | Earth leakage current <350μA(rms)@277Vac, touch current<100μA(rms) @ 277Vac                                                                                                                                                                                                                                                                                                                                                                          |             |                                                   |            |                     |            |            |            |            |
| PROTECTION                      |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                   |            |                     |            |            |            |            |
| SHORT CIRCUIT                   | 5V                                                              | Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                                                 |             |                                                   |            |                     |            |            |            |            |
|                                 | 7.5V-60V                                                        | Constant current limiting for more than 5 seconds (Vout<30%) and then shut down o/p voltage, AC re-power on to recover                                                                                                                                                                                                                                                                                                                               |             |                                                   |            |                     |            |            |            |            |
| OVERLOAD                        | 5V                                                              | 105%-170%rated Output power; Hiccup mode, recovers automatically after fault condition is removed                                                                                                                                                                                                                                                                                                                                                    |             |                                                   |            |                     |            |            |            |            |
|                                 | 7.5V                                                            | 105%~150% rated output power; Constant current limiting for more than 5 seconds and then shut down o/p voltage, AC re-power on to recover                                                                                                                                                                                                                                                                                                            |             |                                                   |            |                     |            |            |            |            |
|                                 | 12V ~ 60V                                                       | Normally works within 105 ~ 200% rated output power for more than 5 seconds and then constant current limiting without shutdown(Vout>30%), recovers automatically after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover<br>>200% rated power, constant current limiting (Vout>30%)with auto-recovery after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover |             |                                                   |            |                     |            |            |            |            |
| OVER VOLTAGE                    | 5.8 ~ 7.5V                                                      | 9 ~ 13V                                                                                                                                                                                                                                                                                                                                                                                                                                              | 15 ~ 19V    | 20 ~ 25V                                          | 28 ~ 36V   | 33~ 42V             | 44 ~ 54V   | 58~ 70V    | 73~ 86V    |            |
|                                 | Protection type : Shut down o/p voltage, re-power on to recover |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                   |            |                     |            |            |            |            |
| OVER TEMPERATURE                |                                                                 | Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                        |             |                                                   |            |                     |            |            |            |            |
| FUNCTION                        |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                   |            |                     |            |            |            |            |
| REMOTE CONTROL                  |                                                                 | POWER ON: RC+~RC-<br>POWER OFF: RC+~RC-                                                                                                                                                                                                                                                                                                                                                                                                              |             | 0~0.8Vdc or open<br>3.3~10Vdc by external voltage |            |                     |            |            |            |            |
| REMOTE SENSE                    |                                                                 | Compensate voltage drop on the load wiring up to 0.3V. Please refer to the Function Manual                                                                                                                                                                                                                                                                                                                                                           |             |                                                   |            |                     |            |            |            |            |
| DC OK SIGNAL                    |                                                                 | By phototransistor, contact rating(max.):15Vdc/10mA resistive load. Please refer to the Function Manual.                                                                                                                                                                                                                                                                                                                                             |             |                                                   |            |                     |            |            |            |            |
| ENVIRONMENT                     |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                   |            |                     |            |            |            |            |
| WORKING TEMP.                   |                                                                 | -40 ~ +85°C (Refer to "Derating Curve")                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                   |            |                     |            |            |            |            |
| WORKING HUMIDITY                |                                                                 | 20 ~ 90% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                           |             |                                                   |            |                     |            |            |            |            |
| STORAGE TEMP., HUMIDITY         |                                                                 | -40 ~ +85°C, 10 ~ 95% RH non-condensing                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                   |            |                     |            |            |            |            |
| TEMP. COEFFICIENT               |                                                                 | ±0.05%/°C (0 ~ 60°C)                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                                   |            |                     |            |            |            |            |
| VIBRATION                       |                                                                 | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                   |            |                     |            |            |            |            |



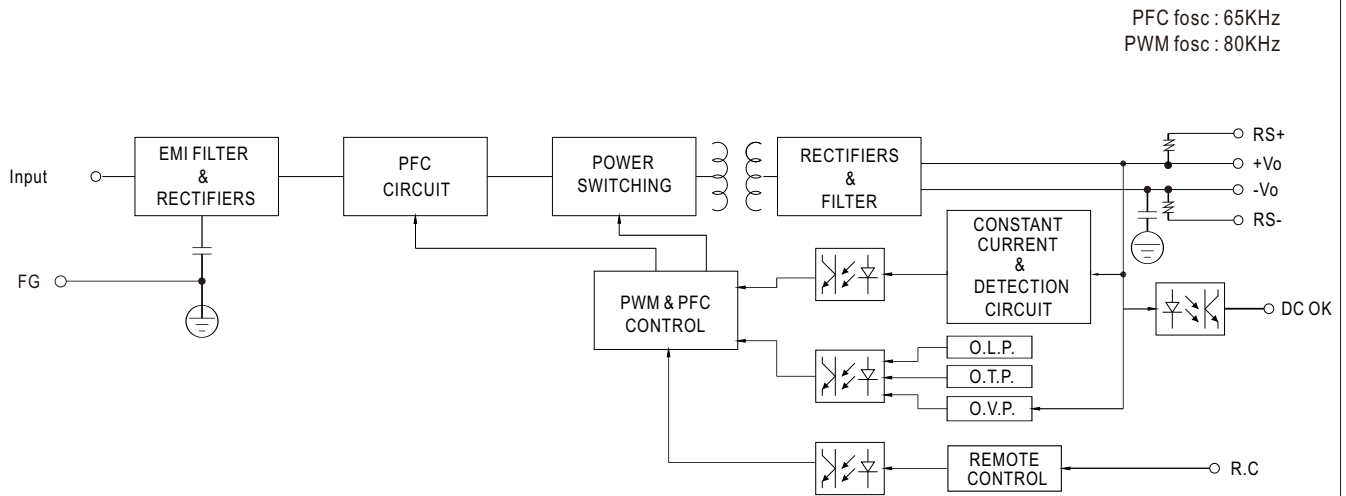
# 150W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply **NSP-150** series

| SAFETY & EMC (Note 5&6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                       |                                                                                                                               |                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CB                                                                                                                    | IEC62368-1, IEC60335-1, IEC61558-1/-2-16, IEC61010-1/-2-201, IEC60601-1; IEC62477-1                                           |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | DEKRA                                                                                                                 | BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16, BS EN/EN61010-1/-2-201, BS EN/EN60601-1(3.2 Version);BS EN/EN62477-1 |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | UL                                                                                                                    | UL62368-1, ANSI/AAMI ES60601-1(3.2 Version),UL61010-1/-2-201                                                                  |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | RCM                                                                                                                   | AS/NES 62368-1, AS/NES61558-1/-2-16                                                                                           |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CCC                                                                                                                   | GB4943.1                                                                                                                      |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | BSMI                                                                                                                  | CNS15598-1                                                                                                                    |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EAC                                                                                                                   | TP TC 004 approved;                                                                                                           |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | KC/BIS                                                                                                                | KC62368-1 and BIS IS13252 (Part 1): 2010 certified, no stock by request, contact sale for inquiries                           |                                                                             |
| ISOLATION LEVEL (Note 7)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Primary-Secondary: 2xMOPP, Primary-Earth: 1xMOPP, Secondary-Earth: 1xMOPP                                             |                                                                                                                               |                                                                             |
| OVER VOLTAGE CATEGORY (Note 8)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IEC/EN 61558-1/-2-16                                                                                                  | (OVC III, altitude up to 2000M)                                                                                               |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IEC/EN/UL 62368-1                                                                                                     | (OVC II, altitude up to 5000M)                                                                                                |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IEC/EN 60335-1                                                                                                        | (OVC II, altitude up to 5000M)                                                                                                |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IEC/EN 60601-1                                                                                                        | (OVC II, altitude up to 4000M)                                                                                                |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IEC/EN 61010-1/-2-201                                                                                                 | (OVC II, altitude up to 5000M)                                                                                                |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IEC/EN 62477-1                                                                                                        | (OVC II, altitude up to 5000M)                                                                                                |                                                                             |
| SAFETY EXTRA-LOW VOLTAGE(SELV)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IEC/EN 61558-2-16 (SELV, 5 ~ 36V)<br>IEC/EN 60335-1 (SELV, 5 ~ 36V)<br>IEC/EN/UL 62368-1 (SELV/ES1, 5 ~ 36V)          |                                                                                                                               |                                                                             |
| WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | I/P-O/P:4.2KVac I/P-FG:2.1KVac O/P-FG:1.5KVac                                                                         |                                                                                                                               |                                                                             |
| ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH                                                             |                                                                                                                               |                                                                             |
| EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Parameter                                                                                                             | Standard                                                                                                                      | Test Level / Note                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Conducted                                                                                                             | BS EN/EN55032(CISPR32),CNS 15936                                                                                              | Class B                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                       | BS EN/EN55014-1(CISPR14-1)                                                                                                    |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                       | BS EN/EN55011(CISPR11)                                                                                                        | Class B                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Radiated                                                                                                              | BS EN/EN55032(CISPR32),CNS 15936                                                                                              | Class B                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                       | BS EN/EN55014-1(CISPR14-1)                                                                                                    |                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                       | BS EN/EN55011(CISPR11)                                                                                                        | Class B                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Harmonic Current                                                                                                      | BS EN/EN61000-3-2(IEC61000-3-2)                                                                                               | Class A                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Voltage Flicker                                                                                                       | BS EN/EN61000-3-3(IEC61000-3-3)                                                                                               | ----                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | BS EN/EN55035(CISPR35),BS EN/EN61000-6-2(IEC61000-6-2),BS EN/EN60601-1-2(IEC60601-1-2),<br>BS EN/EN55014-2(CISPR14-2) |                                                                                                                               |                                                                             |
| EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 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(80MHz~2.7GHz)<br>Table 9, 9~28V/m(385MHz~5.78GHz)            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EFT / Burst                                                                                                           | BS EN/EN61000-4-4                                                                                                             | Level 3, 2KV                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Surge                                                                                                                 | BS EN/EN61000-4-5                                                                                                             | Level 4, 2KV/Line-Line 4KV/Line-Earth                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Conducted                                                                                                             | BS EN/EN61000-4-6                                                                                                             | Level 3, 10V                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Magnetic Field                                                                                                        | BS EN/EN61000-4-8                                                                                                             | Level 4, 30A/m                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Voltage Dips and Interruptions                                                                                        | BS EN/EN61000-4-11                                                                                                            | >95% dip 0.5 periods, 30% dip 25 periods,<br>>95% interruptions 250 periods |
| OTHERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                       |                                                                                                                               |                                                                             |
| MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2159.4 K hrs min. Telcordia SR-332 (Bellcore) ; 258. 3 K hrs min. MIL-HDBK-217F (25℃)                                 |                                                                                                                               |                                                                             |
| DIMENSION (L*W*H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 129*97*30mm                                                                                                           |                                                                                                                               |                                                                             |
| PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.4Kg;30pcs/13Kg/0.76 CUFT                                                                                            |                                                                                                                               |                                                                             |
| NOTE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                       |                                                                                                                               |                                                                             |
| 1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25℃ of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.<br>3. Tolerance: includes set up tolerance, line regulation and load regulation.<br>4. Derating may be need under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.<br>5. RCM is on voluntary basis and meets relevant IEC or AS/NZS standards complying with AS/NZS 4417.1<br>6. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. 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."<br>(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> )<br>7. MOPP is suitable for 100-240Vac input only<br>8. The ambient temperature derating of 3.5℃ / 1000m with fanless models and 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).<br>※ Product Liability Disclaimer: For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |                                                                                                                       |                                                                                                                               |                                                                             |



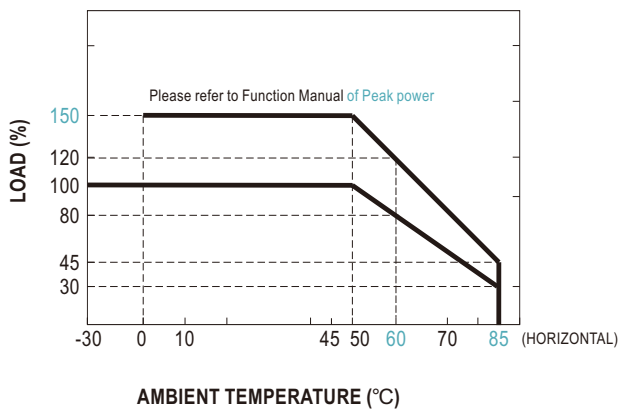
# 150W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply **NSP-150 series**

## ■ Block Diagram



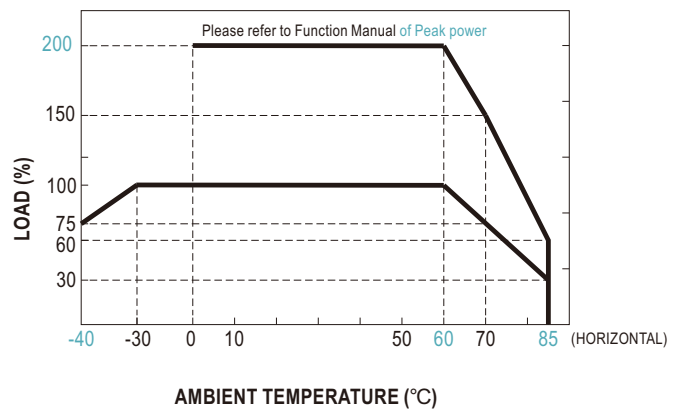
## ■ Derating Curve

Suitable for 100/110/115/120Vac System  
(85~135Vac)

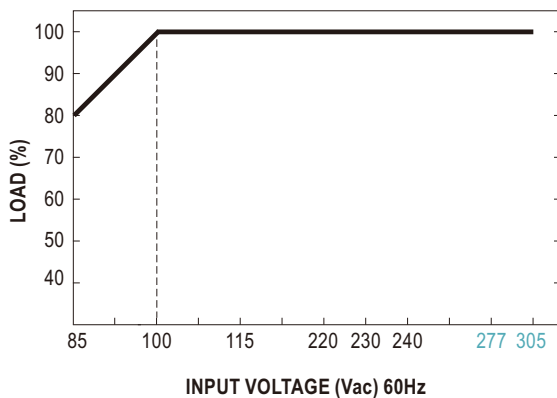


Note: Below 100Vac @-30°C there may be a restart situation within 3 seconds after power-on

Suitable for 220/230/240/277Vac System  
(180~305Vac)



## ■ Output Derating vs Input Voltage



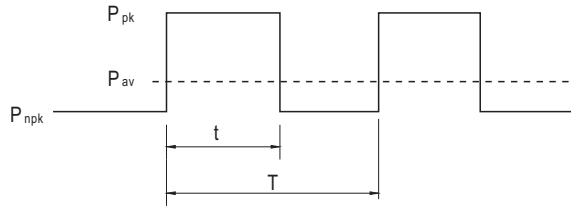
## Function Manual

### 1. Peak Power

$$P_{av} = \frac{P_{pk} \times t + P_{nPK} \times (T-t)}{T} \leq P_{rated}$$

$$Duty = \frac{t}{T} \times 100\% \leq 35\%$$

$$t \leq 5 \text{ sec}$$



$P_{av}$  : Average output power (W)

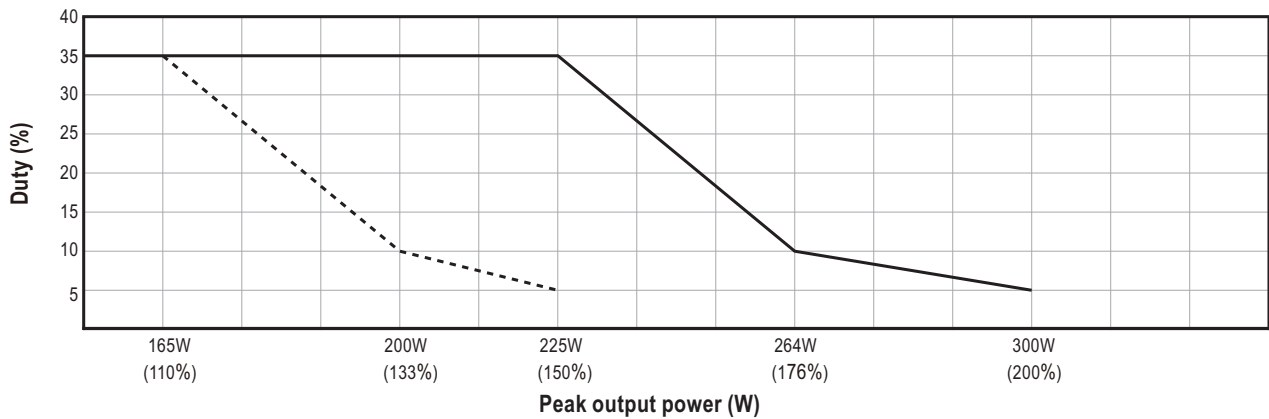
$P_{pk}$  : Peak output power (W)

$P_{nPK}$  : Non-peak output power (W)

$P_{rated}$  : Rated output power (W)

$t$  : Peak power width (sec)

$T$  : Period (sec)



#### For example (24V model) :

$V_{in} = 200Vac$      $Duty_{max} = 5\%$

$$P_{av} = P_{rated} = 150W$$

$$P_{pk} = 300W$$

$$t \leq 5 \text{ sec}$$

$$T \geq \frac{5 \text{ sec}}{5\%} \geq 100 \text{ sec}$$

$$P_{nPK} \leq \frac{TP_{av} - tP_{pk}}{T-t}$$

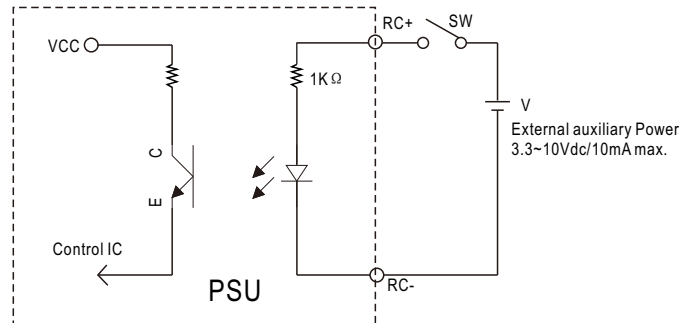
$$P_{nPK} \leq 142W$$

Note: When the output voltage is adjusted to the upper limit, the peak power is 150% rated power

## 2.Remote Control

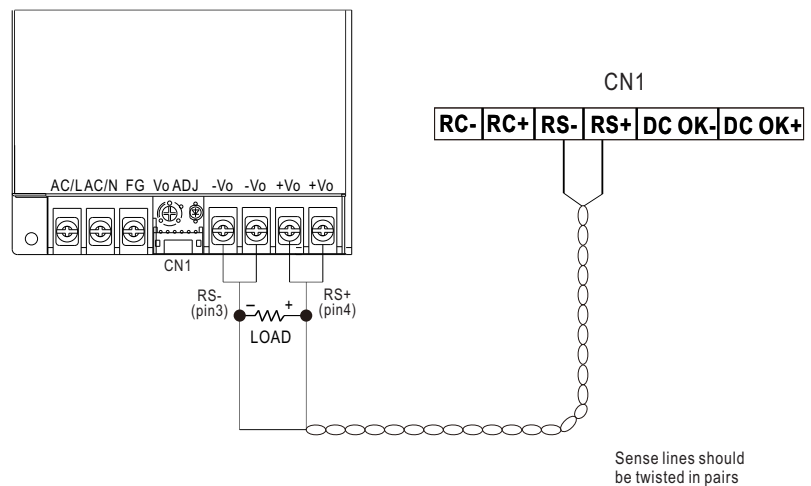
The PSU can be turned ON/OFF by using the "Remote Control" function with external switch and auxiliary power

| PSU Vo Status | Between RC-(pin1) and RC+(pin2) on CN1 |
|---------------|----------------------------------------|
| POWER ON      | Keep 0~0.8Vdc or open                  |
| POWER OFF     | Keep 3.3~10Vdc by external voltage     |



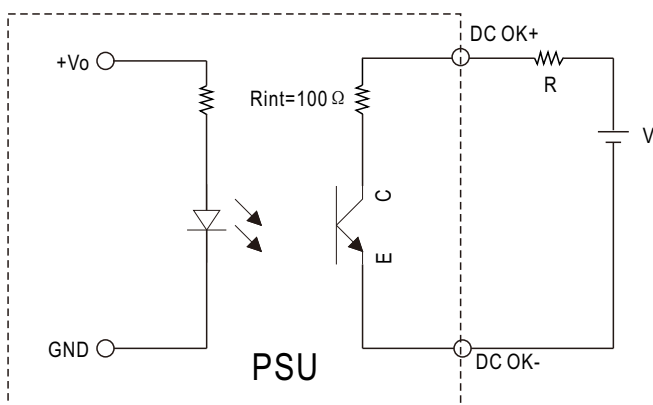
## 3.Remote Sense

The remote sensing compensates voltage drop on the load wiring up to 0.3Vdc



## 4.DC\_OK signal

※ DC\_OK is a collector shorted signal. It is used by an optocoupler in the power supply which indicates the output status of the power supply as exhibited below.



External voltage source(V) and resistor(R)

| PSU Vo Status | Photo transistor       |
|---------------|------------------------|
| POWER ON      | Conduct(Low impedance) |
| POWER OFF     | Open(High impedance)   |

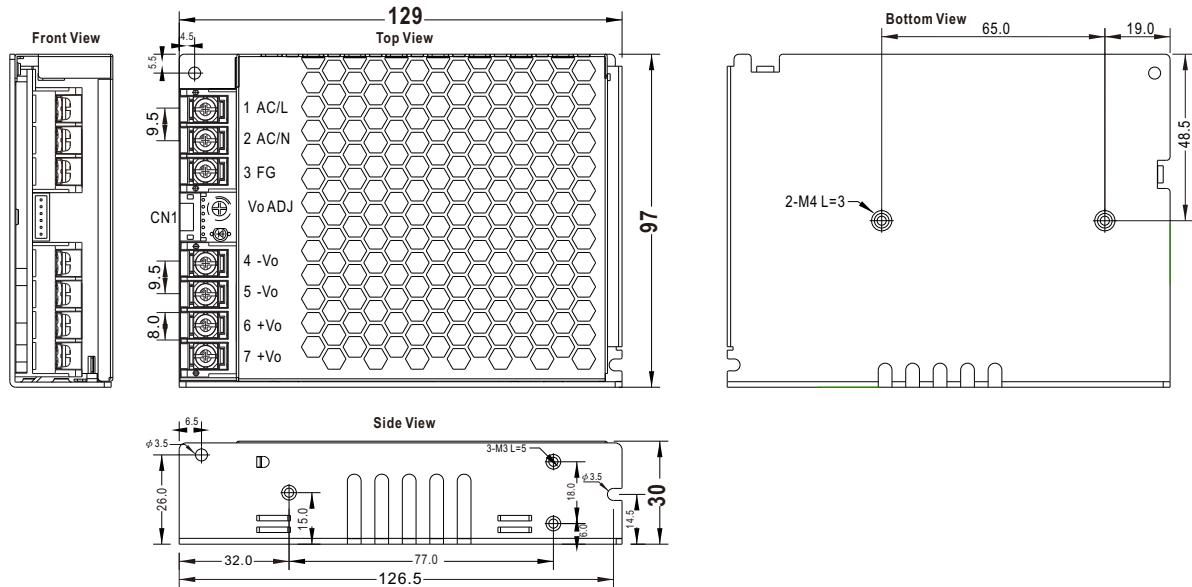
Optocoupler Rating(max.) 15Vdc/10mA resistive load



# 150W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply **NSP-150** series

## Mechanical Specification

Case No.308A Unit:mm Tolerance:±1



### ※ Input Terminal Pin No. Assignment

| Pin No. | Assignment            | Diagram | Screw thread | Mounting torque |
|---------|-----------------------|---------|--------------|-----------------|
| 1       | AC/L or DC input +Vin |         | M3.5         | 8~10Kgf.cm      |
| 2       | AC/N or DC input -Vin |         |              |                 |
| 3       | FG $\equiv$           |         |              |                 |

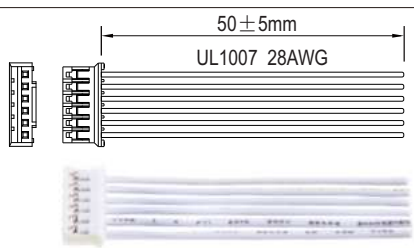
### ※ DC Output Terminal Pin No. Assignment

| Pin No. | Assignment | Diagram | Screw thread | Mounting torque |
|---------|------------|---------|--------------|-----------------|
| 4,5     | -Vo        |         | M3.5         | 8~10Kgf.cm      |
| 6,7     | +Vo        |         |              |                 |

### Connector Pin No. Assignment (CN1): DJS-1125R-06 or equivalent

| Pin No. | Assignment | Mating Housing            | Terminal                   |
|---------|------------|---------------------------|----------------------------|
| 1       | RC-        | JS-11242-06 or equivalent | DJS-1125R-06 or equivalent |
| 2       | RC+        |                           |                            |
| 3       | RS-        |                           |                            |
| 4       | RS+        |                           |                            |
| 5       | DC OK-     |                           |                            |
| 6       | DC OK+     |                           |                            |

## Accessory List

| No. | Item                                                                                                                                                                                               | Quantity       |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1   | Control function interface(CN1) mating wire along with NSP-150 (standard accessory)<br>                        | 1pcs/per model |
| 2   | Terminal cover<br>MW'S Order NO. : PEE4TBC-03, PEE4TBC-04 (By request accessory,should ordered separately)<br> | 1pcs/per model |

## Installation Manual

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