



Наличие и актуальные цены на

**NMP650-K###-00**

<https://www.mean-well.ru/store/NMP650-K%23%23%23-00/>



User's Manual



Video



ANSI/AAMI ES60601-1

UL62368-1



IEC60950-1/IEC62368-1/IEC60601-1



## Features

- Medical (2x MOPP) ITE safety approvals
- Suitable for BF application with appropriate system consideration (Touch current < 100uA/264VAC)
- 1U low profile
- Universal AC input / Full range
- Output voltage and current programmable
- Built-in parallel function / output programmable / global enable / remote local ON-OFF / auxiliary DC output / over temperature alarm / DC OK
- Cooling by thermostatically controlled fan with fan alarm function
- Protections: Short circuit / Overload / Over voltage / Over temperature for all output modules
- 5 years warranty

## Description

NMP family is a 1U low profile modular and configurable type power supply from MEAN WELL. This family comprises two power wattage for the line-up, 650W and 1200W, and the output modules deliver up to 240W with adjustable options for the major working voltages used in the industries 5V, 12V, 24V, 48V, Dual Output. NMP family complies with safety approval, the medical (2x MOPP between primary to secondary) and ITE standards. Offering the best flexibility for various types of applications.

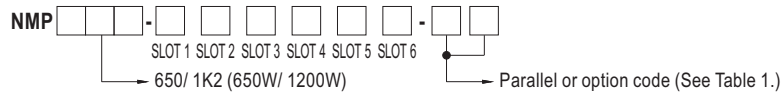
## Applications

- Medical equipment
- Diagnostic or biological facilities
- MRI, CT and PET scanners
- Test or measurement systems
- Telecommunication equipment
- Factory automation and aging equipment
- Laser equipment

## GTIN CODE

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

## Output Configuration Guide



Example: NMP 1K2 - C E H K # D -    

SLOT 1 O/P: 5V@ 36A  
SLOT 2 O/P: 12V@ 20A  
SLOT 3 O/P: 24V@ 10A  
SLOT 4 O/P: 48V@ 5A  
SLOT 5 Blank slot  
(with BLANK-NMS240)  
SLOT 6 O/P: V1 30V@ 5A  
V2 30V@ 5A  
(Combined 240W max.)

※650W (4 SLOTS) 、1200W (6 SLOTS)

Table 1. Parallel or option code

| Code | SLOT 1                                                                              | SLOT 2                                                                              | SLOT 3                                                                              | SLOT 4                                                                              | SLOT 5                                                                                | SLOT 6                                                                                |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 00   | ----                                                                                | ----                                                                                | ----                                                                                | ----                                                                                | ----                                                                                  | ----                                                                                  |
| 01   |  |  | ----                                                                                | ----                                                                                | ----                                                                                  | ----                                                                                  |
| 02   | ----                                                                                |  |  | ----                                                                                | ----                                                                                  | ----                                                                                  |
| 03   | ----                                                                                | ----                                                                                |  |  | ----                                                                                  | ----                                                                                  |
| 04   | ----                                                                                | ----                                                                                | ----                                                                                |  |  | ----                                                                                  |
| 05   | ----                                                                                | ----                                                                                | ----                                                                                | ----                                                                                |  |  |
| 06   |  |  |  | ----                                                                                | ----                                                                                  | ----                                                                                  |
| 07   | ----                                                                                |  |  |  | ----                                                                                  | ----                                                                                  |
| 08   | ----                                                                                | ----                                                                                |  |  |  | ----                                                                                  |
| 09   | ----                                                                                | ----                                                                                | ----                                                                                |  |  |  |
| 10   |  |  |  |  | ----                                                                                  | ----                                                                                  |
| 11   | ----                                                                                |  |  |  |  | ----                                                                                  |
| 12   | ----                                                                                | ----                                                                                |  |  |  |  |
| 13   |  |  |  |  |  | ----                                                                                  |
| 14   | ----                                                                                |  |  |  |  |  |
| 15   |  |  |  |  |  |  |



| Code | SLOT 1                                                                              | SLOT 2                                                                              | SLOT 3                                                                              | SLOT 4                                                                              | SLOT 5                                                                                | SLOT 6                                                                                |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 16   |    |    |    |    | -----                                                                                 | -----                                                                                 |
| 17   | -----                                                                               |    |    |    |    | -----                                                                                 |
| 18   | -----                                                                               | -----                                                                               |    |    |    |    |
| 19   |    |    | -----                                                                               |    |    | -----                                                                                 |
| 20   |    |    | -----                                                                               | -----                                                                               |    |    |
| 21   | -----                                                                               |    |    | -----                                                                               |    |    |
| 22   |    |    |    |    |    |    |
| 23   |    |    |    |    |    | -----                                                                                 |
| 24   |    |    | -----                                                                               |    |    |    |
| 25   | -----                                                                               |    |    |    |    |    |
| 26   |    |    |    |    |    | -----                                                                                 |
| 27   |  |  |  | -----                                                                               |  |  |
| 28   | -----                                                                               |  |  |  |  |  |
| 29   |  |  |  |  |  |  |
| 30   |  |  |  |  |  |  |
| 31   |  |  |  |  |  |  |

※Code 00, 01, 02, 03, 06, 07, 10, 16 for NMP650

※Code 00~31 for NMP1K2



## SPECIFICATION

## Front-End

| MODEL                    |                         |                                | NMP650 (4 Slots)                                                                                                                                                                                                                                        |                                                   | NMP1K2 (6 Slots)                                                                                                                                                                                         |                                                                        |  |
|--------------------------|-------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--|
| INPUT                    | VOLTAGE RANGE           | Note.6                         | 90 ~ 264VAC      120 ~370VDC                                                                                                                                                                                                                            |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | FREQUENCY RANGE         |                                | 47 ~ 63Hz                                                                                                                                                                                                                                               |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | POWER FACTOR            |                                | PF>0.95/230VAC      PF>0.98/115VAC at full load                                                                                                                                                                                                         |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | EFFICIENCY(Typ.)        | Note.4                         | 91%, full case load with H / K module at nominal 24V / 48V only                                                                                                                                                                                         |                                                   | 90.5%, full case load with H / K module at nominal 24V / 48V only                                                                                                                                        |                                                                        |  |
|                          |                         |                                | 88.5%, full case load with each type of module at nominal voltage                                                                                                                                                                                       |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | AC CURRENT              |                                | 3.5A/230VAC      7.5A/115VAC                                                                                                                                                                                                                            |                                                   | 6.7A/230VAC      13.5A/115VAC                                                                                                                                                                            |                                                                        |  |
|                          | INRUSH CURRENT          |                                | 40A/230VAC      25A/115VAC                                                                                                                                                                                                                              |                                                   | 40A/230VAC      25A/115VAC                                                                                                                                                                               |                                                                        |  |
|                          | LEAKAGE CURRENT         |                                | Earth leakage current <400uA / 264VAC, Touch current <100uA/264VAC                                                                                                                                                                                      |                                                   |                                                                                                                                                                                                          |                                                                        |  |
| OUTPUT                   | TOTAL OUTPUT POWER      |                                | 650W max.                                                                                                                                                                                                                                               |                                                   | 1200W max.                                                                                                                                                                                               |                                                                        |  |
| PROTECTION               | OVER TEMPERATURE        |                                | Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                                                                               |                                                   |                                                                                                                                                                                                          |                                                                        |  |
| FUNCTION                 | REMOTE CONTROL          |                                | RC+/RC-: Short, Power ON      RC+/RC-: Open, Power OFF                                                                                                                                                                                                  |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | ALARM SIGNAL            |                                | TTL signal output for over temperature alarm. Please refer to the Function Manual.                                                                                                                                                                      |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | AUXILIARY POWER(AUX)    |                                | 5V @ 1.5A ; tolerance ±10%; ripple: 50mVp-p (max.)                                                                                                                                                                                                      |                                                   | 5V @ 2A; tolerance ±10%; ripple: 50mVp-p(max.)                                                                                                                                                           |                                                                        |  |
| ENVIRONMENT              | WORKING TEMP.           |                                | -30 ~ +70°C (Derate at 50°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       |                                | ±0.03%/°C (0 ~ 50°C )                                                                                                                                                                                                                                   |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | VIBRATION               |                                | 10~500Hz, 2G 10min./1 cycle, 60 min. each along X, Y, Z axes.                                                                                                                                                                                           |                                                   |                                                                                                                                                                                                          |                                                                        |  |
| SAFETY & EMC<br>(Note 5) | SAFETY STANDARDS        |                                | IEC 60601-1:2005+A1, TUV BS EN/EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2, CAN/CSA C22.2 No. 60601-1:2014+A2, IEC 62368-1:2014, UL 62368-1, 2nd Ed, CSA C22.2 No. 62368-1-14, 2nd Ed, TUV BS EN/EN 62368-1:2014+A11, EAC TP TC 004 approved |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | ISOLATION LEVEL         |                                | Primary-Secondary: 2x MOPP, Primary-Earth: 1x MOPP                                                                                                                                                                                                      |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | WITHSTAND VOLTAGE       |                                | I/P-O/P: 4KVAC    I/P-FG: 2KVAC    O/P-FG: 0.5KVAC                                                                                                                                                                                                      |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | ISOLATION RESISTANCE    |                                | I/P-O/P, I/P-FG, O/P-FG: 100M Ohms / 500VDC / 25°C / 70% RH                                                                                                                                                                                             |                                                   |                                                                                                                                                                                                          |                                                                        |  |
|                          | EMC EMISSION            | Parameter                      |                                                                                                                                                                                                                                                         | Standard                                          |                                                                                                                                                                                                          | Test Level / Note                                                      |  |
|                          |                         | Conducted                      |                                                                                                                                                                                                                                                         | BS EN/EN55032 (CISPR32) / BS EN/EN55011 (CISPR11) |                                                                                                                                                                                                          | Class B                                                                |  |
|                          |                         | Radiated                       |                                                                                                                                                                                                                                                         | BS EN/EN55032 (CISPR32) / BS EN/EN55011 (CISPR11) |                                                                                                                                                                                                          | Class B                                                                |  |
|                          |                         | Harmonic Current               |                                                                                                                                                                                                                                                         | BS EN/EN61000-3-2                                 |                                                                                                                                                                                                          | Class A                                                                |  |
|                          |                         | Voltage Flicker                |                                                                                                                                                                                                                                                         | BS EN/EN61000-3-3                                 |                                                                                                                                                                                                          | -----                                                                  |  |
|                          | EMC IMMUNITY            |                                |                                                                                                                                                                                                                                                         | BS EN/EN60601-1-2, BS EN/EN55035, SEMI F47        |                                                                                                                                                                                                          |                                                                        |  |
|                          |                         | Parameter                      |                                                                                                                                                                                                                                                         | Standard                                          |                                                                                                                                                                                                          | Test Level / Note                                                      |  |
|                          |                         | ESD                            |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-2                                 |                                                                                                                                                                                                          | Level 4, 15KV air; Level 4, 8KV contact                                |  |
|                          |                         | RF field                       |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-3                                 |                                                                                                                                                                                                          | Level 3, 10V/m                                                         |  |
|                          |                         | EFT/ Burst                     |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-4                                 |                                                                                                                                                                                                          | Level 3, 2KV                                                           |  |
|                          |                         | Surge                          |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-5                                 |                                                                                                                                                                                                          | Level 4, 4KV/Line-FG; 2KV/Line-Line                                    |  |
|                          |                         | Conducted                      |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-6                                 |                                                                                                                                                                                                          | Level 2, 3V                                                            |  |
|                          |                         | Magnetic Field                 |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-8                                 |                                                                                                                                                                                                          | Level 4, 30A/m                                                         |  |
|                          |                         | Voltage Dips and Interruptions |                                                                                                                                                                                                                                                         | BS EN/EN61000-4-11                                |                                                                                                                                                                                                          | 100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods |  |
|                          |                         | OTHERS                         | MTBF                                                                                                                                                                                                                                                    |                                                   | 1314.6K hrs min.    Telcordia SR-332 (Bellcore) ; 128.2K hrs min.    MIL-HDBK-217F (25°C) (NMP650)<br>1275.4K hrs min.    Telcordia SR-332 (Bellcore) ; 124.5K hrs min.    MIL-HDBK-217F (25°C) (NMP1K2) |                                                                        |  |
| DIMENSION                |                         |                                | 250*89*41mm (L*W*H)                                                                                                                                                                                                                                     |                                                   | 250*127*41mm (L*W*H)                                                                                                                                                                                     |                                                                        |  |
| PACKING                  |                         |                                | 1.45Kg (typ.); 9pcs / 14Kg / 0.98CUFT                                                                                                                                                                                                                   |                                                   | 2Kg (typ.); 6pcs / 13Kg / 0.88CUFT                                                                                                                                                                       |                                                                        |  |



## ■ Single Output Module (240W)

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------|------------|------------|--|------------|--|----------|--|
| OUTPUT<br>(NMS-240) | MODEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | NMS-240-05                                                                                                                                                                                                                                              |  | NMS-240-12 |            | NMS-240-24 |  | NMS-240-48 |  |          |  |
|                     | CONFIGURATION CODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | C                                                                                                                                                                                                                                                       |  | E          |            | H          |  | K          |  |          |  |
|                     | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5V                                                                                                                                                                                                                                                      |  | 12V        |            | 24V        |  | 48V        |  |          |  |
|                     | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 36A                                                                                                                                                                                                                                                     |  | 20A        |            | 10A        |  | 5A         |  |          |  |
|                     | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0 ~ 36A                                                                                                                                                                                                                                                 |  | 0 ~ 20A    |            | 0 ~ 10A    |  | 0 ~ 5A     |  |          |  |
|                     | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 180W                                                                                                                                                                                                                                                    |  | 240W       |            | 240W       |  | 240W       |  |          |  |
|                     | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 100mVp-p                                                                                                                                                                                                                                                |  | 150mVp-p   |            | 150mVp-p   |  | 250mVp-p   |  |          |  |
|                     | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3 ~ 6V                                                                                                                                                                                                                                                  |  | 6~15V      |            | 15~30V     |  | 30~55V     |  |          |  |
|                     | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ±2.0%                                                                                                                                                                                                                                                   |  | ±1.0%      |            | ±1.0%      |  | ±1.0%      |  |          |  |
|                     | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±0.5%                                                                                                                                                                                                                                                   |  | ±0.3%      |            | ±0.2%      |  | ±0.2%      |  |          |  |
|                     | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±1.0%                                                                                                                                                                                                                                                   |  | ±0.5%      |            | ±0.5%      |  | ±0.5%      |  |          |  |
|                     | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1500ms, 60ms at full load                                                                                                                                                                                                                               |  |            |            |            |  |            |  |          |  |
| HOLD UP TIME (Typ.) | 16ms/230VAC @ 75% total output power    10ms/230VAC @ total output power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |
| PROTECTION          | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 105 ~ 125% rated output power<br>Protection type: constant current limiting protection                                                                                                                                                                  |  |            |            |            |  |            |  |          |  |
|                     | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.3 ~ 8V                                                                                                                                                                                                                                                |  |            | 15.5 ~ 20V |            |  | 31 ~ 37V   |  | 57 ~ 66V |  |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |
|                     | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                                                                               |  |            |            |            |  |            |  |          |  |
| FUNCTION            | REMOTE ON/OFF CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | RC+/RC-: Open, Power ON      RC+/RC-: Short, Power OFF                                                                                                                                                                                                  |  |            |            |            |  |            |  |          |  |
|                     | REMOTE SENSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compensate voltage drop on the load wiring up to 0.5V.                                                                                                                                                                                                  |  |            |            |            |  |            |  |          |  |
|                     | OUTPUT VOLTAGE PROGRAMMABLE(PV)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3 ~ 6V                                                                                                                                                                                                                                                  |  |            | 6 ~ 15V    |            |  | 15 ~ 30V   |  | 30 ~ 55V |  |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Adjustment of output voltage is allowable. Please refer to the Function Manual.                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |
|                     | OUTPUT CURRENT PROGRAMMABLE(PC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Adjustment of constant current level is allowable. Please refer to the Function Manual.                                                                                                                                                                 |  |            |            |            |  |            |  |          |  |
|                     | AUXILIARY POWER(AUX)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5V@10mA; tolerance ±10%, ripple: 50mVp-p (max.)                                                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |
|                     | CURRENT SHARING(CS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Please refer to the Function Manual.                                                                                                                                                                                                                    |  |            |            |            |  |            |  |          |  |
| DC OK SIGNAL        | Output modules turn on=4.5 ~ 5.5V, turn off=0 ~ 0.5V. Please refer to the Function Manual.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |
| SAFETY<br>(Note 5)  | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IEC 60601-1:2005+A1, TUV BS EN/EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2, CAN/CSA C22.2 No. 60601-1:2014+A2, IEC 62368-1:2014, UL 62368-1, 2nd Ed, CSA C22.2 No. 62368-1-14, 2nd Ed, TUV BS EN/EN 62368-1:2014+A11, EAC TP TC 004 approved |  |            |            |            |  |            |  |          |  |
| OTHERS              | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 118.5*37.9*18mm (L*W*H)                                                                                                                                                                                                                                 |  |            |            |            |  |            |  |          |  |
|                     | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.142Kg (typ.); 72pcs / 11.2Kg / 1.04CUFT                                                                                                                                                                                                               |  |            |            |            |  |            |  |          |  |
| NOTE                | 1. All parameters NOT specifically 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. NMP650: The efficiency changes by installing different output modules. The following combination is chosen when fitting different types of module:<br>5V (Voltage code C)*1, 12V (Voltage code E)*1, 24V (Voltage code H)*1, 48V (Voltage code K)*1. (650W max.)<br>NMP1K2: The efficiency changes by installing different output modules. The following combination is chosen when fitting different types of module:<br>5V (Voltage code C)*1, 12V (Voltage code E)*1, 24V (Voltage code H)*2, 48V (Voltage code K)*2. (1200W max.)<br>The hold up time of the combination above is 16ms/230vac @ 75% total output power 、10ms/230VAC @ total output power.<br>5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests have been executed by mounting the unit on a 360mm*720mm 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>6. De-rating may be needed under low input voltages. Please check the derating curve for more details.<br>7. Under parallel operation ripple of the output voltage may be higher than the SPEC at light load condition.<br>8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 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> |                                                                                                                                                                                                                                                         |  |            |            |            |  |            |  |          |  |



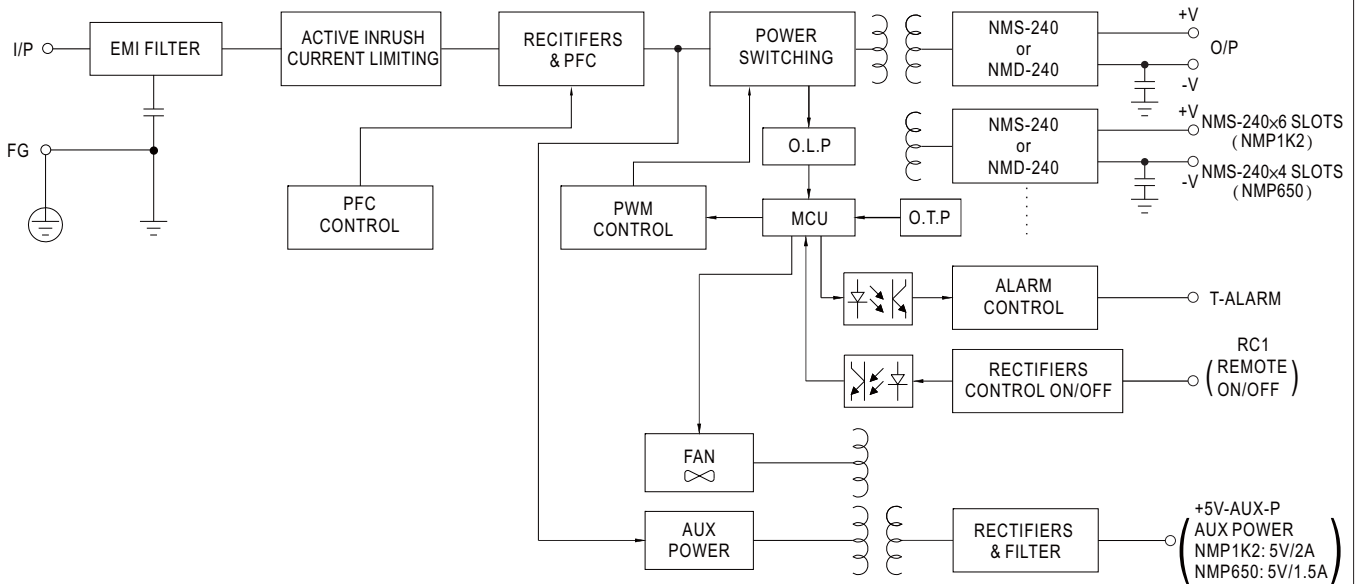
## ■ Dual Output Module (240W)

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                            |          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------|
| OUTPUT<br>(NMD-240) | MODEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | NMD-240                                                                                    |          |
|                     | CONFIGURATION CODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | D                                                                                          |          |
|                     | OUTPUT NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | V1                                                                                         | V2       |
|                     | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 30V                                                                                        | 30V      |
|                     | RATED CURRENT (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5A                                                                                         | 5A       |
|                     | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 ~ 5A                                                                                     | 0 ~ 5A   |
|                     | RATED POWER (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 150W                                                                                       | 150W     |
|                     | COMBINED POWER (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 240W                                                                                       |          |
|                     | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 250mVp-p                                                                                   | 250mVp-p |
|                     | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3 ~ 30V                                                                                    | 3 ~ 30V  |
|                     | VOLTAGE TOLERANCE (max.) Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ±2.0%                                                                                      | ±2.0%    |
|                     | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ±0.5%                                                                                      | ±0.5%    |
|                     | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ±1.0%                                                                                      | ±1.0%    |
|                     | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1500ms, 60ms at full load                                                                  |          |
|                     | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 16ms/230VAC @ 75% total output power    10ms/230VAC @ total output power                   |          |
| PROTECTION          | OVERLOAD(V1,V2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 105 ~ 125% rated output power<br>Protection type: constant current limiting protection     |          |
|                     | OVER VOLTAGE(V1,V2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 31 ~ 37V                                                                                   | 31 ~ 37V |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Protection type : Shut down o/p voltage, re-power on to recover                            |          |
|                     | OVER TEMPERATURE(V1,V2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Shut down o/p voltage, recovers automatically after temperature goes down                  |          |
| FUNCTION            | REMOTE ON/OFF CONTROL(V1,V2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | RC+/RC-: Open, Power ON    RC+/RC-: Short, Power OFF                                       |          |
|                     | DC OK SIGNAL(V1,V2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Output modules turn on=4.5 ~ 5.5V, turn off=0 ~ 0.5V. Please refer to the Function Manual. |          |
| OTHERS              | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 118.5*37.9*18mm (L*W*H)                                                                    |          |
|                     | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.152Kg (typ.); 72pcs / 11.9Kg / 1.04CUFT                                                  |          |
| NOTE                | <p>1. All parameters NOT specifically mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</p> <p>3. Tolerance: includes set up tolerance, line regulation and load regulation.</p> <p>4. NMP650: The efficiency changes by installing different output modules. The following combination is chosen when fitting different types of module:<br/>5V (Voltage code C)*1, 12V (Voltage code E)*1, 24V (Voltage code H)*1, 48V (Voltage code K)*1. (650W max.)</p> <p>NMP1K2: The efficiency changes by installing different output modules. The following combination is chosen when fitting different types of module:<br/>5V (Voltage code C)*1, 12V (Voltage code E)*1, 24V (Voltage code H)*2, 48V (Voltage code K)*2. (1200W max.)</p> <p>The hold up time of the combination above is 16ms/230vac @ 75% total output power · 10ms/230VAC @ total output power.</p> <p>5. The power supply is considered a component which will be installed into a final equipment. All the EMC tests have been executed by mounting the unit on a 360mm*720mm 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>)</p> <p>6. De-rating may be needed under low input voltages. Please check the derating curve for more details.</p> <p>7. Under parallel operation ripple of the output voltage may be higher than the SPEC at light load condition.</p> <p>8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m (6500ft).</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |                                                                                            |          |

## Block Diagram

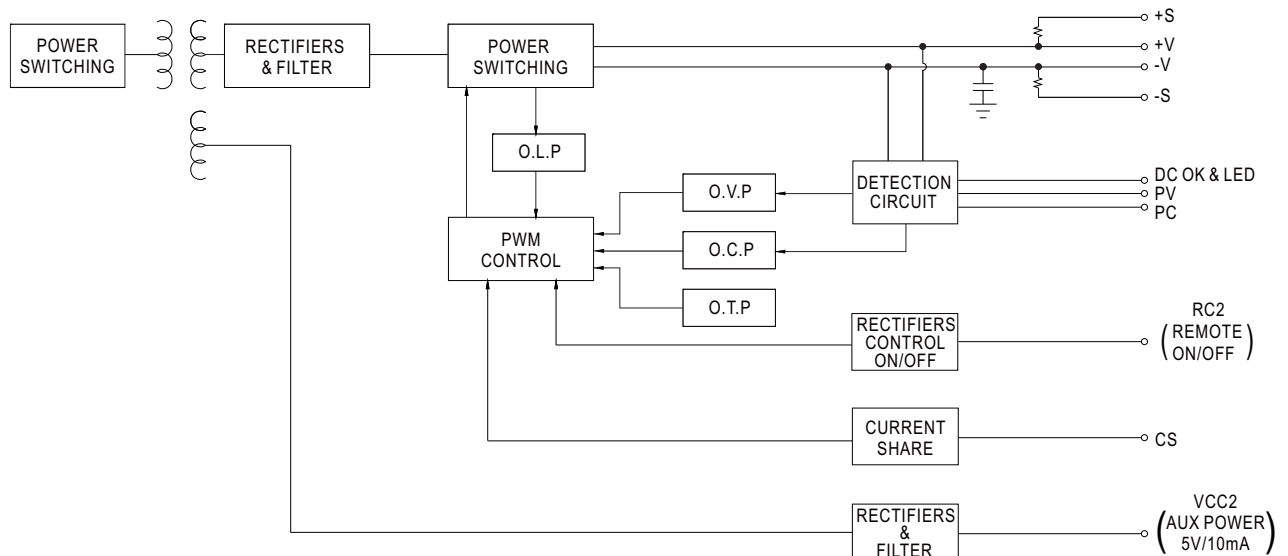
### NMP1K2 & NMP650 (Front - End)

PFC fosc : 85KHz(NMP1K2)  
70KHz(NMP650)  
PWM fosc : 100KHz



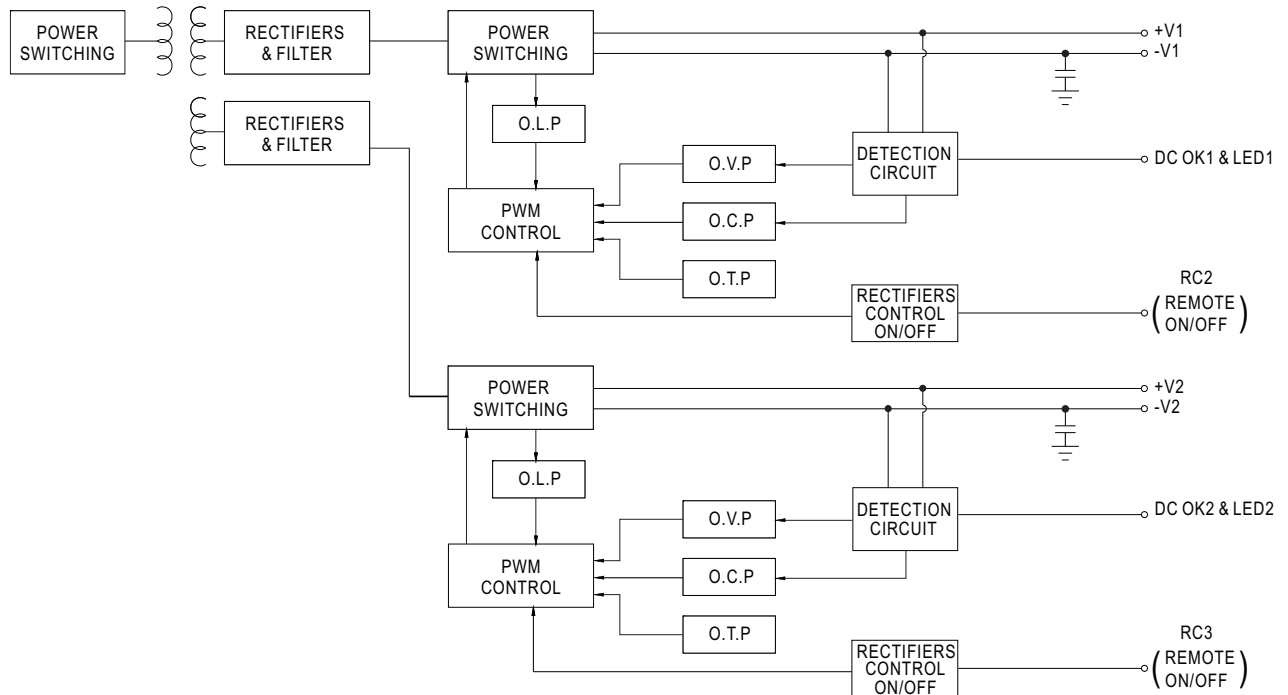
### NMS-240 (Single Output Module)

PWM fosc : 175KHz

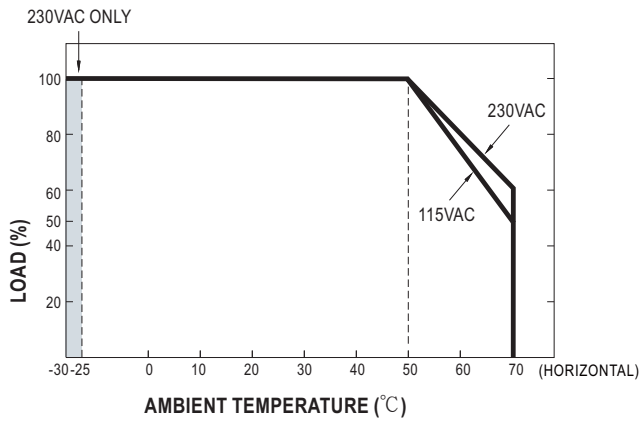


## NMD-240 (Dual Output Module)

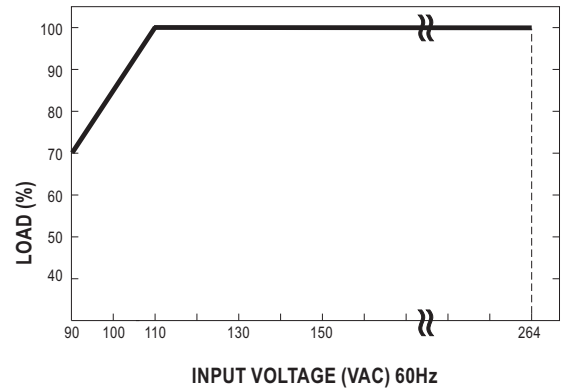
PWM fosc : 175KHz



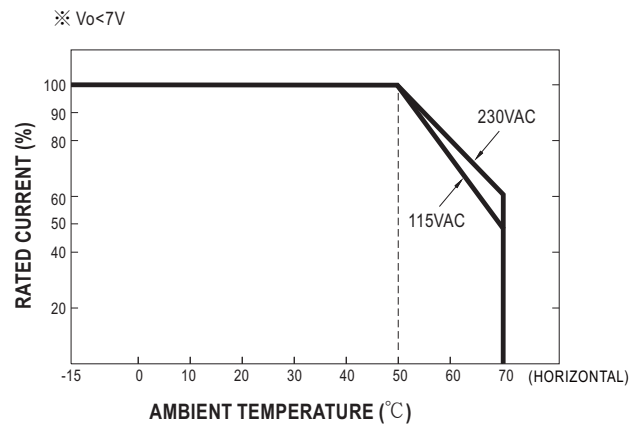
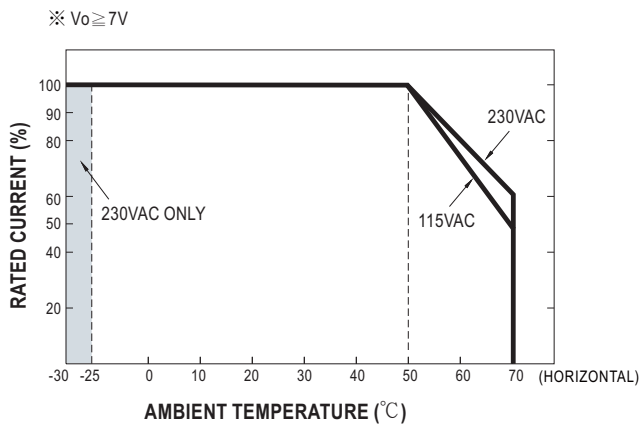
### Derating Curve (NMP1K2, NMP650, NMS-240)



### Static Characteristics



### Derating Curve (NMD-240)

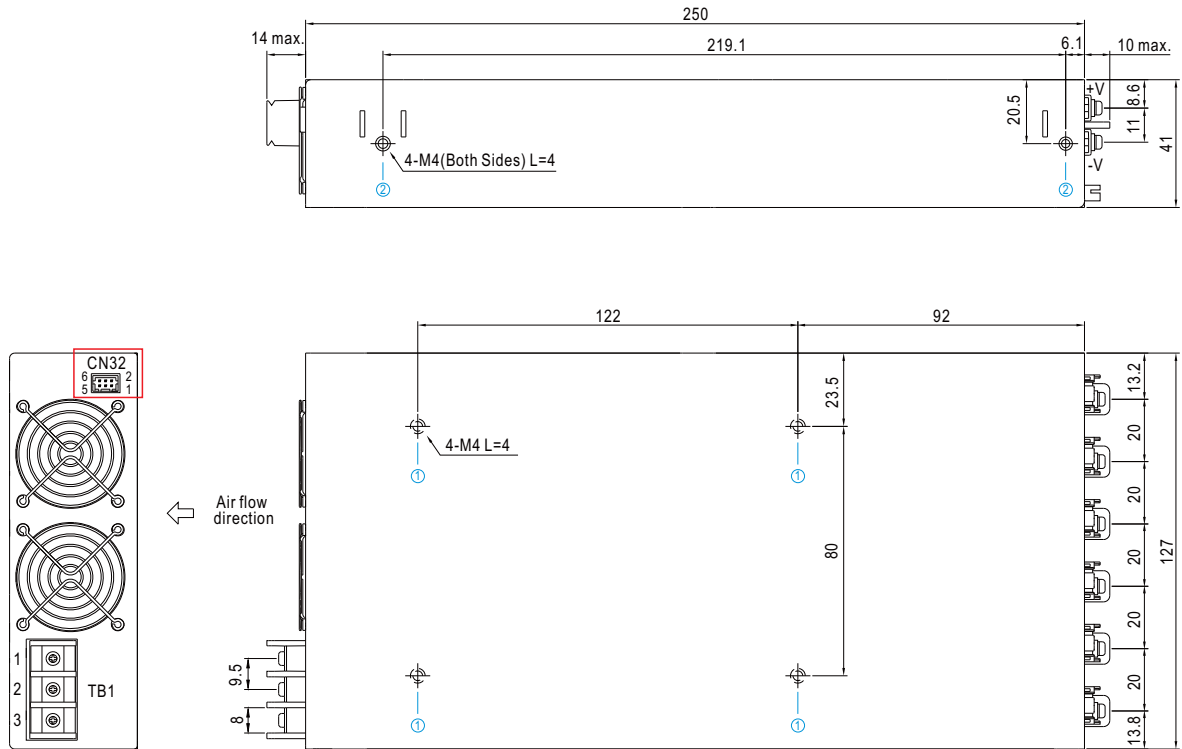


## MECHANICAL SPECIFICATION

(Unit: mm , tolerance  $\pm 0.5\text{mm}$ )

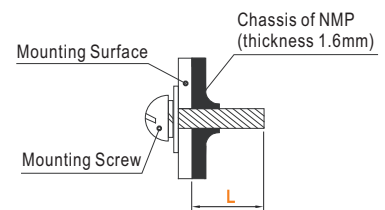
Case No.260A

### ※ NMP1K2 (Front - End)



### ※ Mounting Instruction

| Hole No. | Recommended Screw Size | MAX. Penetration Depth L | Recommended mounting torque |
|----------|------------------------|--------------------------|-----------------------------|
| ①        | M4                     | 4mm                      | 7~10Kgf-cm                  |
| ②        | M4                     | 4mm                      | 7~10Kgf-cm                  |

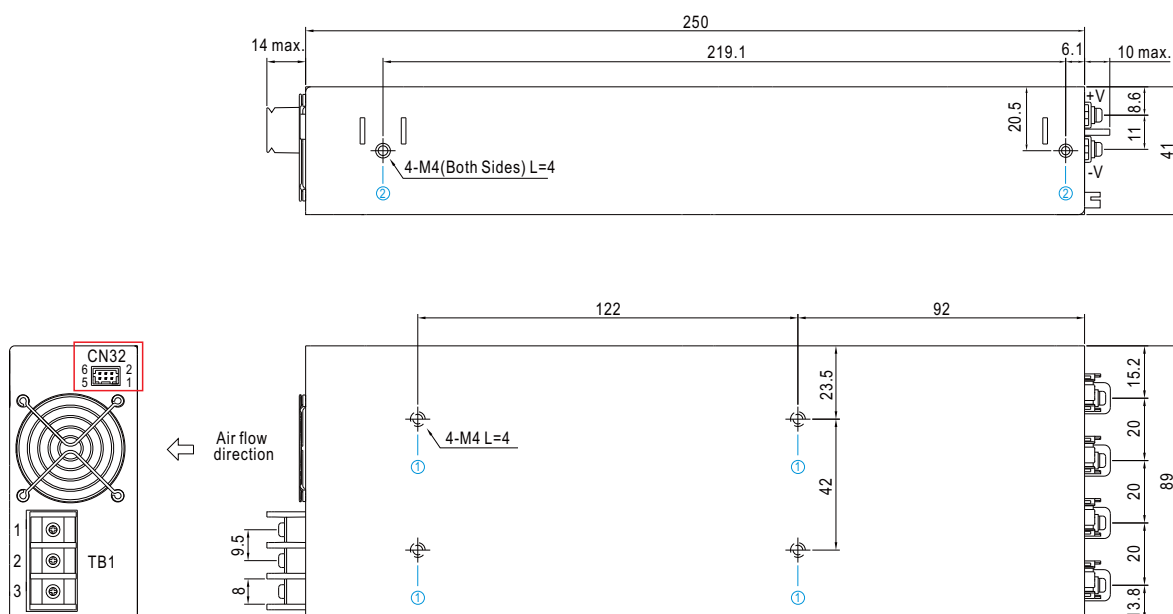


### ※ AC Input Terminal Pin No. Assignment

| Pin No. | Assignment | Diagram                                                                             | Screw Size | Maximum mounting torque |
|---------|------------|-------------------------------------------------------------------------------------|------------|-------------------------|
| 1       | FG $\perp$ |  | M3.5       | 12Kgf-cm                |
| 2       | AC/N       |                                                                                     |            |                         |
| 3       | AC/L       |                                                                                     |            |                         |

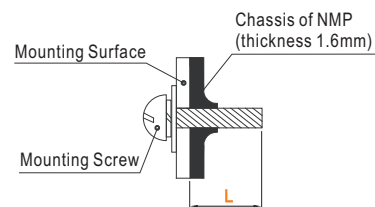
※ NMP650 (Front - End)

Case No.259A



## ❖ Mounting Instruction

| Hole No. | Recommended Screw Size | MAX. Penetration Depth L | Recommended mounting torque |
|----------|------------------------|--------------------------|-----------------------------|
| ①        | M4                     | 4mm                      | 7~10Kgf-cm                  |
| ②        | M4                     | 4mm                      | 7~10Kgf-cm                  |

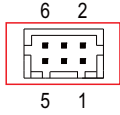


### ※ AC Input Terminal Pin No. Assignment

| Pin No. | Assignment | Diagram                                                                             | Screw Size | Maximum mounting torque |
|---------|------------|-------------------------------------------------------------------------------------|------------|-------------------------|
| 1       | FG $\perp$ |  | M3.5       | 12Kgf-cm                |
| 2       | AC/N       |                                                                                     |            |                         |
| 3       | AC/L       |                                                                                     |            |                         |

### ■ Function Description of CN32

※ Control Pin No. Assignment (**CN32**): HRS DF11-6DP-2DS or equivalent

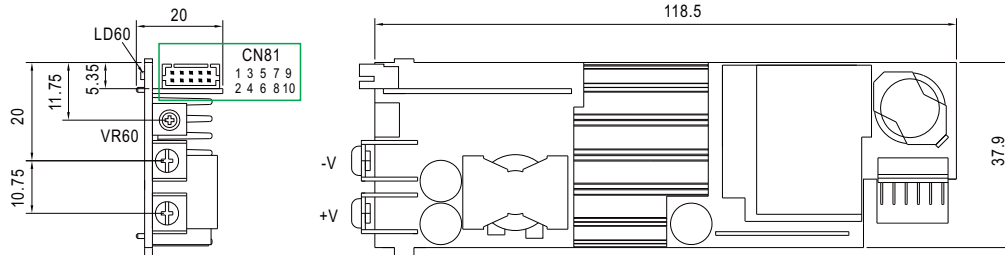


|                |                             |
|----------------|-----------------------------|
| Mating Housing | HRS DF11-6DS or equivalent  |
| Terminal       | HRS DF11-**SC or equivalent |

| Pin No. | Function  | Description                                                                                                                                                                                                                                          |
|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1, 2    | +5V-AUX_P | Auxiliary voltage output, 4.5~5.5V, referenced to pin 3 & 4 (GND-P). The maximum load current is 2A (NMP1K2) or 1.5A (NMP650).                                                                                                                       |
| 3, 4    | GND-P     | Ground.                                                                                                                                                                                                                                              |
| 5       | T-Alarm   | TTL signal output for over temperature alarm. The maximum sourcing current is 10mA.<br>High(4.5~5.5V): When the internal temperature exceeds the limit & "safe limit" of temperature alarm.<br>Low(0~0.5V): When the internal temperature is normal. |
| 6       | RC1       | Turns the output on and off by electrical or dry contact between pin 6 (RC1) and pin 3 & 4 (GND-P).<br>Short: Power ON; Open: Power OFF.                                                                                                             |

### ■ MECHANICAL SPECIFICATION

※ **NMS-240 Single Output Module**



※ **Blank slot**

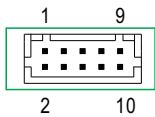
Blank slot should be assembled with BLANK-NMS240, Please contact MEAN WELL for details.

※ DC Output Terminal Pin No. Assignment

| Assignment | Diagram                                                                             | Maximum mounting torque | Recommended screw size | MAX. Penetration Depth L |
|------------|-------------------------------------------------------------------------------------|-------------------------|------------------------|--------------------------|
| +V, -V     |  | 10Kgf-cm                | M3.5                   | 10mm                     |

### ■ Function Description of CN81(NMS-240)

※ Control Pin No. Assignment (**CN81**): HRS DF11-10DP-2DS or equivalent

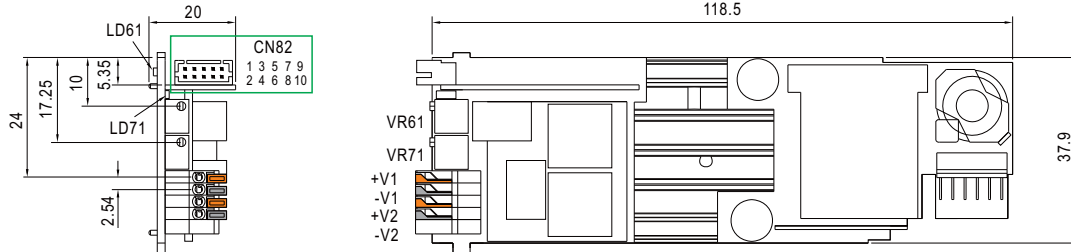


|                |                             |
|----------------|-----------------------------|
| Mating Housing | HRS DF11-10DS or equivalent |
| Terminal       | HRS DF11-**SC or equivalent |

| Pin No. | Function | Description                                                                                                                                                                    |
|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | GND      | Ground.                                                                                                                                                                        |
| 2       | GND      | Ground.                                                                                                                                                                        |
| 3       | RC2      | Turns the output on and off by electrical or dry contact between pin 3 (RC2) and pin 1&2 (GND).<br>Open: Power ON; Short: Power OFF.                                           |
| 4       | Vcc 2    | Auxiliary voltage output, 4.5~5.5V, referenced to pin 1&2 (GND). The maximum load current is 10mA.                                                                             |
| 5       | DC OK    | "DC OK" signal is a TTL level, referenced to pin 1&2 (GND).<br>Output modules turn on=4.5~5.5V, turn off=0~0.5V. The maximum sourcing current is 10mA (4.5~5.5V).              |
| 6       | CS       | Current sharing signal. When units are connected in parallel, the CS pins of the units should be connected to allow current balance between units. Referenced to pin 1&2 (GND) |
| 7       | PC       | Connection for output current programming, referenced to pin 1&2 (GND)                                                                                                         |
| 8       | PV       | Connection for output voltage programming, referenced to pin 1&2 (GND)                                                                                                         |
| 9       | +S       | Positive sensing for remote sense.                                                                                                                                             |
| 10      | -S       | Negative sensing for remote sense.                                                                                                                                             |

## MECHANICAL SPECIFICATION

### ※ NMD-240 Dual Output Module



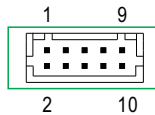
| Output number | Output voltage adjustable by SVR | LED display |
|---------------|----------------------------------|-------------|
| V1            | 3~30V by VR61                    | LD61        |
| V2            | 3~30V by VR71                    | LD71        |

### ※ DC Output Terminal Pin No. Assignment

| Assignment | Color  | Diagram                                                                             | Wire range | Wire strip length |
|------------|--------|-------------------------------------------------------------------------------------|------------|-------------------|
| +V1        | Orange |  | 20~26AWG   | 10mm              |
| -V1        | Gray   |                                                                                     |            |                   |
| +V2        | Orange |                                                                                     |            |                   |
| -V2        | Gray   |                                                                                     |            |                   |

## Function Description of CN82(NMD-240)

※ Control Pin No. Assignment (CN82) : HRS DF11-10DP-2DS or equivalent



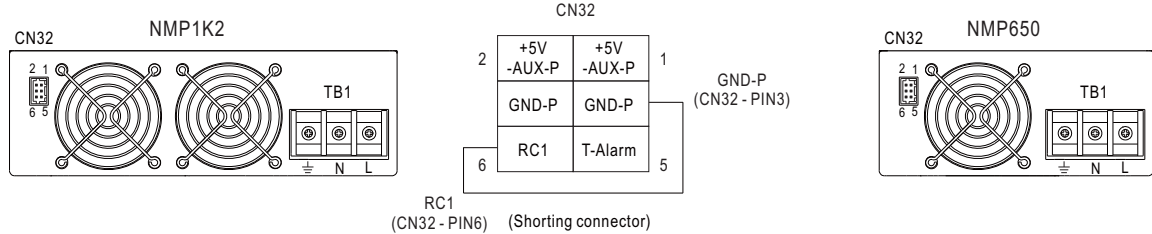
|                |                             |
|----------------|-----------------------------|
| Mating Housing | HRS DF11-10DS or equivalent |
| Terminal       | HRS DF11-10SC or equivalent |

| Pin No.  | Function | Description                                                                                                                                                          |
|----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | GND1     | Ground(-V1).                                                                                                                                                         |
| 2        | GND2     | Ground(-V2).                                                                                                                                                         |
| 3        | RC2      | Turns the output V1 on and off by electrical or dry contact between pin 3 (RC2) and pin 1 (GND1).<br>Open: Power ON; Short: Power OFF.                               |
| 4        | RC3      | Turns the output V2 on and off by electrical or dry contact between pin 4 (RC3) and pin 2 (GND2).<br>Open: Power ON; Short: Power OFF.                               |
| 5        | DC OK1   | "DC OK1" signal is a TTL level, referenced to pin 1 (GND1).<br>Output modules V1 turn on=4.5~5.5V, turn off=0~0.5V. The maximum sourcing current is 10mA (4.5~5.5V). |
| 6        | DC OK2   | "DC OK2" signal is a TTL level, referenced to pin 2 (GND2).<br>Output modules V2 turn on=4.5~5.5V, turn off=0~0.5V. The maximum sourcing current is 10mA (4.5~5.5V). |
| 7,8,9,10 | NC       | ----                                                                                                                                                                 |

## Function Manual

### 1. "Global ON/OFF Control" function is not used

※ The power supply unit will have no output if the shorting connector (accessory comes along with the PSU) is not assembled. It contains one shorting wire: it is from RC1 (CN32 - PIN6) to GND-P (CN32 - PIN3)

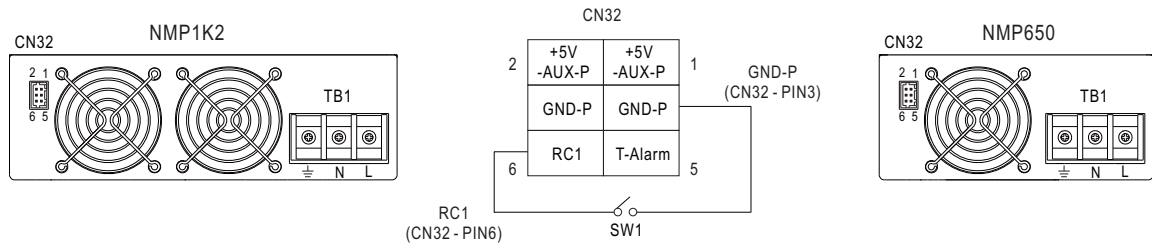


### 2. Global or Local ON/OFF CONTROL

※ The power supply can be turned ON/OFF for the entire unit, by global enable/inhibit, or for specific modules, by local Remote ON-OFF.

#### ◎ Global ON/OFF

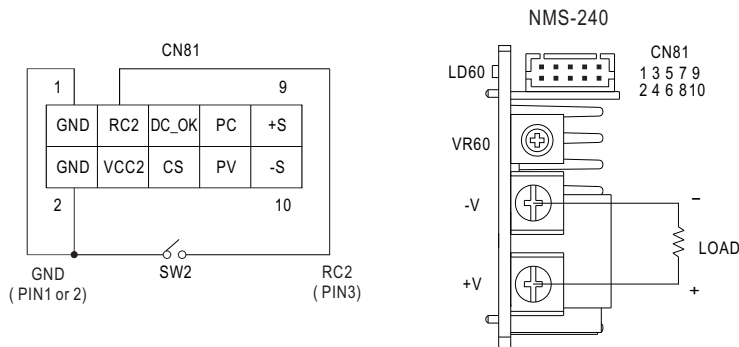
| Between RC1 (CN32-PIN6) and GND-P (CN32-PIN3) | Output Status |
|-----------------------------------------------|---------------|
| SW1 ON (short)                                | ON            |
| SW1 OFF (open)                                | OFF           |



#### ◎ Local ON/OFF

The NMS-240 can be turned ON/OFF by using the "local ON/OFF" function.

| Between RC2 (CN81-PIN3) and GND (CN81-PIN1 or 2) | Output Modules Status (NMS-240) |
|--------------------------------------------------|---------------------------------|
| SW2 OFF (open)                                   | ON                              |
| SW2 ON (short)                                   | OFF                             |



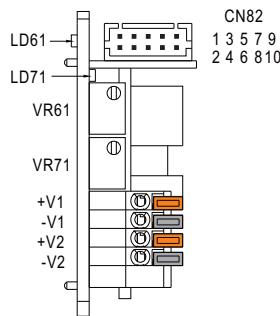
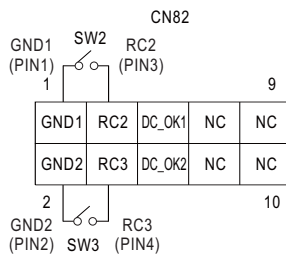
## Local ON/OFF

The NMD-240 can be turned ON/OFF by using the “local ON/OFF” function.

| Between RC2 (CN82-PIN3) and GND1 (CN82-PIN1) | Output Modules Status (V1) |
|----------------------------------------------|----------------------------|
| SW2 OFF (open)                               | Output V1 ON               |
| SW2 ON (short)                               | Output V1 OFF              |

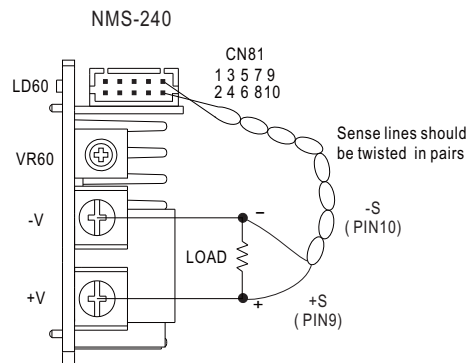
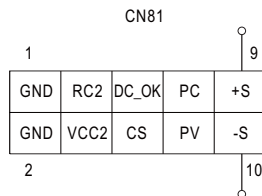
  

| Between RC3 (CN82-PIN4) and GND1 (CN82-PIN2) | Output Modules Status (V2) |
|----------------------------------------------|----------------------------|
| SW3 OFF (open)                               | Output V2 ON               |
| SW3 ON (short)                               | Output V2 OFF              |



## 3.Remote Sense(NMS-240 only)

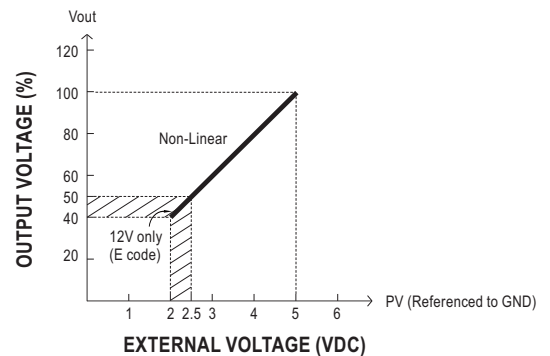
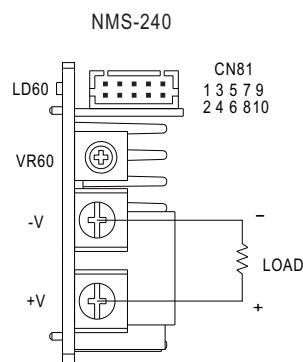
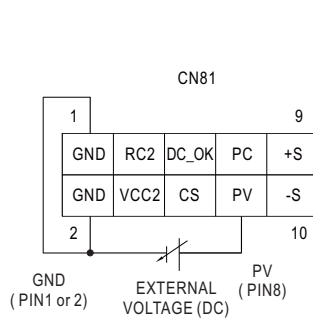
※ The Remote Sense compensates voltage drop on the load wiring up to 0.5V.



## 4. Output Voltage Programming(PV : NMS-240 only)

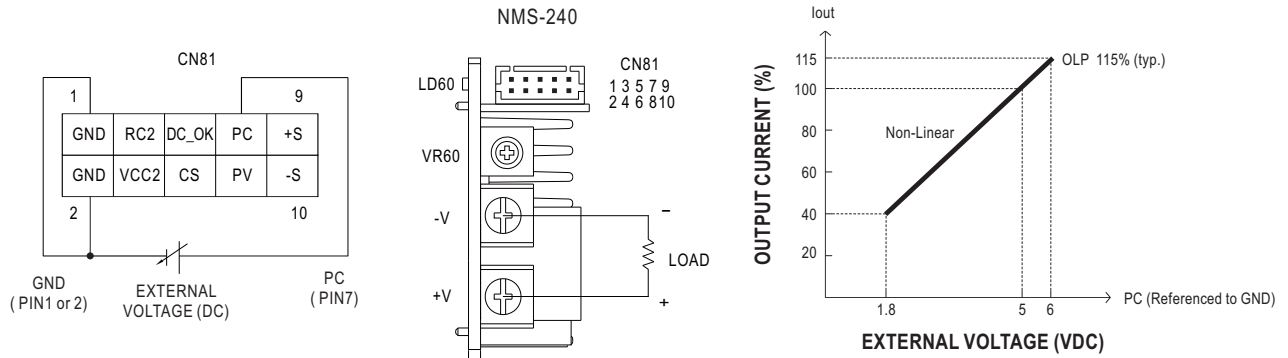
※ In addition to the adjustment via the built-in potentiometer, the output voltage (default voltage set by VR60) can be trimmed by applying “EXTERNAL VOLTAGE”.

※ “Output Voltage Programming (PV)” range is the same as “Voltage ADJ. Range (VR60)”



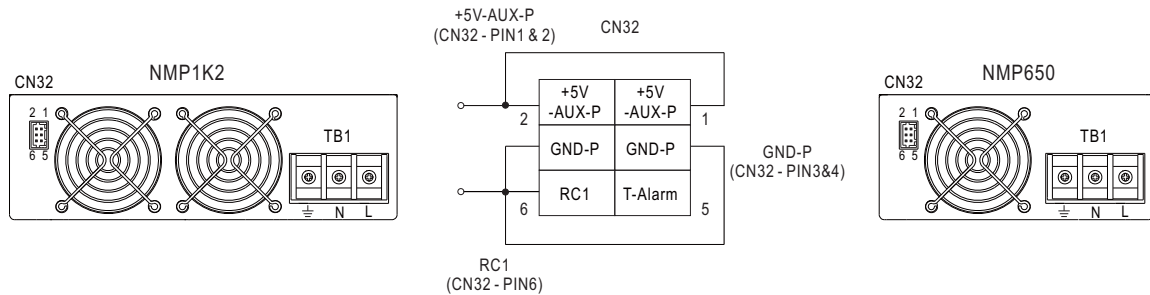
## 5. Constant Current Level Programming (PC : NMS-240 only)

※ The constant current level can be trimmed to 40~100% of the rated current by applying "EXTERNAL VOLTAGE".

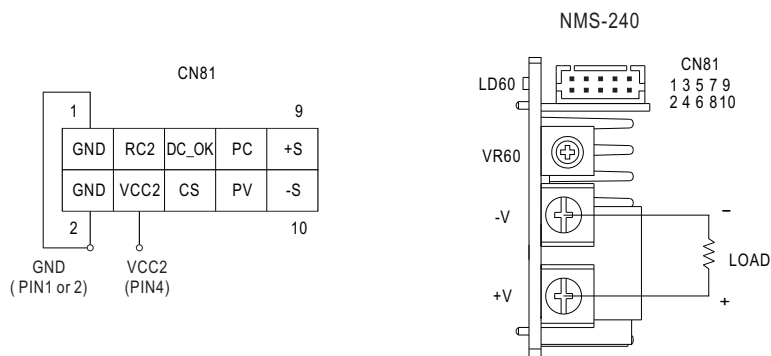


## 6. Auxiliary Power

※ +5V-Aux\_P: Aux. power is 5V/2A (NMP1K2).  
Aux. power is 5V/1.5A (NMP650).



※ Vcc2: Aux. Power is 5V/10mA (Output Modules : NMS-240 only)

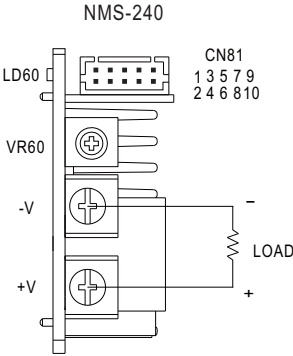
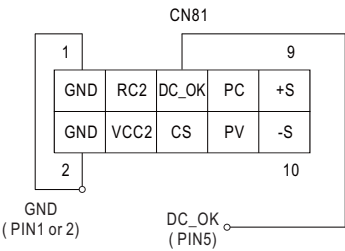


### 7. DC OK Signal

"DC OK" signal is a TTL level signal. It indicates the output status of the output modules. "High" when module turns on.  
The maximum sourcing current is 10mA (4.5~5.5V).

© NMS-240

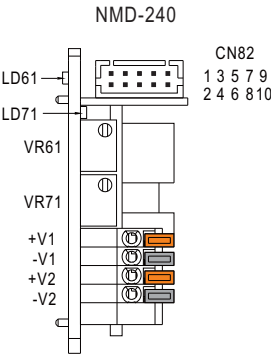
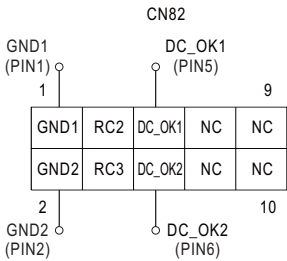
| Between DC OK (PIN5) and GND (PIN1 or 2) | Output Modules Status (NMS-240) |
|------------------------------------------|---------------------------------|
| 4.5~5.5V                                 | ON                              |
| 0~0.5V                                   | OFF                             |



© NMD-240

| Between DC OK1 (PIN5) and GND1 (PIN1) | Output Modules Status (V1) |
|---------------------------------------|----------------------------|
| 4.5~5.5V                              | Output V1 ON               |
| 0~0.5V                                | Output V1 OFF              |

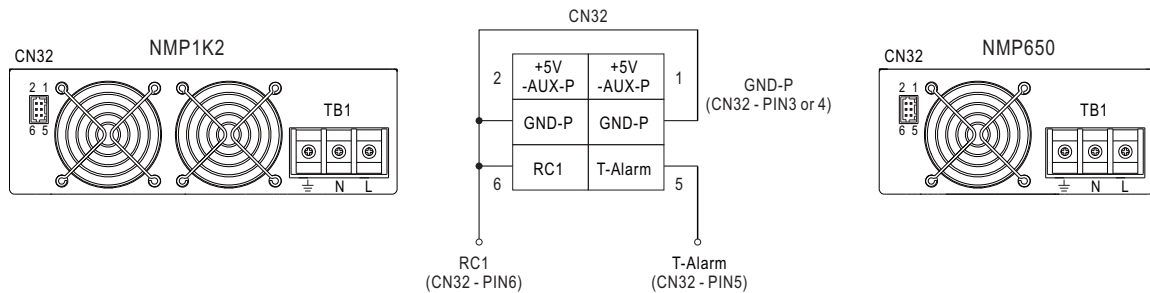
| Between DC OK2 (PIN6) and GND2 (PIN2) | Output Modules Status (V2) |
|---------------------------------------|----------------------------|
| 4.5~5.5V                              | Output V2 ON               |
| 0~0.5V                                | Output V2 OFF              |



## 8. T-Alarm Signal

TTL signal output for over temperature alarm. The maximum sourcing current is 10mA.

| Between T-Alarm (CN32 PIN 5) and GND-P (CN32 PIN 3 or 4) | Internal temperature (U702)                    | Output Status |
|----------------------------------------------------------|------------------------------------------------|---------------|
| 0~0.5V                                                   | The internal temperature is normal.            | ON            |
| 4.5~5.5V                                                 | Exceeds the limit of temperature alarm.        | ON            |
| 4.5~5.5V                                                 | Exceeds the "safe limit" of temperature alarm. | OFF           |



## 9. CURRENT SHARING (CS : NMS-240 only)

- Parallel operation is available by connecting the NMS-240 shown as below (CS, GND are connected mutually in parallel).
  - Difference of output voltages among parallel NMS-240 should be less than 0.2V.
  - The total output current must not exceed the value determined by the following equation (Output current at parallel operation)  

$$= (\text{The rated current per NMS-240}) \times (\text{Number of NMS-240}) \leq \text{TOTAL output power (NMP650 is 650W max.; NMP1K2 is 1200W max.)}$$
  - In parallel operation 4 or 6 NMS-240 (NMP650 is 4 SLOTS; NMP1K2 is 6 SLOTS) is the maximum, please consult the manufacturer for other applications.
  - The power supplies should be paralleled by using short and large diameter wiring and then connected to the load.
  - In parallel connection, maybe only one NMS-240 (master) operates if the total output load is less than 10% of rated load condition.  
 The other NMS-240 (slaves) may go into standby mode.
  - NMS-240 \* 6 SLOTS maximum (NMP1K2) 、NMS-240 \* 4 SLOTS maximum (NMP650).
  - The short protection of C module (5V) or E module (12V) for current sharing is Hiccup mode or constant current limiting
  - Remote control shall simultaneously turn ON/OFF all power modules that are in parallel. Per the same control logic, LED and DC OK signal of power modules in parallel shall turn ON/OFF simultaneously as well.
  - When power modules are in parallel, output current programmable (PC) function shall NOT be in use.
- ※ Parallel or series connection accessory, please contact MEAN WELL for details.

