



## 65W DC-DC Non-Isolated Regulated Converter

NID65 series

(Unit:m)



## ■ Features :

- Economical open frame design
- Wide input range
- High efficiency up to 97%
- Remote ON / OFF control
- Compact size 2.0"x1.024"x 0.433"(SIP package)
- Protections: Short circuit / Overload / Over voltage
- -30~+85°C wide working temperature
- Cooling by free air convection
- Comply to BS EN/EN55032 ClassA without additional components
- Trimming output (optional)
- 3 years warranty

## ■ GTIN CODE

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

## SPECIFICATION

| ORDER NO.                        | NID65-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                          | NID65-12                 |                                    | NID65-15                                                              |                  | NID65-24         |            |              |  |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------|-----------------------------------------------------------------------|------------------|------------------|------------|--------------|--|
| OUTPUT                           | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5V                                                                                                                       |                          | 12V                                |                                                                       | 15V              |                  | 24V        |              |  |
|                                  | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0 ~ 6.5A                                                                                                                 |                          | 0 ~ 4.9A                           |                                                                       | 0 ~ 4.3A         |                  | 0 ~ 2.7A   |              |  |
|                                  | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 32.5W                                                                                                                    |                          | 58.8W                              |                                                                       | 64.5W            |                  | 64.8W      |              |  |
|                                  | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100mVp-p                                                                                                                 |                          | 120mVp-p                           |                                                                       | 150mVp-p         |                  | 200mVp-p   |              |  |
|                                  | LINE REGULATION Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%                                                                                                                    |                          | ±0.5%                              |                                                                       | ±0.5%            |                  | ±0.5%      |              |  |
|                                  | LOAD REGULATION Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±0.5%                                                                                                                    |                          | ±0.5%                              |                                                                       | ±0.5%            |                  | ±0.5%      |              |  |
|                                  | VOLTAGE TOLERANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±2.0%                                                                                                                    |                          | ±2.0%                              |                                                                       | ±2.0%            |                  | ±2.0%      |              |  |
|                                  | SWITCHING FREQUENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 200KHz                                                                                                                   |                          |                                    |                                                                       |                  |                  |            |              |  |
| EXTERNAL CAPACITANCE LOAD (max.) | 100uF / 16V low ESR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                          | 68uF/25V low ESR         |                                    | 47uF/50V low ESR                                                      |                  | 47uF/50V low ESR |            |              |  |
| INPUT                            | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10.5 ~ 53VDC                                                                                                             |                          | 20 ~ 53VDC                         |                                                                       | 20 ~ 53VDC       |                  | 30 ~ 53VDC |              |  |
|                                  | NORMAL VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 24VDC (or 12VDC or 48VDC)                                                                                                |                          | 24VDC (or 48VDC)                   |                                                                       | 24VDC (or 48VDC) |                  | 48VDC      |              |  |
|                                  | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24Vin                                                                                                                    | 93% (12/24VDC)           |                                    | 96%                                                                   |                  | 97%              |            | -----        |  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 48Vin                                                                                                                    | 92%                      |                                    | 95%                                                                   |                  | 95%              |            | 96%          |  |
|                                  | DC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Full load                                                                                                                | 3200mA/12VDC             |                                    | 2700mA/24VDC                                                          |                  | 3000mA/24VDC     |            | 1500mA/48VDC |  |
| No load                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20mA                                                                                                                     |                          | 30mA                               |                                                                       | 30mA             |                  | 50mA       |              |  |
| PROTECTION                       | Fuse recommended (5A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                          |                          |                                    |                                                                       |                  |                  |            |              |  |
| PROTECTION                       | OVERLOAD (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 120 ~ 250% rated output power<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed  |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6.4 ~ 7.5V                                                                                                               |                          | 15.6~ 18V                          |                                                                       | 17.5~ 21V        |                  | 28~ 33V    |              |  |
|                                  | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | All output equipped with short circuit<br>Protection type : Shut off o/p voltage, clamp by TVS diode                     |                          |                                    |                                                                       |                  |                  |            |              |  |
| FUNCTION                         | REMOTE CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Power on : 1.2VDC < R.C ~ com < 12VDC or open circuit ; power off : R.C ~ com < 0.4VDC or short circuit (PIN5,6 & PIN11) |                          |                                    |                                                                       |                  |                  |            |              |  |
| ENVIRONMENT                      | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | EAC TP TC 004 approved                                                                                                   |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -30 ~ +85°C (Refer to "Derating Curve")                                                                                  |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20% ~ 85% RH non-condensing                                                                                              |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | STORAGE TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -30 ~ +105°C                                                                                                             |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ±0.03% / °C (0 ~ 55°C)                                                                                                   |                          |                                    |                                                                       |                  |                  |            |              |  |
| VIBRATION                        | 10 ~ 500Hz, 2G 10min./1 cycle, period for 60min. each along X, Y, Z axes                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                          |                          |                                    |                                                                       |                  |                  |            |              |  |
| SAFETY & EMC                     | SAFETY STANDARD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | BS EN/EN62368-1(LVD)                                                                                                     |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Parameter                                                                                                                | Standard                 |                                    | Test Level / Note                                                     |                  |                  |            |              |  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Conducted                                                                                                                | BS EN/EN55032            |                                    | Class A without external components, Class B with external components |                  |                  |            |              |  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Radiated                                                                                                                 | BS EN/EN55032            |                                    | Class A without external components, Class B with external components |                  |                  |            |              |  |
|                                  | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | BS EN/EN55035                                                                                                            |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Parameter                                                                                                                | Standard                 |                                    | Test Level / Note                                                     |                  |                  |            |              |  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Radiated                                                                                                                 | BS EN/EN61000-4-3        |                                    | Level 2, 3V/m ; criteria A                                            |                  |                  |            |              |  |
| EFT / Burst                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | BS EN/EN61000-4-4                                                                                                        |                          | Level 2, 1KV ; criteria A          |                                                                       |                  |                  |            |              |  |
| Surge                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | BS EN/EN61000-4-5                                                                                                        |                          | Level 2, 1KV/Line-Line, criteria A |                                                                       |                  |                  |            |              |  |
| Conducted                        | BS EN/EN61000-4-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                          | Level 2, 3V ; criteria A |                                    |                                                                       |                  |                  |            |              |  |
| OTHERS                           | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 16602.6K hrs min. Telcordia SR-332 (Bellcore) ; 890.7K hrs min. MIL-HDBK-217F (25°C)                                     |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 50.8*26*11mm or 2.0**1.024**0.433" inch (L*W*H)                                                                          |                          |                                    |                                                                       |                  |                  |            |              |  |
|                                  | WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 19g;280psc/6.32Kg/0.94CUFT                                                                                               |                          |                                    |                                                                       |                  |                  |            |              |  |
| NOTE                             | 1.All parameters are specified at normal input, rated load, 25°C 70% RH Ambient.<br>2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor.<br>3.Line regulation is measured from low line to high line at rated load.<br>4.Load regulation is measured from 10% to 100% rated load.<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> |                                                                                                                          |                          |                                    |                                                                       |                  |                  |            |              |  |

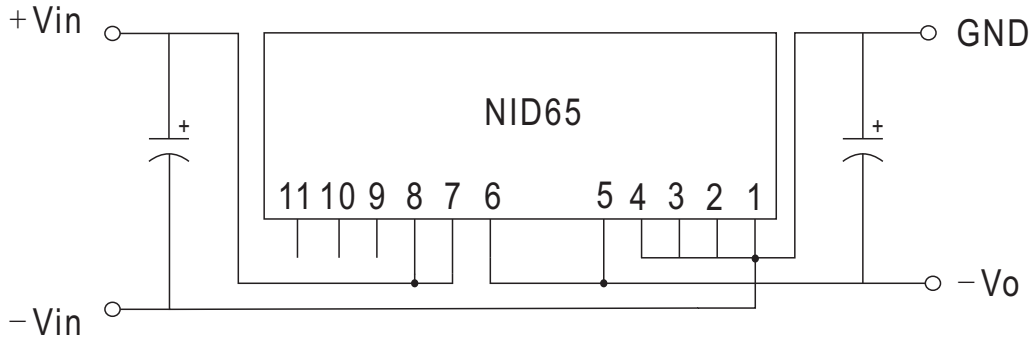


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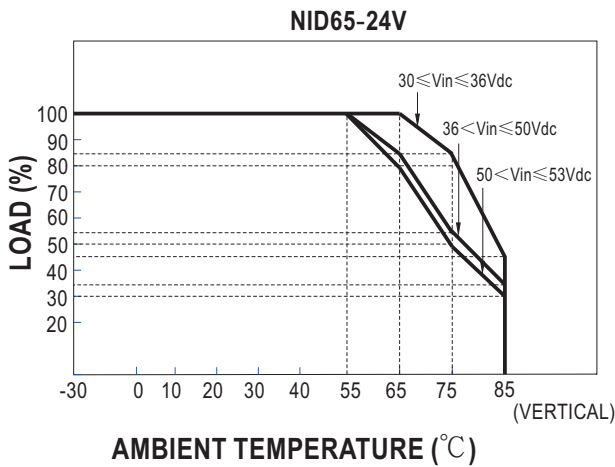
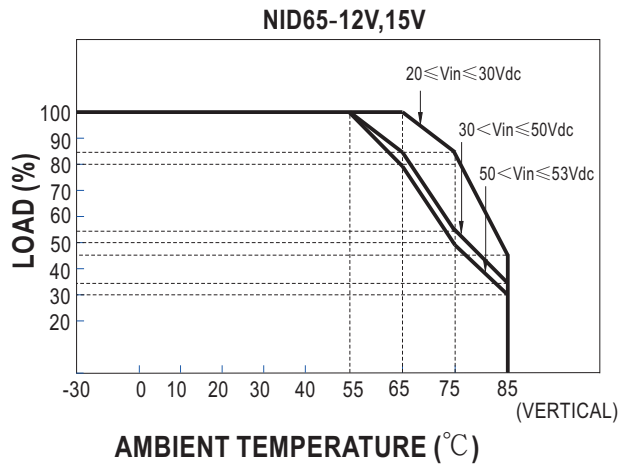
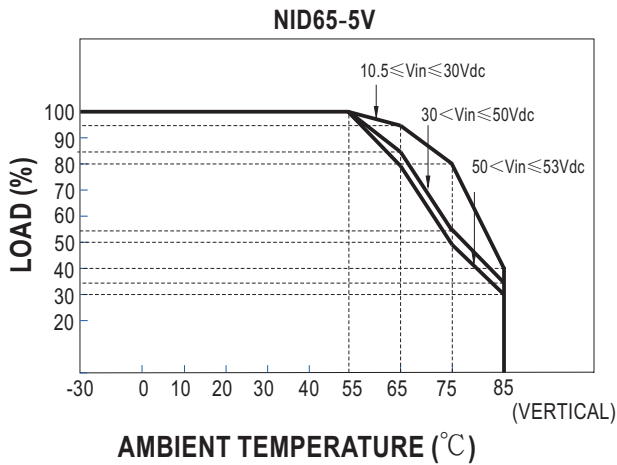
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### ■ Connection diagram to obtain negative output voltage

Note: input voltage must be  $< 30\text{VDC}$ .



### ■ Derating Curve



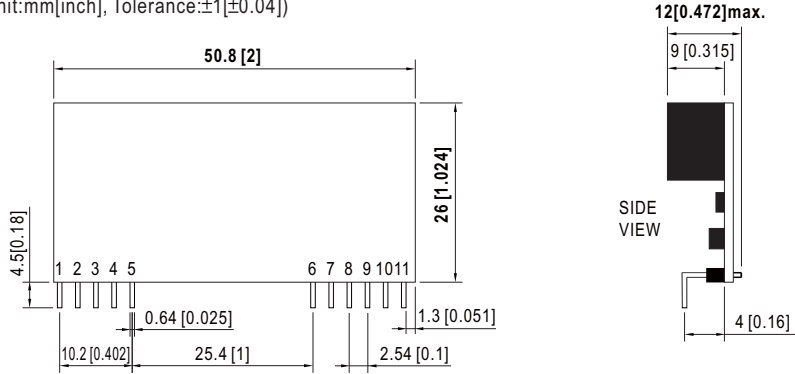


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## Mechanical Specification

(Unit:mm[inch], Tolerance:±1[±0.04])

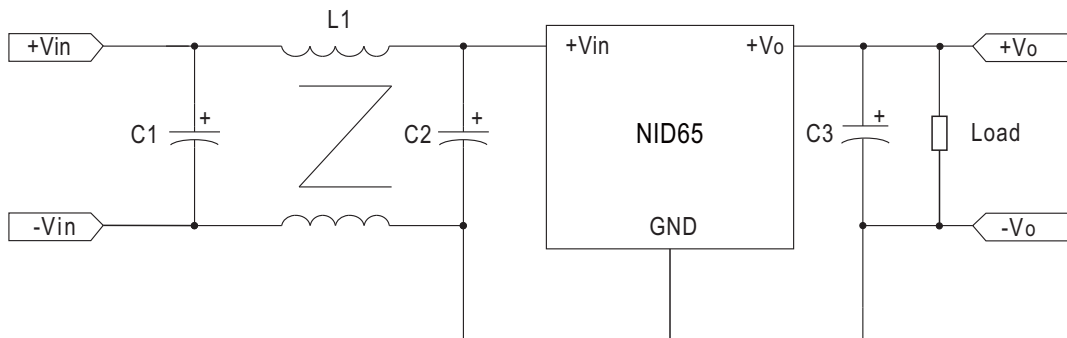


## Pin Configuration

| Pin No. | Pin_Out        |
|---------|----------------|
| 1,2,3,4 | +Vout          |
| 5,6     | Com            |
| 7,8     | +Vin           |
| 9       | N.C.           |
| 10      | Trim(optional) |
| 11      | R.C.           |

## EMC Suggestion Circuit

※Comply to EN55032 Class A without additional componenets ,required external componenets to meet Class B emissision are as below:



| C1/C2           | L1               | C3             |
|-----------------|------------------|----------------|
| 120 $\mu$ F/63V | 15 $\mu$ H(NiZn) | 22 $\mu$ F/35V |