

# FND300-1012G Power Supply

DC Input, 12V Output, 300 W



The FND300-1012G is a highly-efficient bus converter with one high current output, which can be used in a wide range of applications. Passive current share along with internal ORing diodes allow this unit to be also used in redundant, hot-swap applications.

The FND300 meets international safety standards and displays the CE Mark for the Low Voltage Directive.

## Key Features & Benefits

- RoHS compliant for all six substances
- 40.5 to 72 VDC Input Range
- 12 V output
- 2000 VAC I/O electric strength test
- Highly-efficient topology
- High-density design
- 4" x 1.65" x 8.5" cassette
- I<sup>2</sup>C interface
- Supervisory signaling
- Overtemperature, output overvoltage, and output overcurrent protection
- ORing diode included for true redundant operation
- Safety approvals: UL60950-1/ CSA 60950-1, & TUV EN60950-1

## Applications

- Telecommunication Equipment

### North America

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### Asia-Pacific

+86.755.29885888

### Europe, Middle East

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# FND300-1012G

## Model Selection

| MODEL        | NOMINAL OUTPUT VOLTAGE (VDC) | INPUT CURRENT MAX (ADC) | ADJUSTMENT RANGE (VDC) | OUTPUT RATED CURRENT I <sub>RATED</sub> (ADC) | OUTPUT RIPPLE/NOISE, mV p-p | TYPICAL EFFICIENCY @ I <sub>RATED</sub> % |
|--------------|------------------------------|-------------------------|------------------------|---|-----------------------------|---|
| FND300-1012G | 12                           | 10                      | N/A                    | 25  | <120                        | >80                                       |

## Input Specifications

| PARAMETER                 | CONDITIONS / DESCRIPTION               | MIN  | NOM   | MAX      | UNITS |
|---------------------------|--|------|-------|----------|-------|
| Input Voltage             | With full output power                 | 40.5 | 48/60 | 72       | VDC   |
| Inrush Current Limitation | 48 / 60 VDC                            |      |       | <12 / 15 | A     |
| Efficiency                | V <sub>1</sub> nom, I <sub>o</sub> nom |      |       | >80      | %     |

## Output Specifications

| PARAMETER  | CONDITIONS / DESCRIPTION   | MIN | NOM  | MAX       | UNITS                   |
|--|--|-----|------|-----------|-------------------------|
| Nominal Output Current V1                              | V <sub>1</sub> min to V <sub>1</sub> max   |     | 25   |           | A                       |
| Output Voltage Setting V1                              | V <sub>1</sub> nom, 12.5 A, T <sub>c</sub> = 25 °C   |     | 12.0 |           | VDC                     |
| Static Line Regulation V1                              | V <sub>1</sub> min to V <sub>1</sub> max, V <sub>1</sub> nom, 5 to 100% I <sub>o</sub> nom |     |      | ±0.5      | %                       |
| Static Load Regulation V1*<br>* (Droop Characteristic) | V <sub>1</sub> min to V <sub>1</sub> max, V <sub>1</sub> nom, 5 to 100% I <sub>o</sub> nom |     |      | ±5        | %                       |
| Minimum Load   | No minimum load requirements   |     |      |           |                         |
| Hold-Up Time   | At full load, starting at V <sub>1</sub> = 60 VDC  |     |      | >8        | ms                      |
| Dynamic Load Regulation<br>Settling Time               | V1: ΔI <sub>o</sub> = 8A, dI <sub>o</sub> /dt = 2A/μs                                      |     |      | ±2<br>400 | %V <sub>out</sub><br>μs |
| Start-Up Time  | V <sub>1</sub> nom, I <sub>o</sub> nom   |     |      | <1        | s                       |
| Output Voltage Ripple And Noise                        | V <sub>1</sub> nom, I <sub>o</sub> nom, 20 MHz BW  |     |      | <120      | mVp-p                   |

## Interface Signals and Internal Protection<sup>1</sup>

| PARAMETER                    | CONDITIONS / DESCRIPTION                              | MIN | NOM. | MAX  | UNITS |
|------------------------------|---|-----|------|------|-------|
| Overvoltage Protection       | Latch-style overvoltage protection.                   |     |      | 14.5 | V     |
| Overcurrent Protection       | (Latch-style) 110 to 120% I <sub>o</sub> nom          |     |      |      |       |
| Overtemperature              | Self-recovery;<br>shut down at T <sub>c</sub> = 95 °C |     |      |      |       |
| Input Fuses                  | 15 AF, Not user-accessible                            |     |      |      |       |
| Input Transient Protection   | VDR, reverse polarity protection                      |     |      |      |       |
| I <sup>2</sup> C Digital Bus | Reports information and monitors alarm functions      |     |      |      |       |
| PS Seated Signal             | Contact closure to GND                                |     |      |      |       |
| PS Remote Shut Down          | TTL-compatible signal, inhibited at High or TTL "1"   |     |      |      |       |
| Power Fail                   | Indicates output voltage is out of regulation         |     |      |      |       |
| Fan Fail                     | Indicates low fan speed                               |     |      |      |       |
| Current Share                | Droop load characteristic                             |     |      |      |       |

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## Environmental, Mechanical Specifications & Reliability

| PARAMETER             | CONDITIONS/DESCRIPTION                                  | MIN              | NOM                     | MAX              | UNITS          |
|-----------------------|---|------------------|-------------------------|------------------|----------------|
| Operating Temperature | 1/2 min to 1/2 max, 1/2 nom,<br>cooling by internal fan | 0                |                         | 55               | °C             |
| Storage Temperature   | Ambient   | -40              |                         | 85               | °C             |
| Operating Humidity    | Relative Humidity, Non-cond.                            | 10               |                         | 90               | %              |
| Storage Humidity      | Relative Humidity, Non-cond.                            | 5                |                         | 95               | %              |
| Shock                 | IEC/EN 60068-2-27, 11 ms                                |                  |                         | 30               | g              |
| Sinusoidal Vibration  | IEC/EN 60068-2-6  |                  |                         | 7.5              | mm             |
|                       | 2 to 8 Hz   |                  |                         | 2                | g <sub>n</sub> |
|                       | 8 to 200 Hz   |                  |                         | 4                | g <sub>n</sub> |
| Weight                |   |                  | 1                       |                  | kg             |
| Dimensions            | (Overall)   | 8.5 L<br>(215.9) | 4.0 W<br>(101.6)        | 1.65 H<br>(41.9) | in<br>(mm)     |
| MTBF                  | MIL-HDBK-217F Notice 2,<br>G <sub>B</sub> , 25 °C       |                  | 150'000<br>(calculated) |                  | h              |

## Safety Regulatory Compliance & EMC

| SAFETY AGENCY OR PARAMETER         | STANDARD APPROVED TO:                           | MARKING OR RELATED TEST VALUE |
|------------------------------------|---|-------------------------------|
| UL/CSA                             | UL60950-1 / CSA 60950-1                         |                               |
| TUV Product Service                | TUV EN60950-1                                   |                               |
| Electric Strength Test Voltage     | Class I, I/case (basic insulation)              | 1.41 kVDC                     |
| Electric Strength Test Voltage     | Class I, I/O (reinforced insulation)            | 2.82 kVDC                     |
| Electrostatic Discharge            | IEC/EN 61000-4-2, level 4 (contact/air)         | 8/15 kV, criterion B          |
| Electromagnetic Field              | IEC/EN 61000-4-3, level 3                       | 10 V/m, criterion A           |
| Electrical Fast Transients / Burst | IEC/EN 61000-4-4, level 4 (direct capacitive)   | 4/2 kV, criterion B           |
| Surge                              | IEC/EN 61000-4-5, level 2 (L/L, L/C)            | 0.5/1 kV, criterion B         |
| Electromagnetic Emissions          | CISPR 22/EN 55022/EN61204<br>conducted/radiated | Class B                       |

## Output Connector Pin Allocation

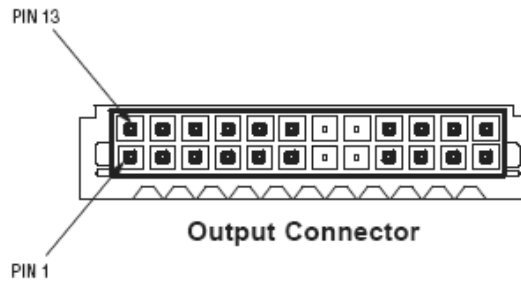
| PIN        | SIGNAL NAME      | DESCRIPTION                           |
|------------|------------------|---------------------------------------|
| 1-3, 13-15 | V1 RTN           | V1 Output Return                      |
| 4-6, 16-18 | V1               | V1 Output                             |
| 7          | -                | Not Used                              |
| 8          | -                | Not Used                              |
| 9          | PF               | Power Fail                            |
| 10         | I <sup>2</sup> C | I <sup>2</sup> C Voltage Input/Output |
| 11         | SDA              | Serial Data Line                      |
| 12         | SCL              | Serial Clock Line                     |
| 19         | -                | Not Used                              |
| 20         | -                | Not Used                              |
| 21         | LSB              | Address Input Line                    |
| 22         | RSD              | Power Supply Remote Shut Down         |
| 23         | PS_PRSENT_L      | Power Supply Present signal           |
| 24         | Fan Fail         | Fan Fail signal                       |

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## Connector Information

### Power Supply:

Output - 24-Pin Molex connector 15-06-0241 with pre-plated tin over copper Molex terminals 39-00-0038

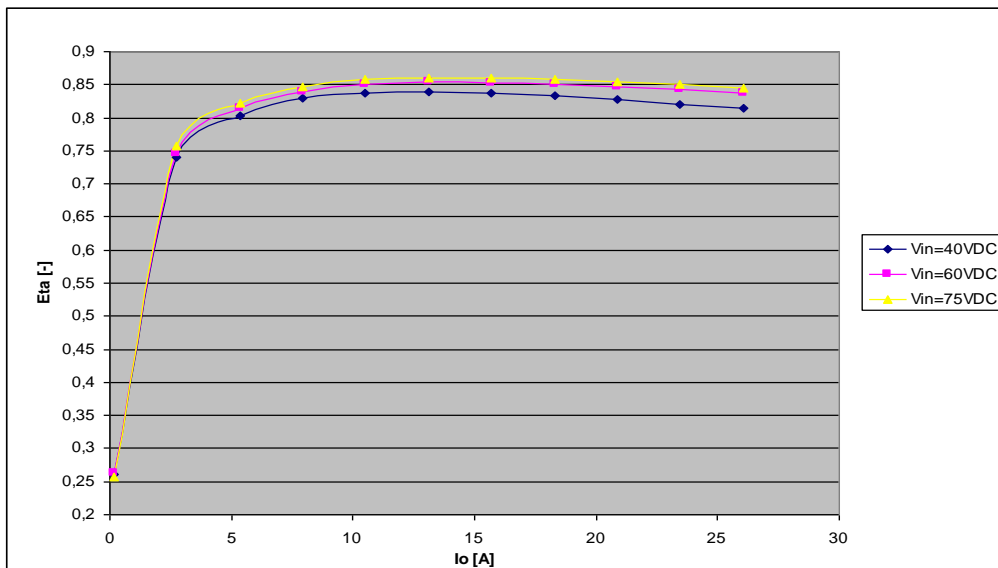
### Mating Connections:

Output - 24-Pin Molex connector 15-06-0245 with pre-plated tin over copper Molex terminals 39-00-0040

## Airflow Direction



## Characteristic Curves



# FND300-1012G

Figure 1 - Efficiency vs. Output Load

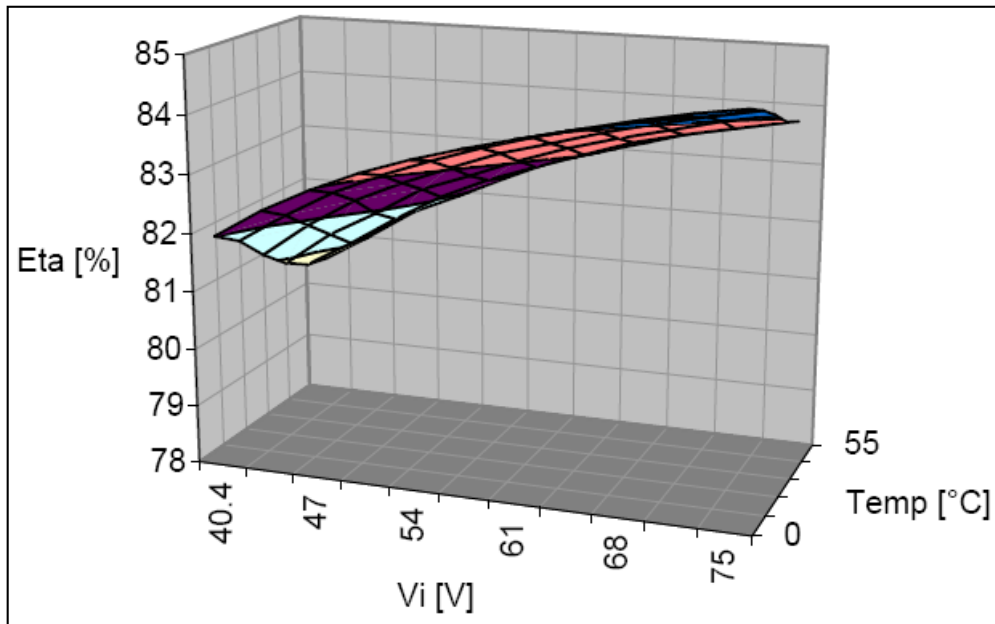


Figure 2 - Efficiency vs. Input Voltage and Ambient Temperature,  $I_o=I_{onom}$

## Mechanical

| PARAMETER                      | CONDITIONS / DESCRIPTION                          |
|--------------------------------|---|
| Overall Dimensions (L x W x H) | 215.9 x 101.6 x 41.9 mm (8.5 x 4.0 x 1.65 inches) |
| Weight:                        | 1 kg  |

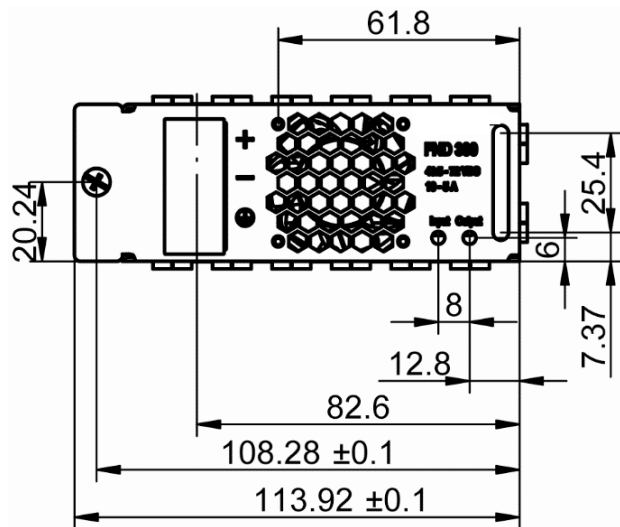


Figure 3 - Front View

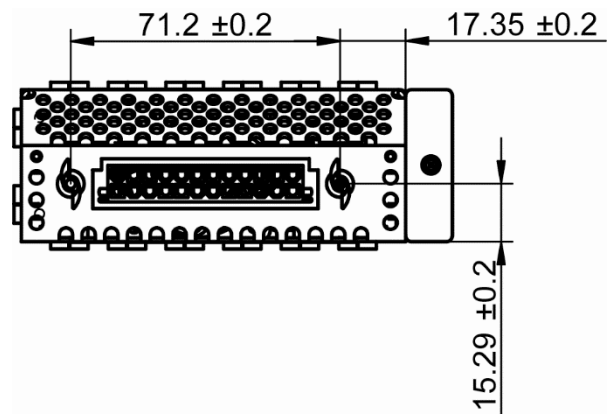


Figure 4 - Rear View

# FND300-1012G

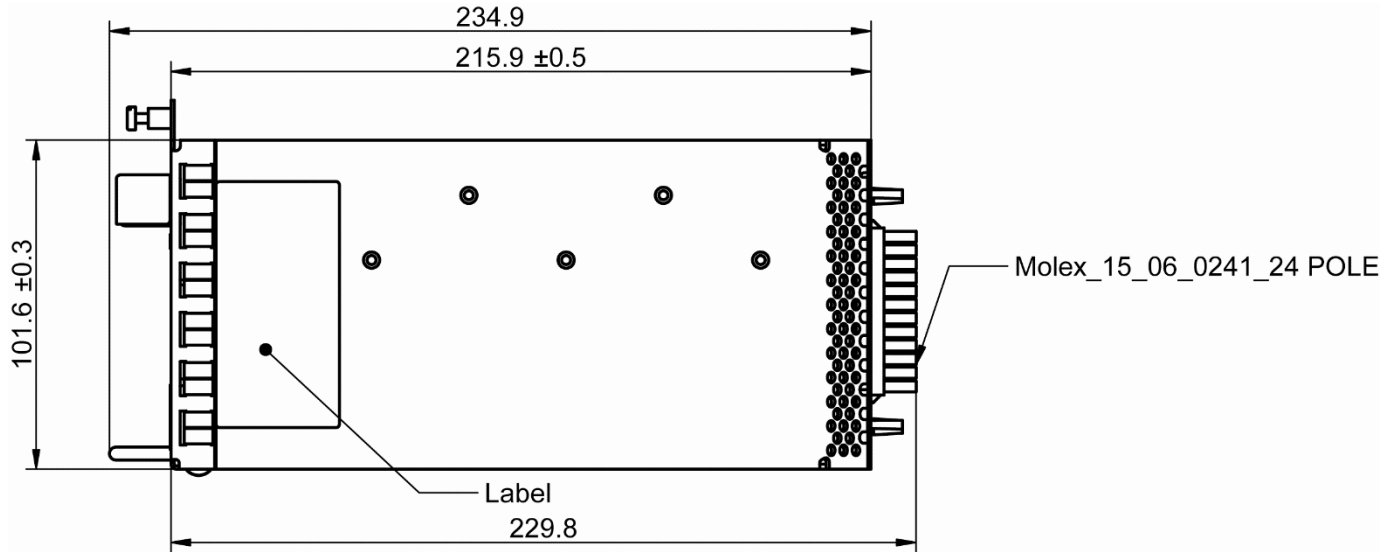


Figure 5 - Top View

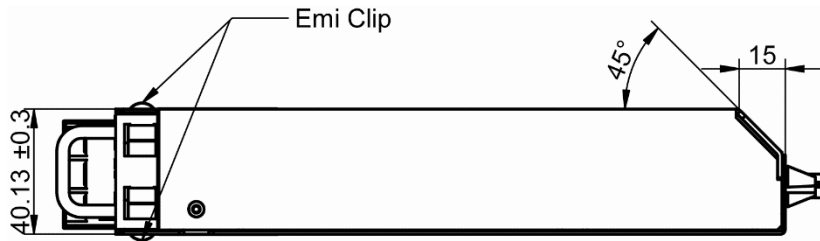


Figure 6 - Side View

For more information on these products consult: [tech.support@psbel.com](mailto:tech.support@psbel.com)

**NUCLEAR AND MEDICAL APPLICATIONS** - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

**TECHNICAL REVISIONS** - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

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- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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