

Medical/Industrial AC-DC Configurable Power Supply

Up to 3000 Watt / MEG-3K0A Series



Highlights & Features

- Up to 3000 W in 7" x 10" x 1.59" Package
- Up to 27 W/inch³ Power Density
- Full Power up to 50°C Ambient
- 9 Slots Modules Configurable
- 2 x MOPP Isolation for Medical Application
- Output selectable from 2 V to 60 V
- Current sharing
- Class B Conducted and Radiated EMI
- IEC 60601-1-2 4th edition immunity compliance
- Normal and Reversed Option for Global Remote On/Off & Air Flow Direction without power de-rating
- Analog and Digital Voltage Trimming
- PMBus Ver 1.3 Supported
- Intelligent Fan Speed Control
- Optional RS485/RS232/USB Communication Adapters
- PC GUI for easy parameter setting and monitoring

Inlet Type Option



Safety Certifications

- IEC 60601-1 2nd edition
- IEC 60601-1 3rd edition + A1 CB report
- CSA 60601-1 ANSI/AAMI 60601-1
- TUV 60601-1
- IEC 62368-1 CB report
- UL 62368-1 CAN/CSA 62368-1
- TUV 62368-1
- SEMI F47 supported

| Input | | | |
|-------------------------|--|-------------|--------------|
| Input Voltage | 90 VAC ~ 264 VAC | | |
| Input Frequency | 47 Hz ~ 63 Hz | | |
| Input Current | <20 A | | |
| Inrush Current | <40 A | | |
| Power Factor | >0.95 @ rated load | | |
| Efficiency | Up to 93% ¹⁾ | | |
| Patient Leakage Current | <100 uA normal, <500 uA SFC | | |
| Earth Leakage Current | <400 uA normal, <1 mA SFC | | |
| Output Module | | | |
| Output Number | Single Output | | Dual Output |
| Consuming Slots | Single Slot | Triple Slot | Single Slot |
| Output Voltage | 2 V ~ 60 V | 8 V ~ 60 V | 3.3 V ~ 30 V |
| Output Power | 300 W Max | 1200 W Max | 240 W Max |
| Ripple & Noise | <1% Vrated pk-pk or 100mV, which is larger | | |
| Standby Power | 5 V / 2 A (No minimum load required) | | |
| Environmental | | | |
| MTBF | 500 KHrs | | |
| Operation Temperature | -20°C ~ 70°C ²⁾ | | |
| Operation Altitude | 5000 m or 50 kPa | | |

1) Exclude fan power
 2) Power de-rating with temperature above 50°C, refer to power de-rating curve for detail

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Model Numbering

| | | | | | | | |
|--|----------|---|--------------------------------|----------------------------------|---|---|---------------------------------------|
| MEG | - | 3K0 | A | 9 | X | Y-Y-Y-Y | ZZZZZ |
| ME: Delta Medical Power Supply G: Configurable | | Max Wattage in Product Series 3K0: 3,000W | Family Code A series | Slot Number 9: 9 Slots | Inlet Type T: US Terminal E: EU Terminal C: C22 | Output Configurations See below | PSU Configuration See below |

Model Information:

| Model Number | Output Slots | Input Voltage | Maximum Power |
|--------------|--------------|---------------|-----------------------------|
| MEG-3K0A9 | 9 | 100-120 Vac | Input Current Limit to 20 A |
| | | 200-240 Vac | 3000 W |

Output Configurations:

| |
|------------------------------|
| Y-Y-Y-Y |
| Output Configurations |
| See below |

For single output **module**, output module code combined with a voltage code and a current code.

For dual output module, output module code is combined with two voltage code.

Please check Table 1 for all available combinations.

For example:

J1: 12 V, 25 A, single slot, single output module.

O2: 24 V, 50 A, triple slot, single output module.

OJ: Dual output module, one 24 V/4 A output, one 12 V/5 A output.

Split the modules with a “-”.

If any slot to be left empty, use code “NU”.

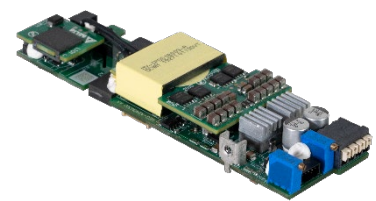
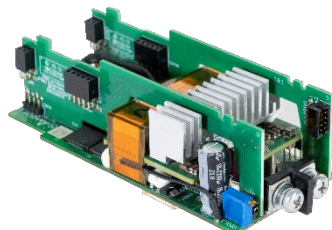
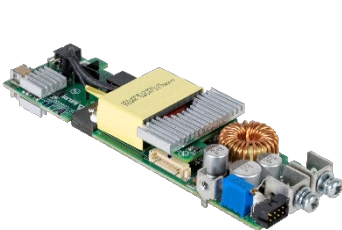
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Output Modules:

Table 1. Output Modules

| Voltage Code | | Current Code | | | | | |
|--------------|---------|--------------------|-------|--------------------|--------|--------------------------------|----------------|
| | | Single Slot Module | | Triple Slot Module | | Single Slot Dual Output Module | |
| | | 1 | | 2 | | | |
| Code | Voltage | Current | Power | Current | Power | V1 or V2 Current | V1 or V2 Power |
| A | 2.0 V | 45.0 A | 90 W | - | - | - | - |
| B | 2.4 V | 45.0 A | 108 W | - | - | - | - |
| C | 3.0 V | 45.0 A | 135 W | - | - | - | - |
| D | 3.3 V | 45.0 A | 149 W | - | - | 5.0 A | 16.5 W |
| E | 5.0 V | 45.0 A | 225 W | - | - | 5.0 A | 25 W |
| F | 5.5 V | 45.0 A | 248 W | - | - | 5.0 A | 27.5 W |
| G | 6.0 V | 42.0 A | 252 W | - | - | 5.0 A | 30 W |
| H | 8.0 V | 25.0 A | 200 W | 100.0 A | 800 W | 5.0 A | 40 W |
| I | 10.0 V | 25.0 A | 250 W | 100.0 A | 1000 W | 5.0 A | 50 W |
| J | 12.0 V | 25.0 A | 300 W | 100.0 A | 1200 W | 5.0 A | 60 W |
| K | 14.0 V | 21.4 A | 300 W | 85.7 A | 1200 W | 5.0 A | 70 W |
| L | 15.0 V | 20.0 A | 300 W | 73.3 A | 1100 W | 5.0 A | 75 W |
| M | 18.0 V | 16.7 A | 300 W | 61.1 A | 1100 W | 5.0 A | 90 W |
| N | 20.0 V | 15.0 A | 300 W | 53.0 A | 1060 W | 5.0 A | 100 W |
| O | 24.0 V | 12.5 A | 300 W | 50.0 A | 1200 W | 4.0 A | 96 W |
| P | 28.0 V | 10.7 A | 300 W | 42.8 A | 1200 W | 4.0 A | 112 W |
| Q | 30.0 V | 10.0 A | 300 W | 33.3 A | 1000 W | 4.0 A | 120 W |
| R | 32.0 V | 9.4 A | 300 W | 34.4 A | 1100 W | - | - |
| S | 36.0 V | 8.3 A | 300 W | 33.3 A | 1200 W | - | - |
| T | 42.0 V | 7.1 A | 300 W | 28.6 A | 1200 W | - | - |
| U | 48.0 V | 6.3 A | 300 W | 25.0 A | 1200 W | - | - |
| V | 54.0 V | 5.5 A | 300 W | 22.2 A | 1200 W | - | - |
| W | 60.0 V | 5.0 A | 300 W | 20.0 A | 1200 W | - | - |

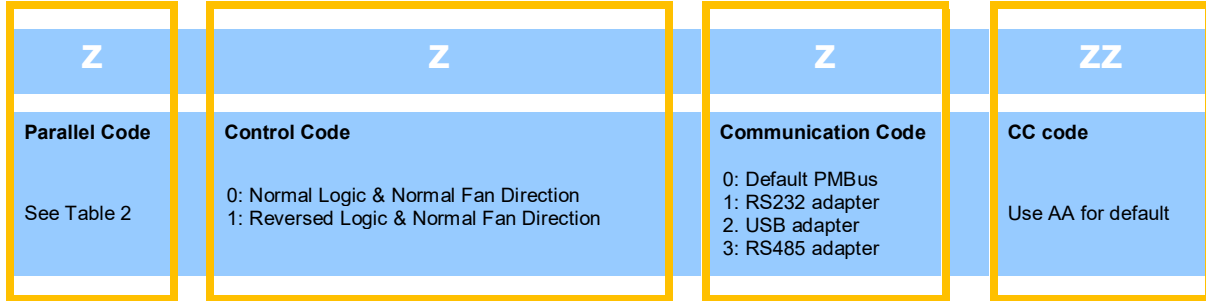


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PSU Configurations:

Use following definition for PSU configurations



Parallel Code:

Parallel feature is available for the same output modules. Select parallel code, Delta will parallel the outputs before shipping to customer. Parallel feature is designed for single slot modules and only two modules can be paralleled. Triple slot modules and dual output module cannot support this option.

Table 2 Parallel Code

| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|-------------|---|---|---|---|---|---|---|---|
| 0 | No Parallel | | | | | | | | |
| A | █ | | | | | | | | |
| B | | | █ | | | | | | |
| C | | | | | █ | | | | |
| D | | | | | | | █ | | |
| E | █ | | █ | | | | | | |
| F | █ | | | | █ | | | | |
| G | █ | | | | | | █ | | |
| H | | | █ | | █ | | | | |
| I | | | █ | | | | █ | | |
| J | | | | | █ | | █ | | |
| K | █ | | █ | | █ | | | | |
| L | █ | | █ | | | | █ | | |
| M | █ | | | | █ | | █ | | |
| N | | | █ | | █ | | █ | | |
| O | █ | | █ | | █ | | █ | | |

Examples:

MEG-3K0A9T 01-01-01-01-01-01-01-01 A00AA

9 slots, US terminal type input, nine 24 V modules, slot 1/slot 2 in parallel

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Specifications

Input Ratings / Characteristics

| | |
|-----------------------------|---|
| Nominal Input Voltage | 100-240Vac |
| Input Voltage Range | 90-264 Vac |
| Nominal Input Frequency | 50-60 Hz |
| Input Frequency Range | 47-63 Hz |
| Input Current (max) | 20 A |
| Input Surge Voltage (max) | 300 Vac for 100 ms |
| Full load Efficiency (typ.) | 90% @ 115 Vac/60 Hz 93% @ 230 Vac/50 Hz |
| Inrush Current (max) | 40A @ 230 Vac, cold start |
| Power Factor (min) | >0.95 @ 115 V/50 Hz, 230 V/50 Hz, full load |

Output Ratings / Characteristics

| | |
|--|--|
| Total Regulation | ±3% |
| Output Power | Up to 300W per single slot module, 1200W per triple slot module |
| Output Voltage Trimming range | ±10% of module rated output voltage |
| Line Regulation (max) | ±0.5% |
| Load Regulation (max) | ±1% |
| Ripple & Noise (typ.) | 1% pk-pk Vrated or 100mV, which is greater |
| Start-up Time (max) | 3000 ms @ 115 Vac |
| Hold-up Time (min) | 12 ms @ rated load, with nominal input range 20 ms @ 1500W load, with nominal input range Half rated load @200Vac/240Vac for SEMI F47 |
| Dynamic Response (Overshoot & Undershoot O/P Voltage) | ±5% @ with 50-100% load change ±6% @ with 50-100% load change for H2/I2/J2 |
| Capacitive load (max) | Single Slot Single Output Module: 1500 uF on each load Triple Slot Single Output Module: 2800 uF on each load Single Slot Dual Output Module: 1000 uF on each load |
| Rise time (max) | 100ms |
| Remote Sense | Up to 500 mV compensation for voltage drop across external wire connections to load. Short and reverse connection protected. |
| Inhibit | Default ON, see detail in description |
| Power Good | Open collector signal when output is in regulation. See application note for detail |

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Global Control

| | |
|----------------|---|
| AC Fail | Open collector signal. Pulled low when AC input is removed. |
| Global Inhibit | Default ON, see detail in description |
| PMBus | PMBus Ver 1.3 through I ² C |

Standby Ratings / Characteristics

| | |
|--|------------------------------|
| Nominal Output Voltage of standby output | 5 V |
| Nominal Output Current of standby output | 2.0 A |
| Total Regulation of standby output | ±3% |
| Ripple & Noise of standby output | 100 mV max (Refer to Fig. 1) |

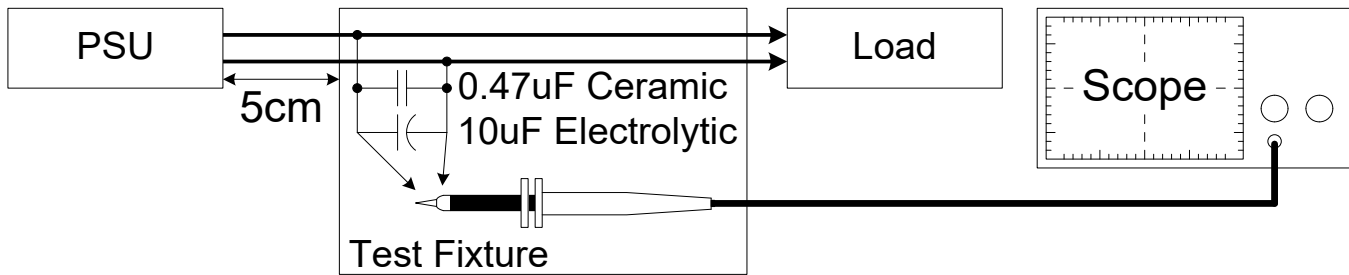


Figure 1. Ripple & Noise Measurement Circuit

Mechanical

| | |
|------------------------|---|
| Case Material | SGCC |
| Dimensions (W x L x H) | 181.0 x 254.0 x 40.5 mm [7.13 x 10.0 x 1.59 inch] |
| Unit Weight | 2.5 kg |

Environment

| | | |
|-----------------------------|---------------|--|
| Surrounding Air Temperature | Operating | Absolute Maximum/Minimum Rating. -20°C to +70°C. Refer to detailed linearly power de-rating curves on page 17 & 18. |
| | Storage | -40°C to +85°C |
| Operating Humidity | | 5-90% RH (Non-Condensing) |
| Operating Altitude | | Up to 5,000 meters (up to 16,400 feet or 106-54 kPa) |
| Non-Operating Altitude | | Up to 5,575 meters (up to 18,290 feet or 106-50 kPa) |
| Shock Test | Non-Operating | 50 G, 11 ms, 3 shocks for each direction |
| Vibration | Non-Operating | 5-500 Hz, 2 Grms, 20 minute for each three axis |

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Protections

| | | | |
|---|--|------|------|
| Overvoltage | Latch off. Reset by recycling AC or through I ² C | | |
| | Min | Min | Min |
| | 110% | 110% | 110% |
| Overload / Overcurrent | Hiccup Mode (Non-Latching, Auto-Recovery) | | |
| | Min | Min | Min |
| | 110% | 110% | 110% |
| The OCP value can be programmed from default 115% down to 0 through I ² C for single slot modules and dual output modules. | | | |
| Over Temperature | Latch off | | |
| Short Circuit | Hiccup Mode (Non-Latching, Auto-Recovery) | | |

Reliability Data

| | |
|---|--------------------------------------|
| MTBF (Minimum) at 180 Vac, 35°C | >500 kHrs based on Telecordia SR-332 |
| Operating life (Minimum) at 180 Vac, 25°C | 3 Years |

Safety Standards / Directives

| | | |
|--------------------|---|------------------------------------|
| Medical Safety | IEC 60601-1 2nd edition IEC 60601-1 3rd edition + A1 CB report CSA 60601-1 ANSI/AAMI 60601-1 TUV EN60601-1 | |
| ITE Safety | IEC 62368-1 CB report UL 62368-1 CAN/CSA 62368-1 TUV EN62368-1 | |
| CE | In conformance with EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU EN 60601-1: 2006 + A11: 2011 + A1: 2013 + A12: 2014 & EN 60601-1-2: 2015 | |
| UKCA | In conformance with Electrical Equipment (Safety) Regulations 2016, and Electromagnetic Compatibility Regulations 2016, Medical Devices Regulations 2002(UK MDR 2002) | |
| Galvanic Isolation | Input to Output (2xMOPP) | 4000 Vac |
| | Input to Ground (1xMOPP) | 1500 Vac |
| | Output to Ground | 500 Vac (Type B application rated) |

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EMC

| | | |
|-----------------------------------|---------------|---|
| EMC / Emissions | | EN/BS EN 55011, EN/BS EN 55032, FCC Title 47:Class B |
| Harmonic Current Emissions | IEC61000-3-2 | Meet Class A limit |
| Immunity to | | |
| Voltage Flicker | IEC61000-3-3 | |
| Electrostatic Discharge | IEC61000-4-2 | Level 4 Criteria A ¹⁾⁵⁾ Air Discharge: 15 kV Contact Discharge: 8 kV |
| Radiated Field | IEC61000-4-3 | Level 3 Criteria A ¹⁾ 80 MHz-1000 MHz, 10 V/m AM modulation |
| | IEC60601-1-2 | Criteria A ¹⁾⁵⁾ 80 MHz-2700 MHz, 10 V/m AM modulation 385 MHz-5785 MHz, 28 V/m Pulse mode and other modulation |
| Electrical Fast Transient / Burst | IEC61000-4-4 | Level 3 Criteria A ¹⁾ :2 kV |
| Surge | IEC61000-4-5 | Level 3 Criteria A ¹⁾⁵⁾ Common Mode ³⁾ : 2 kV Differential Mode ⁴⁾ : 1 kV |
| Conducted | IEC61000-4-6 | Level 2 Criteria A ¹⁾⁵⁾ 150 kHz-80 MHz, 3 Vrms, 6 Vrms at ISM bands and Amateur radio bands |
| Power Frequency Magnetic Fields | IEC61000-4-8 | Criteria A ¹⁾⁵⁾ Magnetic field strength 30 A/m |
| Voltage Dips | IEC61000-4-11 | 30% 10 ms Criteria A ¹⁾ 60% 100 ms Criteria B ²⁾ 100% 5000 ms Criteria B ²⁾ |
| Voltage Dips ⁵⁾ | | Criteria A ¹⁾ @ rated full load 0% U _T , 0.5 cycle (10 ms) (0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°, 360°) Criteria B ²⁾ , can meet Criteria A with 1500 W or lower load 0% U _T , 1 cycle (20 ms), 0° Criteria B ²⁾ 70% U _T , 25 cycle (500 ms), 0° Criteria B ²⁾ 0% U _T , 250 cycle (5000 ms), 0° |

1) Criteria A: Normal performance within the specification limits

2) Criteria B: Output out of regulation, or shuts down during test. Automatically restored to normal operation after test.

3) Asymmetrical: Common mode (Line to earth)

4) Symmetrical: Differential mode (Line to line)

5) Compliant with IEC-60601-1-2 4th edition requirements.

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MEG Series Mechanical Outlines

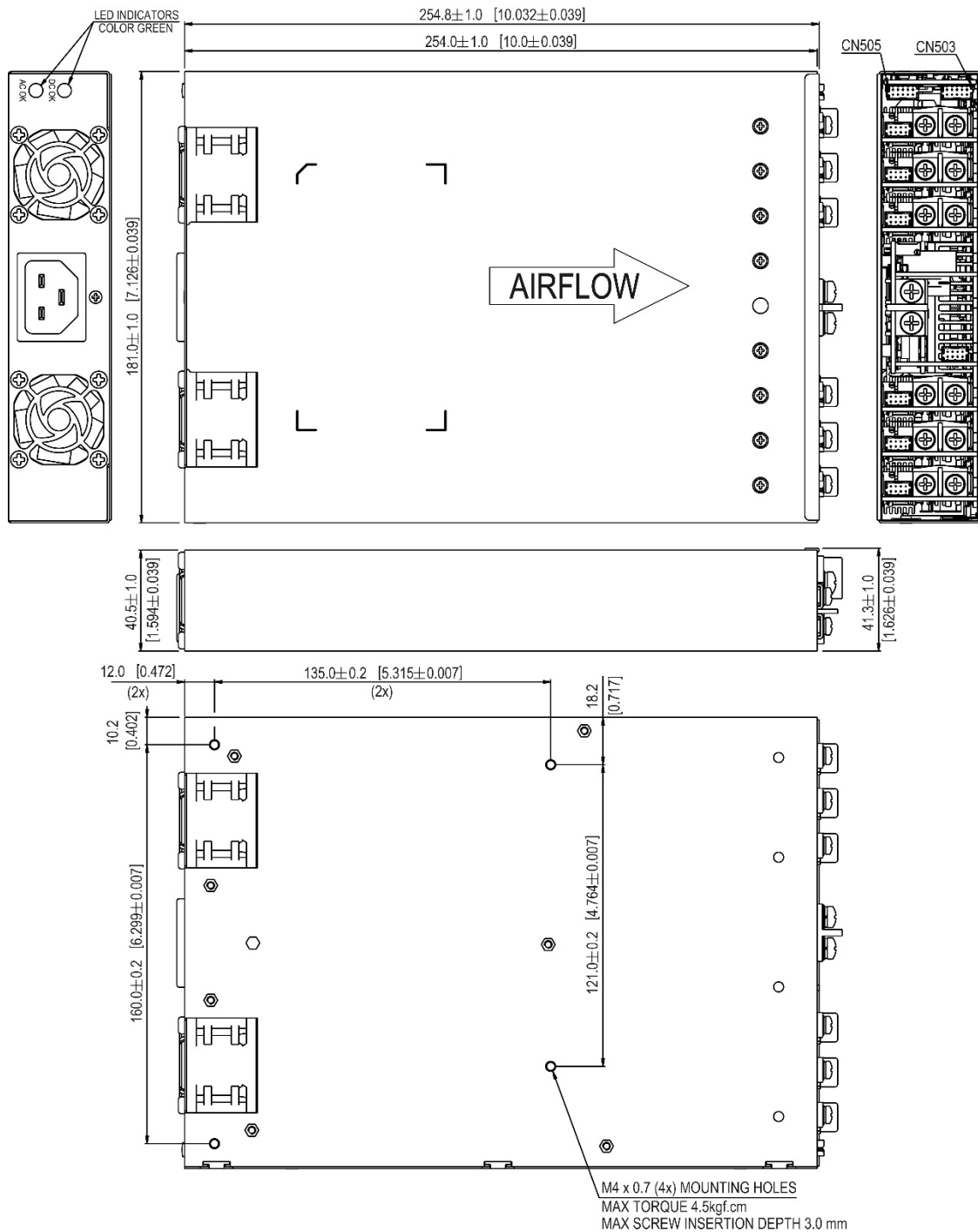


Figure 2. Dimensional drawing MEG-3K0A

Note:

1. Output Module Connectors: All single O/P modules are M4 x 8 mm screws, tighten between 7.0 to 10.0 kgf.cm (6.08 to 8.68 lbf.in); Dual O/P module is PUSH IN conductor connector; Wire Strip Length: 0.315" - 0.354" (8.0 - 9.0 mm).
2. Case Material: SGCC (conductive).
3. Customer Mounting: Screw M4-type mounting holes; Max. Penetration is 3.0 mm (0.118"); Max. Torque: 4.5 kgf.cm (3.91 lbf.in)
4. Adjustable VR clockwise is to increase the output voltage.
5. All dimensions are in millimeters and inches.

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AC Inlet Type Option

“C”

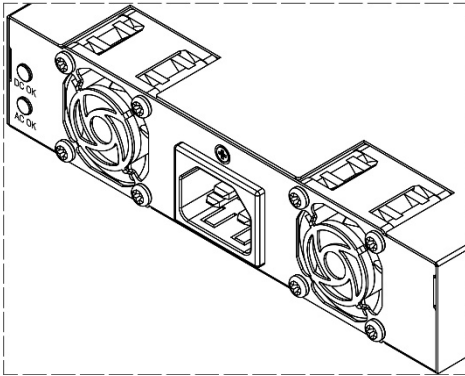


Figure 3. IEC320-C22

CONDUCTOR SIZE: 12–14 AWG

“E”

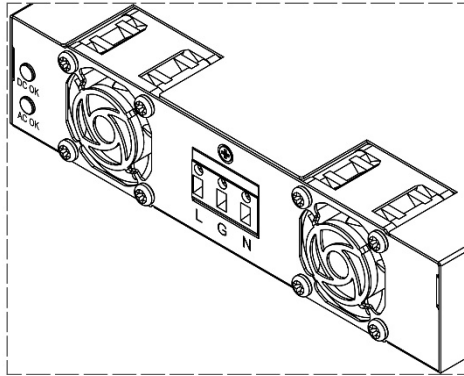


Figure 4. European Terminal Block

CONDUCTOR SIZE: 12–14 AWG
TIGHTENING TORQUE: 2.76 kgf.cm

“T”

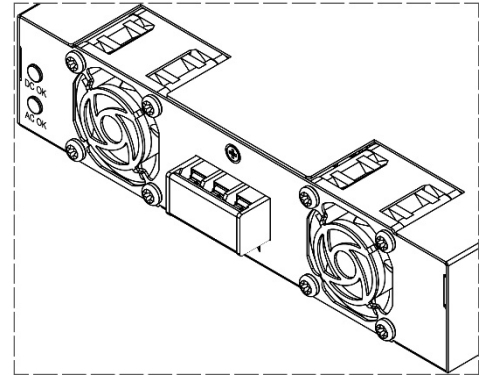


Figure 5. American Barrier Strip

CONDUCTOR SIZE: 12–14 AWG
TIGHTENING TORQUE: 8.0 kgf.cm

LED Indicator

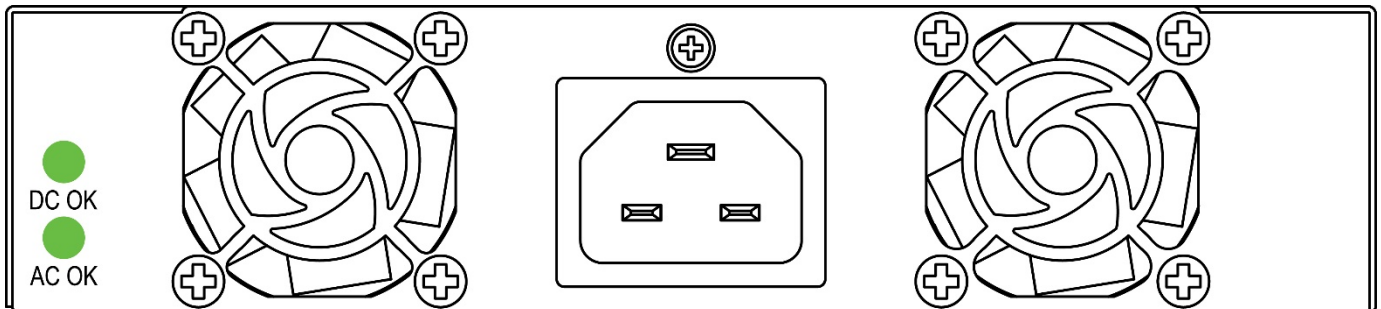


Figure 6. LED Indicator

Two (green/off) LEDs are placed on the case fan panel with status conditions below:

DC OK LED indicator

DC OK Led indicator will be on when all the modules are working normally, and will be off if one or more modules is shut down

AC OK LED indicator

AC OK Led indicator will be on when AC input is above the normal working voltage for the power supply and indicates the AC input status is ready for DC-DC modules to function. This indicator will be off if the AC input falls below normal working voltage for the power supply to maintain performance.

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Up to 3000 Watt / MEG-3K0A Series

Connector Definitions – Frame

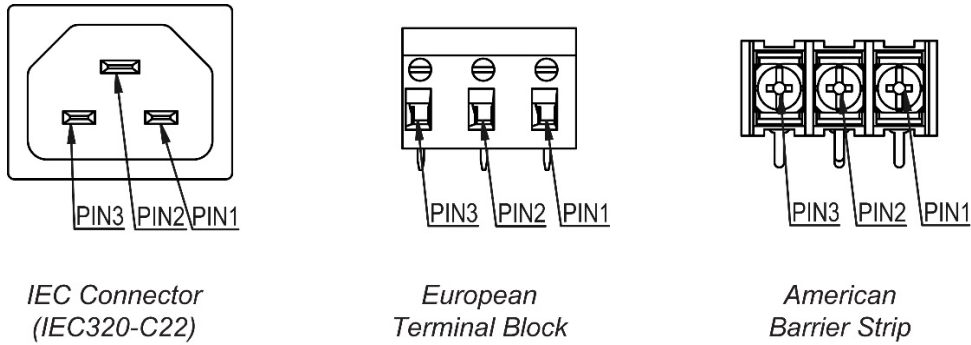


Figure 7. AC Input Connector

| Pin | Function |
|-------|-----------------------|
| PIN 1 | AC Neutral |
| PIN 2 | Chassis(Earth) Ground |
| PIN 3 | AC Line (Phase) |

Table 3. AC Input Connector - pin assignment

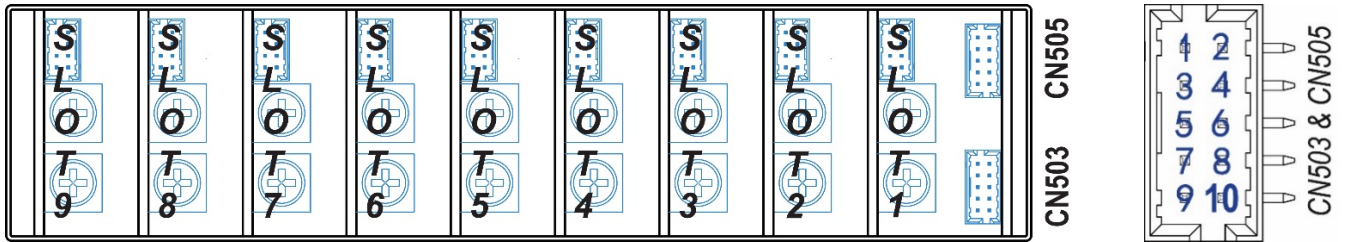


Figure 8. Global Control Signals and Communications Connector

| CN503 & CN505 (Molex: 87833-1031) | | | |
|--|--------------------------------|-----------------------------|-----------------------------|
| Mating With Molex: 51110-1051 or equivalent Terminal: 0503948052 | | | |
| Global control signals CN503 | | Communication signals CN505 | |
| Pin | Function | Pin | Function |
| 1 | AC Fail - "Collector" | 1 | SMBALERT' |
| 2 | AC Fail - "Emitter" | 2 | Address Bit 2 (A2) |
| 3 | 5V_Standby + | 3 | Address Bit 1 (A1) |
| 4 | 5V_Standby + | 4 | Address Bit 0 (A0) |
| 5 | 5V_Standby Return | 5 | Reserve/No Connection |
| 6 | 5V_Standby Return | 6 | Reserve/No Connection |
| 7 | Global Remote On_Off/Inhibit + | 7 | PMBus Clock (SCL) |
| 8 | Global Remote On_Off/Inhibit - | 8 | PMBus Data (SDA) |
| 9 | Reserve/No Connection | 9 | 5V Communication Bus Return |
| 10 | Reserve/No Connection | 10 | 5V Communication Bus + |

Table 4. Global Control Signals and Communications Connector (CN503 & CN505) – Pin

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Up to 3000 Watt / MEG-3K0A Series

Connector Definitions – Single Slot Single Output Module

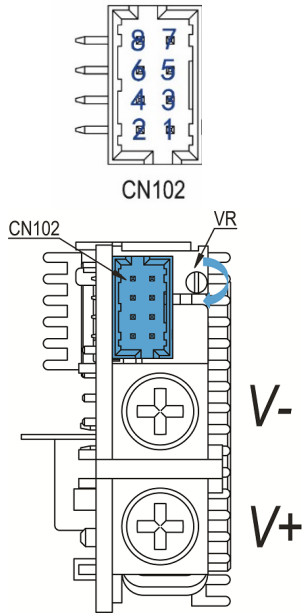


Figure 9. -x1 Module Connector

| Pin | Function |
|-----|---------------|
| V+ | Output |
| V- | Output Return |

Wire range: 8-20 AWG
Screw torque: 7.0 to 10.0 kgf.cm (6.08 to 8.68 lbf.in)
Screws are suitable for slotted and Phillips head screwdrivers.

Table 5. DC output port - pin assignment

| Control Connector CN102 (Molex: 87833-0851) Mating With Molex: 51110-0851 or equivalent , Terminal: 0503948052 | |
|---|-------------------------|
| Pin | Function |
| 1 | Remote On_Off/Inhibit + |
| 2 | Remote On_Off/Inhibit - |
| 3 | Remote Sense + |
| 4 | Remote Sense - |
| 5 | Power Good- "Collector" |
| 6 | Power Good- "Emitter" |
| 7 | Current Share |
| 8 | Reserve/No Connection |

Table 6. Control Signals Connector - pin assignment

Connector Definitions – Triple Slot Single Output Module

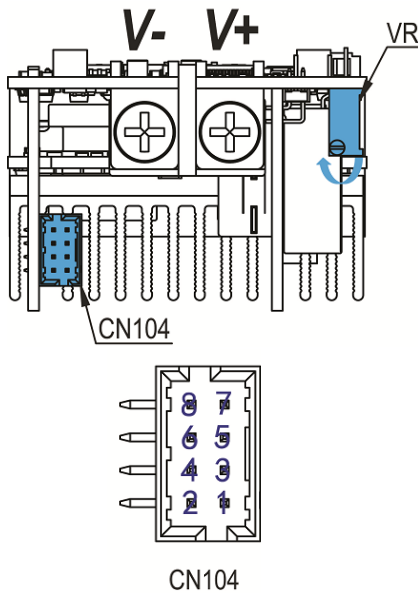


Figure 10. -x2 Module Connector

| Pin | Function |
|-----|---------------|
| V+ | Output |
| V- | Output Return |

Wire range: 2-16 AWG
Screw torque: 15.0 to 20.0 kgf.cm (13.02 to 17.36 lbf.in)
Screws are suitable for slotted and Phillips head screwdrivers.

Table 7. DC output port - pin assignment

| Control Connector CN104 (Molex: 87833-0851) Mating With Molex: 51110-0851 or equivalent Terminal: 0503948052 | |
|---|-------------------------|
| Pin | Function |
| 1 | Remote On_Off/Inhibit + |
| 2 | Remote On_Off/Inhibit - |
| 3 | Remote Sense + |
| 4 | Remote Sense - |
| 5 | Power Good- "Collector" |
| 6 | Power Good- "Emitter" |
| 7 | Current Share |
| 8 | Reserve/No Connection |

Table 8. Control Signals Connector - pin assignment

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Up to 3000 Watt / MEG-3K0A Series

Connector Definitions – Single Slot Dual Output Module

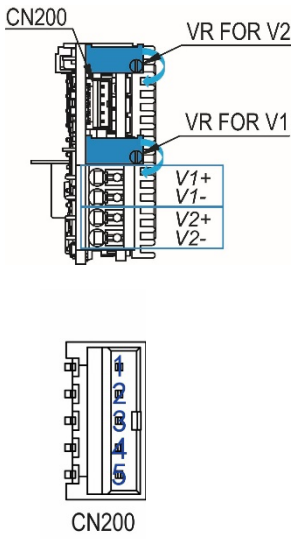


Figure 11. -x3 Module Connector

| Pin | Function |
|-----------------------|------------------|
| V1+ | V1 Output |
| V1- | V1 Output Return |
| V2+ | V2 Output |
| V2- | V2 Output Return |
| Wire range: 28-16 AWG | |

Table 9. DC output port - pin assignment

| Control Connector CN200 (Molex: 87438-0563) Mating With Molex: 87439-0500 Terminal: 874210102 | |
|--|--------------------|
| Pin | Function |
| 1 | Remote Inhibit 2 + |
| 2 | Remote Inhibit 2 - |
| 3 | NC |
| 4 | Remote Inhibit 1 + |
| 5 | Remote Inhibit 1 - |

Table 10. Control Signals Connector - pin assignment

Functions

Start-up Time

The time required for the output voltage to reach 90% of its final steady state value, after the input voltage is applied.

Rise Time

The time required for the output voltage to change from 10% to 90% of its final steady state value.

Hold-up Time

Time between the collapse of the AC input voltage, and the output falling to 90% of its steady state value.

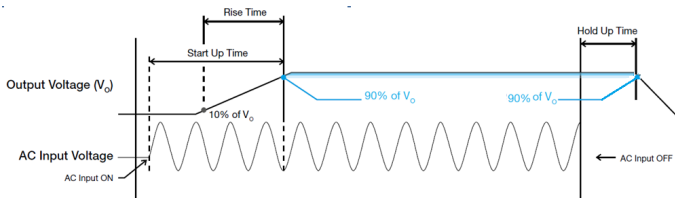


Figure 12. Time Sequence

Dynamic Response

The power supply output voltage will remain within $\pm 5\%$ of its steady state value, when subjected to a dynamic load 50 to 100% of its rated current.

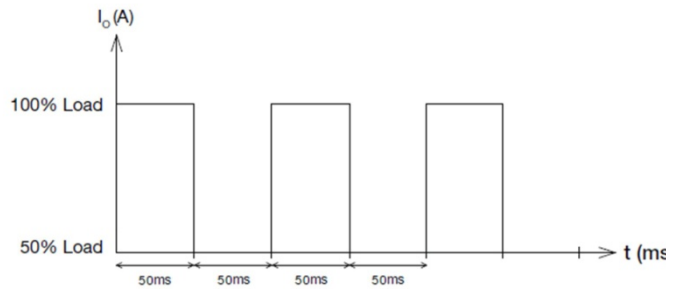


Figure 13. Dynamic from 50% load to 100% Load

Medical/Industrial AC-DC Configurable Power Supply

Up to 3000 Watt / MEG-3K0A Series

Inrush Current

Inrush current is the input current that occurs when the input voltage is first applied. For AC input voltages, the maximum peak value of inrush current will occur during the first half cycle of the applied AC voltage. This peak value decreases exponentially during subsequent cycles of AC voltage.

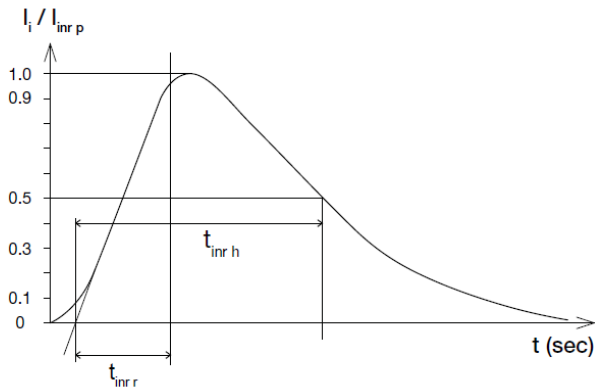


Figure 14. Inrush Current

Overvoltage Protection

The power supply's overvoltage circuit will be activated when its internal feedback circuit fails. The output voltage shall not exceed its specifications defined on Page 7 under "Protections". Power supply will latch off, and require removal/re-application of input AC voltage in order to restart.

Overload & Overcurrent Protections

Each output will enter auto-recovery mode when the output current reaches over current protection set point. The set point is default 120% of rated output current. The power supply will recover once the fault condition causing the OLP and OCP is removed and I_o is back within the specified limit. The time interval between each auto re-start during protection is 4 s typical.

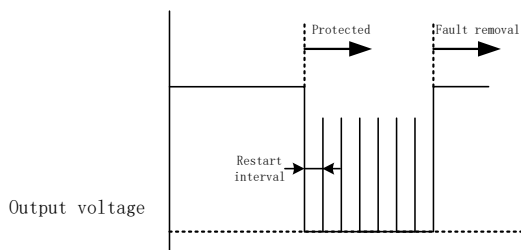


Figure 15. Auto-Recovery

Short Circuit Protection

The power supply's output OLP/OCP function also provides protection against short circuits. When a short circuit is applied, the output current will operate in "Hiccup mode", as shown in the illustration in the OLP/OCP section on this page. The power supply will return to normal operation after the short circuit is removed.

Over Temperature Protection

Each output module and PFC module sense each module operation temperature. Any output module temperature is higher than the over temperature protection set point, all the modules will be shut down latched.

An AC recycle is required to reset the power supply to normal operation.

Remote Sense

Remote sense feature can be used to compensate for the extra voltage drop on output wires that are connected from the main output terminals, to the load. With wires connected from the remote sense pins, at the same locations as the wires from the main output, the remote sense function can compensate up to 500mV voltage drop. If the remote sense pins are shorted, or if a reverse/inverted polarity connection is made, the output module will be turned off.

Remote On_Off/Inhibit

The remote control signal can be used to enable or disable only the main output. When the main output is disabled, the +5 V Standby output will continue to operate. Every module has its own remote on/off control signal pin, and can work independently from each other. Below is a suggested connection, system can use a switch to conduct through this diode (suggested pull up resistor to 5 V standby with 1 Kohm resistor) to disable the main out. The signal can be floated (no connection to the signal), in order to enable the main output.

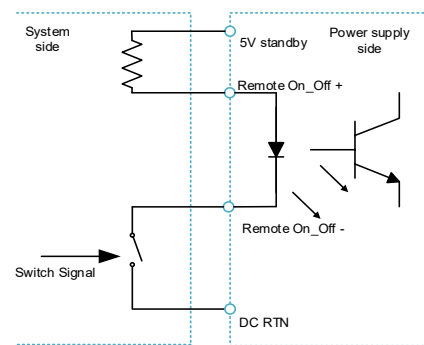


Figure 16. Remote On_Off connection

Medical/Industrial AC-DC Configurable Power Supply

Up to 3000 Watt / MEG-3K0A Series

Global Remote On_Off/Inhibit

The global inhibit function will turn on/off all the output modules. The control logic is selectable on demand. In normal logic, the module is default on with the control logic described in Figure 17. The module outputs will be turned off if the diode is conducted and modules will be on if diode is left floated of open.

Power Good Signal

Power Good+/- pin on every module's control connector is an isolated open collector transistor (80 V/50 mA rating). A resistor (suggested value 10 Kohm, 1/8 W) can be added between Power Good- pin and DC RTN, Power Good+ pin can be connected to 5 V standby (or, other available pull-up voltage that is no greater than the transistor rating). Value of resistor may have to be adjusted, depending on voltage used, and other end-use conditions of the Power Good+ pin connection to the product. When DC output is presented, Power Good Signal (Shown in below figure) generated will be high. When DC output is off, Power Good Signal generated will be low. There will be a minimum of 5 milliseconds between the time the Power Good Signal goes to low level, and the time when the output reaches 90% of its rated value.

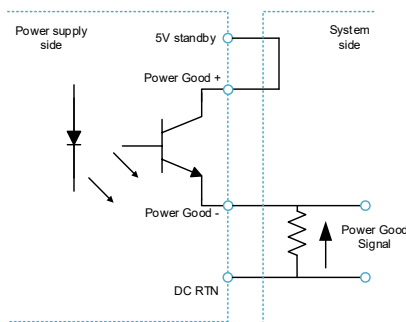


Figure 17. Power good signal connection

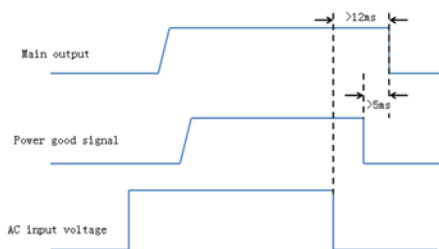


Figure 18. Power good signal sequence

AC Fail

AC fail indicate the AC input information. AC Failed pin is an open collector type output (80 V/50 mA rating). AC fail signal connection can refer to power good signal. When AC input is on, AC Fail pin will be high. When AC input is removed, AC Fail pin will be pulled low.

Global Communication

The power supply can be fully monitored and controlled through PMBus protocol, or any other protocol supported by adapter board, such as RS485 or RS232 Bus. Once an output module is installed in the power supply, the module and slot location will be recognized automatically. The power supply address can be assigned externally, up to 8 power supplies can be configured to the same bus. Use the command defined in "Delta PMBus Communication" document to monitor and control the power supply. Communication adapters available as below part number:

| Communication Adapter | |
|-----------------------|---------------------------|
| MEP-PMBUSB | I ² C to USB |
| MEP-PMB485 | I ² C to RS485 |
| MEP-PMB232 | I ² C to RS232 |

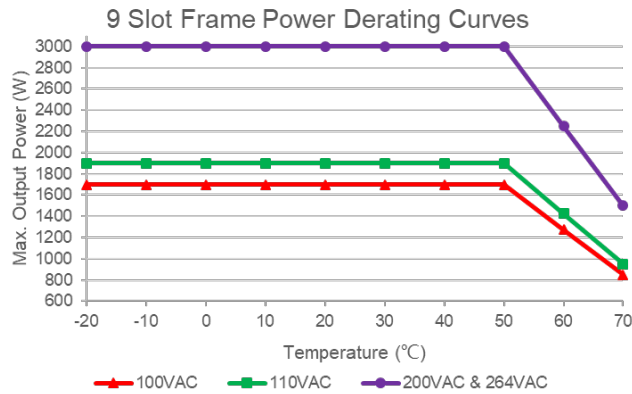
PC GUI

A PC GUI is provided to help the user to easily monitor and control the power supply. Use provided cable to connect the power supply to PC serial port or USB port with Delta PMBus to USB adapter and run GUI in PC. Refer to PC GUI user manual for detailed operation instruction.

Medical/Industrial AC-DC Configurable Power Supply

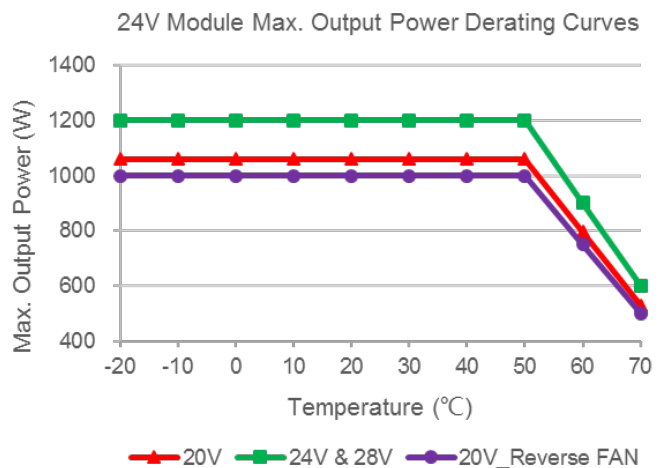
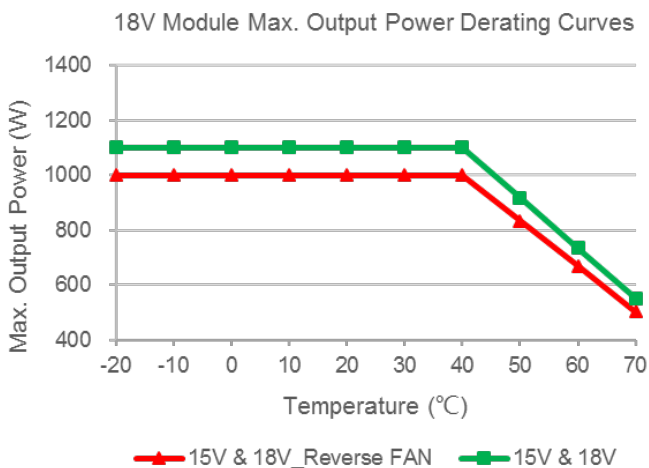
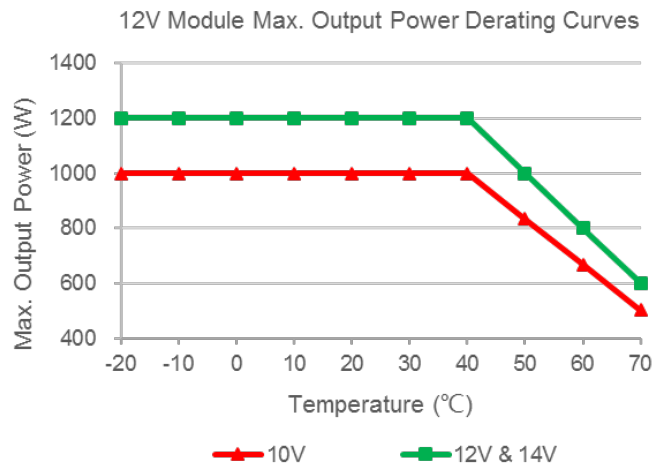
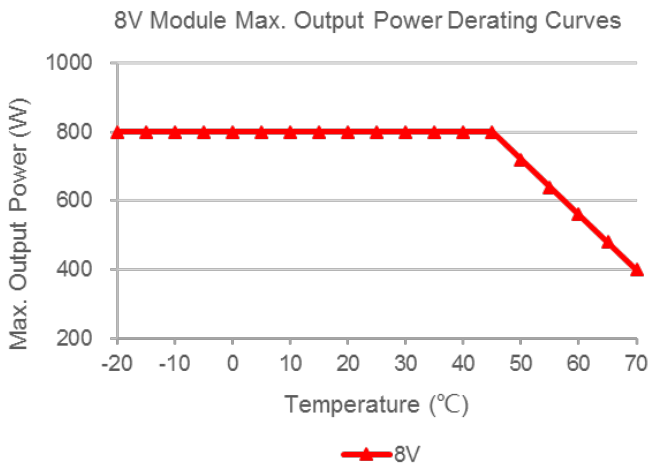
Up to 3000 Watt / MEG-3K0A Series

Power Derating – MEG-3K0A Series



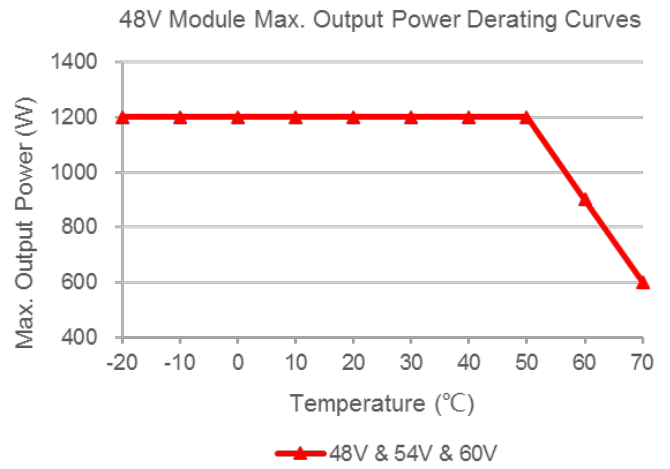
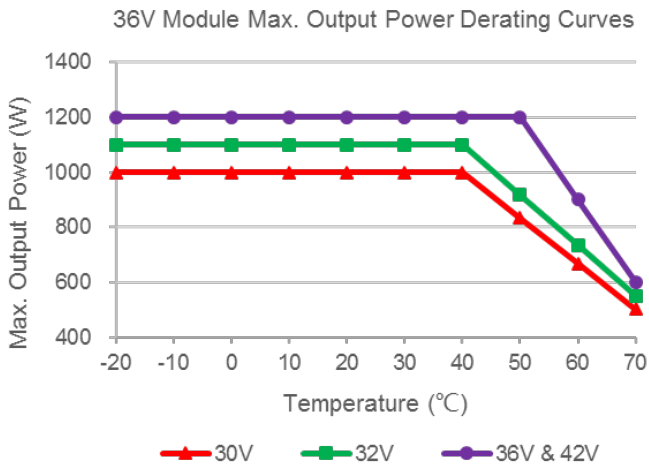
Power Derating – Triple Slot Modules

No air flow direction power derating unless specifically identified.

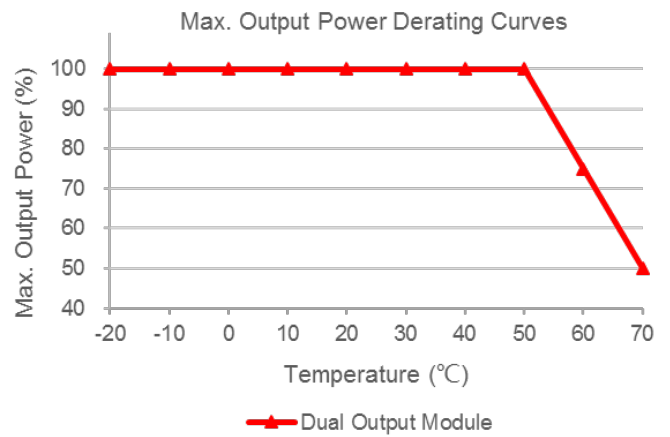
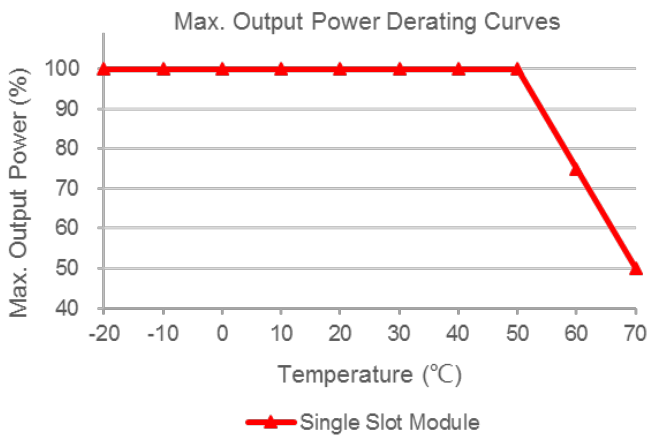


Medical/Industrial AC-DC Configurable Power Supply

Up to 3000 Watt / MEG-3K0A Series



Power Derating – Single Slot Modules & Dual Output Modules



Medical/Industrial AC-DC Configurable Power Supply

Up to 3000 Watt / MEG-3K0A Series

Certificate



Delta has been certified as meeting the requirement of ISO 13485: 2003 and EN ISO 13485:2012 for the design and manufacture of switching power supply and adaptor for medical device.



In addition to a UL Total Certification Program (TCP) approved client laboratory for IEC 60950 and IEC 60065. Delta also has participated UL Client Test Data Program (CDTP) for IEC 60601

Attention

Delta provides all information in the datasheets on an "AS IS" basis and does not offer any kind of warranty through the information for using the product. In the event of any discrepancy between the information in the catalog and datasheets, the datasheets shall prevail (please refer to www.DeltaPSU.com for the latest datasheets information). Delta shall have no liability of indemnification for any claim or action arising from any error for the provided information in the datasheets. Customer shall take its responsibility for evaluation of using the product before placing an order with Delta.

Delta reserves the right to make changes to the information described in the datasheets without notice.

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