

Application Notes

1 Scope

These application notes are a guide to applying the G128-808A Power Supply. They tell you how to install and connect the G128-808A.

2 Description

The G128-808A provides a compact, efficient and reliable power supply where a regulated fixed 24VDC output is required for other DIN modules. A wide range of commonly encountered input supplies can be used. The DC output is isolated from the input supply. The DC output has good regulation and low noise, with a minimum 1.3A continuous capacity.

The G128-808A is idle and short circuit protected. Multiple G128-808A's can be connected to provide redundant operation.

The G128-808A differs from the original G128-808 in that output current capacity has been increased and terminal 16 is now a "supply OK" output instead of previously being a +24V output.

For a more detailed description see data sheet G128-808A.

3 Installation

3.1 Placement

A horizontal DIN rail, mounted on the vertical rear surface of an industrial steel enclosure, is the intended method of mounting. The rail release clip of the G128-808A should face down, so the front panel and terminal identifications are readable and so the internal electronics receive a cooling airflow. An important consideration for the placement of the module is electro magnetic interference (EMI) from other equipment in the enclosure. For instance, VF and AC servo drives can produce high levels of EMI. Always check the EMC compliance of other equipment before placing the G128-808A close by.

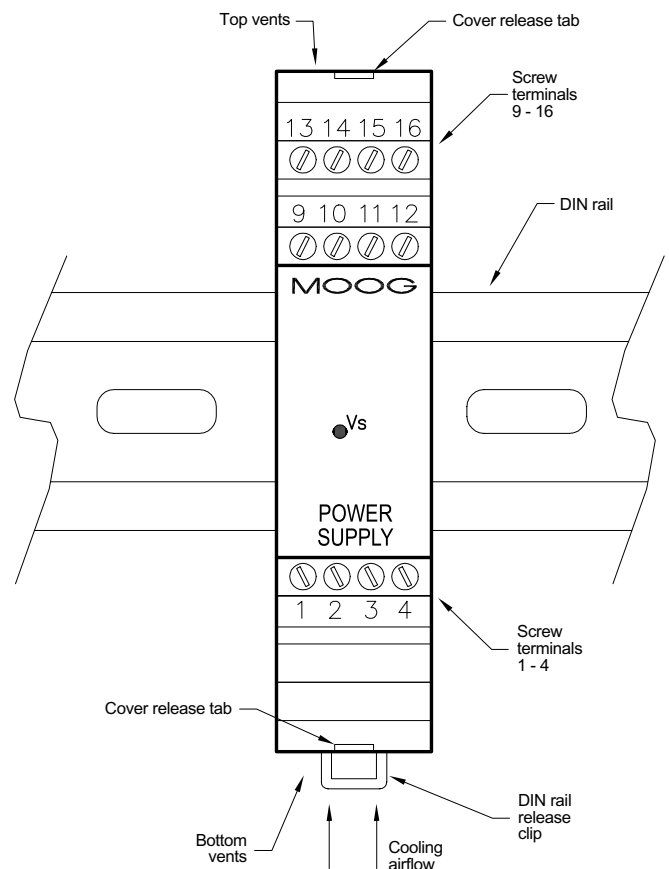
3.2 Cooling

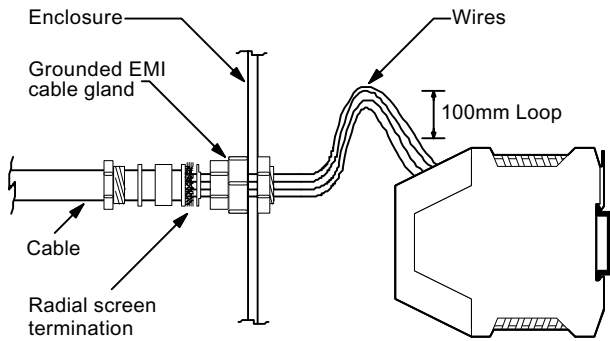
Vents in the top and bottom sides of the G128-808A case provide cooling for the electronics inside. These vents must be left clear. A spacing distance of a minimum of 100mm should be allowed above and below the cooling vents for placement of other modules. It is important to ensure that equipment below does not produce hot exhaust air that heats up the G128-808A.

3.3 Wiring

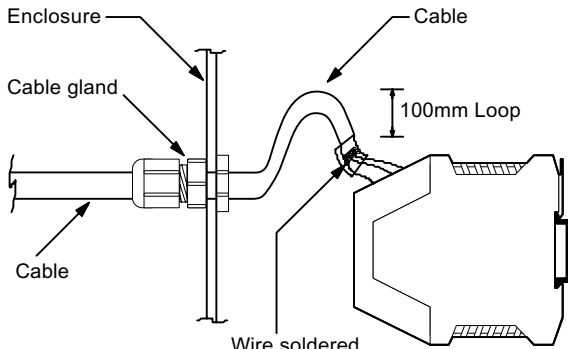
The use of crimp "boot lace ferrules" is recommended for the screw terminals. The input supply cable should be rated for the supply voltage used at an operating temperature of 75°C.

Do not work on the module while connected to the input supply. There are no internal adjustments in the G128-808A.





Preferred Wiring



Wire soldered to screen or Drain wire. (Heat shrink to cover the screen)

Alternative Wiring

3.4 EMC

The G128-808A emits radiation below the level called for in its CE mark test.

Immunity from external interfering radiation is dependent on careful wiring techniques. The accepted method is to use screened cables for all connections and to radially terminate the cable screens, in an appropriate grounded cable gland, at the point of entry into the industrial steel enclosure. Exposed wires should be kept to a minimum length. Connect the screens at both ends of the cable to chassis ground.

3.5 Power supply

The G128-808A can use either an AC or DC input supply. It must be possible to switch off the supply to the G128-808A using a suitable switch or disconnecting device. A suitable fuse must be fitted where DC supply is used.

- The AC supply can be in the range 85 to 264VAC, 45 to 65Hz.
- The DC supply can be in the range 90 to 350VDC.

4 Set-up



Caution: Never carry out any work on the G128-808A when power is present. Danger to life.

4.1 Input

The AC or DC supply connection is made using the screw terminals shown in the block wiring diagram. Wiring must be carried out properly to ensure protection against electric shocks.

4.2 Output

The +24V and 0V output is available on a number of parallel connected screw terminals. Refer to block diagram.

The maximum output current at $T_{amb} < 40^{\circ}\text{C}$ is 1.3A for all input supply voltages.

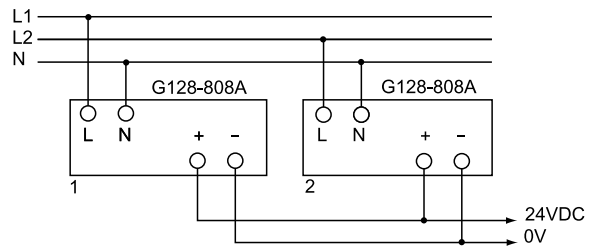
The maximum output current at $T_{amb} < 60^{\circ}\text{C}$ is 1.0A for all input supply voltages.

4.3 Short Circuit/Overload

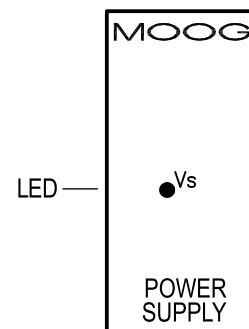
The G128-808A is short circuit protected and idle proof. In the event of an error the DC output is limited to 33V +/- 5%.

4.4 Redundant Operation

Multiple G128-808A's can be connected together to form a redundant power supply.



5 Front panel



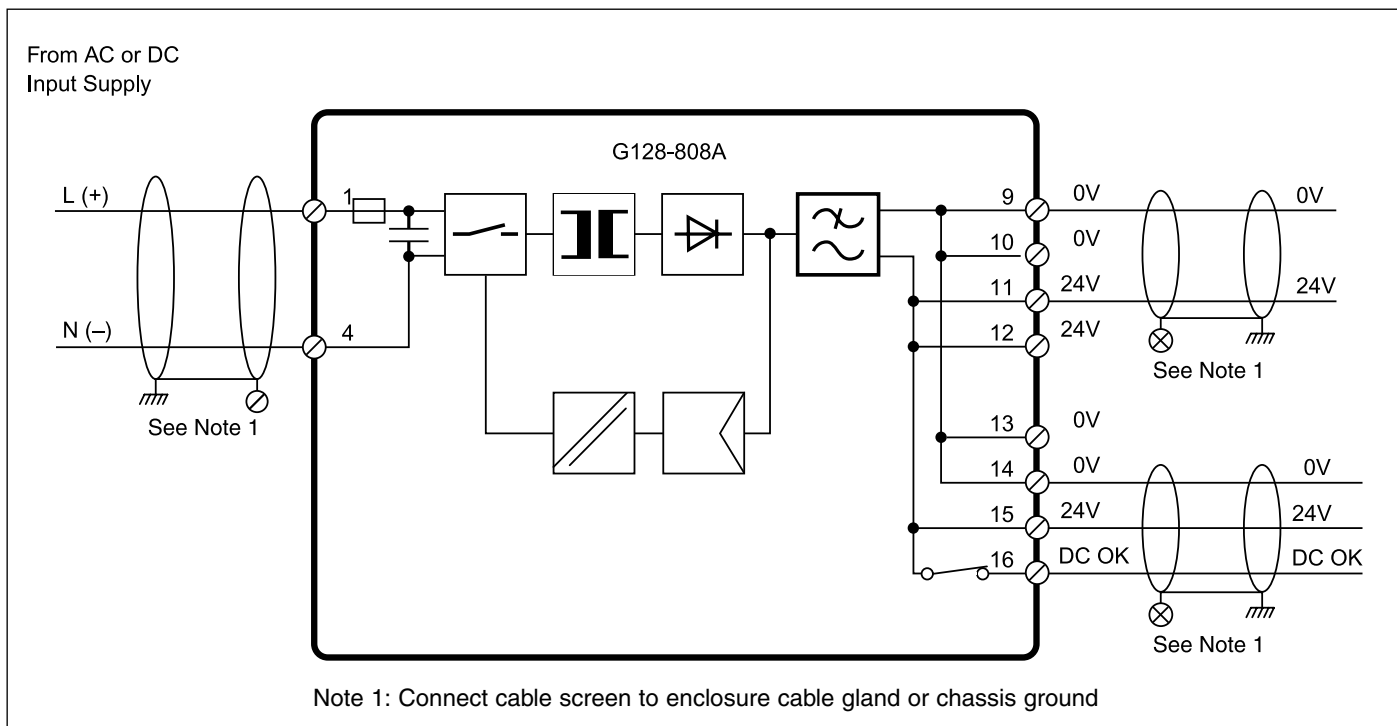
6 Withdrawing the circuit card from its case



Caution: When the device is opened, a dangerous voltage may remain in the electrolytic capacitors for up to two minutes after shutdown.

There are no internal user adjustments in the G128-808A. If access to the circuit is required, the circuit card needs to be withdrawn from its case. To do this, push one tab in with a pen or screwdriver while gently pulling on the top cover on that side. The cover will release approximately one mm. Repeat on the other side and withdraw the cover and circuit card.

7 Block Wiring Diagram



8 Specifications

Supply: 85 to 264VAC, 45 to 65Hz.

90 to 350VDC.

Inrush current: typ. 15A for 3ms @ 25°C.

Power factor: > 0.5.

Isolation: 3kVAC.

Mains buffering: > 20ms @ 120VAC,
> 110ms @ 230VAC.

Internal mains fuse: T1.25A 250V.

Output – voltage: 24VDC fixed –0%/+3%.

– current: 1.3A max. @

$T_{amb} \leq 40^{\circ}\text{C}$.

1.0A max. @

$T_{amb} \leq 60^{\circ}\text{C}$.

DC OK: V out > 21.5V = high.

V out < 21.5V = low.

20mA output max when high.

Startup delay: < 200ms.

Ripple: < 100mVpp at nominal load.

Line regulation: < 0.1% for 10% input change.

Load regulation: < 1% static for 10% to 90% load change.

< 3% dynamic for 10% to 90% load change.

Maximum power loss: 4.5W at nominal load.

Front Panel Indicator: Vs: Green power LED.

Mounting: DIN rail.

Protection type: IP 20.

Temperature: 0 to +40°C.

Dimensions: 100W x 108H x 22.5D.

Weight: 190g.

Approvals: CE mark: EN50081.2 emission.
EN61000-6-2 immunity.

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Internet Data

For a detailed Data Sheet and the latest version of this Application Note please refer to the Moog website www.moog.com/dinmodules

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