



Model N2412-40 (Vin: 22-32 Vdc)

Model A4812-40 (Vin: 30-56 Vdc)



# Product Data Sheet

## DC-DC Converter Series

### Non-Isolated

### 22-56 Vin Wide Range

### 13.8 Vout @ 40 Amps Peak

#### Key Features

- **Input voltage ranges:** Model N2412-40 (Vin: 22-32 Vdc); Model A4812-40 (Vin: 30-56 Vdc)
- **Built-in Protections:** Over-voltage, Over-current, Over-temperature and short-circuit protections with crowbar.
- **LED visual indicator features:** Standby, Hiccup, CV Mode, CC Mode, Fault, and Fault-Locked.
- **Remote 'ON/OFF'** connection terminal for independent control with an external ignition switch.
- **High quality heavy duty industrial** metal construction with easy access Terminal Block screw connections
- **RoHS (lead free) compliant**

#### Applications

##### Critical Peak Power Solution for 13.8Vdc Mobile Equipment

These wide range DC-DC Converter power supplies are 'Non-Isolated' and ideally suited for use with mobile 12/13.8 VDC equipment. The design technology emphasizes high efficiency (92% min), tight regulation and low ripple/noise. The ICS Peak output current is rated at 25% above maximum continuous operation for 5 minutes max with a 50% duty Cycle.

##### Protection Features

All models have built-in protection features including output current limiting, overvoltage protection, internal fuse protection, and over temperature shutdown. Convection Air cooling (a fan is not required).

##### LED Indicator Features

The LED indicates the status of the DC-DC converter: *Standby* (Flashing Green), *Hiccup* (Flashing Amber), *CV Mode* (Green), *CC Mode* (Amber), *Fault* (Flashing Red), and *Fault-Locked* (Red)

##### Easy installation, safety and reliability

These units integrate seamlessly with standard 12/13.8 VDC equipment. Secure screw-type terminal connections are used which are easily accessible and ensure a safe and reliable installation. The chassis is *FLOATING* which allows the Battery negative voltage input to be connected to either the "chassis ground" or directly to the Battery negative terminal.

#### Electrical Specifications (Non-Isolated Models)

Model	Input Voltage	Output Voltage	ICS Output, (Cont./Peak)	Size (H x W x D)	Temperature	Weight Lbs (kg)
N2412-40	22 to 32 Vdc	13.8 ± 0.2 Vdc	32 A / 40 A	1.8 x 6.2 x 8.1	Operating -25 to +55°C Storage: -40 to +85°C	2.2 (1.0)
A4812-40	30 to 56 Vdc	13.8 ± 0.2 Vdc	32 A / 40 A			

ICS Output Derating N2412-40 / A4812-40	N2412: 25A @Vin=18Vdc, linear. A4812: No derating
Output Ripple / Noise	≤ 100mVp-p / ≤ 200mVp-p
Line / Load Regulation	≤ 100mV
Minimum Efficiency at Full Load	≥ 92%
Over voltage Protection Limit	15.0 Volts max
Over current Protection Limit	42.5 Amps max
Over temperature Protection Limit	70°C max shutdown

#### Mechanical

##### LED Indicator



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##### ON/OFF Connection

The DC/DC Converter may be turned on and off via an external ignition switch.

Remove the metal jumper between **ON/OFF** and **VIN "+"** and then connect a wire from the **ON/OFF** terminal to the external ignition switch.

##### TERMINAL Connections

VO+	Vout "+"
VO-	Vout "-"
VIN-	(*) Battery Input "-"
ON/OFF	Ignition Switch Control
VIN+	Battery Input "+"

(\*) The **VIN** "-" terminal **MUST BE CONNECTED** to either "**chassis ground**" or directly to the Battery's "-" negative terminal. Connect **VIN** "-" to "**chassis ground**" if the Battery's "-" is connected to chassis, otherwise connect **VIN** "-" directly to the Battery's "-" terminal.

