



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.

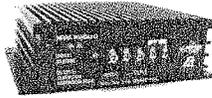
Remove the metal jumper between **ON/OFF** and **VIN "+"** and then connect a wire from the **ON/OFF** terminal to the external ignition switch.

TERMINAL Connections

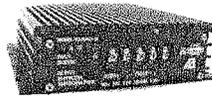
VO+	Vout "+"
VO-	Vout "-"
VIN-	(*) Battery Input "-"
ON/OFF	Ignition Switch Control
VIN+	Battery Input "+"

(*) 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.





Model N2412-12



Model N2412-24



Product Data Sheet

DC-DC Converter Series

Power Supplies

Isolated and Non-Isolated

13.8 VDC @ 12 / 24 Amps

Key Features

- Input voltage range: 22 to 72Vdc, depending upon model
- Handles up to an extra 25% peak current during peak power events
- Built-in protections: Overvoltage, overcurrent and short-circuit protections with crowbar on Non-Isolated models
- Up to 94% efficiency
- 48V Isolated models meet SAE-J1113-11 specification for Immunity to Transients (Surges)
- LED visual indicators: DC-OK (Green) and Fault (Red)
- Includes a separate Remote ON/OFF connection terminal for use with an ignition switch
- High quality heavy duty industrial metal construction with easy access Terminal Block screw connections
- RoHS (lead free) compliant

Applications

Critical Power Solution for 13.8Vdc Mobile Equipment

These DC-DC Converter power supplies are ideally suited for use with mobile 12/13.8 VDC equipment. Both Isolated and Non-Isolated models are available. The design technology emphasizes high efficiency, tight regulation and low ripple/noise. To meet individual peak power requirements, models support peak currents up to 25% above nominal.

Protection Features

All models have built-in protection features including output current limiting, overvoltage protection, internal fuse protection, and over temperature shutdown. Isolated models include a crowbar on the output to prevent damage.

Easy installation, safety and reliability

These units integrate seamlessly with standard 12/13.8 VDC equipment. Screw-type terminal connections are used which are easily accessible and ensure a safe and reliable installation.

Electrical Specifications

OUTPUT VOLTAGE	13.8 VDC
MINIMUM EFFICIENCY (at Full Load)	92% min Non-Isolated models; 90% min Isolated models
TEMPERATURE	Operating: -25 to +55°C, Storage: -40 to +85°C Overtemperature setting at 70°C max

Non-Isolated Models

Model	Input Voltage	Continuous Output	Peak Current ICS (*)	Size (H x W x D)	Wt lbs (kg)
A4812-12	30 to 56 Vdc	9 A	12 A max	1.8 x 6.2 x 5.8	1.8 (0.8)
A4812-24	30 to 56 Vdc	18 A	24 A max	1.8 x 6.2 x 6.8	2.0 (0.9)
N2412-12	22 to 32 Vdc	10 A	12 A max	1.8 x 6.2 x 5.8	1.8 (0.8)
N2412-24	22 to 32 Vdc	20 A	24 A max	1.8 x 6.2 x 6.8	2.0 (0.9)

Isolated Models

Model	Input Voltage	Continuous Output	Peak Current ICS (*)	Size (H x W x D)	Wt lbs (kg)
ISO4812-12	36 to 72 Vdc	10 A	12 A max	1.8 x 6.2 x 6.8	2.0 (0.9)
ISO4812-24	36 to 72 Vdc	20 A	24 A max	1.8 x 6.2 x 7.3	2.1 (1.0)
ISO2412-12	22 to 32 Vdc	10 A	12 A max	1.8 x 6.2 x 6.8	2.0 (0.9)
ISO2412-24	22 to 32 Vdc	20 A	24 A max	1.8 x 6.2 x 7.3	2.1 (1.0)

(*) Intermittent Communication Service. Peak current limited to 50% max Duty Cycle, 5 minutes max ON time.

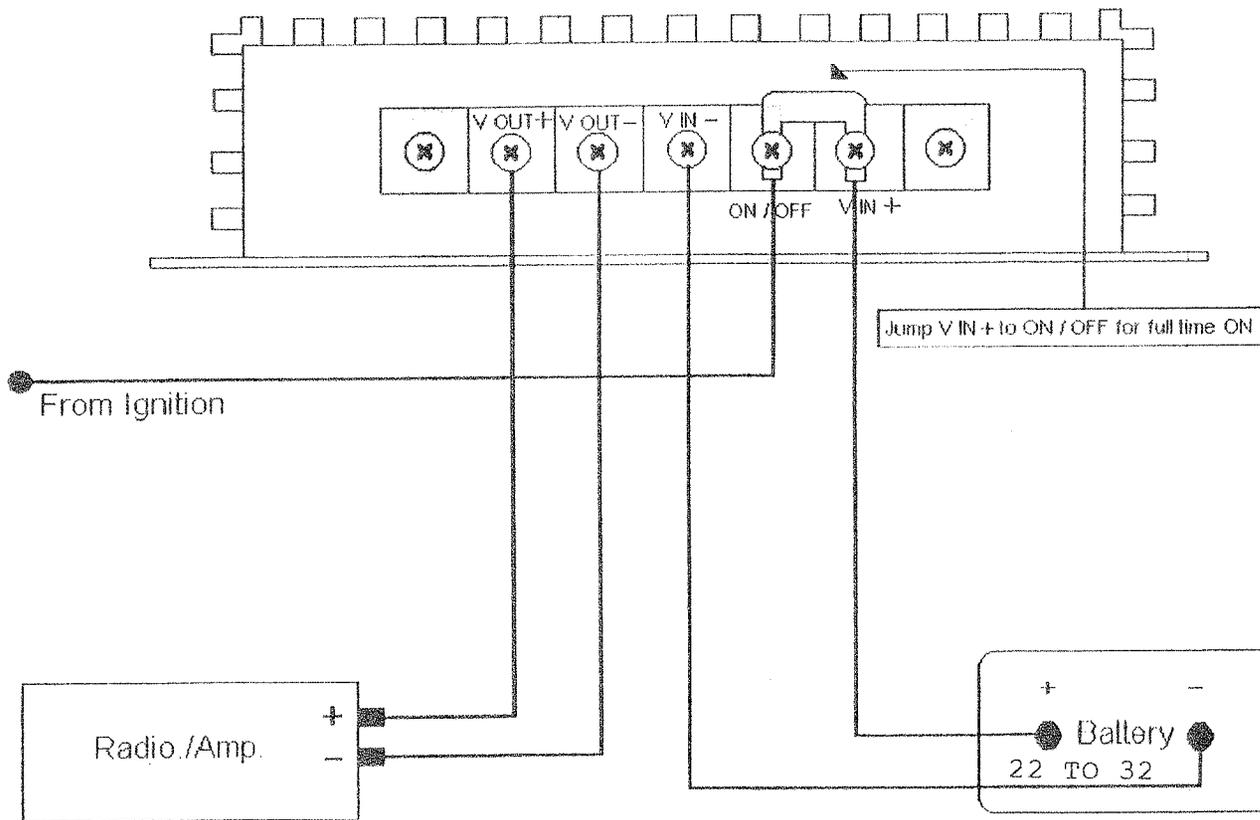


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ISO2412-12 ISO2412-24



MODEL: ISO2412-12/ISO2412-24 ISOLATED CONVERTER

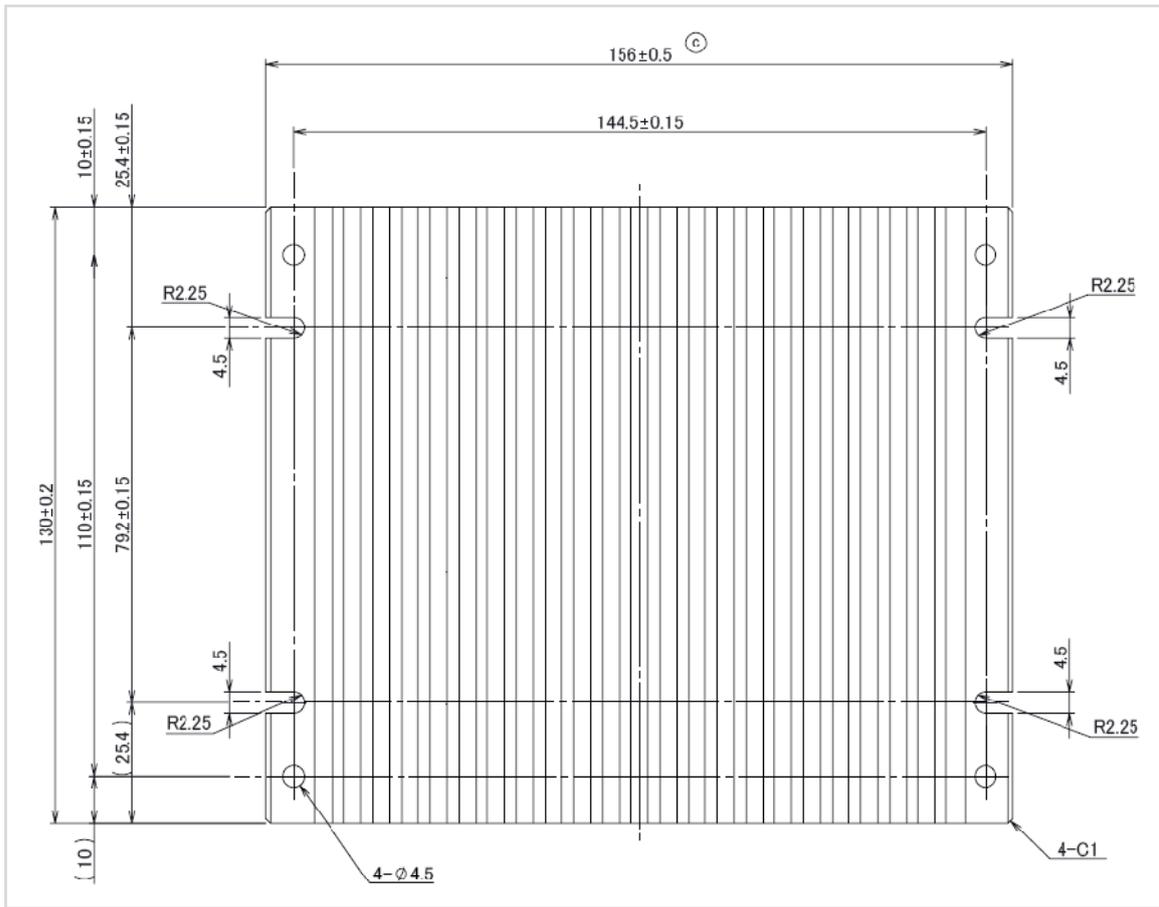
PROTECTION: SHORT CIRCUIT, CURRENT LIMIT, OVER VOLTAGE PROTECTION

IN PUT: 22 TO 32 VDC , NEGATIVE GROUND ONLY

OUT PUT: 13.8 VDC; CONVERTER'S CHASSI IS NOT GROUNDED

GROUND: IN PUT AND OUT PUT ISOLATED.

1. N2412-12, A4812-12



2. N2412-24, ISO2412-12, ISO4812-12

