Infinity NE DC/DC Converter NE070DC58A

±58V_{DC}, 70A_{DC} Output, 54.5V_{DC} Input

Packing More Power and Efficiency into Small Spaces

The OmniOn Power™ INFINITY NE DC/DC converter NE070DC58A integrates the latest Switch mode technology with superior power density, protection and control features in a compact, cost efficient power conversion system. Designed as a key element in the revolutionary INFINITY NE Universal Power Plant, the NE070DC58A converter converts 54.5V_{DC} input power into the 58 V_{DC} voltage level required to power end user equipment. Operation over a wide temperature range (-40°C to +75°C) makes the NE070DC58A suitable for controlled and uncontrolled environments.

Applications

- Wireless Cell Site Power Systems
- Dual Voltage Power Plants
- MTSO and Central Office Power Plants
- Base Station Power Plants

Key Features

- Universal Power shelf compatible
- Microprocessor controlled
- 2 – wire digital interface
- Hot pluggable
- Digital load sharing
- Field replaceable fans
- Optional Fan filter
- UL recognized
- CE marked

Benefits

- Compact - 1RU form factor providing high power density (34 W/in^3).
- Dual Voltage compatibility – the unique connector pin designation allows the converter to be used in a “universal” power shelf, alongside converters or DC/DC converters with different output voltages.
- Plug and Play – installation of the converter in a shelf connected to a compatible system controller initializes all set up parameters automatically. No adjustments are needed.
- Extended service life – parallel operation with automatic load sharing ensures that parallel units are not unduly stressed even when a unit fails or is removed.
- Monitoring / control – the built in microprocessor controls and monitors all critical converter functions and communicates with the system controller using the built in Galaxy Protocol serial interface.
- Fail safe performance – hot insertion capabilities allow for converter replacement without system shutdown; soft start and inrush current protection are also incorporated.

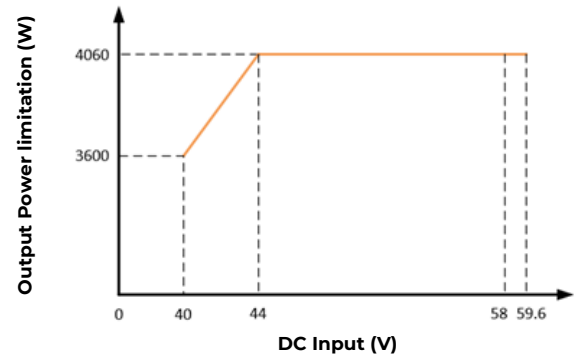
Electrical Specifications

INPUT	
Nominal Operating Voltage	40-58V_{DC}
Absolute Voltage Limits	80V_{DC}
Nominal DC Input current	70A at 54.5V_{DC} input
Max DC input current	100A (at V_{IN} Minimum, I_{OUT} Maximum)

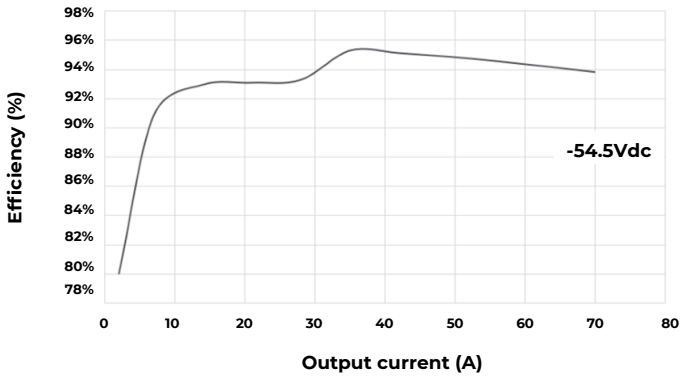
OUTPUT	
Voltage range	54/58V_{DC} (the output max can be set to 59.6V by Vcmd)*
Output Current	70 A at 58 V_{DC}
Regulation (with controller)	±0.5%
Ripple	100 mV_{RMS}
Efficiency	95% (at normal input and 50% load)
Temperature Derating	Derate 2%/DegC from 55°C up to 75°C
Input Voltage Derating	Linear derate on V_{IN} from 44V (4060W) to 40V (3600W) at nominal ambient temperature
OVP	61.5V_{min}, 63$V_{typical}$, 64.5V_{max}

Characteristics Curves

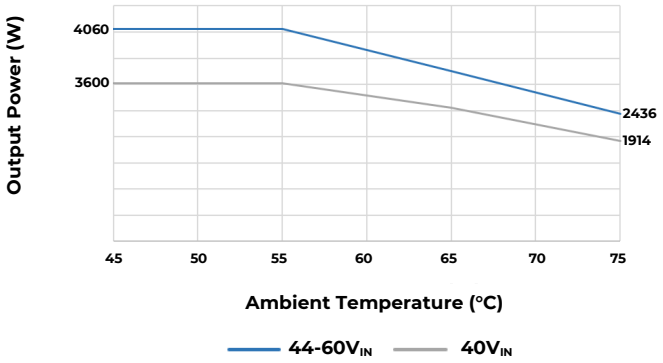
NE070DC58 Power Derating on V_{IN}



NE070DC58 Efficiency

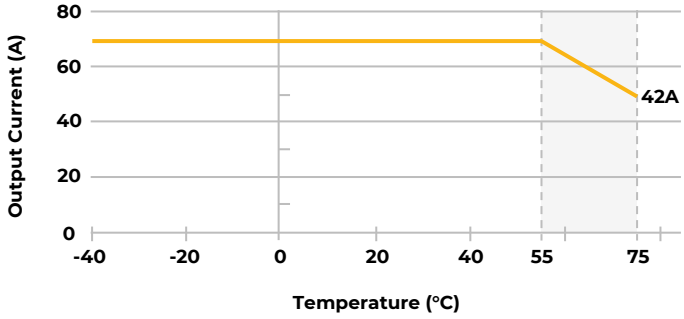


NE070DC58 Power Derating on Ambient Temperature



NE070DC58 Current Derating on Ambient Temperature

V_{OUT} = 58V at V_{IN} > 42V_{DC}



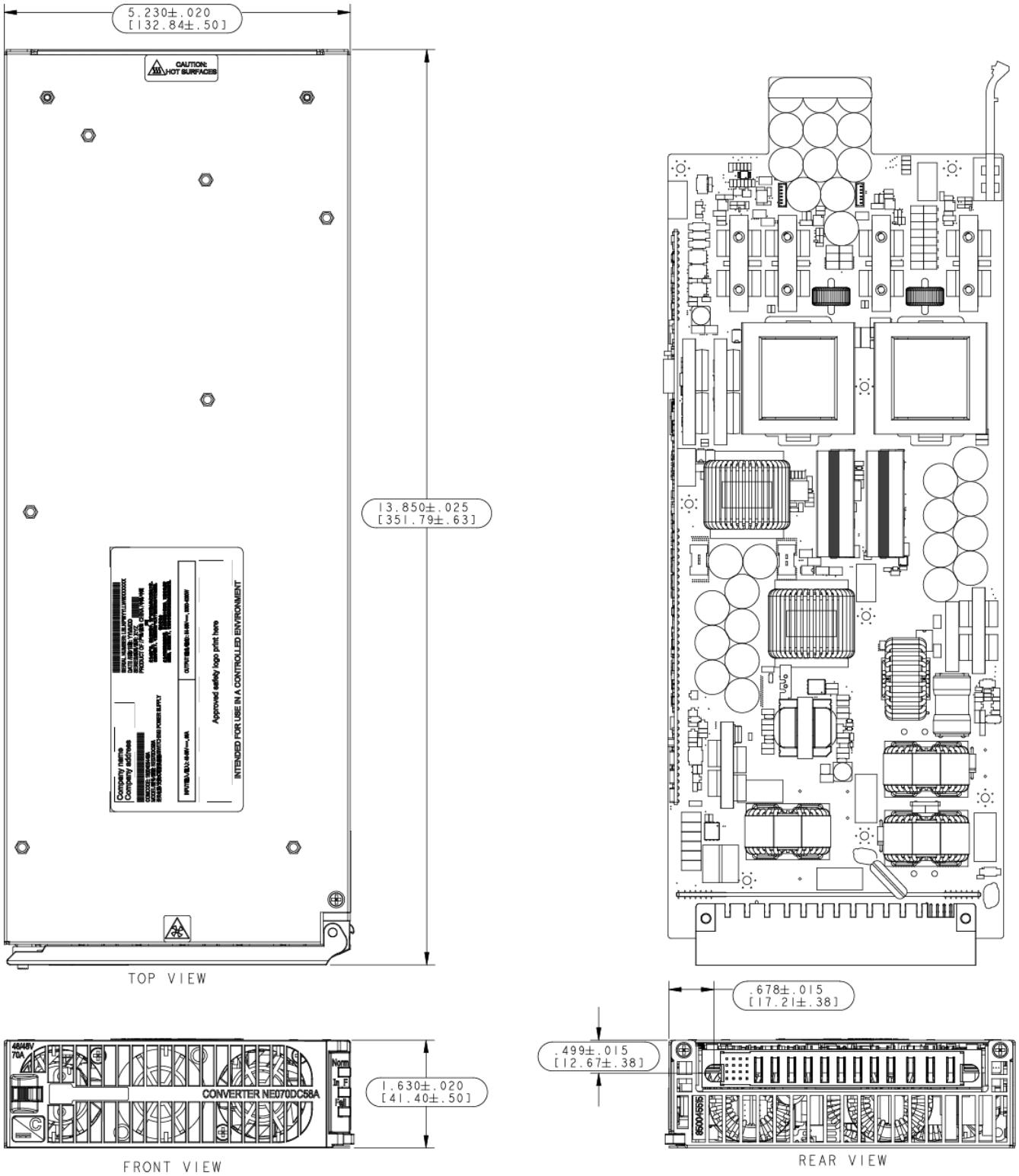
Environmental, Compliance & Physical

Operating Temperature Range	-40°C to 75°C
Operating Humidity	10-80%RH for 90% of the time 5-85%RH for 10% of the time
Storage Temperature Range	-40°C to 85°C
Heat Release	273 Watts, or 931 BTU/hr at full load of 4060 Watts
EMC	FCC, EN 55032, CISPR22, Level A, conducted and radiated
ESD	IEC/EN 61000-2, level 4
Safety Standards	UL1950, EN62368 (IEC950), CSA*234/950
Certification Marks	UL Recognized (Canada and U.S.), CE marking
Height x Width x Depth **Weight**	1.63x5.23x13.85in (42x133x352mm) 6 lbs (2.7kg)

Control and Monitoring

Visual Indicators	Norm, Input and Fail LEDs
Serial Interface	2 wire RS485 with GP Protocol

Physical Interface Dimensions



Ordering Information

Power module	Input	Output	Density	Ordering Code
NE070DC58A Converter	54.5 V_{DC}	58 V_{DC}	34 W/in^3	1600405449A

Related Product Literature
Infinity S CPB-NES_Ordering Guide
Infinity M Dual Voltage Power Systems_Ordering Guide

With our wide range of product offerings along with extensive application notes, development tools, pre- and post-sales support including technical support, OmniOn Power™ can provide a total solution to your current and future powering needs.

OmniOn Power™ is the industry's most trusted provider of reliable and innovative power conversion solutions, holding more than 400 power supply patents. A long-standing leader in the telecom industry, OmniOn Power™ leverages an 80-year design history that includes highly regarded companies like Bell Labs, Western Electric, AT&T, Lucent Technologies and most recently, Tyco Electronics. Engineering talent, superior service and energy efficient solutions make OmniOn Power™ the right choice for addressing your power requirements and network challenges.

Contact Us

For more information, call us at

+1-877-546-3243 (US)

+1-972-244-9288 (Int'l)

Change History (excludes grammar & clarifications)

Revision	Date	Description of the change
1.0	08-23-2023	Initial release
1.1	11-06-2023	Updated as per OmniOn template
1.2	07-12-2024	Updated Power Derating curve, Formatting changes, Updated Input Voltage Derating
1.3	11-10-2024	Updated Characteristic curve and Electrical specification

OmniOn Power Inc.
601 Shiloh Rd.
Plano, TX USA

omnionpower.com