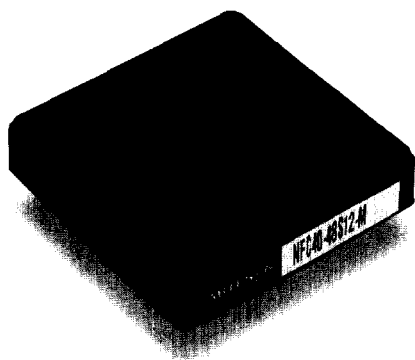


NFC40 SERIES

Single and triple output



US Patent No. 4621311

[2 YEAR WARRANTY]



- 40 Watts in a 2.2 x 2.2 x 0.5 inch case
- Base plate cooled patented topology
- Remote ON/OFF control
- Short circuit protection
- Industry standard pin-out
- UL, CSA and VDE safety approvals
- Extended operating temperature range option
- Fixed frequency operation

Providing 40W of power in a 2.2 x 2.2 x 0.5 inch package, the highly specified NFC40 Series of DC/DC converters were designed with today's demanding applications in mind. Inherent design specifications of the NFC40 include tight line and load regulation and high power density. Standard features provided by all members of the NFC40 Series are remote on/off, synchronization function, short circuit protection, overvoltage protection and an output voltage trim function. To maximize the board area available to system designers, the NFC40 footprint has been minimised without compromising on features or profile. A comprehensive package of heatsink and operating temperature options are included to further increase the flexibility offered. Artesyn Technologies has utilised its latest patented topology implemented in SMT and hybrid technologies to achieve this performance level. Typical applications for the NFC40 Series include telecommunications, remote exchanges, automation equipment, back plane power architectures and distributed power.

SPECIFICATION

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage adjustability	All outputs (See Note 8)	±10%
Total error band (See Note 1)	Single outputs ±2% typ., ±3% max. Auxiliary outputs ±3% typ., ±5% max.	
Ripple and noise	5Hz to 20MHz 100mV pk-pk, max. All outputs 20mV rms	
Transient response	0.25% FL to 0.5% FL ±2% max. dev., 100µs recovery	
Temperature coefficient	Single outputs ±0.02%/°C max. Auxiliary outputs ±0.03%/°C max.	
Overvoltage protection	Single output Clamp type Triple output See table	
Short circuit protection	Continuous automatic recovery	
Minimum main output current	Singles 0A Triples, to maintain auxiliary output regulation 0.5A	
INPUT SPECIFICATIONS		
Input voltage range	24V 18 to 36VDC 48V 36 to 72VDC	
Input filter	(See Note 9)	External capacitor
Remote ON/OFF Logic compatibility	CMOS and TTL ON >1.5V or open collector OFF <0.4V	
Synchronization function	Operating frequency control ±10%	
Frequency control range	Negative-going pulse, maximum 25% of duty cycle	
Sync signal	CMOS/TTL	
Logic compatibility	CMOS/TTL	

GENERAL SPECIFICATIONS		
Efficiency	See table	80%, min.
Isolation voltage	Input/output	500VAC, 710VDC, min.
Switching frequency	Fixed	300kHz ±5.0%
Approvals and standards	VDE0805, EN60950 IEC950, UL1950 CSA C22.2 No. 950	
Case material	Black coated metal with Non-conductive base	
Material flammability	UL94V-0	
Weight	80g (2.8oz)	
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance (See Note 11)	Operating ambient	See curves
	Operating Case	-25°C to +105°C
	Non-operating	-55°C to +125°C
	Extended temp., option, case (Note 10)	-40°C to +105°C
	Heatsink option (Note 5)	See curves
	Derating	See curves for baseplate cooling details
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating	10,000 feet max.
	Non operating	40,000 feet max.

International Safety Standard Approvals



VDE0805/EN60950/IEC950 File No. 10401-3336-1082



UL1950 File No. E136005



CSA C22.2 No. 950 File No. LR41062C

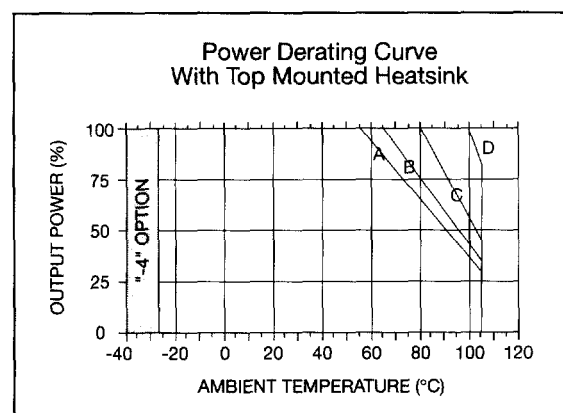
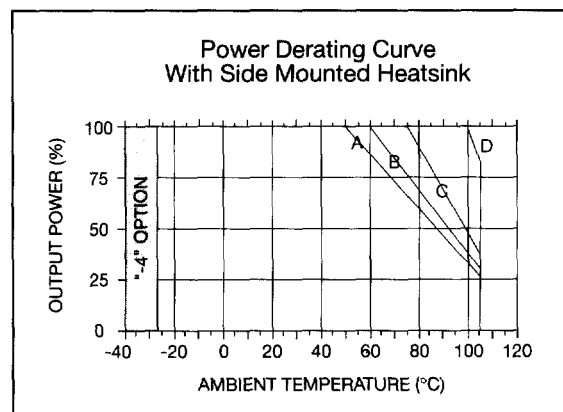
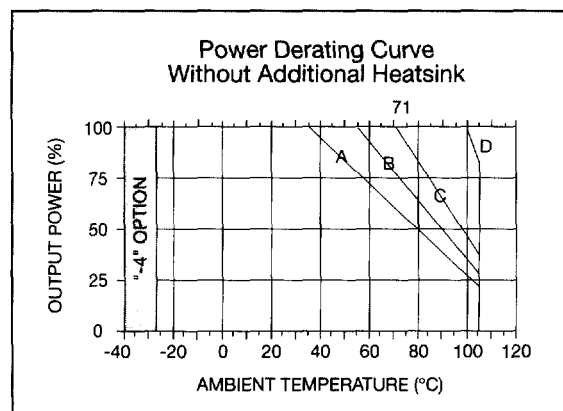
40 Watt Wide input DC/DC converters

Derating Curves

The derating curves shown are based on measurements of actual power supplies and reflect Artesyn Technologies conservative design guidelines. Adherence to these guidelines contributes to the high reliability of our products by restricting the maximum operating semiconductor junction temperatures to 125°C which is well below the component manufacturers' maximum limits.

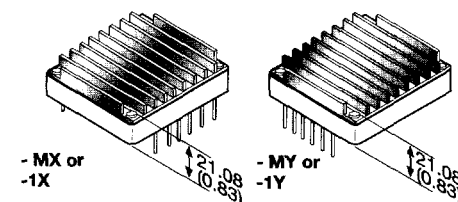
Key to power derating curves:

- A Natural convection.
- B 150 linear feet per minute forced air flow.
- C 300 linear feet per minute forced air flow.
- D Maximum case temperature

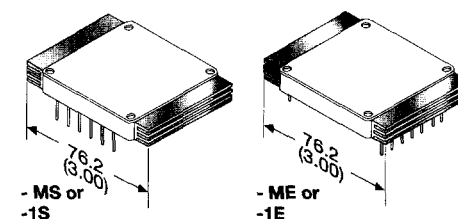


Heatsink Mounting Options

Top Mounted



Side Mounted



Heatsink options:

Two heatsink kits are available for the NFC40: top mounted and side mounted. Each heatsink may be oriented parallel to or perpendicular to the direction of the pins, thus providing optimum flexibility for cooling requirements.

Top mounted heatsink

If board area is at a premium in your application then the top mounted heatsink should be used. This heatsink kit comes complete with screws and is mounted as shown in the diagram over. To fit the heatsink, place it in the required orientation, and tighten the four screws. The order number for the top mounted heatsink kit with Metric screws is: **NFC40-HTSK-T**. The order number for the top mounted heatsink kit with Imperial screws is: **NFC40-HTSK-T-I**.

Side mounted heatsink

With many applications, e.g. rack systems, the profile must be kept to a minimum. The side mounted heatsink is intended to meet the requirements of low profile applications. The NFC40 with this heatsink option is 12.7mm (0.5 inch) high. The kit contains two side mounted heatsinks, which must be fitted opposite to one another on the NFC40. The order number for the side mounted heatsink is: **NFC40-HTSK-S**

Factory fitted heatsinks

As a further option, Artesyn Technologies offers factory fitted heatsinks. Simply add the suffix as described by the diagrams above to the part number: e.g. **NFC40-48S12-MY** or **NFC40-48S12-1Y** for Metric and Imperial screws respectively.

EXTERNAL OUTPUT TRIMMING (8)

Output can be externally trimmed by $\pm 10\%$ using either method shown below.

