ARTESYN TECHNOLOGIES

NFC15 SERIES

Single and dual output



- **4:1 input voltage range**
- **Low profile 0.46 inch**
- **10.2 Watts/cubic inch**
- **80% efficiency**
- **UL, CSA and VDE safety approvals**
- **Inhibit/sync function**
- **Overvoltage protection**
- **Fixed frequency operation**

The NFC15 series of DC/DC converters are economical 15 Watt, hybrid DC/DC converters that accept input voltages ranging from 20VDC to 72VDC. A constant efficiency of 80% is maintained over the entire input voltage range. The isolated floating output can be referenced as either positive or negative, or stacked in series for higher output voltages. All models include current limited outputs, overvoltage protection and remote on/off. Packaged in a low profile 2.0 x 1.6 x 0.46 inch case, the NFC15 is ideal for space critical applications in telecommunications, data communications and distributed power networks.

[2 YEAR WARRANTY]

SPECIFICATION

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

OUTPUT SPECIFICATIONS		
Voltage accuracy	Single output Dual output	±1.0% ±1.5%
Voltage adjustability	All outputs	±10%
Line regulation	LL to HL at FL, singles LL to HL at FL, duals	±0.5% max. ±0.5% max.
Load regulation	FL to NL, single output FL to NL, dual output	±1.0% max. ±5.0% max.
Ripple and noise	5Hz to 20MHz	75mV pk-pk max. 15mV rms
Temperature coefficient		±0.02%/°C, max.
Overvoltage protection	See table	Clamp
Short circuit protection (See Note 8)		Continuous automatic recovery
INPUT SPECIFICATIONS		
Input voltage range	48VDC nominal	20 to 72VDC
Input filter (See Note 5)		External capacitor
Input current	No load Full load	15mA 400mA
Remote ON/OFF Logic compatibility Logic on Logic off		 CMOS/TTL Logic high or open Logic low or Jumper pin 2 and 4
Frequency synchronization		Switching frequency ±10%
Synchronization function		Negative going pulse on pin 4 max. 25% duty cycle
Surge protection		100V for 100ms

GENERAL SPECIFICATIONS		
Efficiency		80% typical
Isolation voltage	Input/output	500VDC
Switching frequency	Fixed	200kHz ±5.0%
Approvals and standards		VDE0805, EN60950 IEC950, UL1950 CSA C22.2 No. 950
Case material		Aluminum alloy, hard black anodized finish
Cover material		10% glass reinforced polyetherimide GE ULTEM #2110 or equivalent
Material flammability		UL94V-0
Weight		45g (1.6oz)
MTBF	MIL-HDBK-217F Bellcore 332	>436,000 hours >950,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating ambient, (See Graph 2) Option (See Note 6) Non-operating amb. Max. case temperature, (See Note 7) Derating Cooling	-25°C to +60°C -40°C to +60°C -55°C to +125°C +105°C max. See curve Free air convection cooled

International Safety Standard Approvals

VDE0805/EN60950/IEC950 File No. 10401-3336-1075
Licence No. 1629

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C

15 Watt
Wide input DC/DC converters

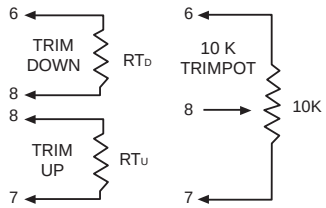
INPUT VOLTAGE (1)	OUTPUT VOLTAGE	OVP	OUTPUT CURRENT	INPUT CURRENT (2)	TYPICAL EFFICIENCY	REGULATION		MODEL NUMBER
						LINE (3)	LOAD (4)	
20-72VDC	5VDC	6.2VDC	3000mA	400mA	79%	±0.5%	±1%	NFC15-48S05
20-72VDC	12VDC	15VDC	1250mA	400mA	81%	±0.5%	±1%	NFC15-48S12
20-72VDC	15VDC	18VDC	1000mA	400mA	81%	±0.5%	±1%	NFC15-48S15 (6)
20-72VDC	±12VDC	30VDC	±625mA	400mA	80%	±0.5%	±5%	NFC15-48D12
20-72VDC	±15VDC	36VDC	±500mA	400mA	80%	±0.5%	±5%	NFC15-48D15

Notes

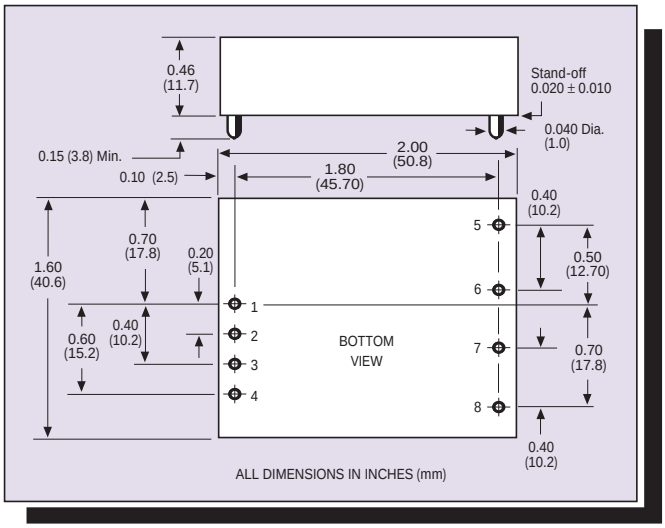
1 Nominal input voltage is 48VDC.
2 Maximum figure, at full load.
3 Measured from low line to high line at full load.
4 Measured from full load to no load.
5 An external filter capacitor, connected across the inputs, is required for normal operation. Capacitor should be capable of handling 600mA ripple current. Suitable capacitor: Nippon Chemi-Con SXE series, 56µF, 100V.
6 As a factory added option, the NFC15-48S15 can be operated down to –40°C. The suffix '–4' should be added to the model number when ordering, e.g. **NFC15-48S15-4.**
7 Maximum case temperature must not be exceeded. Derating curve may be extended or restricted depending on cooling.
8 Long term continuous operation into a short circuit will compromise the reliability of the unit.

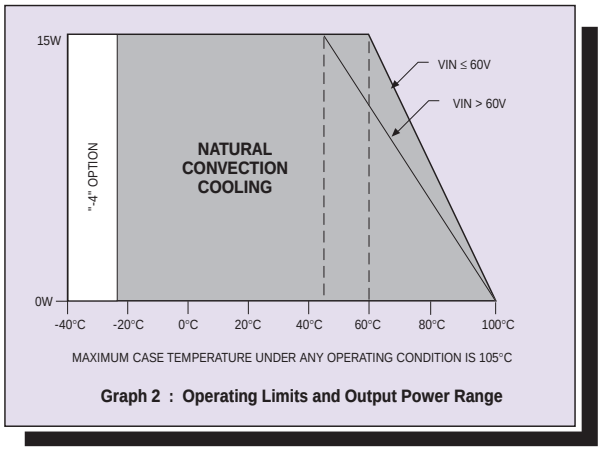
EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed
by ±10% using either method shown below.



PIN CONNECTIONS		
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Input	+ Input
2	– Input	– Input
3	No Pin	No Pin
4	Control	Control
5	No Pin	+ Output
6	+ Output	Common
7	– Output	– Output
8	Trim	Trim





Graph 2 : Operating Limits and Output Power Range

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