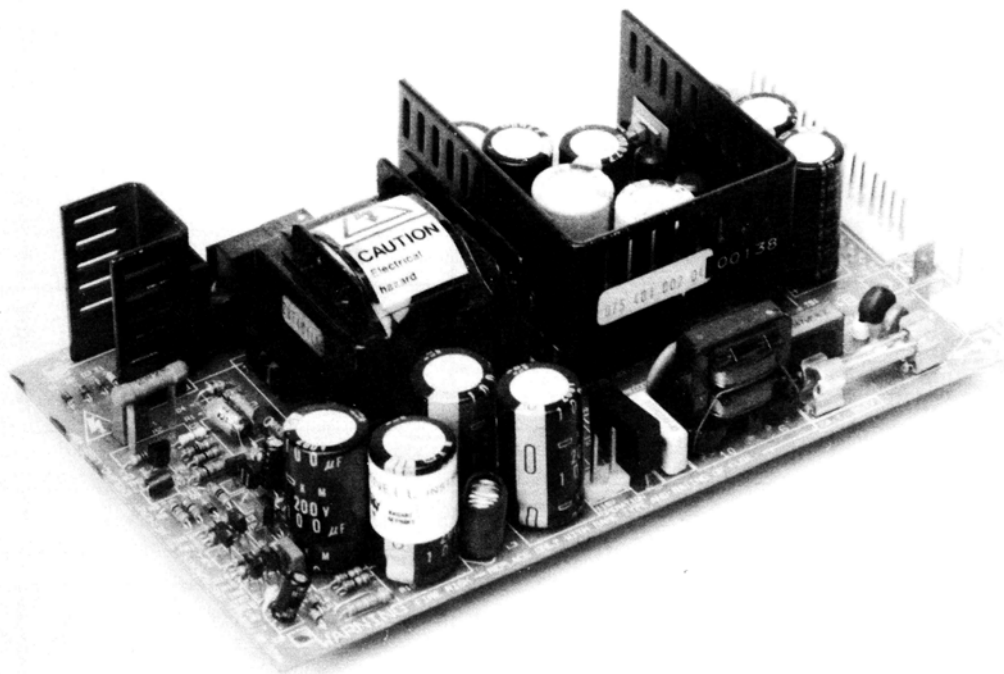




November 1987
NA075 SERIES SWITCH MODE POWER SUPPLIES
 REF. 2SZU0068 Issue A



FEATURES

- 75W output, convection cooled.
- Choice of 3 or 4 output models.
- Power trading principle employed to provide flexibility and small size.
- Field selectable 115/230V a.c. input.
- High immunity to supply line faults: Operation down to 92/176V a.c.; 28ms hold up after loss of nominal input at full rated output.
- All outputs protected against accidental short or open circuits.
- Built in soft start circuitry.
- The backing of a company with 30 years experience in power supply design and manufacture.

- Available in card form or with optional chassis and mesh cover.
- 100% burn in and functional test.
- Designed to meet relevant BSI, CSA, IEC, UL and VDE safety standards.
- Custom design facilities available to adapt standard units to meet your exact requirements.
- Built in RFI filtering to comply with international standards for radio interference limits.
- Stringent quality control program, (registered with the Defence Quality Assurance Board).
- Easily mountable using M3 fixings provided.

APPLICATIONS

- ☐ Supply logic, display, communication interfaces and floppy disc drives in microcomputers from one unit.
- ☐ Computer peripherals.
- ☐ Test and measurement equipment.
- ☐ Telecommunication equipment:- PABX, telex, facsimile, radio links, call loggers, etc.
- ☐ CAD/CAE/CAM equipment.
- ☐ Business machines.
- ☐ Medical, military and industrial OEM
- ☐ Data processing equipment.
- ☐ Communications equipment:- Receivers, drives, telegraphy correctors, etc.
- ☐ Video and arcade games.

UNITS AVAILABLE

MODEL	OUTPUT 1		OUTPUT 2		OUTPUT 3		OUTPUT 4	
	Voltage Vdc nom	Current Idc max	Voltage Vdc nom	Current Idc max	Voltage Vdc nom	Current Idc max	Voltage Vdc nom	Current Idc max
NA075P300	+5V	8A	+12V(S)	3A	F12V(S)	2A	—	—
NA075P400	+5V	8A	+12V(S)	3A	F12V(S)	2A	F24V	1A
NA075P401	+5V	8A	+12V(S)	3A	F12V(S)	2A	F5V	1A
NA075P402	+5V	8A	+12V(S)	3A	+12V(S)*	2A	-12V*	0.5A
NA075P403	+5V	8A	+15V(S)	3A	F15V(S)	2A	F24V	1A
NA075P414	+5V	8A	+12V(S)	3A	+12V*	1A	-5V*	1A

F Floating output.

(S) Semi-regulated output. (Otherwise output is fully regulated).

* Can be supplied floating or opposite polarity.

Parameter (1)	Output	NA075P300	NA075P400	NA075P401	
Output Voltage	1	+5V±0.5%	+5V±0.5%	+5V±0.5%	
	2	+12V +2, -8%	+12V +2, -8%	+12V +2, -8%	
	3	F12V +2, -8%	F12V +2, -8%	F12V +2, -8%	
	4	—	F24V ±5%	F5V ±5%	
Output Current	1	1.6–8 A (16 A surge)	1.6–8 A (16 A surge)	1.6–8 A (16 A surge)	
	2	0.6–3 A (6 A)	0.6–3 A (6 A)	0.6–3 A (6 A)	
	3	0.4–2 A (4 A)	0.4–2 A (4 A)	0.4–2 A (4 A)	
	4	—	0–1 A	0–1 A	
Load Regulation	1	±1%	±1%	±1%	
	2	±3%	±3%	±3%	
	3	±3%	±3%	±3%	
	4	—	±1%	±1%	
Cross Regulation	1	±0.1%	±0.1%	±0.1%	
	2, 3	±1%	±1%	±1%	
	2, 3	±4%	±4%	±4%	
	4	—	±0.1%	±0.1%	
Line Regulation	1-4	0.2%	0.2%	0.2%	
Ripple Noise	1-4	50mV	50mV	50mV	
	1-4	100mV	100mV	100mV	
Hold Up Time		18ms	18ms	18ms	
		28ms	28ms	28ms	
PROTECTION					
Current Limit		All outputs protected against overload by power limit circuit. When in power limit, unit will shut down momentarily. If overload is still present, unit will shut down again. Cycle will be repeated until overload is removed.			
Overvoltage (3)	1	5.8–7.0V	5.8–7.0V	5.8–7.0V	
Inhibited Output	1-4	<40% Vnom	<40% Vnom	<40% Vnom	
SIGNALS (4)					
Power Fail Warning (5)	—	5ms	5ms	5ms	
DC OK Level (8)	1	4.5–4.9 V	4.5–4.9 V	4.5–4.9 V	
DC OK on delay (8)	—	10ms	10ms	10ms	

Notes to Electrical Specification

- As defined in Farnell Instruments document "Definition of Terms"
- Input voltage 240V 50Hz and ambient temperature 25°C unless otherwise stated.
- Unit shuts down when protection operates. Disconnect from source to reset.
- Only available when appropriate option is specified.
- Power failure is indicated at least 5ms before output 1 drops below 95% of nominal voltage, following supply line failure.
- The input specification assumes a sinusoidal voltage at the power supply input. If any other waveshape is provided, the peak voltage range is $\sqrt{2} \times$ specified range.
- Frequency range is limited to 66Hz max for approvals.
- DC OK output is intended to be used as a 'power on reset' signal, or for similar purposes.

- * Can be supplied floating or opposite polarity.
- F Output is floating. (Max voltage between isolated outputs: 200V).

Environmental Conditions

Temp range 0–50°C at full rated power.
50–70°C derate power and current by 2.5%/°C

Humidity 0–95% R.H. Non-condensing

Storage temp –40 – +85°C

Input Ratings

Nominal Input	115V	230V
Voltage Range (6)	92–132V	176–264V
RMS Current	< 1.8 A	<1.0 A
Peak current at turn on	< 12 A	< 23 A
Frequency Range (7)	44–440 Hz	44–440 Hz
Maximum Input Power	107 W	107 W

Input Fuse: 2 A.T. 250V 1.25" × 0.25" Ceramic

Ordering Information

13 NA075 P400 B M

Series
Number

Model
Number

Signal Option:
Blank — No signals
A — Power Fail
B — Power Fail and DC OK

Packaging Option:
Blank — unit supplied
M — Unit provided with
chassis and mesh cover.

Cover option may be ordered
separately for which the order
number is:
13NA075P4M

NA075P402	NA075P403	NA075P414	Units	Conditions (2)
+5V 5% +12V -8% +12V +2, -8%* -12V ±5%*	+5V±0.5% +15V +2, -8% F15V +2, -8% F24V ±5%	+5V±0.5% +12V +2, -8% -12V ±5%* -5V ±5%*	Vnom±Tol	50% I max on all outputs
6-8 A (16 A surge) 0.6-3 A (6 A) 0.4-2 A (4 A) 0-0.5 A	1.6-8 A (16 A surge) 0.6-3 A (6 A) 0.4-2 A (4 A) 0-1 A	1.6-8 A (16 A surge) 0.6-3 A (6 A) 0-1 A 0-1 A	min-max A	Total output power must not exceed 75W (Surge power 100W for 5s max)
±1% ±3% ±3% ±1%	±1% ±3% ±3% ±1%	±1% ±3% ±1% ±1%	%Vnom (max)	60% ±40% I max on measured output. 20% I max on other outputs
±0.1% ±1% ±4% ±0.1%	±0.1% ±1% ±4% ±0.1%	±0.1% V2 ±1%, V3 ±0.1% V2 ±4%, V3 ±0.1% ±0.1%	%Vnom (max)	ΔI2-4 75% ±25% I max ΔI1 75% ±25% I max ΔI1-3 75% ±25% I max Other outputs 20% I max
0.2%	0.2%	0.2%	%Vnom (max)	198-264V or 103.5-132V input Outputs proportionally loaded to 75W
50mV 100mV	50mV 100mV	50mV 100mV	mV pk-pk max mV pk-pk max	10Hz-100kHz } O/P's proportionally loaded to 75W 10Hz-30MHz }
18ms 2ms	18ms 28ms	18ms 28ms	ms min ms min	198 or 103.5V input } O/P's proportionally loaded to 75W 230 or 115V input }
then attempt to restart.				
5.8-7.0V	5.8-7.0V	5.8-7.0V	min-max V	
<40% Vnom	<40% Vnom	<40% Vnom	% Vnom max	≥2.4V on OFF, 20% load on all outputs
5ms	5ms	5ms	ms min	198V/103.5 min input. 75W output
4.5-4.9 V	4.5-4.9 V	4.5-4.9 V	min-max V	
10ms	10ms	10ms	ms min	198V/103.5 min input. 75W output

Signal Option Specification

Output type: Open collector

Fan Out: 10 standard TTL loads
(V out < 0.8V when Isink = 16mA)

Connections: Power Fail — J1 } Refer to outline drawing
DC OK — J2 }

Waveforms:

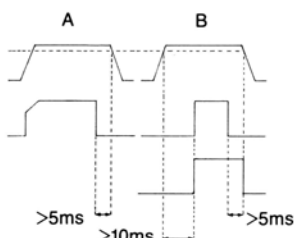
Option 95%Vnom

Output 1

Power fail

DC

Power fail warning
DC O.K. on delay



Approvals

These power supplies have been designed, built and tested to meet the following standards when used in accordance with any instructions supplied with the unit. Approval has been obtained where indicated by a †

Note that not all units necessarily have all the approvals indicated. Consult the factory or your local agency for full and up to date information.

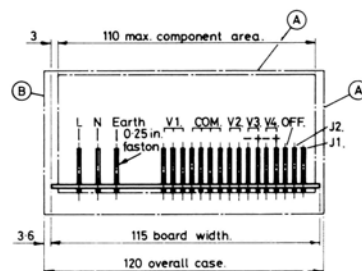
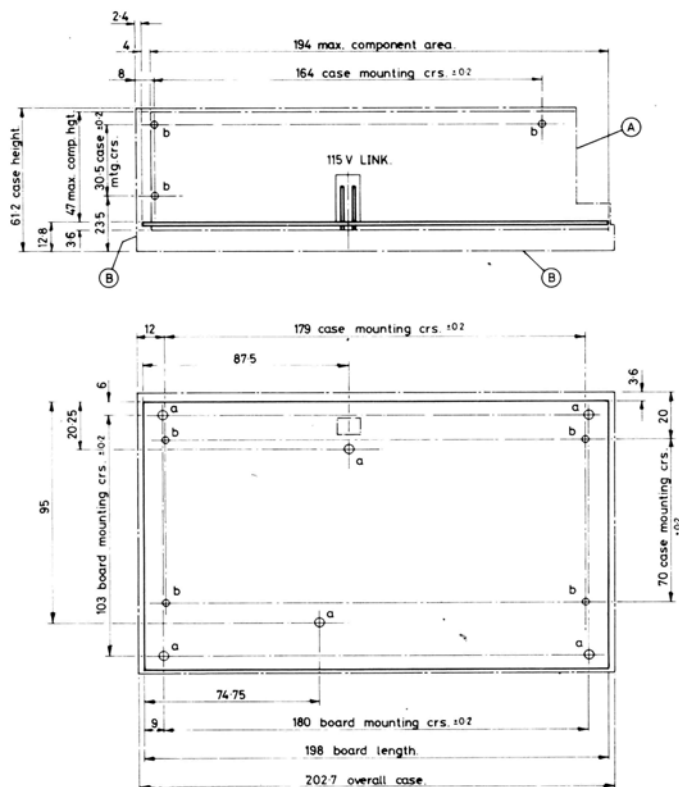
Safety:
BS5850†, BS6204, BS6301, BT D1921; CSA Bulletin 1402†, CSA 22.2 No 0.7†, CSA 22.2 No 143†, CSA 22.2 No 154†; IEC 380†, IEC 435, IEC 950; UL 114†, UL 478†, UL 1012†; VDE 0804†, VDE 0805†, VDE 0806†, Telecoms Act 1984.

RFI:
BS800, BS6527 Class B; FCC Rules Part 15J Class B; EEC Directive 82/499/EEC; VDE 0871 Class B.

Guarantee

All Farnell power supplies are guaranteed against faulty manufacture and faulty components for a period of twelve months from the date of despatch.

NA075 OUTLINE DRAWING



MOUNTING DATA

1. Unit without case. —

board size: — 198mm x 115mm.
 mounting: — 'a'— 6 x 4.0mm dia. holes.
 overall unit size: — 198mm x 115mm x 50.6mm.
 unit weight: — 607 g.
 standoffs: — 6 supplied + 6 — N°6 x 8mm c/sk. screws.

2. Unit with case. —

mountings: — 'b'— 7 x M3 ISO standard.
 penetration into unit: — 5mm. max.
 overall unit size: — 202.7mm x 120mm x 61.2mm.
 faces 'A' fully ventilated — 'B' partially ventilated
 chassis: — 16 swg. aluminium.
 cover: — 18 swg. aluminium.
 unit weight: — 898 g.

Connection details. —

INPUT	MOLEX 2630 Ref. 09-74-1031 (pin 2 not fitted) and 1/4 in. SPADE.
OUTPUT	MOLEX 2630 Ref. 09-74-1161
115V LINK	MOLEX 3008 Ref. 38 00 6272

MAX. CURRENT THROUGH ANY SINGLE OUTPUT PIN — 3.5A.

Manufactured in England by



We reserve the right to amend specifications without notification

FARNELL INSTRUMENTS LTD WETHERBY WEST YORKSHIRE LS22 4DH Tel 0937 61961 Telex 557294 FARIST G Fax 0937 66908