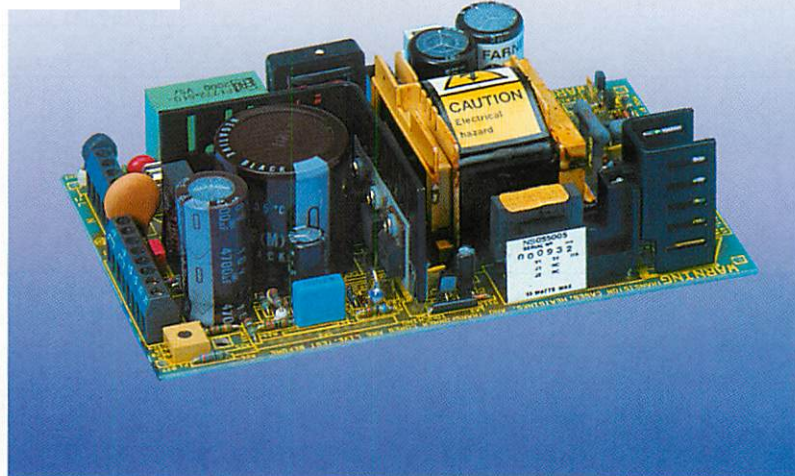


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SINGLE OUTPUT AC-DC

### SUMMARY SPECIFICATION

Model Number	Input Voltage	Nominal Voltage	Adjustment Range	Output Current	Cooling	Dimensions
NS055005	92 – 132V a.c. 176 – 264V a.c. 249 – 373V d.c.	5V	4.0 – 5.1V	0.2 – 11A [13.7A]	Convection	Card Form: 160 x 100 x 41.6 mm 6.30 x 3.94 x 1.64 in.
NS055012		12V	9.6 – 12.25V	0.1 – 4.6A [5.7A]	Convection	
NS055015		15V	12 – 15.3V	0.1 – 3.7A [4.6A]	Convection	Enclosed Form: 165.2 x 105.3 x 54.2mm 6.50 x 4.15 x 2.13 in.
NS055024		24V	19.2 – 24.5V	0 – 2.3A [2.9A]	Convection	
NS055048		48V	38.4 – 49V	0 – 1.15A [1.4A]	Convection	
NS055056		56V	45 – 57V	0 – 1.0A [1.2A]	Convection	

[ ] – Surge current ratings

### INPUT SPECIFICATION

Input Voltage	92 – 132V a.c. on 115V tap. 176 – 264V a.c. or 249 – 373V d.c. on 230V tap.
Frequency	45 – 440Hz.
Supply Type	Single phase TN-S systems (as defined in IEC364).
Efficiency	Minimum 70 – 75% dependant on model, when loaded to maximum rated output power.

### OUTPUT SPECIFICATION

Voltage	Nominal output voltages and adjustment ranges are shown in the summary specification above.
Current	Recommended minimum and maximum continuous current ratings ( $I_{MAX}$ ) are shown in the summary specification above. Values in brackets [ ], are surge current ratings only. All maximum current ratings, except as indicated below, are applicable up to 50°C and must be derated by 2.5%/°C from 50°C to 70°C.  NS055005 must be derated linearly from 11A at 40°C to 10A at 50°C and then by 0.25A/°C from 50°C to 70°C.
Load Regulation	2% $V_{NOM}$ maximum for an output load variation from $I_{MIN}$ to $I_{MAX}$ .
Line Regulation	0.1% $V_{NOM}$ maximum for an input variation of 198V to 264V or 103.5V to 132V. With the output loaded to $I_{MAX}$ .
Ripple and Noise	50mV pk-pk maximum over 100kHz bandwidth. 100mV pk-pk maximum over 30MHz bandwidth for output voltages up to 35V, 150mV pk-pk above 35V. Measurements are differential and are made with the output loaded to $I_{MAX}$ .

**PROTECTION**

Hold Up	All units have sufficient energy storage to ride through a missing mains cycle when supplying full rated output current at nominal input. At low mains input, 198V or 103.5V hold up >18ms; at nominal input, 240V or 115V hold up >28ms.												
Output Overvoltage	The output is protected against overvoltage. Latching overvoltage protection levels are: <table> <tr> <td>5V output</td> <td>5.8V to 7.0V;</td> </tr> <tr> <td>12V output</td> <td>13V to 16V;</td> </tr> <tr> <td>15V output</td> <td>16V to 19V;</td> </tr> <tr> <td>24V output</td> <td>26V to 31V;</td> </tr> <tr> <td>48V output</td> <td>56V to 68V;</td> </tr> <tr> <td>56V output</td> <td>60V to 75V.</td> </tr> </table>	5V output	5.8V to 7.0V;	12V output	13V to 16V;	15V output	16V to 19V;	24V output	26V to 31V;	48V output	56V to 68V;	56V output	60V to 75V.
5V output	5.8V to 7.0V;												
12V output	13V to 16V;												
15V output	16V to 19V;												
24V output	26V to 31V;												
48V output	56V to 68V;												
56V output	60V to 75V.												
Output Overcurrent	All units have protection against output overload.												

**AUXILIARY FUNCTIONS**

Remote Sense	Available on all units.
Series Operation	Units may be connected in series to provide higher output voltages.
Power Fail Signal	Available on 5V units when A or B option is specified. A logic output providing warning of failure due to loss of input.
DC OK Signal	Available on 5V units when option B is specified. A logic output providing an indication of output presence.

**ISOLATION**

Primary to Secondary	Reinforced insulation to 3kV a.c. r.m.s. for one minute. Where a safety earth is interposed between primary and secondary, this potential is split equally between input to earth and output to earth. Complete units are tested to 1.5kV a.c. between input and output with all output terminals connected together and connected to earth.			
Secondary to Earth	Units are tested to 500V a.c. r.m.s. from output to earth, with all output terminals connected together.			
Earth Leakage Current	Under full load the leakage current does not exceed: <table> <tr> <td>0.4mA at 50Hz;</td> </tr> <tr> <td>0.4mA at 60Hz;</td> </tr> <tr> <td>2.8mA at 440Hz.</td> </tr> </table>	0.4mA at 50Hz;	0.4mA at 60Hz;	2.8mA at 440Hz.
0.4mA at 50Hz;				
0.4mA at 60Hz;				
2.8mA at 440Hz.				

**ELECTROMAGNETIC COMPATIBILITY**

Exported Noise	Units meet the requirements of EN55022 Class B (conducted); FCC Rules Part 15 Subpart J Class B; VDE0871 Class B.
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**MECHANICAL SPECIFICATION**

Mechanical Format	Units are supplied in card form as standard. A metal enclosure is available and is specified by adding 'M' to the end of the model number.
Mounting Orientation	Units may be mounted in any orientation.
Ventilation and Cooling	All faces requiring free air flow are indicated on the outline drawing. Faces marked 'A' are fully ventilated; faces marked 'B' are partially ventilated. Units are convection cooled.

**ENVIRONMENTAL CONDITIONS**

Operating Temperature	0 to 70°C. See current ratings in output specifications for any deratings required.
Operating Humidity	0 to 95% R.H. non-condensing.

**RELIABILITY**

MTBF	In excess of 100,000 hrs. when calculated in accordance with MIL HBK 217D.
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**INTERNATIONAL SAFETY STANDARDS**

Units have been tested by the following approval bodies to the standards listed and have been approved as being compliant with those standards or with the relevant sections of those standards.

**CE marked to the Low Voltage Directive**

BABT	EN41003.
CSA	C22.2#234 Level 3.
UL	UL1950.
VDE	VDE0805; EN60950.

For more detailed information on these units please contact your local sales office or agent.

**ORDERING INFORMATION**

The order code consists of 5 fields:

1. Source code: 13
2. Series: NS
3. Range: 055
4. Version: From summary specification
5. Options
 

a) Signals options:	A or B (005 versions only)
b) Mechanical options:	M

Note that fields 2, 3 and 4 comprise the basic model number of the unit. e.g. to order model NS055005 with power fail warning and with a metal enclosure, the order code is:

13 NS 055 005 AM

## OUTLINE DRAWING

All dimensions are nominal and are given in mm (inches).

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