SUMMARY SPECIFICATION

Model Number	Input Voltage	Output Number	Nominal Voltage	Adjustment Range	Output Current	Total Power	Dimensions
NA055P300	92 – 132V a.c. 176 – 264V a.c. 249 – 373V d.c.	1 2 3	+5V +12V –(+)12V	None	0.7 – 3.5A 0 – 3A 0 – 1A	55W	Card Form: 160 x 100 x 43.5mm 6.30 x 3.94 x 1.72 in. Enclosed Form: 165.2 x 105.3 x 54.2 mm 6.50 x 4.15 x 2.13 in.
NA055P301		1 2 3	+5V +12V +(–)24V	None	0.7 – 3.5A 0 – 3A 0 – 1A	55W	
NA055P302		1 2 3	+5V +15V –(+)15V	None	0.7 – 3.5A 0 – 3A 0 – 1A	55W	
NA055P400	92 – 132V a.c. 176 – 264V a.c. 249 – 373V d.c.	1 2 3 4	+5V +12V F12V F24V	None	1.2 – 6A 0 – 3A 0 – 2A 0 – 1A	55W	Card Form: 178 x 107.4 x 41.6 mm 7.01 x 4.21 x 1.64 in. Enclosed Form: 182.7 x 112 x 54.2 mm 7.19 x 4.41 x 2.13 in.
NA055P401		1 2 3 4	+5V +12V F12V F5V	None	1.2 – 6A 0 – 3A 0 – 2A 0 – 1A	55W	
NA055P403		1 2 3 4	+5V +15V F15V F24V	None	1.2 – 6A 0 – 3A 0 – 2A 0 – 1A	55W	
NA055P413		1 2 3 4	+5V +12V F12V F12V	None	1.2 – 6A 0 – 3A 0 – 1A 0 – 1A	55W	

Polarities in parentheses ( ) are alternatives available to order. F – Floating output.

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.
Efficiency	Minimum 69% when loaded to maximum rated output power.

OUTPUT SPECIFICATION

Voltage	Nominal output voltages and polarity are shown in the summary specification. Where polarities are indicated in parentheses, these are alternatives available to order. If required, these alternative polarities must be clearly stated at the time of ordering.

Current	Recommended minimum operating current and maximum continuous current ratings (I_{MAX}) are shown in the summary specification. It may not be possible to draw the full rated current from all outputs simultaneously due to the total power rating of the unit. All maximum current ratings, except as indicated below are applicable up to 50°C, from 50°C to 70°C derate all currents by 2.5%/°C. Exceptions are: NA055P413 Outputs 3 and 4 require derating linearly from 1A at 30°C to 0.75A at 50°C and then to 0.375A at 70°C.
Power	55W from 0 to 50°C, derate by 2.5%/°C above 50°C. All units require free air convection cooling. See outline drawing and mechanical specification for ventilation requirements.
Load Regulation	Output 1 ±1% Output 2 ±4% Output 3 ±5% all except NA055P413 ±1% Output 4 NA055P400, 403 ±4% NA055P401 ±6% NA055P413 ±1% All the above are maxima and apply when the output load is varied by ±40% I_{MAX} from 60% I_{MAX} with all other outputs loaded to 20% I_{MAX}.
Line Regulation	0.4% V_{NOM} maximum for an input variation of 198V to 264V or 103.5V to 132V. All outputs proportionally loaded to provide 55W output power.
Cross Regulation	Output 1 ±0.2% Output 2 ±5% Output 3, 4 ±5% all except NA055P413 ±0.2% All the above are maxima and apply when any output is varied by ±25% I_{MAX} from 75% I_{MAX} with other outputs loaded to 50% I_{MAX}.
Ripple and Noise	100mV pk-pk maximum over 30MHz bandwidth. All outputs proportionally loaded to provide 55W output power

PROTECTION

Hold Up	All units have sufficient energy storage to ride through a missing mains cycle when supplying full rated output power at nominal mains input. At low mains input, 198V or 103.5V hold up >18ms; at nominal input, 240V or 115V hold up >28ms.
Output Overvoltage	Output 1 is protected against overvoltage. Unit shutdown will occur at between 5.8V and 7.0V.

AUXILIARY FUNCTIONS

Power Fail Signal	Available when option A or B is specified. A logic output providing warning of failure due to loss of input.
DC OK Signal	Available 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. r.m.s. 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: 0.5mA at 50Hz 0.6mA at 60Hz 4.3mA at 440Hz.

ELECTROMAGNETIC COMPATIBILITY

Exported Noise	All units meet the requirements of BS800; BS6527 Class B; EEC Directive 82/499/EEC; FCC Rules Part 15 Subpart J Class B; VDE0871 Class B.

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 drawings. Faces marked 'A' are fully ventilated; Faces marked 'B' are partially ventilated.

ENVIRONMENTAL CONDITIONS

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

RELIABILITY

MTBF	107,000 hrs. at 25°C ground benign according to MIL HBK 217D.

INTERNATIONAL SAFETY STANDARDS

These units are CE marked to the Low Voltage Directive.

BABT	EN41003.
CSA	Bulletin 1402C.
UL	UL1950 + D3.
VDE	EN60950.

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

ORDERING INFORMATION

The order code consists of five fields:

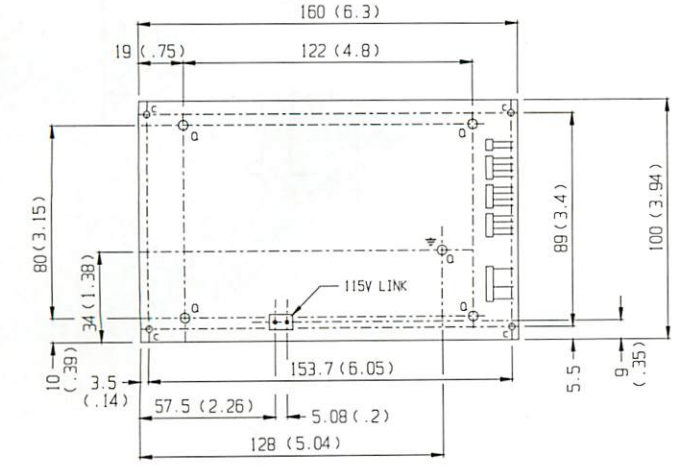
1. Source code: 13
2. Series: NA
3. Range: 055P
4. Version: See summary specification.
5. Options (as required) a) Signal options: A or B
   b) Mechanical option: M

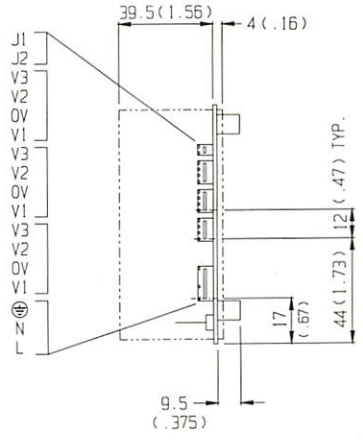
Note fields 2, 3 and 4 comprise the basic model number. e.g. to order a NA055P400 with power fail warning (option A) and with chassis and mesh cover (option M), the order code is:

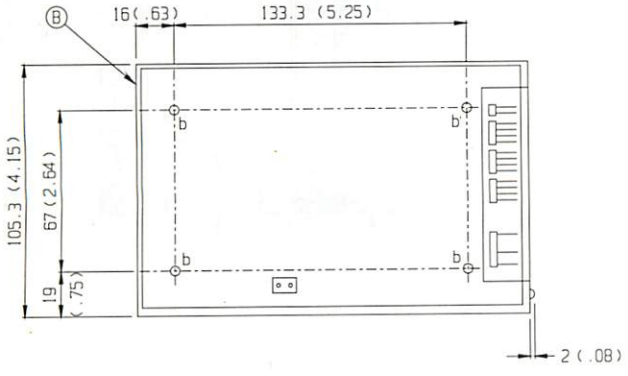
13 NA 055P 400 AM

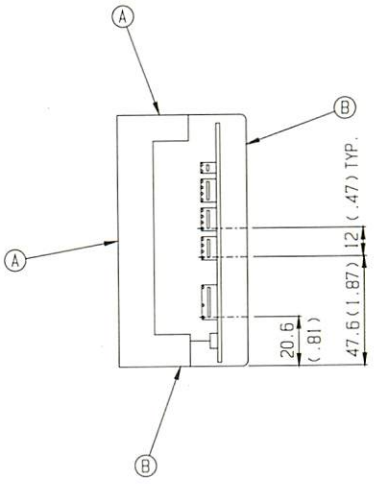
*NA055P3** RANGE OUTLINE DRAWING*

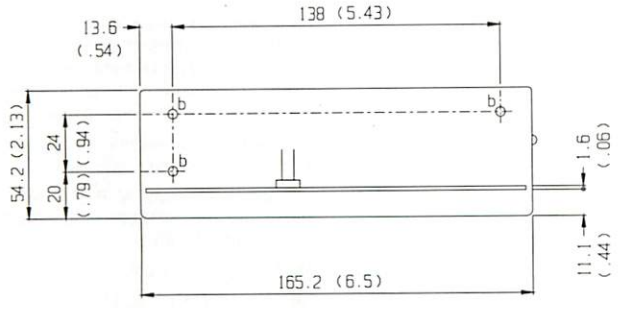
All dimensions are nominal and are given in mm (inches).









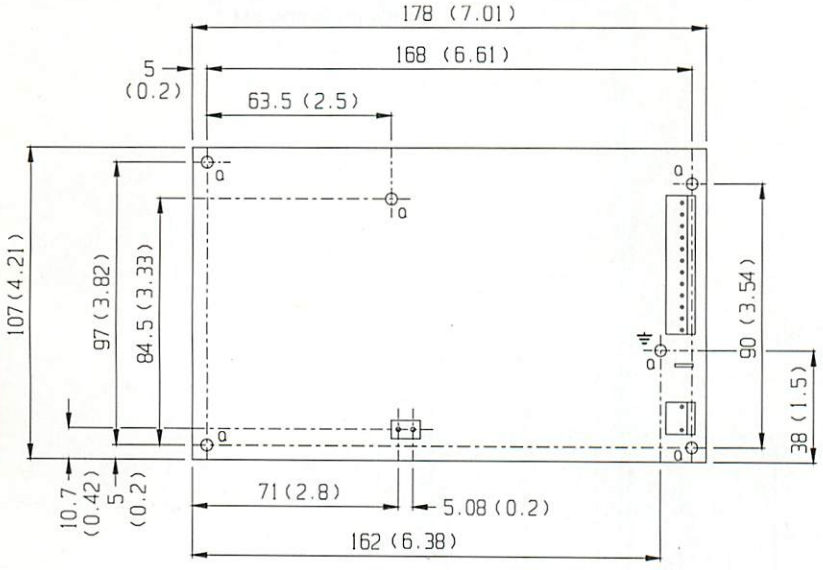


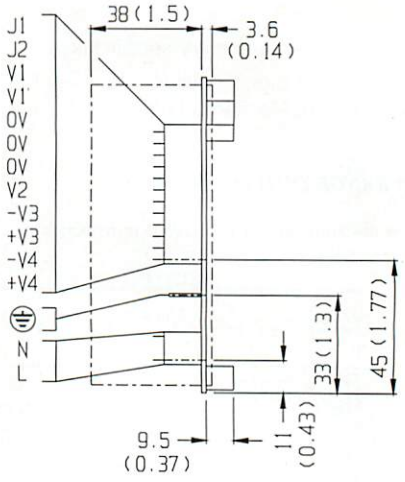
External Dimensions and Mass

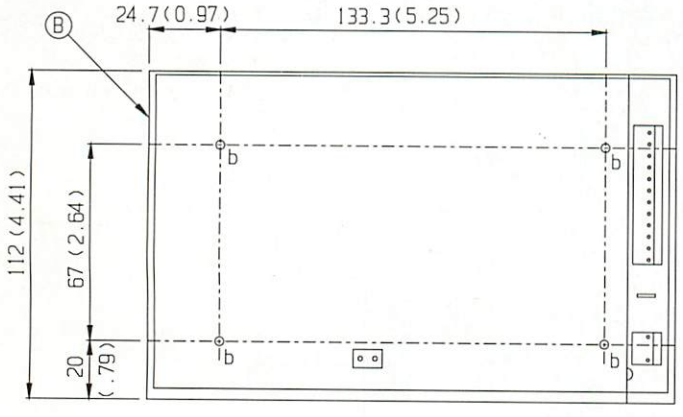
Card Form	160(6.30) x 100(3.94) x 43.5(1.72).
Enclosed Form	165.2(6.50) x 105.3(4.15) x 54.2(2.13). 0.67kg (1.48lb)
Fixings	Card form units have 5 x 4mm (0.16in) clearance holes marked 'a' on the outline drawing. 7 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'b' on the outline drawing.
Connectors	The following connectors are required for connection to the power supply:
Input	Molex 5051 series, ref. 22-01-1063.
Output	4 x Molex 5051 series, ref. 22-01-1043.
Input Voltage Selector	Tap changer link provided.
Auxiliary Functions	Molex 5051 series, ref. 22-01-1023.
	All Molex 5051 series housings require 40445 series crimps (2759 series in U.S.A.).

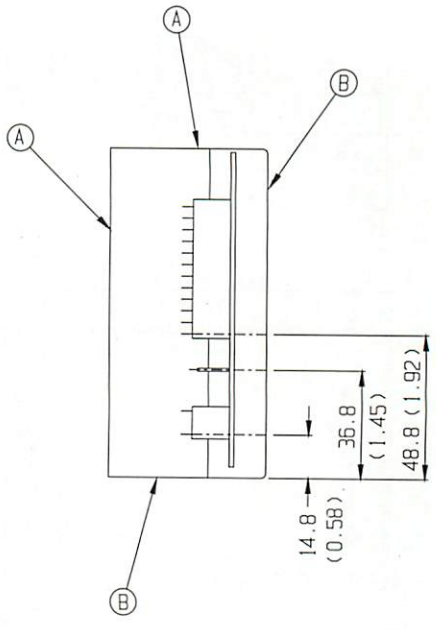
*NA055P4** RANGE OUTLINE DRAWING*

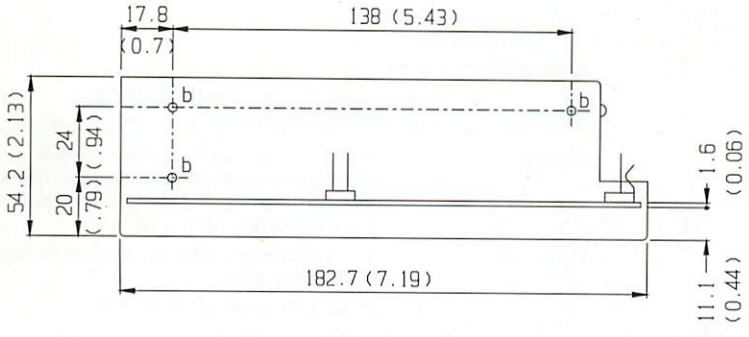
All dimensions are nominal and are given in mm (inches).











External Dimensions and Mass

Card Form	178(7.01) x 107.4(4.21) x 41.6(1.64).
Enclosed Form	182.7(7.19) x 112(4.41) x 54.2(2.13). 0.77kg (1.70lb)
Fixings	Card form units have 6 x 4mm (0.16in) clearance holes marked 'a' on the outline drawing. 7 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'b' on the outline drawing.
Connectors	The following connectors are required for connection to the power supply:
Input	1/4in spade connector, AMP ref. 154719 and crimp ref. 341002. Plus AMP housing ref. 640250-3.
Output	AMP housing ref. 1-640250-2.
Input Voltage Selector	Tap changer link provided.
Auxiliary Functions	Included in output connector.
	AMP 640250 series housings require crimps ref. 640707-1.