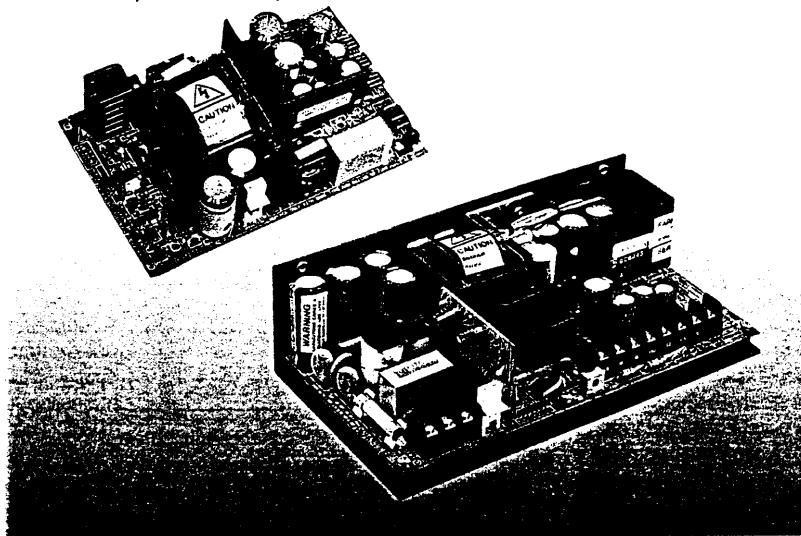


329-927

NA Series

55 to 110 Watt Range

329-927/964/976/988/990



VDE

MULTI OUTPUT
55

MODELS AVAILABLE

Model Number	Output 1	Output 2	Output 3	Output 4	Output 5
NA055P300	+5V 0.7 - 3.5A	+12V 0 - 3A	-(+)-12V 0 - 1A		
NA055P301	+5V 0.7 - 3.5A	+12V 0 - 3A	+(-)-24V 0 - 1A		
NA055P302	+5V 0.7 - 3.5A	+15V 0 - 3A	-(+)-15V 0 - 1A		
NA055P400	+5V 1.2 - 6A	+12V 0 - 3A	F12V 0 - 2A	F24V 0 - 1A	
NA055P401	+5V 1.2 - 6A	+12V 0 - 3A	F12V 0 - 2A	F5V 0 - 1A	
NA055P403	+5V 1.2 - 6A	+15V 0 - 3A	F15V 0 - 2A	F24V 0 - 1A	
NA055P413	+5V 1.2 - 6A	+12V 0 - 3A	F12V 0 - 1A	F12V 0 - 1A	
NA075P300	+5V 1.6 - 8A (16A)	+12V 0 - 3A (6A)	F12V 0 - 2A (4A)		
NA075P400	+5V 1.6 - 8A (16A)	+12V 0 - 3A (6A)	F12V 0 - 2A (4A)	F24V 0 - 1A	
NA075P401	+5V 1.6 - 8A (16A)	+12V 0 - 3A (6A)	F12V 0 - 2A (4A)	F5V 0 - 1A	
NA075P403	+5V 1.6 - 8A (16A)	+15V 0 - 3A (6A)	F15V 0 - 2A (4A)	F24V 0 - 1A	
NA110P300	+5V 2.4 - 12A {4.75 - 5.25V}	+12V 0 - 6A	-(+)-12V 0 - 3A		
NA110P302	+5V 2.4 - 12A {4.75 - 5.25V}	+15V 0 - 6A	-(+)-15V 0 - 3A		
NA110P400	+5V 2.4 - 12A {4.75 - 5.25V}	+12V 0 - 5A	-(+)-12V 0 - 2A		+(-,F)24V 0 - 2A
NA110P401	+5V 2.4 - 12A {4.75 - 5.25V}	+12V 0 - 5A	-(+)-12V 0 - 2A	-(+)-5V 0 - 1A	
NA110P402	+5V 2.4 - 12A {4.75 - 5.25V}	+12V 0 - 5A	+(-)-12V 0 - 3A		-(+,F)12V 0 - 2A
NA110P403	+5V 2.4 - 12A {4.75 - 5.25V}	+15V 0 - 5A	-(+)-15V 0 - 2A		+(-,F)24V 0 - 2A
NA110P500	+5V 2.4 - 12A {4.75 - 5.25V}	+12V 0 - 5A	-(+)-12V 0 - 2A	-(+)-5V 0 - 1A	+(-,F)24V 0 - 2A
NA110P501	+5V 2.4 - 12A {4.75 - 5.25V}	+12V 0 - 5A	-(+)-12V 0 - 2A	-(+)-5V 0 - 1A	+(-,F)12V 0 - 2A

Polarities in parentheses are alternatives available to order. F - Floating output { } - Voltage adjustment range. () - 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). i.e. systems with a separate earth conductor which is directly connected to the neutral conductor at the source.

Efficiency

Minimum 69% when loaded to maximum rated output power.

OUTPUT SPECIFICATION

Voltage Nominal output voltages, adjustment ranges and polarity are shown in the table of models above. Where polarities are indicated in parentheses, these are alternatives available to order. If required, 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 table of models. Values in parentheses are surge current ratings only. 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 All units require free air convection cooling. See outline drawing and mechanical specification for ventilation requirements.

NA055 range: 55W from 0 to 50°C, derate by 2.5%/°C above 50°C.

NA075 range: 75W from 0 to 50°C, derate by 2.5%/°C above 50°C. Surge power up to 100W is available for short durations.

NA110 range: 110W from 0 to 50°C, derate by 2.5%/°C above 50°C.

Load Regulation An output load is varied by $\pm 40\% I_{MAX}$ from $60\% I_{MAX}$ with all other outputs loaded to $20\% I_{MAX}$. Maximum voltage deviation as a percentage of nominal is shown below:

Model	Output 1	Output 2	Output 3	Output 4	Output 5
NA055P3**	±1%	±4%	±5%	—	—
NA055P400,403	±1%	±4%	±5%	±4%	—
NA055P401	±1%	±4%	±5%	±6%	—
NA055P413	±1%	±4%	±1%	±1%	—
NA075P	±1%	±3%	±3%	±1%	—
NA110P (except P402)	±1%	±3%	±3%	±1%	±3%
NA110P402	±1%	±3%	±3.5%	—	±3%

Line Regulation An input variation of from 198V to 264V or from 103.5V to 132V with all outputs proportionally loaded to provide maximum rated power causes a maximum output voltage variation of 0.4% of nominal.

Cross Regulation The output voltage variation of any output when any other output is varied by $\pm 25\% I_{MAX}$ from $75\% I_{MAX}$ is shown below:

Model	Output 1	Output 2	Output 3	Output 4	Output 5
NA055P3**	±0.2%	±5%	±5%	—	—
NA055P400, 401,403	±0.2%	±5%	±5%	±5%	—
NA055P413	±0.2%	±5%	±0.2%	±0.2%	—
NA075P	±0.1%	±4%	±4%	±0.1%	—
NA110P***	±0.1%	±3%	±3%	±0.1%	±3%

Ripple and Noise

With all outputs proportionally loaded to provide maximum rated power: The differential ripple voltage over the frequency range 10Hz – 100kHz does not exceed 50mV pk-pk on NA075 range units and NA110P3** models; the differential noise voltage over the frequency range 10Hz – 30MHz does not exceed 100mV pk-pk on all models except NA110P4** and NA110P5** where the limit is 2% pk-pk of nominal output voltage.

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

Input to output isolation barriers, including layout and wiring, are specified to 4kV a.c. r.m.s. for one minute. Where a safety earth is interposed between primary and secondary, this potential is applied as 2kV a.c. r.m.s. input to earth and 2kV a.c. r.m.s. 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

The earth current is measured as the voltage across a 1.5kΩ resistor in parallel with a 1.5nF capacitor, inserted in series with the earth line. Under full load, the leakage current does not exceed:

NA055 & NA075	0.5mA at 50Hz 0.6mA at 60Hz 4.3mA at 440Hz.
NA110	1mA at 50Hz 1.2mA at 60Hz 8.5mA 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	NA055 and NA075 range units are supplied in card form, NA110 range units are supplied on 'L' chassis as standard. A metal chassis (where appropriate) and mesh cover 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.
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INTERNATIONAL SAFETY STANDARDS

NA055P range:

BABT	EN41003.
BSI	BS5850; IEC380; IEC950.
CSA	Bulletin 1402C.
UL	UL478; UL1012; UL1950 + D3.
VDE	EN60950.

NA075P range:

BSI	BS5850; IEC380. NA075P400 and 401 models only.
BABT	BS6301. NA075P300, 400 and 401 models only.
CSA	C22.2 #143; C22.2 #154; Bulletin 1402. NA075P4** models only.
TUV	VDE0804; VDE0805; VDE0806. NA075P400 and 401 models only.
UL	UL1950.

NA110P range:

BABT	BS6301; BS6484.
BSI	BS5850; BS6204; IEC380; IEC435. Models NA110P400, 401, 402, 500 and 501 only.
CSA	C22.2 #234.
UL	UL1950.
VDE	VDE0805; VDE0806. Models NA110P400, 401, 402, 500 and 501 only. VDE0805; EN60950. Models NA110P300, 302 and 403.

More detailed information is available on these units from your local sales office or agent. Please refer to Section L at the end of this catalogue for your local contact.

ORDERING INFORMATION

The order code consists of five fields:

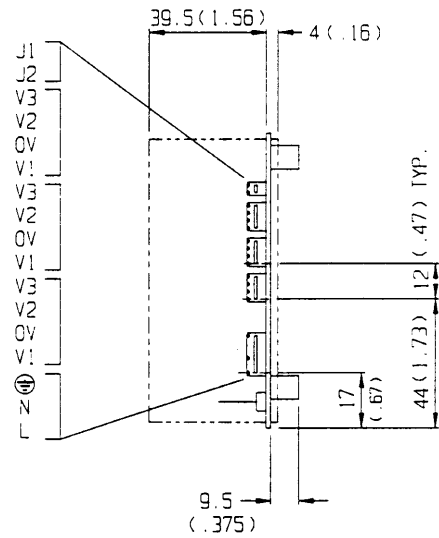
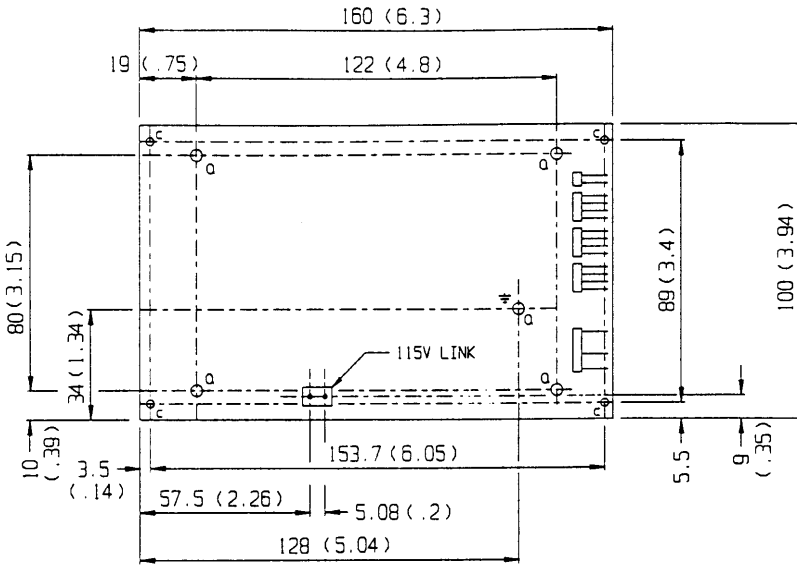
1. Source code:	13
2. Series:	NA
3. Range:	055P, 075P, 110P
4. Version:	See table of models.
5. Options (as required)	a) Signal options: A or B b) Mechanical option: M

Note fields 2, 3 and 4 comprise the basic model number. e.g. to order a NA075P400 with power fail warning (option A) and with chassis and mesh cover (option M), the order code is:

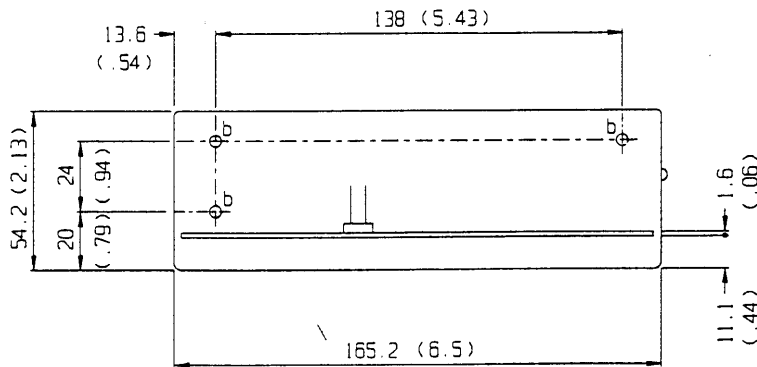
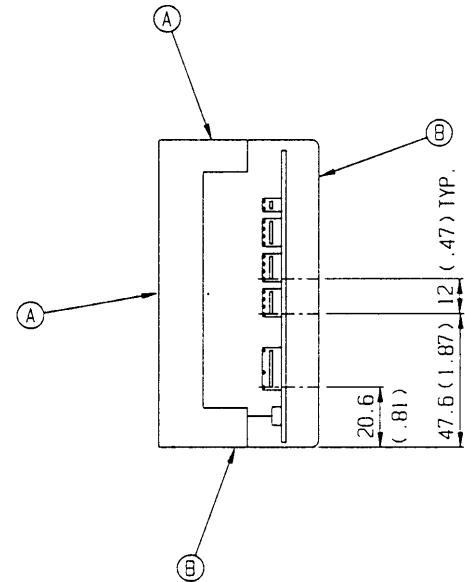
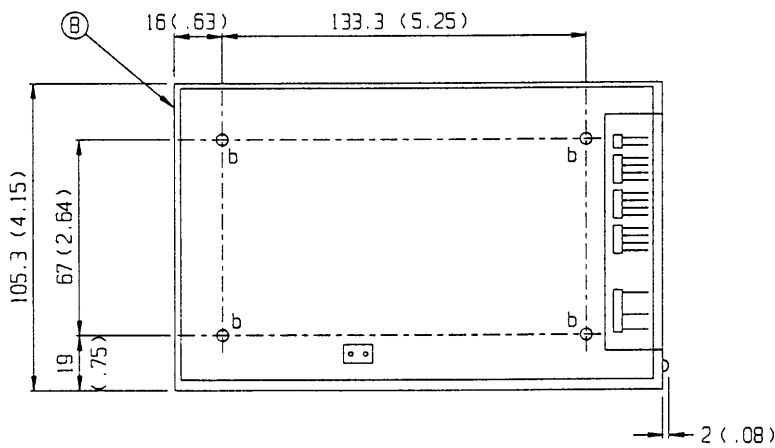
13 NA 075P 400 AM

NA055P3** RANGE OUTLINE DRAWING

CARD FORM



ENCLOSED FORM



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

External Dimensions and Mass

Card Form	160(6.30) x 100(3.94) x 41.6(1.64).
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.

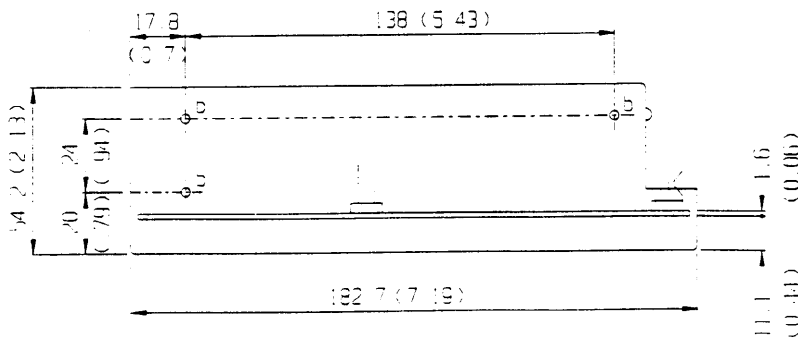
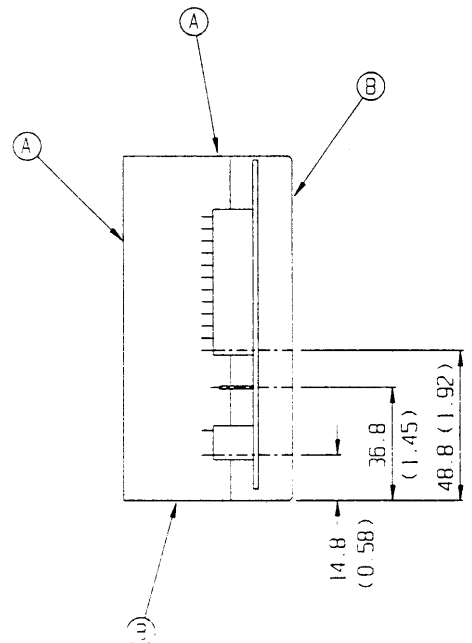
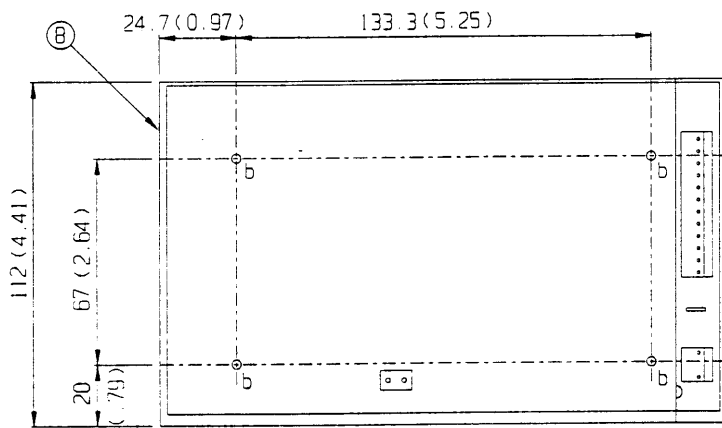
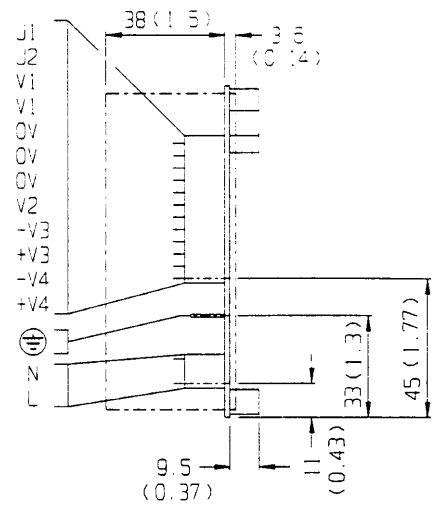
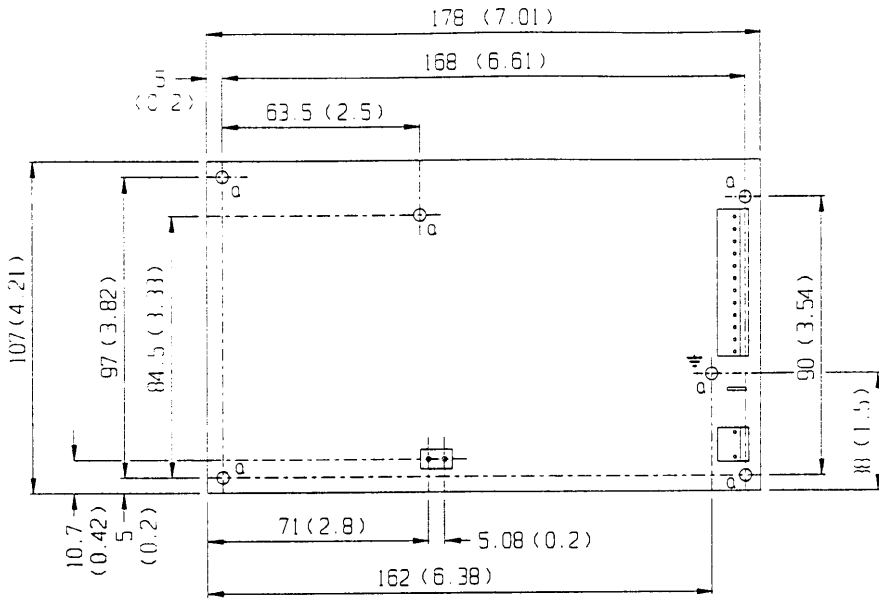
Connectors

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
CARD FORM



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 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 1/4in spade connector, AMP ref. 154719 and crimp ref. 341002. Plus AMP housing ref. 640250-3.

Output AMP housing ref. 1-640250-2.

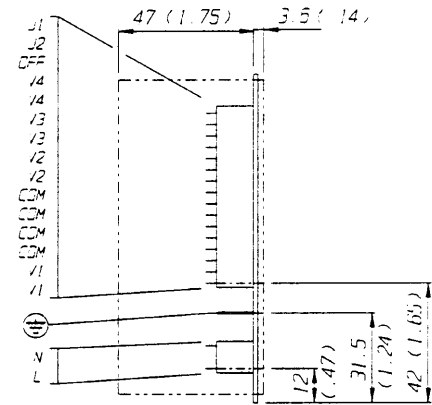
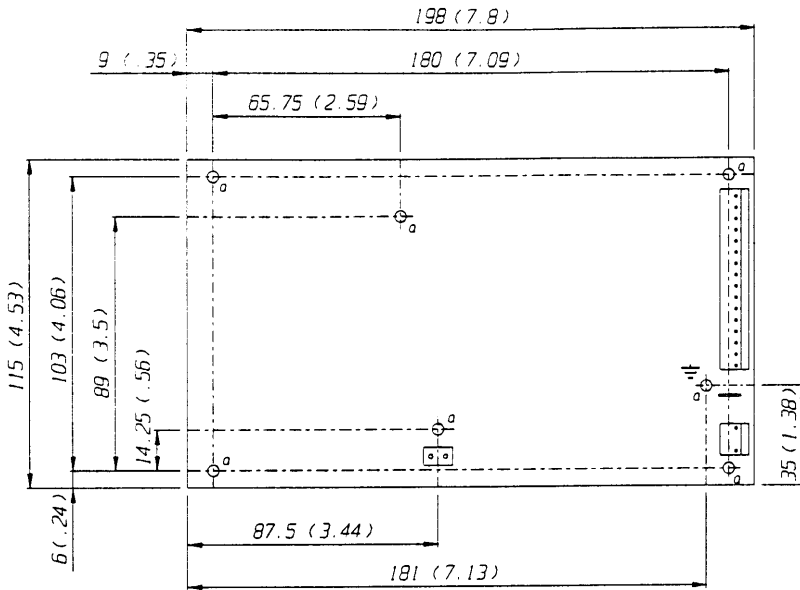
Input Voltage Selector Tap changer link provided.

Auxiliary Functions Included in output connector.

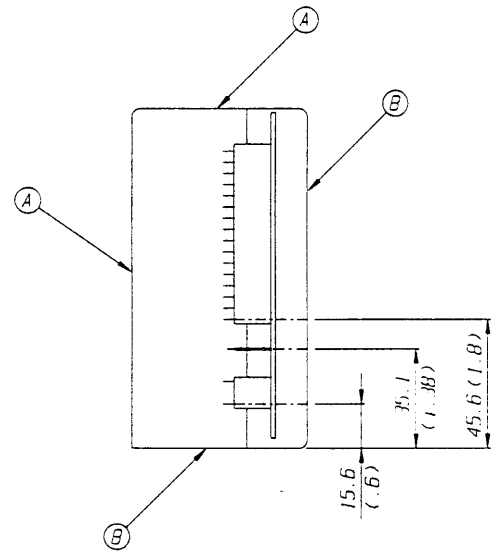
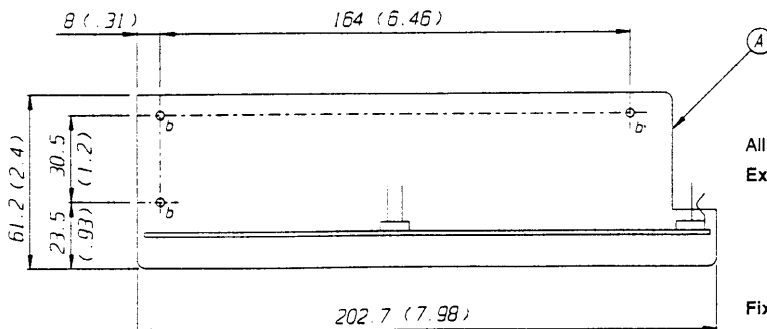
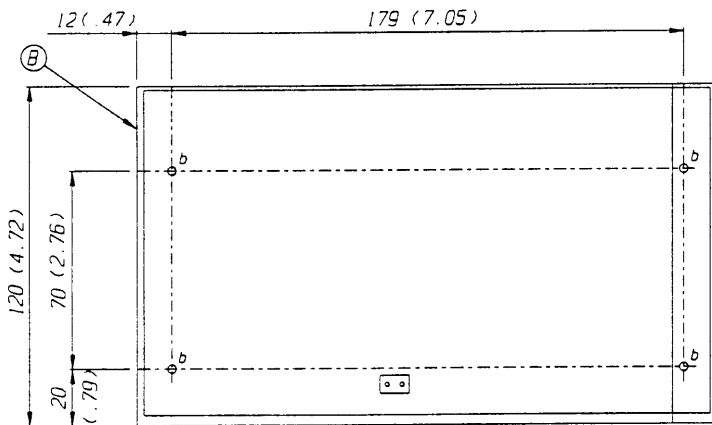
AMP 640250 series housings require crimps ref. 640707-1.

NA075P RANGE OUTLINE DRAWING

CARD FORM



ENCLOSED FORM



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

External Dimensions and Mass

Card Form	198(7.80) x 115(4.53) x 50.6(1.99).
	0.61kg (1.34lb)
Enclosed Form	202.7(7.98) x 120(4.72) x 61.2(2.41).
	0.90kg (1.98lb)

Fixings

Card form units have 7 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. 1-640250-6.

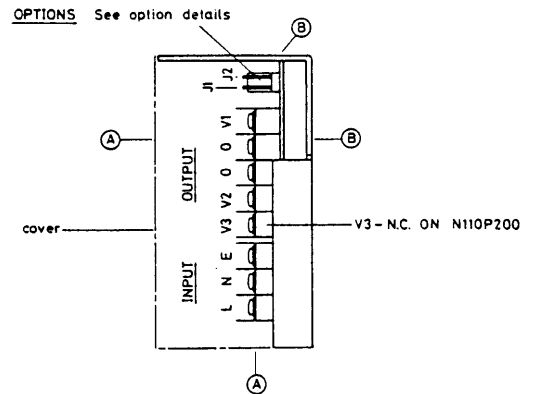
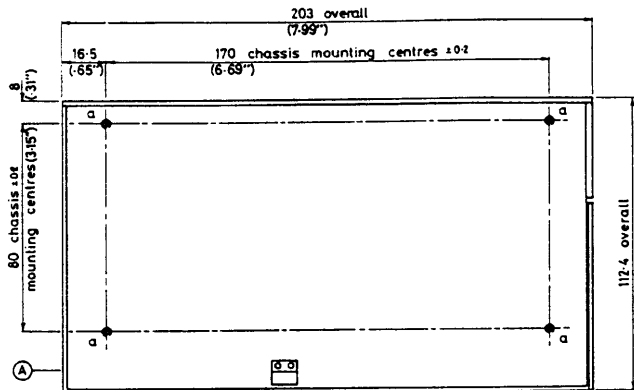
Input Voltage Selector Tap changer link provided.

Auxiliary Functions Included in output connector.

AMP 640250 series housings require crimps ref. 640707-1.

NA110P3** RANGE OUTLINE DRAWING

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



External Dimensions and Mass

Chassis Form 203(7.99) x 112.4(4.43) x 58.8(2.31).

Enclosed Form 203(7.99) x 112.4(4.43) x 60(2.36).
0.98kg (2.16lb).

Fixings 8 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'a' on the outline drawing.

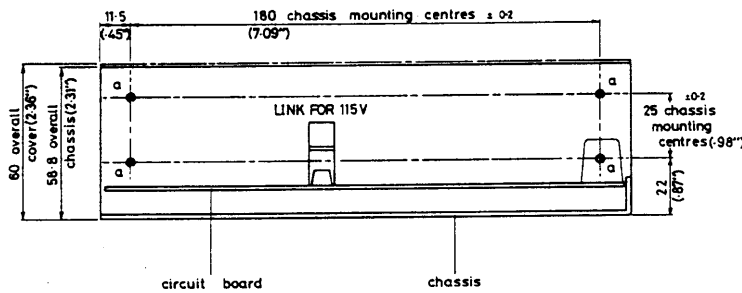
Connectors The following connectors are provided on the power supply:

Input Beau 70000 series, ref. 72503CV.

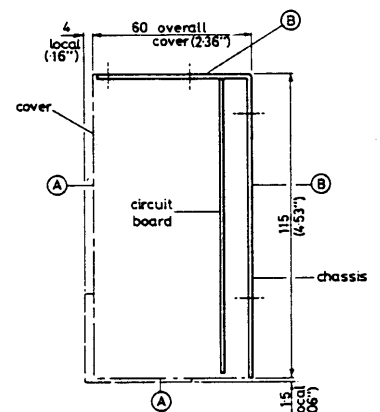
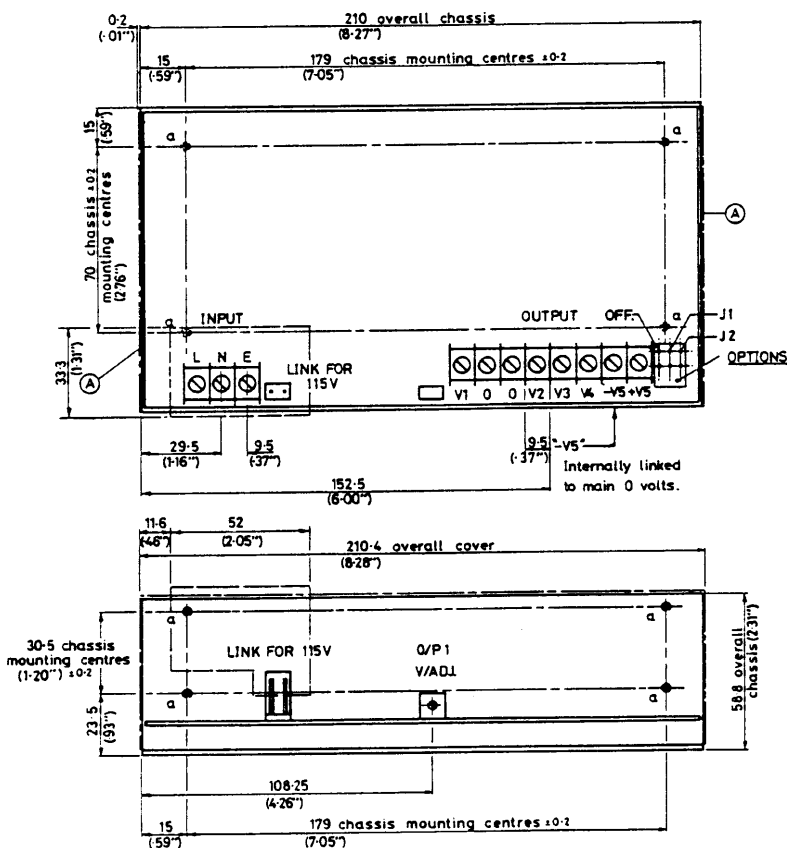
Output Beau 72000 series, ref. 72505C.

Input Voltage Selector Tap changer link provided.

Auxiliary Functions AMP ref. 64044-02



NA110P4** AND NA110P5** RANGE OUTLINE DRAWING



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

External Dimensions and Mass

Chassis Form 210(8.27) x 115(4.53) x 58.8(2.31).

Enclosed Form 210.4(8.28) x 115(4.53) x 60(2.36).
1.03kg (2.27lb)

Fixings 8 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'a' on the outline drawing.

Connectors The following connectors are provided on the power supply:

Input Beau 72000 series, ref. 72502CV.

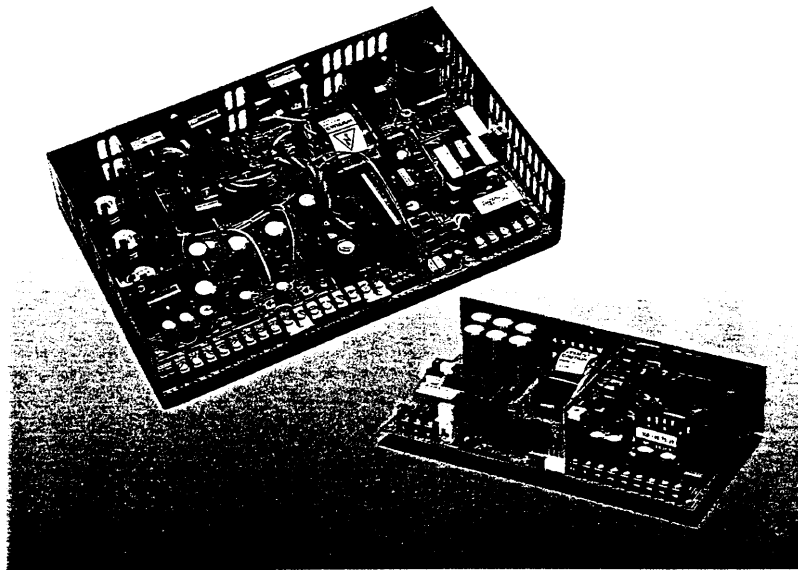
Output Beau 72000 series, ref. 72508C.

Input Voltage Selector Tap changer link provided.

Auxiliary Functions AMP ref. 640445-3.

MULTI OUTPUT

16



VDE

MODELS AVAILABLE

Model Number	Output 1	Output 2	Output 3	Output 4	Output 5
NA140P300	+5V 2 – 17A	+12V 0 – 7A (9A)	F12V 0 – 3A (4A)		
NA140P401	+5V 2 – 17A	+12V 0 – 7A (9A)	F12V 0 – 3A (4A)		F5V 0 – 1A
NA140P500	+5V 2 – 17A	+12V 0 – 5A (6.5A)	F12V 0 – 3A (4A)	F24V 0 – 3A (4A)	F5V 0 – 1A
NA140P501	+5V 2 – 17A	+12V 0 – 5A (6.5A)	F12V 0 – 3A (4A)	F12V 0 – 1.5A (4A)	F5V 0 – 1A
NA200P401	+5V 4 – 30A (32A)	+12V 0 – 7A (9A)	F12V 0 – 5A (7A)		F5V 0 – 1A
NA200P500	+5V 4 – 30A (32A)	+12V 0 – 7A (9A)	F12V 0 – 5A (7A)	F24V 0 – 3A (4.5A)	F5V 0 – 1A
NA200P502	+5V 4 – 30A (32A)	+12V 0 – 7A (9A)	F12V 0 – 5A (7A)	F12V 0 – 5A (7A)	F5V 0 – 5A
NA300R500	F5V 0 ⁽¹⁾ – 50A	F12V 0 – 6A	F12V 0 – 6A	F24V 0 – 5A	F5V 0 – 1.5A
NA300R505	F5V 0 ⁽¹⁾ – 50A	F12V 0 – 6A	F12V 0 – 6A	F48V 0 – 2.5A	F5V 0 – 1.5A

() Figures in parentheses denote surge ratings

(1) With output 1 at 0A, auxiliary outputs will provide up to 50% of rated output. for full power on auxiliaries a minimum current of 2.5A is required on output 1.

INPUT SPECIFICATION

Input Voltage 92 – 132V a.c. on 115V tap. 176 – 264V a.c. or 249 – 373V d.c. on 230V tap. An auto-ranging input facility is available by specifying option 'U'.

Frequency 45 – 440Hz.

Supply Type Single phase TN-S systems (as defined in IEC364). i.e. systems with a separate earth conductor which is directly connected to the neutral conductor at the source.

Efficiency Minimum 74% when loaded to maximum rated output power.

Current

Power

Recommended minimum operating current and maximum continuous current ratings (I_{MAX}) are shown in the table of models above. Values in parentheses are surge current ratings only. 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 are applicable over the full operating temperature range of the units.

All units require free air convection cooling. See outline drawing and mechanical specification for ventilation requirements.

NA140P: 140W continuous up to 50°C ambient. From 50°C to 70°C derate by 2.5%/°C. 165W surge.

NA200P: 200W continuous up to 50°C ambient. From 50°C to 70°C derate by 2.5%/°C.

NA300R: 300W continuous up to 50°C ambient. From 50°C to 70°C derate by 2.5%/°C. 250W surge.

OUTPUT SPECIFICATION

Voltage Nominal output voltages and polarity are shown in the table of models above.

Load Regulation An output load is varied by $\pm 40\% I_{MAX}$ from 60% I_{MAX} with all other outputs loaded to 20% I_{MAX} . Maximum voltage deviation as a percentage of nominal is shown below:

Model	Output 1	Output 2	Output 3	Output 4	Output 5
NA140Pxxx (except as below)	$\pm 1\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 1\%$
NA140P501	$\pm 1\%$	$\pm 3\%$	$\pm 3\%$	$\pm 1\%$	$\pm 1\%$
NA200Pxxx (except as below)	$\pm 1\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 1\%$
NA200P502	$\pm 1\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 5\%$
NA300R	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$

Line Regulation An input variation of from 198V to 264V or from 103.5V to 132V with all outputs proportionally loaded to provide maximum rated power causes a maximum output voltage variation of 0.4% of nominal on NA140P and NA200P models; 0.5% of nominal on NA300R models.

Cross Regulation The output voltage variation of any output when any other output is varied by $\pm 25\% I_{MAX}$ from 75% I_{MAX} is shown below:

Model	Output 1	Output 2	Output 3	Output 4	Output 5
NA140Pxxx (except as below)	$\pm 0.1\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 0.1\%$
NA140P501	$\pm 0.1\%$	$\pm 3\%$	$\pm 3\%$	$\pm 0.1\%$	$\pm 0.1\%$
NA200Pxxx (except as below)	$\pm 0.2\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 0.1\%$
NA200P502	$\pm 0.2\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$	$\pm 3\%$
NA300R	$\pm 0.25\%$	$\pm 0.25\%$	$\pm 0.25\%$	$\pm 0.25\%$	$\pm 0.25\%$

Ripple and Noise With all outputs proportionally loaded to provide maximum rated power: The differential ripple voltage over the frequency range 10Hz – 100kHz does not exceed 50mV pk-pk; the differential noise voltage over the frequency range 10Hz – 30MHz does not exceed 100mV pk-pk on NA140P and NA200P models, and 1% of nominal or 100mV, whichever is the larger on NA300R models.

PROTECTION

Input Overvoltage Units are protected by gas discharge devices which, under severe input overvoltage conditions, will break down and may cause the input fuse to rupture.

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. Overvoltage protection is available on auxiliary outputs of NA300R models as option 'V'. Latching overvoltage protection levels are:

5V output	5.8 – 7.0V
12V output	13.5 – 15.0V
24V output	27.0 – 30.0V
48V output	54.0 – 60.6V

AUXILIARY FUNCTIONS

Remote Sense Available on the main output of NA300R models.

Parallel Operation The main output of NA200P and NA300R ranges are suitable for operation in parallel with other units from the same range.

External Inhibit The output currents of all units may be inhibited by a logic signal.

External Shutdown NA300R models may be shut down by a logic signal.

Power Fail Signal Available as standard on NA300R range, and available when option A or B is specified on NA140P and NA200P range units. 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 Input to output isolation barriers, including layout and wiring, are specified to 4kV a.c. r.m.s. for one minute. Where a safety earth is interposed between primary and secondary, this potential is applied as 2kV a.c. r.m.s. input to earth and 2kV a.c. r.m.s. output to earth. Complete units are tested to 1.5kV a.c. r.m.s. (2.3kV d.c. on NA300R models) between input and output, with all output terminals connected together and connected to earth.

Secondary to Earth Units are tested to 700V d.c. (500V a.c. r.m.s. on NA300R models) from output to earth, with all output terminals connected together.

Earth Leakage Current The earth current is measured as the voltage across a 1.5k Ω resistor in parallel with a 1.5nF capacitor, inserted in series with the earth line. Under full load, the leakage current does not exceed:

1mA at 50Hz;
1.2mA at 60Hz;
8.8mA 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 All units are supplied on 'L' chassis as standard. A metal mesh cover 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 airflow 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 and power ratings in output specifications for any deratings required.
Operating Humidity	0 to 95% R.H. non-condensing.

INTERNATIONAL SAFETY STANDARDS

Units indicated below 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.

NA140P range:

For BSI, CSA, UL and VDE approval, the maximum power is reduced to 120W when the unit is fitted with a cover.

BABT	EN41003.
BSI	BS5850; BS6204; IEC380; IEC435.
CSA	C22.2 #234.
UL	UL1950.
VDE	VDE0805; VDE0806.

NA200P range:

BABT	BS6301, BS6484.
BSI	BS5850, BS6204; IEC380; IEC435.
CSA	Bulletin 1402C.
UL	UL1950.
VDE	EN60950.

NA300R range:

BABT	BS6301, BS6484.
CSA	C22.2 #234.
UL	UL1950.
VDE	EN60950; VDE0805.

More detailed information is available on these units from your local sales office or agent. Please refer to Section L at the end of your catalogue for your local contact.

ORDERING INFORMATION

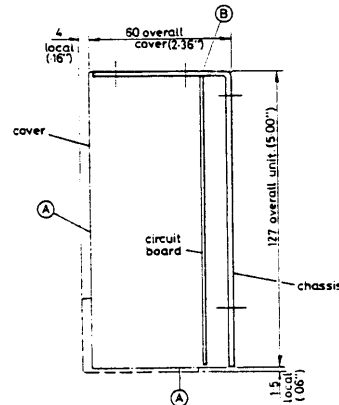
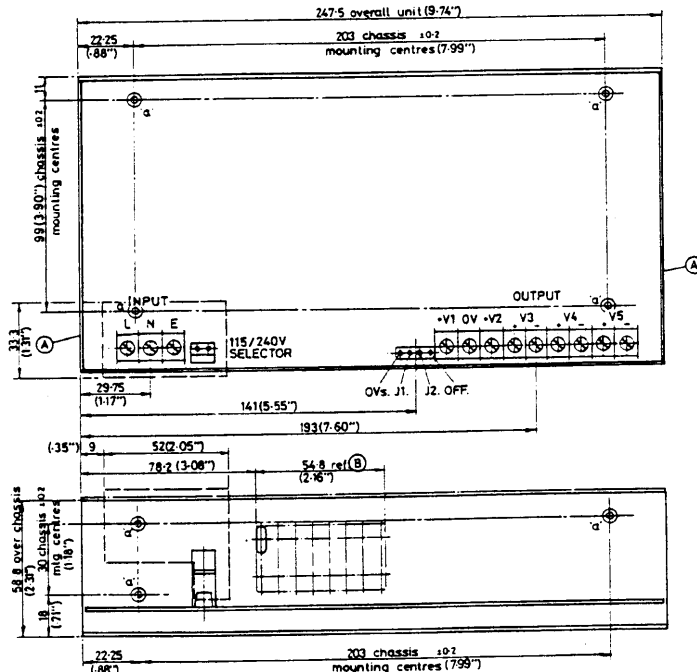
The order code consists of 5 fields:

1. Source code: 13
2. Series: NA
3. Range: 140P, 200P or 300R
4. Version: From table of models
5. Options (as required)
 - a) Auto-ranging input: U
 - b) Signals option: A or B
 - c) Auxiliary OVP: V (NA300R only)
 - d) Mechanical options: M

Note that fields 2, 3 and 4 comprise the basic model number of the unit. e.g. to order model NA140P500 with power fail warning and with mesh cover fitted, the order code is:

13 NA 140P 500 AM

NA140P RANGE OUTLINE DRAWING



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

External Dimensions and Mass

- Chassis form: 247.5(9.74) x 127(5.00) x 58.8(2.31).
- Enclosed form: 247.5(9.74) x 127(5.00) x 60 (2.36). 1.36kg (3.0lb).

Fixings

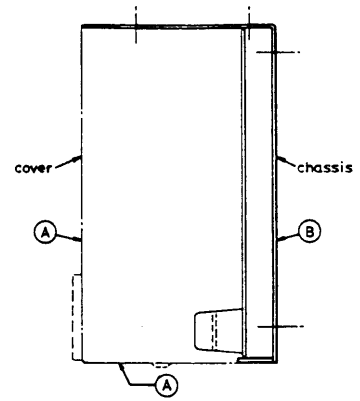
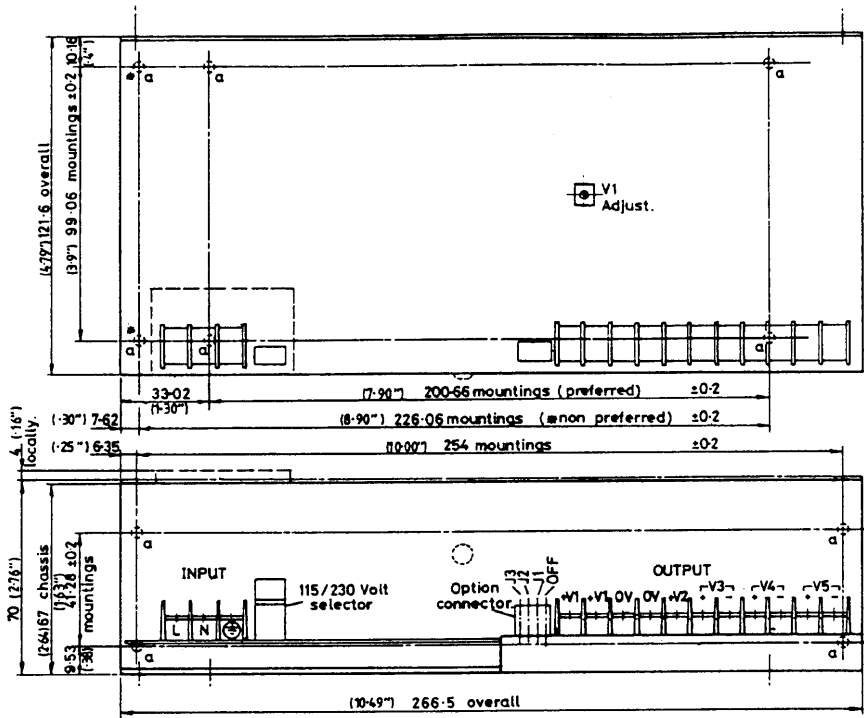
7 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'a' on the outline drawing.

Connectors

The following connectors are provided on the power supply:

- Input: Beau 72000 series, ref. 72503CV.
- Output: Beau 72000 series, ref. 72509C.
- Input Voltage Selector: Tap changer link supplied.
- Auxiliary Functions: AMP ref. 640445-4.

NA200P RANGE OUTLINE DRAWING



MULTI OUTPUT

C 19

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

External Dimensions and Mass

- Chassis form: 266.5(10.49) x 121.6(4.79) x 67(2.64).
- Enclosed form: 266.5(10.49) x 121.6(4.79) x 70(2.76) 1.73kg (3.81lb).

Fixings 10 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'a' on the outline drawing.

Connectors The following connectors are provided on the power supply:

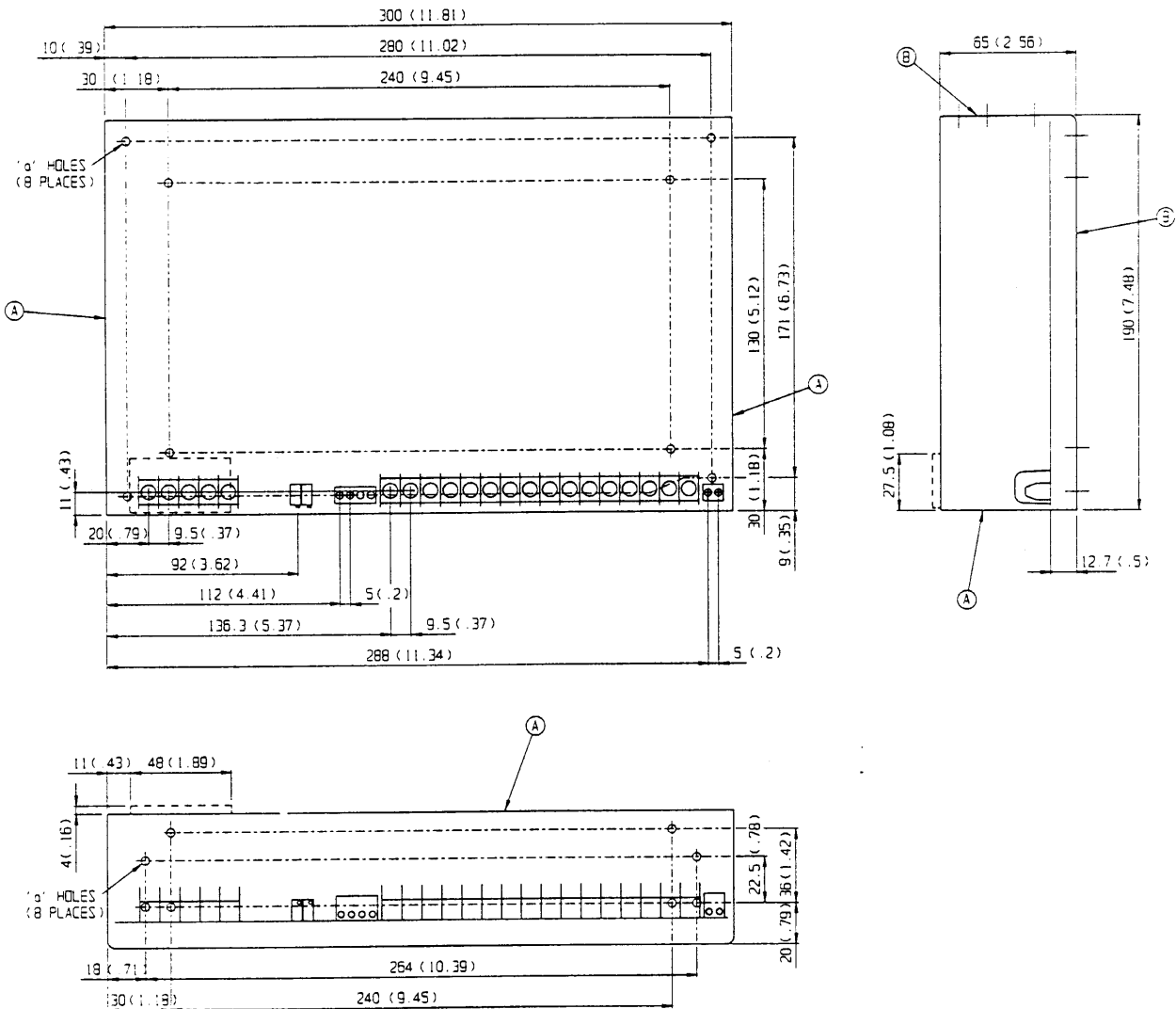
- Input Beau 72000 series, ref. 72503CV.
- Output Beau 72000 series, ref. 72511C.
- Input Voltage Selector Tap changer link supplied.
- Auxiliary Functions AMP ref. 640445-4.

MULTI OUTPUT

C
20

NA300R RANGE OUTLINE DRAWING

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



External Dimensions and Mass

Chassis form: 300(11.81) x 190(2.48) x 65(2.56).

Enclosed form: 300(11.81) x 190(2.48) x 69(2.72).

3.7kg (8.14lb).

Fixings

16 x M3 ISO standard threaded inserts are provided on the chassis and are marked 'a' on the outline drawing.

Connectors

The following connectors are provided on the power supply:

Input Beau 72000 series, ref. 72505CV.

Output Beau 72000 series, ref. 72516CV.

Input Voltage Selector Included on input connector.

Auxiliary Functions Metway P95 series, ref. P95/4 and ref. P95/2.