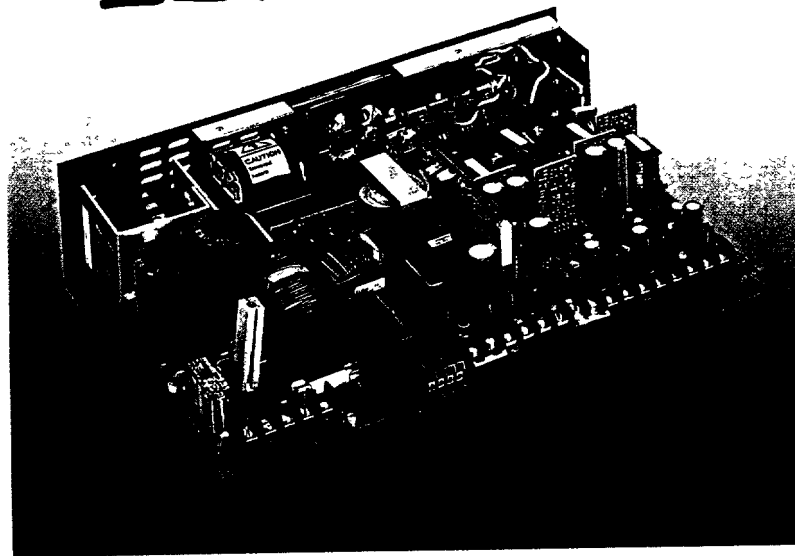


227-201



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MULTI-OUTPUT AC-DC

SUMMARY SPECIFICATION

Model Number	Input Voltage	Output Number	Nominal Voltage	Adjustment Range	Output Current	Total Power	Dimensions
NF350R500	92 – 132V a.c. 176 – 264V a.c.	1	F5V	4.75 – 5 25V	6 – 50A ⁽¹⁾	350W ⁽¹⁾	Chassis form: 300 x 190 x 65 mm 11.81 x 7.48 x 2.56 in. Enclosed form 300 x 190 x 69 mm 11.81 x 7.48 x 2.72 in.
		2	F24V	12 – 24V	0 – 6A[8A]		
		3	F12V	12 – 16V	0 – 6A[8A]		
		4	F12V	12 – 16V	0 – 6A[8A]		
		5	F5V	5 – 15V	0 – 4A[5A]		
NF500R500	249 – 373V d.c.	1	F5V	4.75 – 5 25V	8 – 60A ⁽¹⁾	500W ⁽¹⁾	Enclosed with fan: 300 x 190 x 103 mm 11.81 x 7.48 x 4.06 in.
		2	F24V	12 – 24V	0 – 6A[8A]		
		3	F12V	12 – 16V	0 – 10A[12A]		
		4	F12V	12 – 16V	0 – 6A[8A]		
		5	F5V	5 – 15V	0 – 4A[5A]		

(1) Maximum current rating of output 1 and power rating are dependant on mechanical format and cooling. See power ratings table

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	80% typical when loaded to the maximum rated output power.

Power

ratings are applicable up to 50°C. From 50°C to 70°C the maximum currents should be derated 2.5%/°C.

All units are multiple rated for convection cooling and forced air cooling. See outline drawing and mechanical specification for ventilation requirements. Derate power ratings by 2.5%/°C above 50°C.

OUTPUT SPECIFICATION

Voltage	Nominal output voltage and adjustment ranges are shown in the summary specification above.
Current	Recommended minimum operating current and maximum continuous current ratings (I_{max}) are shown in the summary specification above and in the power rating table above. Values in brackets [] are surge current ratings only. Full rated current must not be drawn from all outputs simultaneously due to the total power rating of the unit. All maximum current

Format	Cooling	NF350		NF500	
		Power	Output 1 Current	Power	Output 1 Current
Open Frame	Convection	270W	35A	300W	36A
	Blown at 1.5ms ⁻¹	350W	50A	500W	60A
Enclosed	Convection	240W	30A	250W	30A
	Blown at 1.5ms ⁻¹	300W	40A	400W	48A
Integral Fan (W option)		350W	50A	500W	60A

Combined Regulation Maximum 2% of set voltage for an input variation of 176V to 264V or 92 to 132V and an output load variation of I_{MIN} to I_{MAX}

Ripple and Noise 25mV pk-pk maximum on output 1 and 50mV pk-pk maximum on other outputs over 100kHz bandwidth 50mV pk-pk maximum on output 1 and 100mV pk-pk maximum on other outputs over 30MHz bandwidth

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 maximum rated output power 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 Output 1 is protected against overvoltage as standard Other outputs may have overvoltage protection provided by specifying option V Unit shutdown will occur at between 5.7V and 7.0V on output 1, 110% and 120% of set output voltage on other outputs

Output Overcurrent All outputs are protected against output overload

Overtemperature Units are protected against thermal overload conditions

AUXILIARY FUNCTIONS

Remote Sense Available on output 1 of all units

Parallel Operation All outputs of all units shown are suitable for operation in parallel with other outputs set to the same voltage.

Series Operation Outputs may be connected in series to provide higher output voltages

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

External Shutdown Units may be shut down by a logic signal

Power Fail Signal 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 2.1kV d.c. between input and output, with all output terminals connected together and connected to earth

Secondary to Earth Units are tested to 700V d.c. from output to earth, with all output terminals connected together

Earth Leakage Current Under full load, the leakage current does not exceed

1mA at 50Hz,
1.2mA at 60Hz,
8mA at 440Hz.

ELECTROMAGNETIC COMPATIBILITY

Exported Noise All units meet the requirements of, BS6527 Class A, EEC Directive 82/499/EEC, FCC Rules Part 15 Subpart J Class A, VDE0871 Class A

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 A cover with integral fan is also available and is specified by adding 'W' to the end of the model number

Mounting Orientation Units may be mounted in any orientation

Ventilation and Cooling All faces and areas requiring free air flow are indicated on the outline drawing Faces marked 'A' are fully ventilated, faces marked 'B' are partially ventilated, areas marked 'D' contain a fan and require free air flow Units may be convection cooled, cooled by an integral fan or blown with an airflow of 1.5ms⁻¹.

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 104,000 hrs at 25°C ground benign according to MIL HBK 217 E

INTERNATIONAL SAFETY STANDARDS

All 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 When forced air cooled, NF500R range units require 2ms⁻¹ airflow for these approvals

CE marked to the Low Voltage Directive.

BABT	BS6301.
CSA	Bulletin 1402C
TUV	EN60950
UL	UL1950.

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

OUTLINE DRAWING

All dimensions are nominal and are in mm (inches)

External Dimensions and Mass

Chassis form	300(11 81) x 190(7 48) x 65(2 56)
Enclosed form	300(11 81) x 190(7 48) x 69(2 72)
Enclosed with fan	300(11 81) x 190(7 48) x 103(4 06) 3 7kg (8 2lb)
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 72516C
Input Voltage Selector	On input connector
Auxiliary Functions	Metway ref P95/4 and Metway ref P95/2

ORDERING INFORMATION

The order code consists of 5 fields

1	Source code	13
2	Series	NF
3	Range	350R or 500R
4	Version	500
5	Option	a) Signal option B b) Protection option V c) Mechanical option M or W

e.g. to order an NF350R500 with DC OK signal (B option), auxiliary overvoltage protection (V option) and a cover with integral fan (W option), the order code is

13 NF 350R 500 BVW

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MULTI-OUTPUT AC-DC

