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Farnell
POWER

AWF 1000 Range

AWF 1000 Range

Available Outputs

A single AWF1000 power supply can accommodate a main output and up to 4 auxiliary output modules which may be single or dual output. Most combinations of outputs can be supplied to order and units from the "STANDARD CONFIGURATIONS" table are catalogue products normally carried in stock.

- 1000W output power at 176 - 264V input
- 750W output power at 88 - 264V input
- Universal input with no tap-changing
- Power factor corrected – sinusoidal input current
- Configurable outputs
- Compact 5" x 4" x 11" package
- Comprehensive signals facilities supplied as standard

Table 1.

Main Output

Output Voltage	Output Current	Code
3.3V	125A	F
5V	125A	G
12V	60A	J
24V	30A	L
48V	15A	N

Table 2.

Single Width Auxiliary Output Modules

Output Voltage	Output Current	Surge Current	Code
3.3V	15A	25A	FX
5V	15A	25A	GX
12V	15A	25A	JX
15V	15A	25A	KX
24V	8A	12A	LX
48V	6A	8A	NX
Dual 5V	6A		GG
Dual 12V	6A		JJ
Dual 15V	6A		KK

Table 3.

Double Width Auxiliary Output Module

Output Voltage	Output Current	Surge Current	Code
2.0V	30A	45A	EXXX
3.3V	30A	45A	FXXX
5V	30A	45A	GXXX
12V	30A	45A	JXXX
15V	30A	45A	KXXX
24V	16A	24A	LXXX
48V	10A	15A	NXXX

Table 4.

Standard Configurations

Model Number	O/P Position						
	1	2	2A	3	3A	4	4A
1AWF1000GJXJX00	5V 125A	12V 15A	–	12V 15A	–	–	–
1AWF1000GGXJXJX	5V 125A	5V 15A	–	12V 15A	–	12V 15A	–
1AWF1000GJXJXJX	5V 125A	12V 15A	–	12V 15A	–	12V 15A	–
1AWF1000GJXJXLX	5V 125A	12V 15A	–	12V 15A	–	24V 8A	–
1AWN1000GGXJXXX	5V 125A	5V 15A	–	12V 30A	–	–	–
1AWN1000GJJGGLX	5V 125A	12V 6A	12V 6A	15V 6A	15V 6A	–	–

Input Specification

Voltage Range	88 - 264V a.c. or 132 - 370V d.c. For maximum power at a given input, see table 5.
Input Current	See table 5.
Inrush Current	See table 6.
Frequency	47 - 65Hz. 400Hz version available. Contact sales office for details.
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.
Power	1400W maximum when delivering 1000W output power.
Phase Angle	Less than 5°.
Apparent Power Factor	Greater than 0.9. Typically 0.99.
Efficiency	Typically 75% when loaded to maximum rated output power.
Harmonic Distortion	In accordance with the requirements of IEC555.

Output Specification

Voltage	Nominal output voltages are shown in Tables 1-3. Outputs are factory set to within 1% of the specified nominal.
Current	Recommended maximum continuous current ratings (I_{MAX}) are shown in Tables 1-3. 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 up to 50°C. From 50°C to 70°C derate by 2.5%/°C. A minimum current of 10% I_{MAX} on the main output is required for full current availability on auxiliary outputs.
Power	See table 5 for continuous ratings up to 50°C. From 50°C to 70°C derate by 2.5%/°C.
Load Regulation	Main Output (O/P position 1) The maximum output voltage variation for an output current variation of 10% to 100% I_{MAX} with all other outputs loaded to 20% I_{MAX} is 0.5% of nominal. Auxiliary outputs (O/P positions 2 to 4) The maximum output voltage variation for an output current variation of 0% to 100% I_{MAX} with all other outputs loaded to 20% I_{MAX} is 0.5% of nominal.

Table 5.

Maximum Output Power and Input Current at Full Power

I/P Voltage	Output Power	Input Current
88V	750W	12.8A
100V	750W	10.9A
110V	750W	9.8A
115V	750W	9.2A
132V	750W	7.9A
176V	1000W	7.8A
198V	1000W	6.9A
220V	1000W	6.1A
230V	1000W	5.8A
264V	1000W	5.2A

Table 6.

Inrush Current Characteristics

Input Voltage (V ac)	132V	264V
Peak Inrush Current	<11A	<22A
I^2t over first 20ms	$0.5A^2s$	$2A^2s$
rms current over first 20ms	4.9A	10A

Line Regulation An input variation over the operating range of the unit with all outputs proportionally loaded to provide 750W output power causes a maximum output voltage deviation of 0.1% of nominal.

Cross Regulation The output voltage variation of any output when any other output is varied from 10% I_{MAX} to 100% I_{MAX} is 0.1% of nominal.

Dynamic Regulation An output load variation of ±25% with a rate of change of 3A/µs risetime results in a maximum output voltage deviation of 3% of V out nom. which recovers to within 1% of its final value within 500µs.

Temperature Coefficient Typically ±0.02%/°C on all outputs for temperatures within the operating range.

Ripple and Noise With all outputs proportionally loaded to provide full output power, the differential output noise over the frequency range 10Hz - 20MHz does not exceed 1% pk-pk of the nominal output voltage or 75mV, whichever is the greater.

Protection

Input Fuse Internal 15A T 250V 1¼" x ¼" ceramic bodied fuse fitted.

Input Overvoltage Units meet the requirements of IEC801-5 level 5.

Output Current Limit All outputs have self resetting current limit circuitry. The current limit point is set to between 105% and 120% of $I_{MAX.}$

The characteristic is essentially a constant current characteristic but linearity of current against overload is not controlled.

Option: Latching shutdown after 20secs of current limit operation.

Output Overvoltage Provided as standard on all outputs. Unit shutdown will occur at voltages within the ranges shown below:

2.0V outputs	3.2 - 4.0V
3.3V outputs	4.7 - 6.0V
5V outputs	6.2 - 7.5V
12V outputs	16 - 19V
15V outputs	18 - 22V
24V outputs	30 - 40V
48V outputs	59 - 68V

Overtemperature The unit shuts down when the internal temperature exceeds maximum safe levels. Recovery is automatic upon cooling. Trip option available.

Fan fail / Overtemperature Warning This is an open collector signal. Output is high for fan O.K. and temperature O.K.

Turn On and Turn Off Characteristics

Start-up Time All outputs are above D.C. OK threshold within 1s of application of input power at 240V.

Start-up Characteristic All outputs exhibit a monotonic voltage rise with no overshoot outside the transient response specification.

Hold Up All units have sufficient energy storage to ride through a missing mains cycle when supplying 750W output power at any input. Hold up is >28ms at 750W output power and 88V input and also at 1000W output power and 176V input.

Auxiliary Functions

Remote Sense Available on all outputs except dual output modules to compensate for up to 500mV total voltage drop across the output cables.

Parallel Operation Any outputs may be paralleled with any other output of the same voltage rating.

Current Share	Main Output (O/P position 1) Current sharing can be achieved by linking the relevant signal pins on the sense connector. SEE HANDBOOK FOR DETAILS.
Series Operation	Outputs may be connected in series to provide output voltages up to 250V max.
Inhibit (Non-latching)	The output power of a complete power supply may be inhibited by a logic low signal applied to this input. Removal of the logic signal reinstates the output voltage.
Marginating	Available when option 1 is specified. Output 1 may be "marginated" to 95% or 105% of it's set voltage by connecting pin 11 of connector J2 to pin12 or pin 10 respectively.
Power Fail Signal	An open collector output signal provides warning of impending output failure due to loss of input. At least 20ms warning of output power loss is provided. Output is high for power O.K. Maximum voltage rating is 40V and maximum current rating is 16mA.
DC OK	An open collector output provides a signal indicating that all output voltages are above 90% of nominal. Output is high for outputs O.K.
Fan fail / Overtemperature Warning	Provides a logic low signal in the event of fan failure or overtemperature.
Indicators: DC OK	As DC OK signal. On when all outputs OK.
Input OK	On when corrector is running and power supply is capable of supplying output power.
Trip Shutdown	On when power supply is tripped out by overvoltage, overtemperature or over current trip.

Isolation

Primary to Secondary	The complete unit is tested simultaneously to 2kV a.c. r.m.s. for 1 minute between a.c. input to earth and 500V a.c. r.m.s. from d.c. outputs and signals to earth, giving 2.5kV input to output. Isolation transformers are double insulated and tested to 4kV a.c. r.m.s. from input to output for 1 minute.
Primary to Earth	Units are tested to 2kV a.c. from input to earth.
Secondary to Earth	Units are tested to 500V a.c r.m.s from output to earth, with all output and signal ports connected together.
Earth Leakage Current	Earth current under normal operating conditions does not exceed 1.5mA.
Operating Voltages	The maximum operating voltage between any output (power or signal) and earth or between isolated outputs must not exceed 250V.

Electromagnetic Compatibility

Exported Noise	All units meet the requirements of BS6527 Class B; FCC Rules Part 15 Subpart J Class B; VDE0871 Class B.

Environmental Conditions

Ambient Temperature	0°C to 70°C operating. See current and power ratings in output specification for any deratings required. –40°C to +85°C non-operating.
Humidity	0 - 95% R.H. non-condensing.
Pollution	These power supplies are designed for use in office type environments. i.e. pollution degree 2 environments, as defined in EN60950.

Mechanical Specification

AWF 1000 Range

Mechanical Format All units are supplied enclosed with integral fan as standard.

Mounting Orientation Units may be mounted in any orientation without derating.

Ventilation and Cooling Units are cooled by an integral fan and require free air flow in the area of the fan at the rear of the power supply and over the ventilated front face of the power supply. Normal airflow direction is from the input terminal end to the output terminal end.

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

127 (5.0) x 101 (3.98) x 279.4 (11.0) .

Mass 4.1kg (9.04lb) when fully populated with output modules.

Fixings 8 x M4 ISO standard threaded inserts are provided and are marked "A" on the outline drawing. 8 x 8-32 UNC threaded inserts are provided and are marked "B" on the outline drawing.

Connectors The following connectors are fitted to the power supply:

Input 3 way Beau 72 Series barrier terminal strip using 6-32 x ¼" screws.

Main Output 4 x M5 ISO standard slotted hex head bolts.

Main Output Sense 3 way Du-Pont Berg type 76382-403.

Auxiliary Output(s) Single Width Auxiliary Output Module

M3 screw terminals angled at 30°.

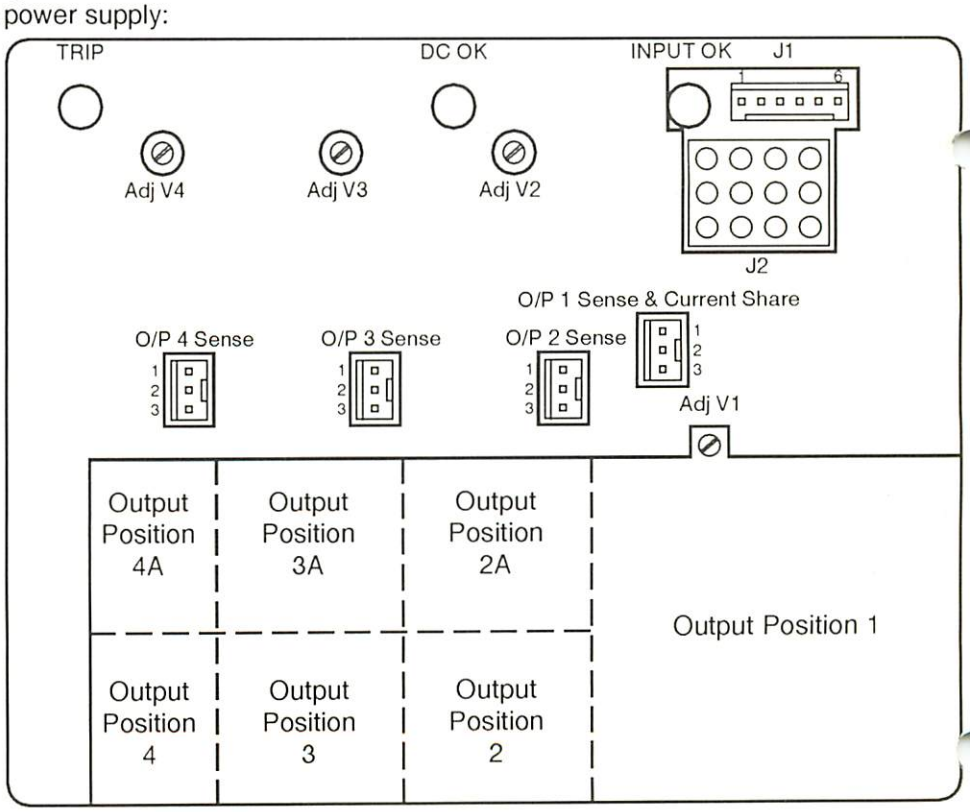
Double Width Auxiliary Output Module

2 x M5 slotted hex head bolts.

Auxiliary Sense 3 way Du-Pont Berg type 76382-403.

Auxiliary functions Molex 7478 series connectors. 2 x ref 22-05-3141 on main module and 1 x 22-05-3061 on each auxiliary module.

Safety and RFI Approvals



The AWF1000 Range of units have been designed and tested to meet the following safety specifications and a programme of test submissions by the relevant approvals bodies is underway. Up to date detailed information is available on request from your local sales office or agent.

BABT

EN41003

EN60950

UL1950

CSA 22.2 No. 234

Ordering Information

The order code consists of 10 fields as follows:

1.	Series	1AW
2.	Package Style	F1000
3.	Voltage code for O/P 1	F, G, J, K, L or N
4.	Voltage code for O/P 2	E, F, G, J, K, L, N or 0
5.	Voltage code for O/P 2A	G, J, K, X or 0
6.	Voltage code for O/P 3	E, F, G, J, K, L, N, X or 0
7.	Voltage code for O/P 3A	G, J, K, X or 0
8.	Voltage code for O/P 4	E, F, G, J, K, L, N, X or 0
9.	Voltage code for O/P 4A	G, J, K, X or 0
10.	Siganlling Option	Blank or 1

Fields 4 and 5, fields 6 and 7 and fields 8 and 9 each specify one output module. For each output module both fields must be specified; when specifying single output modules, an X should be placed in the second field; when specifying doublewidth modules, the voltage code must be followed by 'XXX' indicating that the following three output positions are not available. Double width modules should be fitted in positions 2,3 whenever possible. See Tables 1 to 3 for available output voltage and current combinations.

Output Voltage Codes:

2.0V	E
3.3V	F
5V	G
12V	J
15V	K
24V	L
48V	N
Unavailable	X
Unused	0

Examples:

A single output, single width 5V 15A module has voltage code GX.

A dual output 15V 6A module has voltage code KK.

A single output, double width 12V 30A module has voltage code JXXX.

Although not imperative, by default modules should be fitted in the following order: double width modules; single width, single output modules in order of increasing output voltage; single width dual output modules.

Example

To order an AWF1000 power supply with the following outputs:

3.3V 125A, 24V 8A, 12V 30A.

Referring to tables 1, 2 and 3:

3.3V 125A is the main output, code F. 24V 8A is a single width module, code LX. 12V 30A is a double width module, code JXXX.

After the main output, the double width module comes first followed by the single width module.

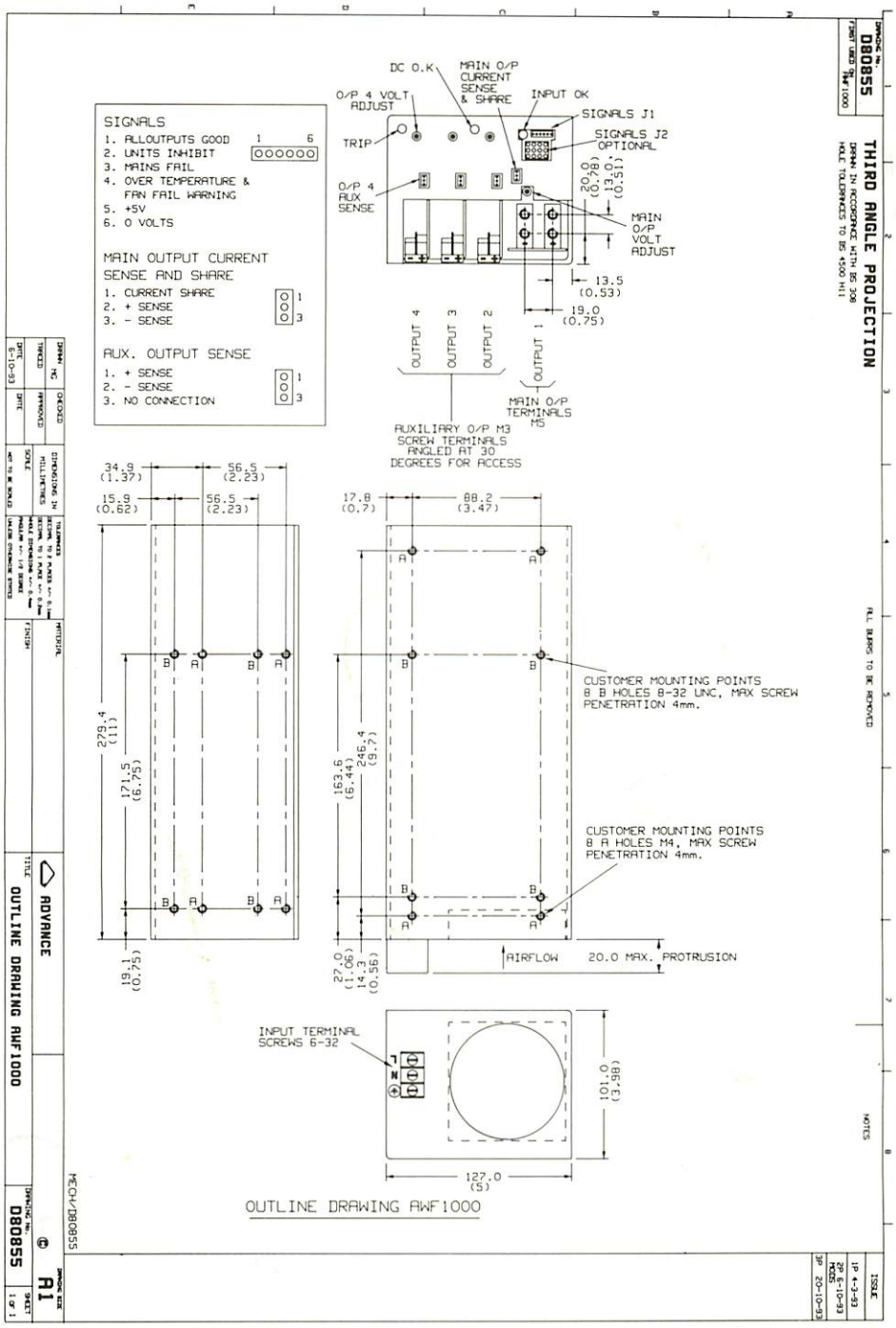
Output	1	2	2A	3	3A	4	4A
Voltage	3.3V	12V	–	–	–	24V	–
Current	125A	30A	–	–	–	8A	–
Code	F	J	X	X	X	L	X

The order code will be: 1AWF1000FJXXXLX.

Guarantee

All Farnell Power products are guaranteed against faulty manufacture and faulty components for a period of twelve months from the date of despatch. See conditions of sale for full details.

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



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FARNELL POWER LIMITED
Sandbeck Way, Wetherby,
West Yorkshire, LS22 7DE, UK.
Tel: +44 (0)937 581961
Fax: +44 (0)937 586908
Tlx: 557294

FARNELL POWER LIMITED
Raynham Road, Bishop's Stortford,
Hertfordshire, CM23 5PF, UK.
Tel: +44 (0)279 655155
Fax: +44 (0)279 655322
Tlx: 81510

FARNELL ITALIA srl,
Via F.lli Cernuschi 22,
22055 Merate, Como, Italia.
Tel: 039 9907612
Fax: 039 599213
Tlx: 315351

FARNELL ADVANCE POWER Inc.
32111 Aurora Road,
Solon, Ohio, 44139, USA
Tel: 216 349 0755
Fax: 216 349 0142

FARNELL ELECTRONIC GmbH
Postfach 20 02 49,
63530 Mainhausen, Deutschland.
Tel: 061 82/21091
Fax: 061 82/28819
Tlx: 6182914

FARNELL WAYNE KERR
ELEKTRONIKAI KFT
1142 Budapest, Kassai Ut 166 S/A
Tel: 251 5520
Fax: 251 5520

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