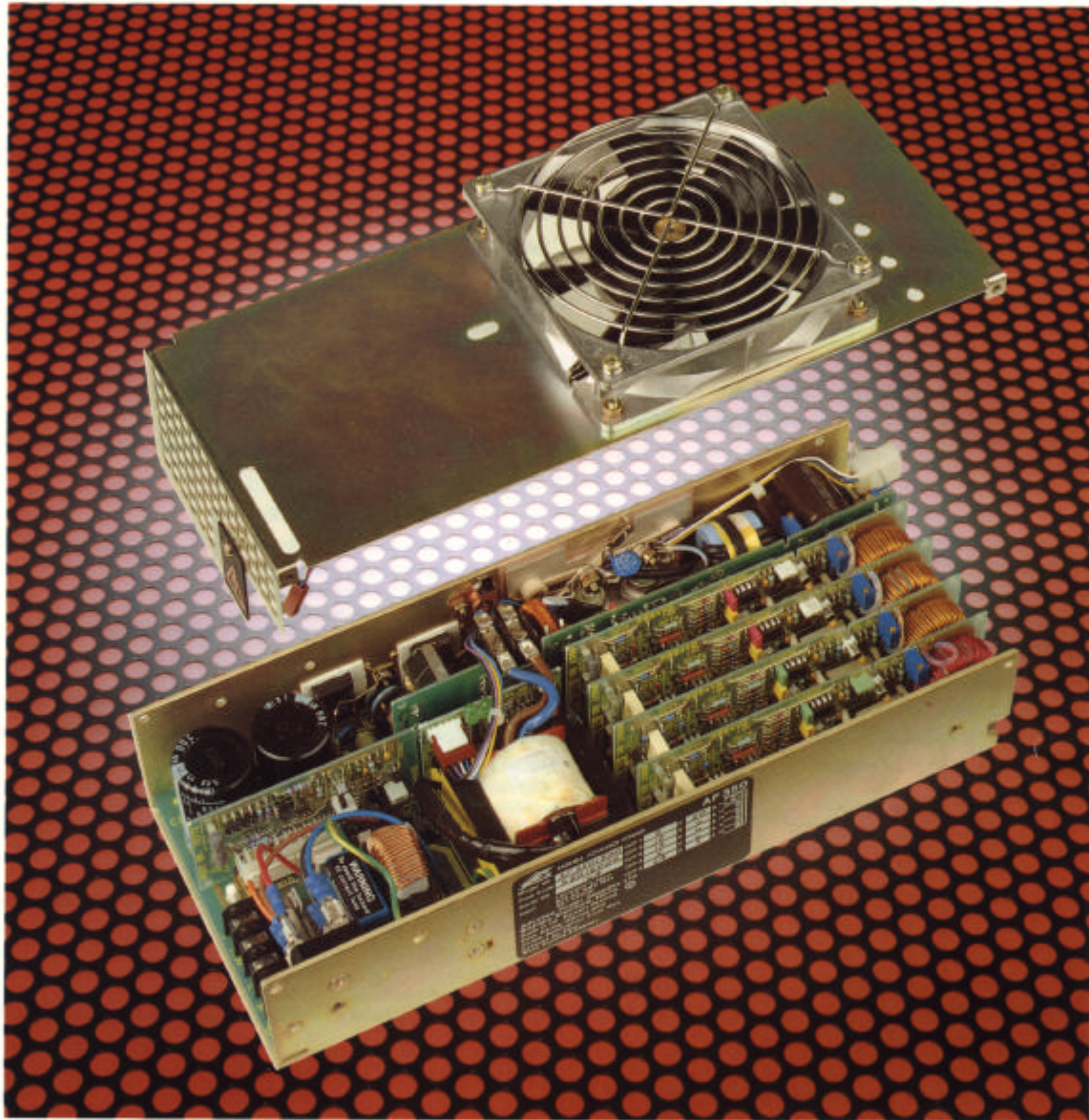


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**FARNELL ADVANCE POWER**



**AR350 and AF350 Ranges  
Universal and Dual Input  
350 Watt Multi Output  
Power Supplies**

# AR350 AND AF350 UNIVERSAL AND DUAL INPUT 350W MULTI-OUTPUT SWITCH MODE POWER SUPPLIES

## FEATURES INCLUDE

### Input

Models with manual or automatic input select. Automatic covers full input range with fully solid state circuitry.

### RFI

Current Share O/P 1

Compact Size

Compliance with VDE0871 Curve B.

Single wire active current share.

2.5' x 5' x 12'

## NORMAL STOCK RANGE

Input Select		Output Ratings				
Manual	Automatic	Output 1	Output 2	Output 3	Output 4	Output 5
AF3501300	AR3501300	5V 50A	12V 6A	12V 6A		
AF3503402	AR3503402	5V 50A	12V 6A	12V 6A	12V 6A	
AF3501500	AR3501500	5V 50A	12V 6A	12V 6A	5V 6A	24V 3A*
AF3504505	AR3504505	5V 50A	12V 6A	12V 6A	5V 6A	48V 2A
AF3503580	AR3503580	5V 50A	12V 6A	12V 6A	12V 6A	12V 6A

NB. 12 Volt outputs user settable to 15 Volts.

## AF350 AND AR350 OUTPUT SELECTION RANGE

Model Number	Model Number	Output 1	Output 2	Output 3	Output 4	Output 5
AF3501500	AR3501500	5V 50A	12V 6A	12V 6A	5V 6A	24V 3A*
AF3502501	AR3502501	5V 50A	12V 6A	12V 6A	5V 6A	12V 6A
AF3508502	AR3508502	5V 50A	12V 6A	12V 6A	5V 6A	2V 6A
AF3504505	AR3504505	5V 50A	12V 6A	12V 6A	5V 6A	48V 2A
AF3503580	AR3503580	5V 50A	12V 6A	12V 6A	12V 6A	12V 6A
AF3505581	AR3505581	5V 50A	12V 6A	12V 6A	12V 6A	24V 3A*
AF3506582	AR3506582	5V 50A	12V 6A	12V 6A	12V 6A	48V 2A
AF3507583	AR3507583	5V 50A	12V 6A	12V 6A	24V 3A*	48V 2A

The above table gives the available combinations of 5 output units. Auxiliary outputs 2 - 5 may be omitted from the positions shown. Please contact Farnell Advance Power Sales desk for further information.

\*Consult Farnell Advance Sales for details of higher current 24 Volt outputs.

## OUTPUT RATINGS

Outputs	Adjustment Range	Minimum Current	Maximum Current	Surge Rating*
5 Volt (Main)	4.5 - 5.5V	5.0A	50A	N/A
2 Volt (Aux.)	1.7 - 2.3V	0.6A	6A	10A
5 Volt (Aux.)	4.5 - 5.5V	0.6A	6A	10A
12 Volt (Aux.)	10.0 - 16.0V	0.6A	6A	10A
24 Volt (Aux.)	22.8 - 25.2V	0.2A	3A	5A
48 Volt (Aux.)	46.0 - 52.0V	0.2A	2A	3A

\* Surge current capability is not available as standard. If this facility is required please consult your nearest representative to discuss your requirements.

## INPUT SPECIFICATION

### Input Voltage

AF350: 90 - 132V a.c. on 115V tap.  
176 - 264V a.c. or 249 - 373V d.c. on 230V tap.

AR350: 90 - 264V a.c.  
(d.c. input not available.)

### 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 70% when loaded to maximum rated output power.

## OUTPUT SPECIFICATION

### Voltage

Nominal output voltages and adjustment ranges are shown in the table of models above.

### Current

Recommended minimum operating current and maximum continuous current ratings ( $I_{MAX}$ ) are shown in the table of ratings. Surge current capability is only available to special order.

Exceptions are: Current derating from 50°C - 70°C at 2½%/°C on all outputs.

### Power

The AF350 offers a high level of power trading up to the unit's maximum output power of 350W, i.e. any combination of rated current per output may be drawn up to the maximum total output power of 350W.

<b>Load Regulation</b>	Main output 1% max. Auxiliaries 1.5% or 75mV whichever is the greater. (Refer to separate data sheet for detailed output loadings).
<b>Line Regulation</b>	Main output <0.2%. Auxiliaries <0.2%.
<b>Cross Regulation</b>	Main output 0.4% max. Auxiliaries 1.0% max. The effect of any one output varied by $\pm 40\% I_{MAX}$ from 60% $I_{MAX}$ on any one of other outputs, all loaded to 20% $I_{MAX}$ .
<b>Ripple and Noise</b>	Main output 75mV pk-pk. Auxiliary outputs: 1.5% of $V_{NOM}$ or 100mV pk-pk whichever is the greater.

## PROTECTION

<b>Hold Up</b>	All units have sufficient energy storage to ride through a missing mains cycle when supplying full rated output power at nominal input voltage. At low mains input 103V or 198V hold up >18ms. At nominal mains input, 115V or 240V hold up >28ms.
<b>Overvoltage Protection</b>	Standard on output 1. Unit shutdown will occur between 5.8V and 6.8V with latch. Recycle mains input to reset. Auxiliary outputs 2 - 5: overvoltage optional.
<b>Overcurrent Protection</b>	Standard on all outputs, automatic recovery on removal of overload. "Trip" option available on auxiliary outputs.
<b>Thermal Protection</b>	Overtemperature shutdown operates when the internal temperature exceeds maximum safe levels, auto-resetting when temperature reduced.

## AUXILIARY FUNCTIONS

<b>Remote Sense</b>	Available on the main output (O/P 1).
<b>Parallel Operation</b>	All units shown are suitable for operation in parallel with other units of the same model number. Active current share provided on the main output (O/P1) for single wire connection between units with the same output voltage.
<b>Series Operation</b>	Units or floating outputs may be connected in series to provide higher output voltages up to 250V. Refer to sales office for effect on approvals. Approvals cover individual unit operation.
<b>External Inhibit Option</b>	(Specify option B or E). All outputs may be inhibited by a relay contact or logic signal.
<b>DC OK Signal Option</b>	For output 1 monitor specify option B, for all outputs monitored specify option E. A logic output providing an indication of output >90% of nominal.
<b>Indicators</b>	(Specify option B or E). LED indicators are provided to show "Outputs Up" and "Inverter Running".
<b>Power Fail</b>	(Specify option A, B, or E). An open collector TTL compatible signal provides at least 5ms "housekeeping time" in the event of loss of mains power.

## ISOLATION

<b>Primary to Secondary</b>	All units provide 2.5kV isolation between primary and secondary circuits.
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## ELECTROMAGNETIC COMPATIBILITY

<b>Exported Noise</b>	All units meet the requirements of VDE 0871 Class B.
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## OPTIONS

The following options are available and should be specified when placing your order.

<b>M</b>	Protective cover.
<b>W</b>	Fan cover assembly, top mounted.
<b>X</b>	Fan cover assembly, side mounted.
<b>A</b>	Power fail signal.
<b>B</b>	Power fail signal. DC OK (output 1). External inhibit. Inverter running LED. DC OK LED (output 1).
<b>C</b>	Current trip.
<b>E</b>	As option B plus Overvoltage protection on all outputs. DC OK on auxiliary outputs. DC OK LED (all outputs monitored).
<b>P</b>	Surge rating available on outputs 2 & 5.

## MECHANICAL SPECIFICATION

<b>Mechanical Format</b>	All units supplied on "U" chassis as standard. Protective cover with or without integral cooling fan available as options.
<b>Mounting Orientation</b>	Units may be mounted in any orientation provided forced air cooling to the specified level is maintained.
<b>Ventilation and Cooling</b>	Forced air cooling is required. The direction of airflow should be from the input terminals to the output terminals or vice versa. The forced air should have a flow rate of $1.5\text{ms}^{-1}$ when measured at the point of exit from the power supply.

## ENVIRONMENTAL CONDITIONS

<b>Operating Temperature</b>	0-70°C. See current and power ratings in Output Specification for any deratings required above 50°C.
<b>Operating Humidity</b>	0 to 95% R.H. non-condensing.

## RELIABILITY

<b>MTBF</b>	85,000 hrs at 25°C, ground benign, according to MIL HBK 217E.
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## INTERNATIONAL SAFETY STANDARDS

The 'A' range of units has been designed to conform to the following standards:

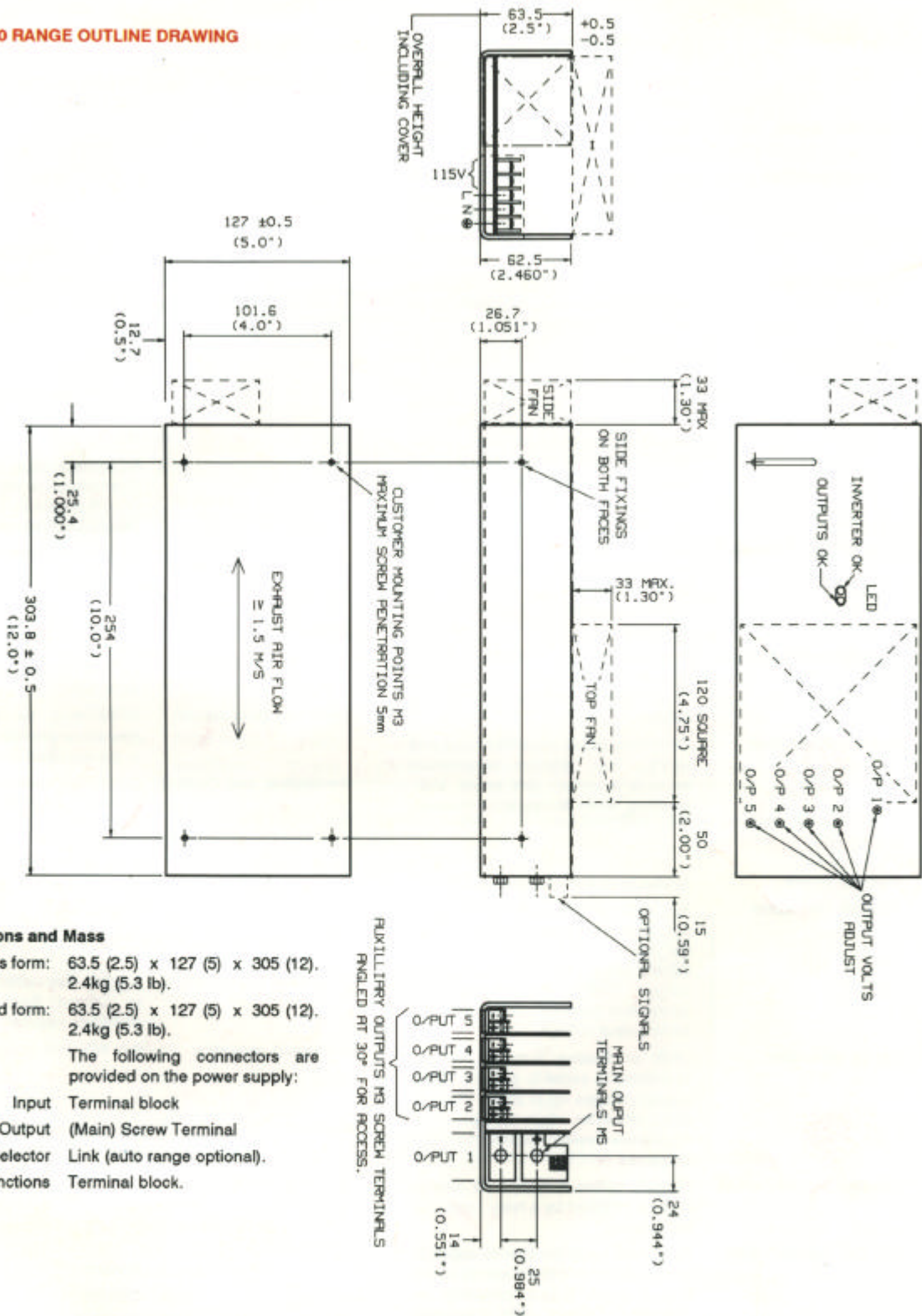
<b>BABT</b>	BS6301
<b>CSA</b>	CSA950.
<b>VDE</b>	VDE0806.
<b>UL</b>	UL1950, UL1459
<b>IEC</b>	IEC950

Application for approval to these standards is currently in progress.

## ORDERING INFORMATION

<b>To order</b>	Refer to the table of models or contact your nearest Farnell Advance sales office.
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**AF350 AND AR350 RANGE OUTLINE DRAWING**



**External Dimensions and Mass**

- Chassis form: 63.5 (2.5) x 127 (5) x 305 (12). 2.4kg (5.3 lb).
- Enclosed form: 63.5 (2.5) x 127 (5) x 305 (12). 2.4kg (5.3 lb).

**Connectors**

The following connectors are provided on the power supply:

- Input Terminal block
- Output (Main) Screw Terminal
- Input Voltage Selector Link (auto range optional).
- Auxiliary Functions Terminal block.

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