

# A-A Series

## 5W Encapsulated AC/DC-Converters



- Switching Power Modules for PCB Mounting
- Fully Encapsulated Plastic Case
- Universal Input Range 90 to 260VAC, 47 to 440Hz
- Regulated Output
- Low Ripple and Noise
- High Efficiency up to 76%
- CE, cUL, TUV Approvals
- 2-Year Product Warranty



### Selection Guide (valid at nominal input voltage, full load and 25°C after warm-up time, unless otherwise stated)

Ordering Code	Input Voltage (VAC)	Output Voltage (VDC)	Max. Output Current (mA)	Efficiency Current (%)
A-A5-3.3S	90-260VAC or 120-370VDC	3.3	1500	68
A-A5-5S	90-260VAC or 120-370VDC	5	1000	72
A-A5-12S	90-260VAC or 120-370VDC	12	416	75
A-A5-15S	90-260VAC or 120-370VDC	15	333	75
A-A5-24S	90-260VAC or 120-370VDC	24	200	76
A-A5-5D	90-260VAC or 120-370VDC	±5	±500	72
A-A5-12D	90-260VAC or 120-370VDC	±12	±200	75
A-A5-15D	90-260VAC or 120-370VDC	±15	±160	75

### Specifications (valid at nominal input voltage, full load and 25°C after warm-up time, unless otherwise stated)

#### Input Data

Voltage	90-260 VAC or 120-370 VDC
Frequency	47-440 Hz
Current (Full Load)	110 mA max. (115 VAC) / 70 mA max. (230 VAC)
Inrush Current (<2ms)	10 A max. (115 VAC) / 20 A max. (230 VAC)
Leakage Current	0.75 mA max.
External Fuse (Recommended)	1.5 A Slow Blow Type

#### Output Data

Voltage	See "Selection Guide" table
Voltage Accuracy	±2%
Current	See "Selection Guide" table
Line Regulation	±0.3% typ.
Load Regulation (5-100%)	±0.5% typ.

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### Specifications (valid at nominal input voltage, full load and 25°C after warm-up time, unless otherwise stated)

#### Output Data (Continued)

Minimum Load	3.3S	4%
	5S, 12S	1%
	15S, 24S, 5D, 12D	0%
	15D	3%
Maximum Capacitive Load (depending on model)		470-23,000µF
Ripple & Noise		<0.5% Vout +50mV max. (Vp-p)
Efficiency		See "Selection Guide" table
Hold-Up Time		15 ms min.
Switching Frequency		100 kHz

#### Protection Data

Over Current Protection	Hiccup Technique, Auto-Recovery
Over Voltage Protection	Zener Diode Clamp
Short Circuit Protection	Hiccup Mode, Indefinite (Automatic Recovery)

#### Isolation Data

Input-Output	3000VAC
Input-FG	1500VAC
Output-FG	500VAC

#### Environmental Data

Operating Temperature	-25°C to +71°C
Storage Temperature	-40°C to +85°C
Temperature Coefficient	0.02%/°C
Humidity	95% RH
MTBF (MIL-HDBK-217F)	Single output types >300,000h at 25°C Dual output types >750,000h at 25°C

#### Physical Data

Dimension (L x W x H)	55.0 x 45.0 x 20.5 mm 2.17" x 1.77" x 0.81"
Case Material (Flammability to UL 94V-0)	Plastic Resin + Fiberglass
Weight	80 g
Cooling Method	Free Air Convection

#### Safety Approvals

Agency Approvals	UL/cUL, CE, TUV
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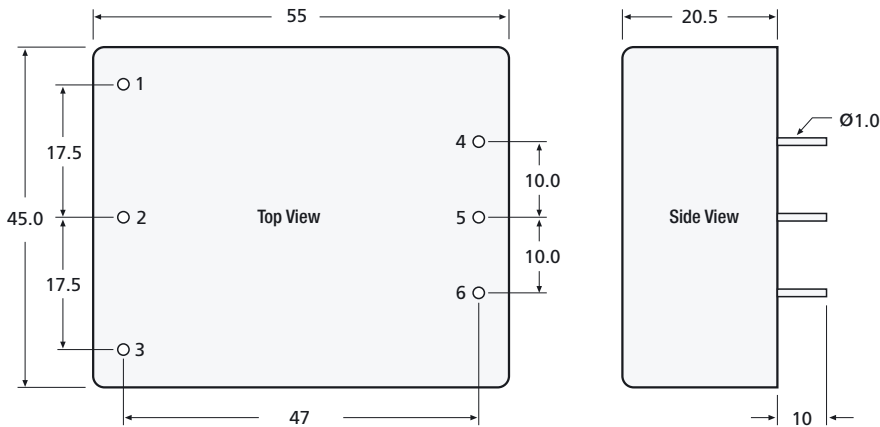
#### EMC

EMI (Conducted & Radiated Emission)	EN 55022 Class B
EMS (Noise Immunity)	EN 50082-1

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### Package Style and Pinning (mm)

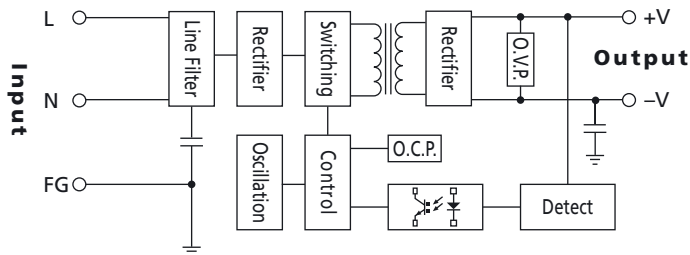


#### Pin Connections

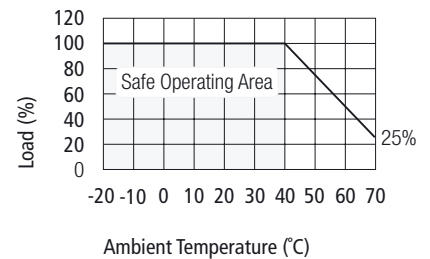
Pin #	Single	Dual
1	FG	FG
2	ACin	ACin
3	ACin	ACin
4	-DCout	-DCout
5	Do not Connect	Common
6	+DCout	DCout

### Block Diagrammes

#### Single Output



### Derating Curve



#### Dual Output

