

AME30 Series



30 watt encapsulated ac-dc converter

- SWITCHING POWER MODULES FOR PCB MOUNTING
- FULLY ENCAPSULATED PLASTIC CASE
- UNIVERSAL INPUT RANGE 90 ... 260 VAC, 47 ... 440 Hz
- REGULATED OUTPUT
- LOW RIPPLE & NOISE
- HIGH EFFICIENCY
- CE, cUL APPROVALS

ELECTRICAL SPECIFICATIONS



All specifications valid at nominal Input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No. (Single Output) | | AME30-3.3S | AME30-5S | AME30-12S | AME30-15S | AME30-24S |
|---------------------------|-------------------------------------|-------------------------------------------------------|---------------------------------|-----------|-----------|-----------|
| Max output wattage (W) | | 20W | 30W | 30W | 30W | 30W |
| Input | Voltage | 90 ... 260 VAC or 120 ... 370 VDC | | | | |
| | Frequency (Hz) | 47 ... 440 Hz | | | | |
| | Current (Full Load) | 520mA max. (115 VAC) / 320mA max. (230 VAC) | | | | |
| | Inrush Current (<2ms) | 10 A max. (115 VAC) / 20 A max. (230VAC) | | | | |
| | Leakage Current | 0.75mA max. | | | | |
| | External Fuse (recommended) | 1.5 A slow blow type | | | | |
| Output | Voltage (VDC) | 3.3V | 5V | 12V | 15V | 24V |
| | Voltage Accuracy | ±2% | | | | |
| | Current (mA) max. | 6000 | 6000 | 2500 | 2000 | 1250 |
| | Line Regulation (typ.) | ±1% | | | | |
| | Load Regulation (typ.) | ±1% | | | | |
| | Minimum Load | 5% | 4% | 2% | 2% | 2% |
| | Maximum Capacitive Load | 470-23,000m F depending on model | | | | |
| | Noise | <0.5% Vout +50mV max (Vp-p) | | | | |
| | Ripple | <0.2% Vout +40mV max (Vp-p) | | | | |
| | Efficiency | 73% | 80% | 84% | 84% | 84% |
| | Hold-up Time | 15 ms min. | | | | |
| | Switching Frequency | 100 kHz | | | | |
| | Protection | Over Current Protection | Hiccup technique, auto-recovery | | | |
| Over Voltage Protection | | Zener diode clamp | | | | |
| Short Circuit Protection | | Hiccup mode, indefinite (automatic recovery) | | | | |
| Isolation | Input-Output (VAC) | 3000V | | | | |
| Environment | Operating Temperature | -25°C ... +71°C | | | | |
| | Storage Temperature | -40°C ... +85°C | | | | |
| | Temperature Coefficient | 0.02% / °C | | | | |
| | Humidity | 95% RH | | | | |
| | MTBF | >190,000 h @ 25°C (MIL-HDBK-217F) | | | | |
| Physical | Dimension (L x W x H) | 3.5 x 2.5 x 0.98 inches (89.0 x 63.5 x 25.0 mm) | | | | |
| | Case Material | Plastic resin + Fiberglass (flammability to UL 94V-0) | | | | |
| | Weight | 220g | | | | |
| | Cooling Method | Free air convection | | | | |
| Safety | Agency Approvals | cUL, CE | | | | |
| EMC | EMI (Conducted & Radiated Emission) | EN 55022 class B | | | | |
| | EMS (Noise Immunity) | EN 55024 | | | | |

Specifications are subject to change without notification

AME30 Series

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ELECTRICAL SPECIFICATIONS

All specifications valid at nominal Input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No. (Dual & Triple Output) | | AME30-5D | AME30-12D | AME30-15D | AME30-5S12S | AME30-512T | AME30-515T |
|----------------------------------|-------------------------------------|-------------------------------------------------------|---------------------------------|------------|-------------|------------|------------|
| Max output wattage (W) | | 30W | 30W | 30W | 30W | 30W | 30W |
| Input | Voltage | 90 ... 260 VAC or 120 ... 370 VDC | | | | | |
| | Frequency (Hz) | 47 ... 440 Hz | | | | | |
| | Current (Full Load) | 520mA max. (115 VAC) / 320mA max. (230 VAC) | | | | | |
| | Inrush Current (<2ms) | 10 A max. (115 VAC) / 20 A max. (230VAC) | | | | | |
| | Leakage Current | 0.75mA max. | | | | | |
| | External Fuse (recommended) | 1.5 A slow blow type | | | | | |
| Output | Voltage (VDC) | ±5V | ±12V | ±15V | 5/12V | 5/±12V | 5/±15V |
| | Voltage Accuracy | ±2% | | | | | |
| | Current (mA) max. | ±3000 | ±1250 | ±1000 | 3000/1250 | 3000/±630 | 3000/±500 |
| | Line Regulation (typ.) | ±1% | ±1% | ±1% | ±1%/±5% | ±1%/±5% | ±1%/±5% |
| | Load Regulation (typ.) | ±3% | ±3% | ±3% | ±3%/±6% | ±2%/±6% | ±2%/±6% |
| | Minimum Load | 2% | 3% | 1% | 20% | 20% | 20% |
| | Maximum Capacitive Load | 470-23,000m F depending on model | | | | | |
| | Noise | <0.5% Vout +50mV max (Vp-p) | | | | | |
| | Ripple | <0.2% Vout +40mV max (Vp-p) | | | | | |
| | Efficiency | 80% | 84% | 84% | 80% | 80% | 80% |
| | Hold-up Time | 15 ms min. | | | | | |
| | Switching Frequency | 100 kHz | | | | | |
| | Protection | Over Current Protection | Hiccup technique, auto-recovery | | | | |
| Over Voltage Protection | | Zener diode clamp | | | | | |
| Short Circuit Protection | | Hiccup mode, indefinite (automatic recovery) | | | | | |
| Isolation | Input-Output (VAC) | 3000V | | | | | |
| Environment | Operating Temperature | -25°C ... +71°C | | | | | |
| | Storage Temperature | -40°C ... +85°C | | | | | |
| | Temperature Coefficient | 0.02% / °C | | | | | |
| | Humidity | 95% RH | | | | | |
| | MTBF | >190,000 h @ 25°C (MIL-HDBK-217F) | | | | | |
| Physical | Dimension (L x W x H) | 3.5 x 2.5 x 0.98 inches (89.0 x 63.5 x 25.0 mm) | | | | | |
| | Case Material | Plastic resin + Fiberglass (flammability to UL 94V-0) | | | | | |
| | Weight | 220g | | | | | |
| | Cooling Method | Free air convection | | | | | |
| Safety | Agency Approvals | cUL, CE | | | | | |
| EMC | EMI (Conducted & Radiated Emission) | EN 55022 class B | | | | | |
| | EMS (Noise Immunity) | EN 55024 | | | | | |

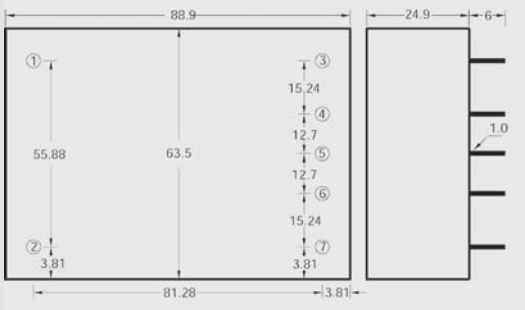
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Note:

- The triple output required a minimum 20% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specifications.
- Load regulation for triple output:
Main output (V1): 20% to 100% with 20% to 100% balanced on auxiliaries.
Auxiliary outputs (V2 and V3): 20% to 100% balanced on all outputs.
- Cross regulation for triple output:
Main output 100% load, auxiliary 100%, other auxiliary 25% to 100%.
Auxiliary outputs (V2 and V3): Main output 100% load, auxiliary 100%, other auxiliary 25% to 100% or main output 25%, auxiliary 25%, other auxiliary 25% to 100%

OUTLINE DIMENSIONS & PIN CONNECTIONS

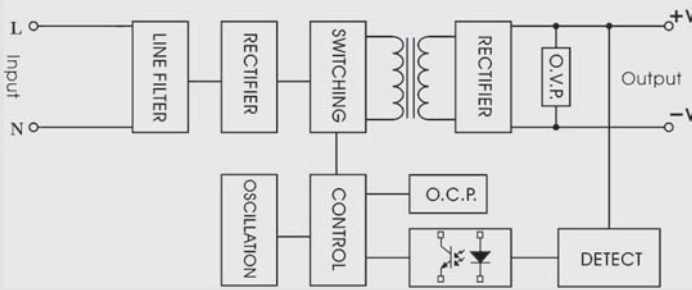
MECHANICAL DIMENSION (Top View)



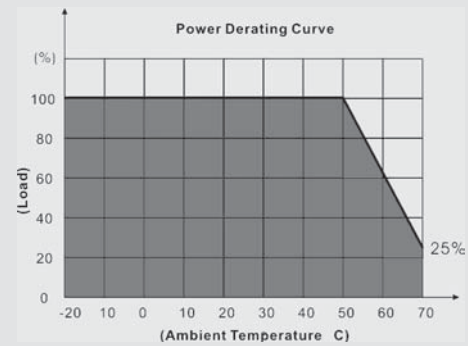
| Pin | Single | Dual | 5S / 12S | Triple |
|-----|--------------|--------------|--------------|---------------|
| 1 | AC Input (N) | AC Input (N) | AC Input (N) | AC Input (N) |
| 2 | AC Input (L) | AC Input (L) | AC Input (L) | AC Input (L) |
| 3 | +V Output | +V Output | +12V | +V2 Output |
| 4 | No pin | No pin | +5V | +5V |
| 5 | -V Output | Common | +12 RTN | V2, V3 common |
| 6 | No pin | No pin | +5 RTN | +5 RTN |
| 7 | No connect | -V Output | No pin | -V3 Output |

BLOCK DIAGRAM

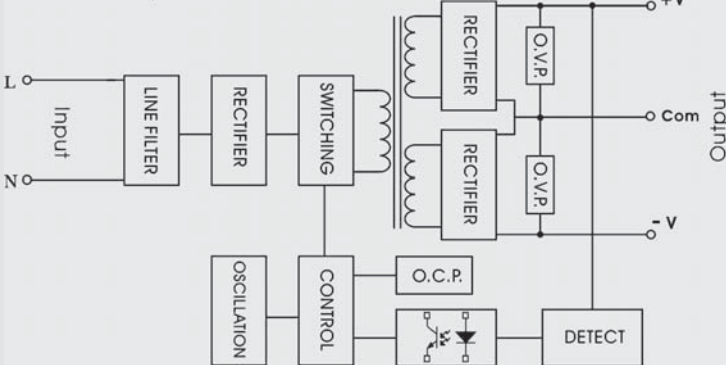
Single Output



DERATING



Dual Output



Triple Output

