

X10767

Variable AC Voltage Regulators

EVR Series

EVR-1kW | EVR-4kW | EVR-6kW
Phase-Angle Power Controller

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KEY FEATURES:

- ✓ Wide range of control signal options (manual, voltage, or current input).
- ✓ Convection air-cooled heatsink.
- ✓ Soft-start function (adjustable 0–20 seconds) to protect loads and extend component life.
- ✓ Integrated SCR-type (Triac protection) high-speed fuse.
- ✓ Compact, enclosed design for easy mounting and wiring.
- ✓ Available in metal enclosure, DIN-rail, or back-plate configurations.
- ✓ Rugged construction for industrial use with full isolation and overvoltage protection.

APPLICATIONS:

The EVR Series controllers are designed for precision power control in a wide range of heating and industrial processes, including:

- Industrial and process heaters
- Ovens, dryers, and furnaces
- Air curtains and hot plates
- Ventilation and HVAC systems
- Electroplating and chemical process control
- Controlled rectifiers and transformer regulation

The **EVR Series Phase-Angle Power Controllers** from United Automation are engineered for smooth proportional control of electrical power in single-phase 230V applications. Available in 1kW, 4kW, and 6kW ratings, these compact “Mini Stack” units integrate high-speed semiconductor fuses, convection-cooled heatsinks, and a range of control signal options.

Each unit operates in phase-angle mode, ensuring precise control over voltage and current delivery to the connected load. Built with reliability and ease of installation in mind, the EVR Series is ideal for demanding industrial environments that require accurate, efficient temperature or process control.

TECHNICAL SPECIFICATIONS

	EVR-1kW	EVR-4kW	EVR-6kW
Current Rating	4A	17A	25A
Mains Voltage	230V AC +10% -6%		
Control Signal Span (Min.)	0–5V DC		
Control Signal Span (Max.)	0–25V DC		
Control Signal Zero Offset	0–30% of Span		
Signal Input Resistance	5kΩ ±20%		
Manual Potentiometer	2kΩ, 5kΩ or 10kΩ		
Soft Start Time Constant	0–20 seconds adjustable		
Isolation Voltage	2500V RMS		
Control Opton-Auxiliary Output	5V DC		
Triac limiting RMS current	26A	26A	41A
Peak Single Cycle Surge Current	250A		
Max Peak Voltage	600V		
Max. Working Temperature	up to 65°C Operational		
Replacement Fuse	16 A, 660 V AC, 10×38 mm, GRB high-speed semiconductor fuse (gR curve)	20 A, 660–690 V AC, 10×38 mm, GRB/Protistor high-speed semiconductor fuse (gR curve)	30 A, 660 V AC, 10×38 mm, GRB high-speed SCR-type fuse (gR curve)
Storage Temperature	0°C to +85°C		
Mounting Options	Panel mount - open style PCB	Panel-mounted, fully enclosed with cable glands	Metal enclosure, DIN-RAIL mounting c/w Perspex cover, Back-plate mounting c/w Perspex cover.

SKU	Dimensions (D)x(W)x(H)	Fixing Centres
A407324-AVR	130 x 95 x 78 mm	4x4.7mmØ; FC: 75mm (W) x 119 mm (L)
A407315	150 x 90 x 90 mm	4x5mmØ; 135mm (D) x108mm (W)
A407316-(ENC)	140 x 99 x 87 mm	4x4.5mmØ; 75mm (W) x 120 mm (L)
A407316-(DIN)	112 x 96 x 87 mm	Inc. T535 DIN Rail & Perspex cover
A407316-(AVR)	130 x 95 x 78 mm	4x4.7mmØ; FC: 75mm (W) x 119 mm (L)

YOU MUST READ THIS BEFORE INSTALLATION

 ELECTRICAL SAFETY	 INSTALLATION REQUIREMENTS	 USER RESTRICTIONS	 USAGE ENVIRONMENT	 HOT SURFACE WARNING
WARNING: RISK OF ELECTRIC SHOCK Always consult the Installation & Maintenance Instructions before connecting this product to the power supply. WARNING: Disconnect Power Before Servicing Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.	WARNING: Installation by Qualified Personnel Only This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.	WARNING: Not for Use by Vulnerable Individuals This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.	WARNING: Industrial Use Only This is an industrial-grade product and is not intended for household use.	WARNING: Hot Surfaces On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.

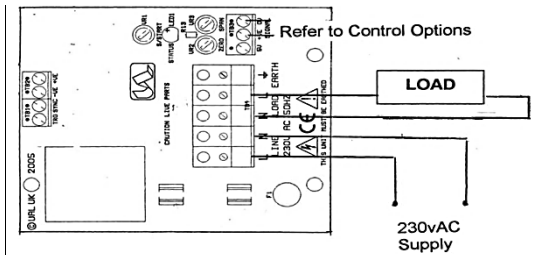
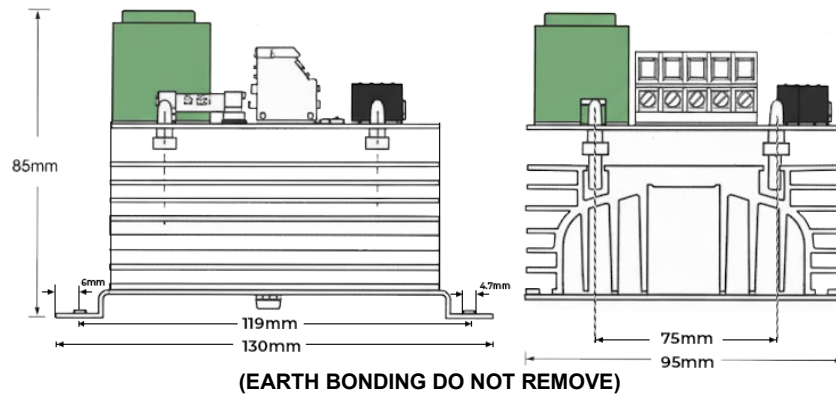
EVR Series

1kW, 4kW, 6kW, 230V

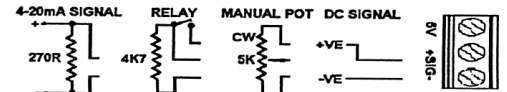
Phase-Angle Power Controller

INSTALLATION, DIMENSIONS & CONNECTIONS

FOR OPTIMUM PERFORMANCE AND HEAT DISSIPATION, THE UNIT SHOULD BE MOUNTED VERTICALLY.



CONTROL OPTION



NOTE: SW1 ON FOR 4-20mA

WARNING: SWITCH OFF MAINS SUPPLY BEFORE COMMENCING ANY SERVICING WORK

COOLING REQUIREMENTS

Heatsink rating for standard stack assembly is calculated when naturally cooled. If mounted in an enclosure or Cabinet, adequate ventilation and/or forced cooling should be fitted. When thermal trips are fitted we recommend that they are wired in line with the signal to switch off the thyristors in an over-temperature situation.

Unusual heating loads such as Molybdenum, Platinum or Tungsten, typically have a 10 to 1 hot to cold resistance ratio and therefore, when cold, draw larger currents than normal. Transformers and other inductive loads have surge starting currents and require the correct type of phase angle firing circuit. These and similar types of surge loads should be indicated, so that appropriate slow start or larger rated units can be correctly supplied for the specific needs.

Note: The unit is factory set for manual control or 0-5Vdc. For 0-20mA, a 270R resistor will be required to be fitted across the '+ve' & '0v' terminals and the zero & span adjusters will need recalibrating.

RECOMMENDATIONS

FUSING

The unit requires an SCR-Type (or FF-Type), fast-acting fuse. On initial 'switch' on, some loads may need an increased Factor of Safety (F of S) for Unit and/or Device protection. See the SRA Data sheet for further information.

CE Marking

This product family carries a "CE marking". The EVR Series (1kW, 4kW and 6kW) phase angle controller requires a suitable remote filter. For information, see the recommendation section and contact our sales desk. (See product Declaration of Conformity).

DOCUMENTS

Other documents available on request, which may be appropriate for your application:

Code	Identity	Description
X10229	RFI	Filter recommendations: Addressing the EMC Directive
X10837	Datasheet	XEN2010 Single-Stage EMI Filter – 6A, 10A, 13A, 16A, 20A, 30A
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including, Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations
X10378	ILR	Inductive loads remedy sheet for use with phase angle controllers
AP02/4	COS	UAL Conditions of Sale

Note: It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.E. wiring regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding the safety of electrical equipment. For International Standards, refer to I.E.C/ directive IEC 950.

OPTIONAL EXTRAS

Product Code	Product Description
A-EN2010-6-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 6A, Fast On (EVR-1kW)
A-EN2010-20-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 20A, Fast On (EVR-4 kW)
A-EN2010-30-S	Single-phase Chassis Mount EMI/RFI filter 10 series, 30A, Screw (EVR-6 kW)
F11308	16 A, 660 V AC, 10×38 mm, GRB high-speed semiconductor fuse (gR curve) (EVR-1kW)
F11309	20 A, 660–690 V AC, 10×38 mm, GRB/Protistor high-speed semiconductor fuse (gR curve) (EVR-4 kW)
F11307	30 A, 660 V AC, 10×38 mm, GRB high-speed SCR-type fuse (gR curve) (EVR-6 kW)

*Note: When ordering a filter, the current at which the EVR is to be used at will be required.

PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
A407324-AVR	EVR-1kW-230V
A407315	EVR-4kW (Metal Enclosure)
A407316-(ENCLOSED)	EVR-6KW Single Phase-Angle Controller 'boxed'
A407316-(DIN)	EVR-6KW DIN rail Mounting foot
A407316-(AVR)	EVR-6KW Mounting plate



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