

1 Introduction

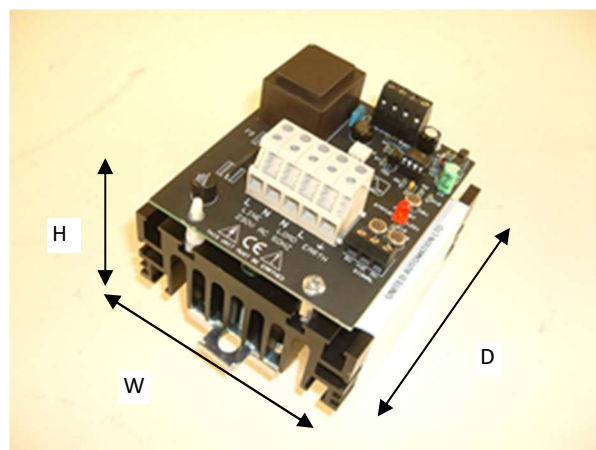
This 6KW 'Mini Stack' is available for single phase, 230V applications. Other voltage supplies are also available. The unit can control loads of up to 25A, with a number of signal control options. The controllers are assembled to suit the final load, operating in phase angle mode. The controller comes complete with appropriately rated High Speed semiconductor fuse and an integral heatsink.

2 Applications

Suitable for heaters, ovens, dryers, air curtains, hot plates, heating and ventilation. SCR solid state phase angle power handing gives smooth proportional control of all types of industrial processes, e.g. furnaces, electroplating, controlled rectifiers, transformers etc.

3 Features

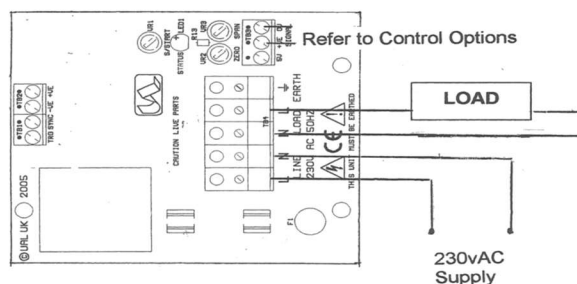
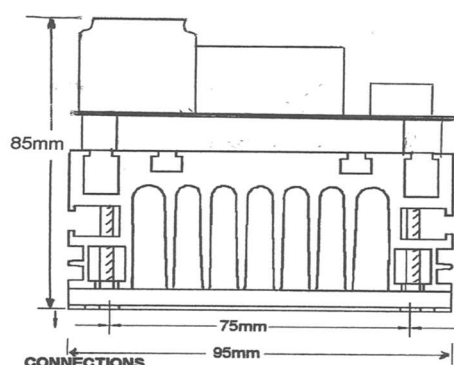
- Wide range of Control Signal Options.
- Convection Air-Cooled heatsink.
- Phase angle control with Soft-Start (0 to 20 sec. delay).
- SCR-type (Triac protection) fuse fitted.
- Installation mounting options:
 - Metal enclosure.
 - DIN-RAIL mounting c/w Perspex cover.
 - Back-plate mounting c/w Perspex cover.



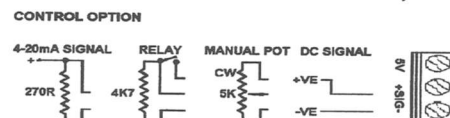
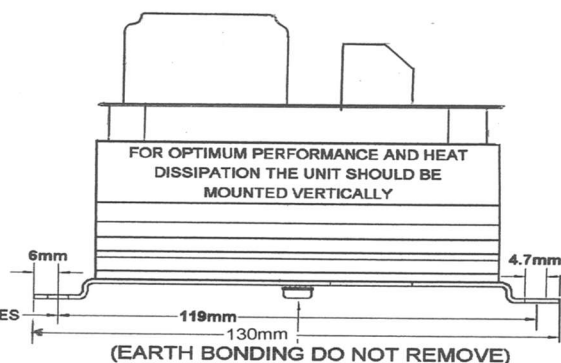
NOTE : Photo: shows DIN rail mount model; Installation: drawing shows the base-plate mount version.

4 Installation

INSTALLATION



CONNECTION AND DIMENSION



NOTE: SW1 ON FOR 4-20mA

WARNING

SWITCH OFF MAINS SUPPLY
BEFORE COMMENCING
ANY SERVICING WORK

4.1 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, so as 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

5 Technical Specifications

Mains voltage:	230Vac +10% -6%	Control option - auxiliary output:	5V dc
Control signal span (Min.):	0-5V dc	Triac limiting RMS current:	41A
Control signal span (Max.):	0-25V dc	Peak single cycle surge current:	250A
Control signal zero offset:	0-30% of Span	Max. peak voltage:	600V
Signal input resistance:	5000Ω ±20%	Current rating:	25A
Manual potentiometer:	2K, 5K, or 10K	Max. working temperature:	65°C operational
Soft start time constant:	0-20 seconds	Replacement fuse:	Ferrule, SCR-Type 30A, 660V ac
Isolation voltage:	2500V RMS	Storage temperature:	0°C to +85°C
Dimensions (Max.):	A407316-(ENC)	140mm (D) x 99mm (W) x 80mm (H)	4X4.5mmØ; FC: 75mm (W) x 120mm (L)
	A407316-(DIN)	112mm (D) x 96mm (W) x 87mm (H)	Inc. TS35 DIN Rail & Perspex cover
(FC= Fixing Centres)	A407316-(AVR)	130mm (D) x 95mm (W) x 78mm (H)	4X4.7mmØ; FC: 75mm (W) x 119mm (L)

6 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 SRA Data sheet for further information.

7 CE Marking

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

8 Recommendations & Safety Requirements

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

Code	Identity	Description
X10229	RFI	Filtering Recommendations: Addressing the EMC Directive
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
P01.1	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.T. (formerly I.E.E.) regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding installation and safety of electrical equipment. Specific installers should refer to local and national regulations.

9 Order Code





State Part Number	A407316-(ENCLOSED) – 6KW 1.Ph Phase-Angle Controller 'boxed' A407316-(DIN) – 6KW DIN rail Mounting foot A407316-(AVR) – 6KW Mounting plate
Optional Extras	Include F-Series Filter, Spare Fuse
Note: When ordering a filter, the maximum working current will be required.	

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