



# PHASE ANGLE POWER CONTROL MODULE

PSR-40

X10297

## INTRODUCTION

The PSR-40 Power Control module is a high power, full wave AC phase angle controller in a compact package, capable of regulating up to 9KW (40A) 230Vac. The PSR-40 regulator governs the amount of power supplied to the load, by controlling the phase angle of the AC supply. The low thermal impedance and high electrical isolation provides the equipment designer with a greater flexibility in a wide variety of applications. Optional extras are available on request, including a plastic terminal cover and additional heatsink for use at full power.

## APPLICATIONS

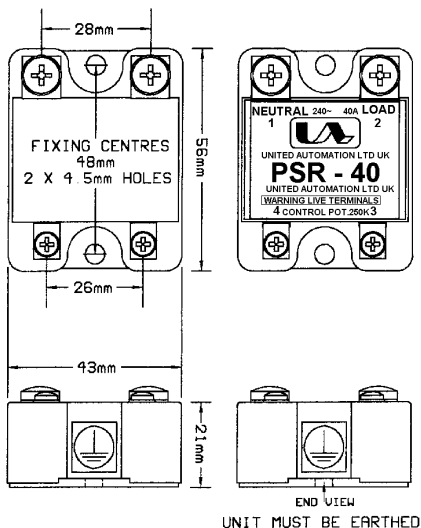
## FEATURE

- Solid state reliability.
- Simple wiring.
- Rugged and compact
- High current capacity.
- Internal snubber.



## INSTALLATION

### DIMENSIONS



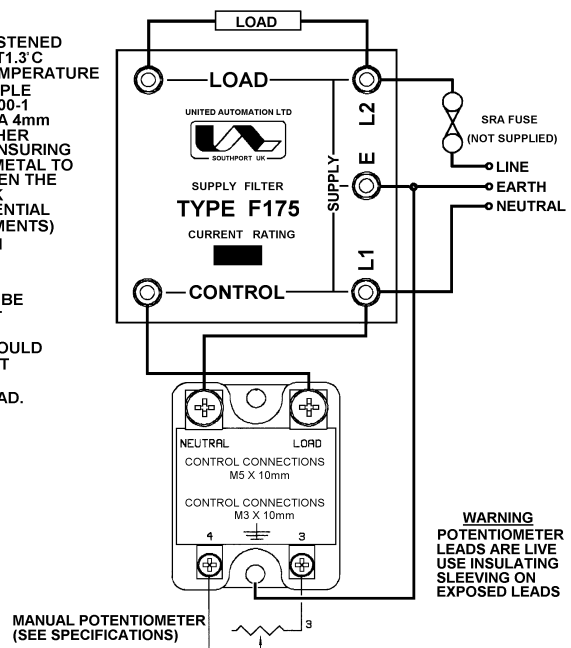
**WARNING - LIVE TERMINALS**  
(SWITCH OFF MAINS BEFORE COMMENCING ANY SERVICING WORK)

### FIXING REQUIREMENTS

FOR 40A OPERATION THE UNIT SHOULD BE FASTENED TO A HEATSINK RATED AT 1.3°C PER WATT @ AMBIENT TEMPERATURE OF 35°C. A TYPICAL EXAMPLE IS A REDPOINT TYPE KA100-1 EARTH HEATSINK USING A 4mm SCREW OR BOLT TOGETHER WITH A STAR WASHER, ENSURING THAT THERE IS A GOOD METAL TO METAL CONTACT BETWEEN THE BASE AND THE HEATSINK. HEATSINK PASTE IS ESSENTIAL (SEE COOLING REQUIREMENTS) FOR 40 AMPS SEE GRAPH

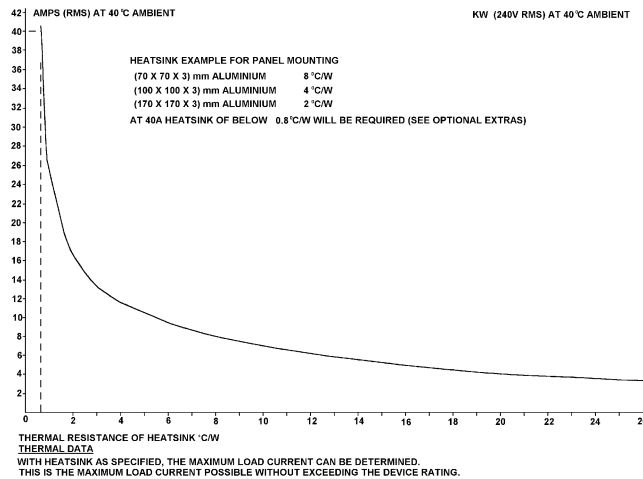
A SUITABLE FILTER WILL BE REQUIRED FOR THIS UNIT  
NOTE:  
MAX. LOAD CURRENT SHOULD MATCH NEAREST FILTER e.g 25A FILTER SHOWN FOR 25A MAX LOAD.

### CONNECTIONS



## INSTALLATION

## COOLING REQUIREMENTS



## SPECIFICATIONS

AC line voltage	110/230V +/- 10% @ 50/60 Hz		
AC Power rating	40A	Triac limiting RMS current	41A
Peak one cycle surge (10ms)	300A	Max peak voltage	600V ac
I <sup>2</sup> t for fusing (10ms)	400 A <sup>2</sup> s	Minimum operating current	200mA
Isolation voltage	5000Vrms	Leakage current	5mA
Max. operating temperature	65°C	Manual potentiometer	250K 1W @ 230Vac
Storage temperature	0°C to 65°C	Manual potentiometer	100K 1W @ 110Vac

## FUSING

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (Semiconductor-MCB) for protection. 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 family carries a "CE" marking. These phase angle controllers need a suitable remote filter. For more information see recommendations section and contact our sales desk. (See the Declaration of Conformity).

## RECOMMENDATIONS

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

CODE	IDENTITY	DESCRIPTION
X10229	RFI	Filtering recommendations - addressing EMC Directive
X10213	ITA	Interaction, uses for phase angle and for burst fire control.
X10255	SRA (LVD)	Safety requirements - addressing the Low Voltage Directive including: Thermal data/cooling; "Live" parts warning & Earth requirements; Fusing recommendations.
X10378	ILR	Inductive loads remedy sheet for use with Phase angle controllers
	X10322	ASC AC Stack Specification and Application Datasheet
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 safety of electrical equipment. (For) International Standards refer to I.E.C/ directive IEC 950).

## ORDER CODE

**State part number:** PSR 40

**Optional extras include:** Potentiometer, Filter, Heatsink paste, Heatsink assembly, SSR Cover.

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



## UNITED AUTOMATION LIMITED

Southport Business Park  
 Wight Moss Way  
 Southport, PR8 4HQ  
 ENGLAND

Tel: 0044 (0) 1704 – 516500  
 Fax: 0044 (0) 1704 – 516501  
 enquiries@united-automation.com  
 www.united-automation.com

