

1 Interaction/Introduction

The CSR power regulators are compact and robust units, which are capable of controlling single-phase mains driven loads of up to 15A. The CSR2 series regulators come in two styles, open (type B) and enclosed (type E), with the enclosed version having its own heatsink. The regulator gives a fully adjustable output from zero to maximum voltage. The standard unit is rated for 110V and 230V ac, but other voltages are available on request.

2 Applications

Suitable for conventional resistive heating elements such as ovens, quartz lamps, moulders, and dryers. Also suitable for some inductive loads such as transformers, fans, and motors.

3 Features

- Available in 6, 10, and 15A ratings
- Compact and easy to use
- Simple installation - with or without heatsink
- Discrete component giving high reliability
- Cost effective

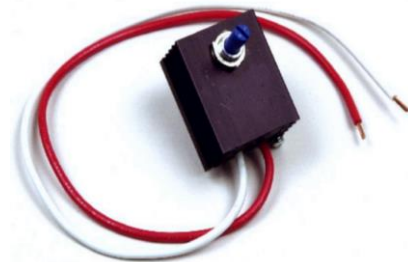


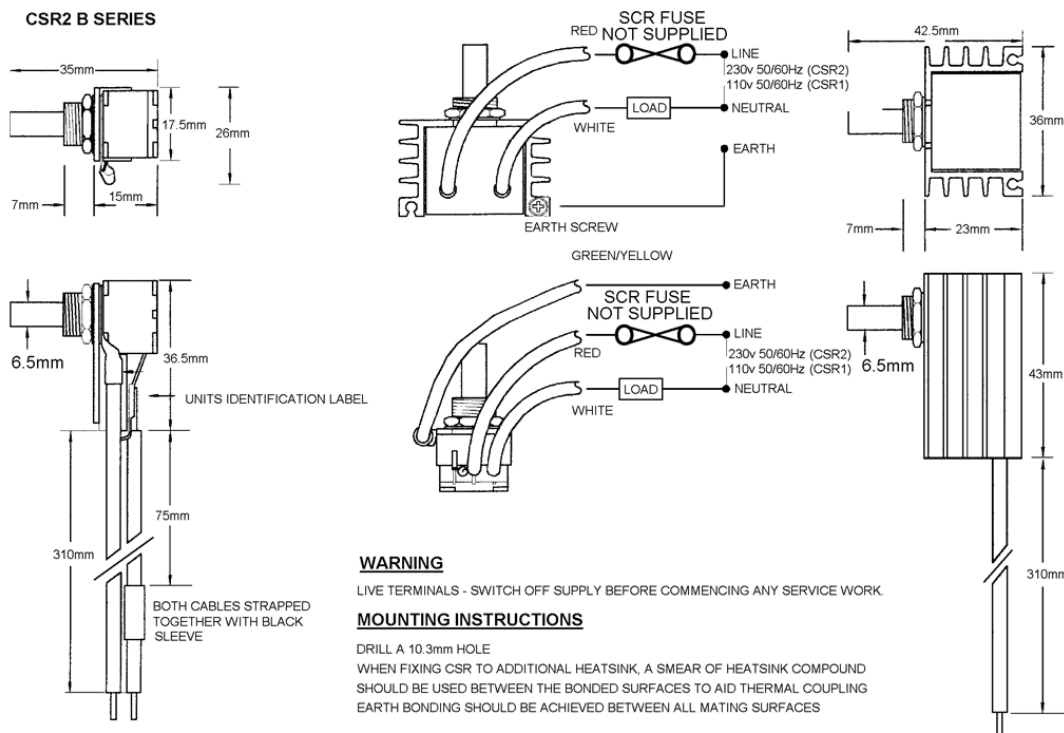
Figure 1: Example - CSR2-6E

4 Fusing

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (semiconductor- MCB) for unit protection. 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.

5 Installations

DIMENSIONS AND CONNECTIONS



UNITED AUTOMATION LTD

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

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

unitedautomationltd UA_Limited

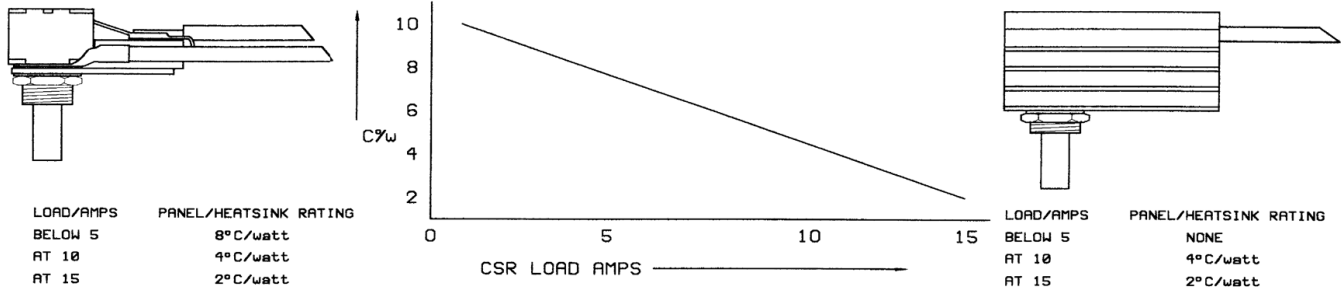


6 Cooling Requirements

Heatsink Rating against RMS Maximum Current

Stainless steel typically 15 times less thermally conductive and mild steel which is typically 5 times less thermally conductive.

TO PREVENT IC OVERHEATING, THE CSR SHOULD BE FIXED FLUSH AND TIGHTLY TO A THERMALLY CONDUCTIVE PANEL OR HEATSINK WITH A SMEAR OF HEATSINK COMPOUND TO AID HEAT DISSIPATION



Specification	Unit	Product – CSR1 (110V) & CSR2 (230V)					
		6B	6E	10B	10E	15B	15E
Maximum on-state current, I _{max} (tab @ 70°C)	A rms	6	6	10	10	15	15
Peak one cycle surge currents	A	100	100	120	120	150	150
Off – leakage current (maximum)	mA	2					
Minimum holding load current	mA	30					
RMS Input voltage ±10% 50/60Hz	V	110 or 230					
Repetitive peak voltage (tab @ 70°C)	V	400					
Hysteresis	%	5					
Total conduction phase angle (typical)	°	0 to 160					
Controlled phase angle (typical)	°	30 to 160					
Power transfer at I _{max}	%	99					
Tab surface operating range	°C	0 to +75					
Storage temperature	°C	0 to +75					
Insulation withstand capability	V	1500 for 1 min.					
I ² t limiting values for fusing	A ² s	18	18	50	50	100	100
Mounting hole diameter (minimum)	mm	10.3					

Note: For supply voltages above 120V or 240V AC, the controller may not turn off fully.

7 CE Marking

This product 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.

8 Recommendations

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

Code	Identity	Description
X10229	RFI	Filtering recommendation – addressing 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

9 Order Code

State Part Number	CSR1 or 2 (denotes supply voltage) + current rating + type ‘B’ or ‘E’
Optional Extras	Knob, Dial, Heatsink Compound, Filters

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



united automation

UNITED AUTOMATION LTD

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

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

unitedautomationltd UA_Limited

