



CSR1 (110v) and CSR2 (230v) regulators are commonly used in power management applications. They are often used to regulate and control the output voltage of inductive in resistance loads to ensure a stable and reliable power source for electronic devices.

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.

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.

APPLICATIONS

The unit is suitable for most resistive and inductive loads within voltage and power limitation, such as

- Heat lamps
- Fans
- Pumps and
- Other AC motor loads.



TECHNICAL SPECIFICATIONS

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					
Phase Operation	-	Single					

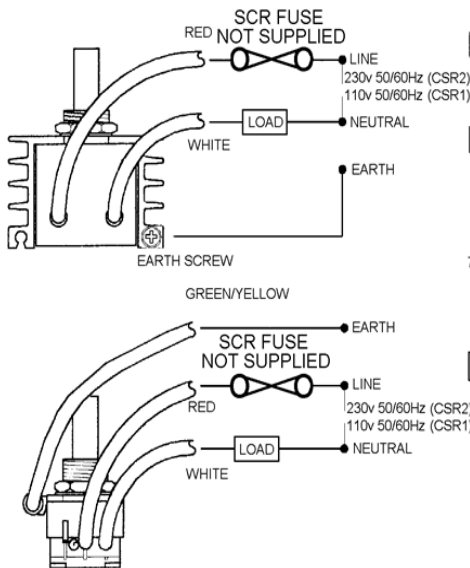
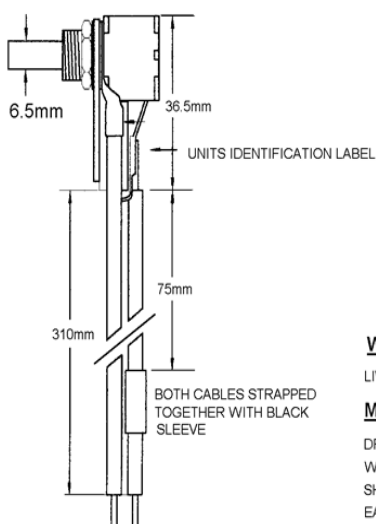
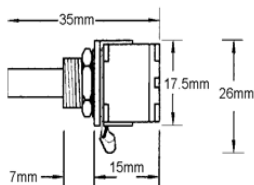
Note: For supply voltages above 120V or 240V AC, the controller may not turn off fully.



INSTALLATIONS

DIMENSIONS AND CONNECTIONS

CSR2 B SERIES



WARNING

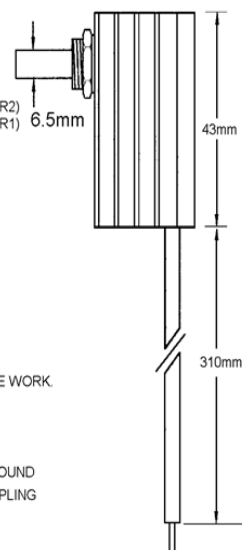
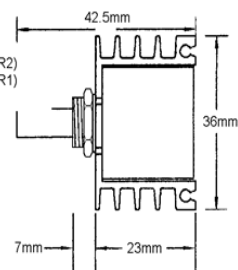
LIVE TERMINALS - SWITCH OFF SUPPLY BEFORE COMMENCING ANY SERVICE WORK.

MOUNTING INSTRUCTIONS

DRILL A 10.3mm HOLE

WHEN FIXING CSR TO ADDITIONAL HEATSINK, A SMEAR OF HEATSINK COMPOUND SHOULD BE USED BETWEEN THE BONDED SURFACES TO AID THERMAL COUPLING. EARTH BONDING SHOULD BE ACHIEVED BETWEEN ALL MATING SURFACES.

CSR2 E SERIES

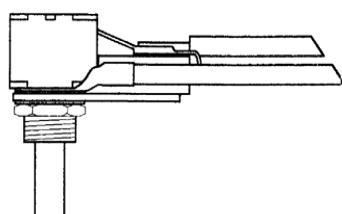


Cooling Requirements

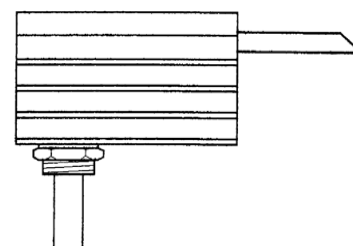
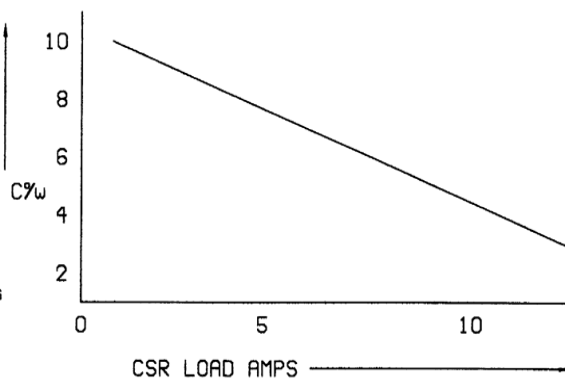
Heatsink Rating against RMS Maximum Current

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



LOAD/AMPS	PANEL/HEATSINK RATING
BELOW 5	8°C/watt
AT 10	4°C/watt
AT 15	2°C/watt



LOAD/AMPS	PANEL/HEATSINK RATING
BELOW 5	NONE
AT 10	4°C/watt
AT 15	2°C/watt



FUSING

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (semiconductor - MCB) for unit/device protection. On initial 'switch on' some loads may need an increased Factor of Safety (F of S) for unit and /or unit protection. Integral gate protection is provided) but further appropriate fusing should be integrated into the 12V supply (e.g., HRC F1A) and load circuit. See SRA Datasheet for further information.

RECOMMENDATIONS

Other documents are 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

It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding the safety of electrical equipment. For International standards refer STANDARDS on D of C.

OPTIONAL EXTRAS

Product Code	Product Description
N30001	Control Knob RN-113B SCI
L60018	PR DIAL (1 -10) TYPE
Z01062	Heatsink Compound Syringe (Must be applied while fitting)
Note: When ordering a filter, the current at which the CSR is to be used at will be required.	

PRODUCT CODE AND RELATED PRODUCT CODE

<i>For 6A</i>	
Product Code	Product Description
A01496	6A 110VAC Complete Compact Phase Angle AC Regulator
A01406	6A 230VAC Complete Compact Phase Angle AC Regulator

<i>For 10A</i>	
Product Code	Product Description
A01490	10A 110VAC Complete Compact Phase Angle AC Regulator
A01410	10A 230VAC Complete Compact Phase Angle AC Regulator

<i>For 15A</i>	
Product Code	Product Description
A01495	15A 110VAC Complete Compact Phase Angle AC Regulator
A01415	15A 230VAC Complete Compact Phase Angle AC Regulator