

X10284

Variable AC Voltage Regulators | Modular Power Controller

# TPSR-25

25A, 230V

Compact Phase Angle AC Regulator

## CONTACT US:

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## KEY FEATURES:

- ✓ **Solid-State Reliability:**  
Ensures long-lasting performance and durability.
- ✓ **Simple Wiring:** Easy installation process.
- ✓ **Rugged and Compact:**  
Designed for space-saving and robust usage.
- ✓ **High Current Capability:**  
Can handle high current loads efficiently.
- ✓ **Internal Snubber:**  
Provides protection and enhances the longevity of the device.

## APPLICATIONS:

Ideal for a diverse range of applications, including:

- Ovens
- Restaurant appliances.
- Hospitality systems.
- Moulding machines.
- Dryers.
- Inductive loads such as transformers and motors.

The TPSR series of Solid-State Temperature Controllers are expertly designed to regulate fan speeds in heating, ventilating, and air conditioning (HVAC) systems. By replacing the conventional thermostat with a thermistor, the TPSR controllers offer continuous proportional control of blower speed in response to temperature changes. Additionally, these controllers feature a set minimum fan speed to ensure gentle air circulation through the heat exchanger and to protect motor bearings.

Optimise your HVAC system with the TPSR series for reliable and efficient fan speed control.

## TECHNICAL SPECIFICATIONS

AC line voltage	230V +/-10%
Thermistor	Refer X10308
Peak one cycle surge (10ms)	250A
I <sup>2</sup> t for fusing (10ms)	250 A <sup>2</sup> s
Isolation voltage (for 1min)	5000Vrms
Unit current rating	25A
Operation temperature	0-65°C
Line frequency	50/60 Hz
Triac limiting RMS current	26A
Max peak voltage	600V ac
Minimum operating current	200mA
Leakage current	5mA
Manual potentiometer (nominal)	250K 1W @ 230V ac
Storage temperature	-20°C to +85°C

## YOU MUST READ THIS BEFORE INSTALLATION

 ELECTRICAL SAFETY	 INSTALLATION REQUIREMENTS	 USER RESTRICTIONS	 USAGE ENVIRONMENT	 HOT SURFACE WARNING
<b>WARNING: RISK OF ELECTRIC SHOCK</b> Always consult the Installation & Maintenance Instructions before connecting this product to the power supply. <b>WARNING: Disconnect Power Before Servicing</b> Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.	<b>WARNING: Installation by Qualified Personnel Only</b> This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.	<b>WARNING: Not for Use by Vulnerable Individuals</b> 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.	<b>WARNING: Industrial Use Only</b> This is an industrial-grade product and is not intended for household use.	<b>WARNING: Hot Surfaces</b> On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.

# TPSR-25

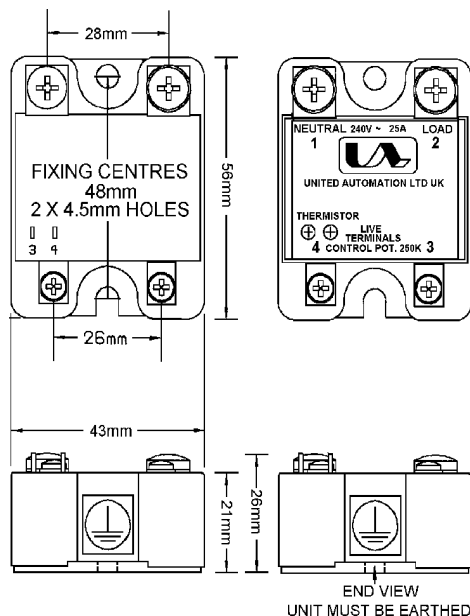
25A, 230V

Compact Phase Angle AC Regulator

## INSTALLATION

## DIMENSIONS & CONNECTIONS

### DIMENSIONS

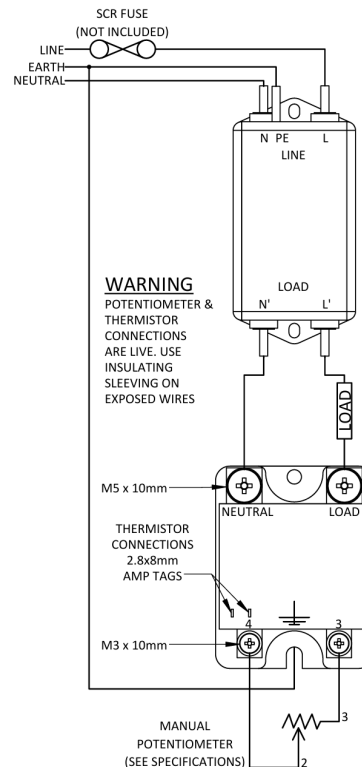


### FIXING REQUIREMENTS

FOR 25A 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 EARTHED 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) ADDITIONAL HEATSINK SHOULD BE EARTHED.

A SUITABLE FILTER WILL BE REQUIRED FOR THIS UNIT.

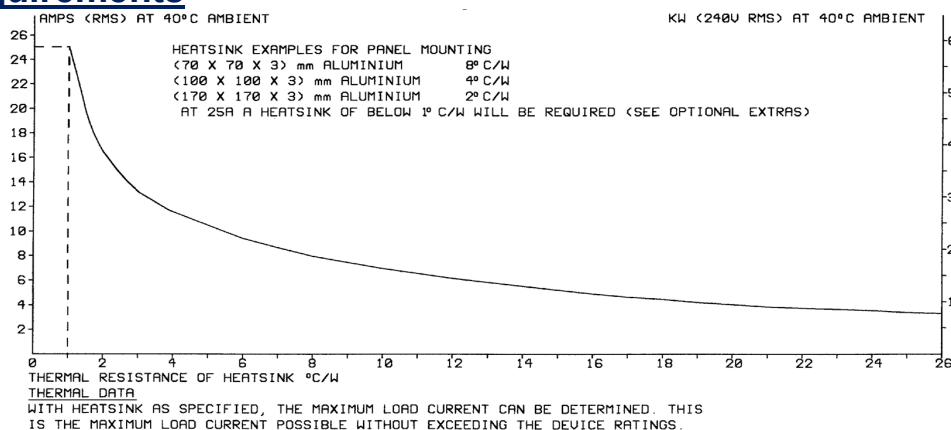
**NOTE:** MAXIMUM LOAD CURRENT SHOULD MATCH NEAREST SUITABLE FILTER e.g. 25A FILTER SHOWN FOR 25A MAXIMUM LOAD.



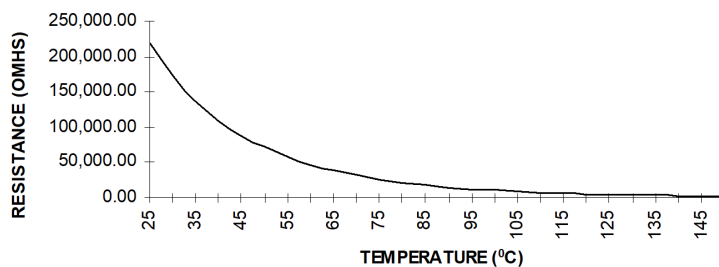
### WARNING LIVE TERMINALS

(SWITCH OFF MAINS BEFORE COMMENCING ANY SERVICING WORK)

## Cooling Requirements



TPSR SENSOR ASSEMBLY RT CURVE



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## RECOMMENDATIONS

### 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 datasheet for information.

### DOCUMENTS

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

Code	Identity	Description
<b>X10308</b>	TPSR	TPSR Thermistor Sensor Data Sheet
<b>X10229</b>	RFI	Filter recommendations: Addressing the EMC Directive
<b>X10213</b>	ITA	Interaction: Uses for phase angle and for burst fire control
<b>X10255</b>	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
<b>A403027</b>	PSR/TPSR 250k Pot and Leads
<b>Z01062</b>	Heatsink Compound Syringe <b>(Must be applied while fitting)</b>
<b>A80030</b>	SSR Cover Kit
<b>A-EN2010-30-S*</b>	30A 10 series EMI Single phase Chassis Mount filter
<b>A15217</b>	KA100 Din Rail mount Heatsink up to 25A with thermal paste

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

### PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
<b>A01825</b>	TPSR-25 High Power Phase Angle AC Regulator



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