SPECIFICATIONS

I^2t for fusing 10ms	250 A^2s	Min line voltage	5V ac
Max transient over volts	1200V ac	Max line voltage	440V ac
Max electrical isolation	3500V	Control signals	0-5V dc & 4-20mA
Power consumption	1 2 watts	Operating frequency	50 to 60 Hz +/- 5%
Max load current @ 65°C	25A	Supply voltage	10-18V ac
Min load current @ 65°C	0 05A	Peak one cycle surge	250A
Man. control potentiometer	5K	Max operating temp	0°C to 65°C
Power Terminals	M4 X 10mm	Max operating temp	-20°C to +85°C

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 device protection.
(See the SRA Datasheet for further information).

CE MARKING

This product family carries a "CE marking". These phase angle controllers need a suitable remote filter For information see recommendation section and contact our sales desk
(See the Declaration of Conformity).

RECOMMENDATION

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 & Earth requirements; Fusing recommendations
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 I.E C 950).

ORDER CODE: State part number: Stom1

Optional extras include: Potentiometer Supply Transformer Heatsink compound Filter

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UNITED AUTOMATION

MICROPROCESSOR BASED 25A AC POWER CONTROLLER

STOM1

X10223

DESCRIPTION

The STOM1 is a microprocessor based power controller, with a built in power device that is capable of controlling up to 25A at voltages up to 440V ac. The STOM1 has two types of power control, Phase Angle and Burst Firing, either can be selected separately. The module can also be used for soft starting in Phase Angle mode and it will automatically switch to Burst Fire mode when the control signal has reached a preset level. The control will remain in the Burst Fire State even if the input signal drops below the preset level. The STOM1 also has a ramp up from cold, which can be set from 0 to 30 seconds. The controller will operate from a O to 5V dc or 4 to 20mA signal, these signal inputs are fully isolated and can be controlled from a Temperature Controller or PC etc The STOM1 provides the equipment designer with flexibility in a wide range of applications

APPLICATIONS

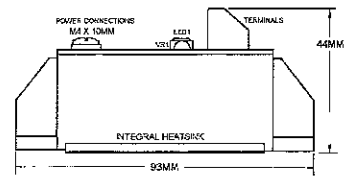
Suitable for most resistive loads including ovens, moulders, and dryers with current ratings up to 25A when fitted onto a suitable heatsink (1 3°C/W) Ideal for unusual heating loads which have very low resistance when cold

FEATURES

Energy saving	Soft start facility	Phase angle or Burst firing
Simple wiring	Standard 80mm fixing	Solid state reliability
Isolated inputs	Rugged and compact	Integrated Power Device

INSTALLATION

DIMENSIONS



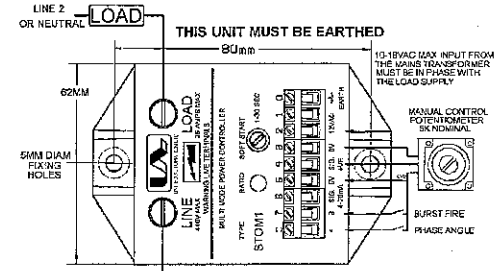
NOTE

THE STOM1 AC POWER CONTROLLER SHOULD BE MOUNTED ON A CLEAN OR UNPAINTED METAL THERMALLY CONDUCTIVE SURFACE. USING HEAT SINK COMPOUND THINLY APPLIED BETWEEN THE CONTROLLER AND THE MOUNTING PLATE.

IN ORDER TO COMPLY WITH THE CURRENT EMC DIRECTIVE WHEN USING IN PHASE ANGLE MODE A LINE FILTER MUST BE USED.

CONTROL OPTIONS
DC INPUT VOLTAGE CONTROL TERMINALS 3,4 AND 5
☐ 3 = 0V
☐ 4 = 0 TO 5V
☐ 5 = 5V OUTPUT
☐ 5K INPUT
CURRENT CONTROL TERMINALS 3 AND 6
☐ 3 = 0V
☐ 6 = 4-20mA
☐ 240R INPUT
MODE A PHASE ANGLE TERMINAL A AND 5
☐ A = 5V
☐ 5 = 5V
MODE B BURST FIRE TERMINALS B AND 5
☐ B = 5V
☐ 5 = 5V
MODE A AND B START IN PHASE ANGLE SWITCHING TO BURST FIRE
TERMINAL A,B AND 5
☐ A = 5V
☐ B = 5V
☐ 5 = 5V
PHASE REFERENCE AND SUPPLY TERMINALS 1 AND 2
☐ 10V TO 18V AC AT 75 mA

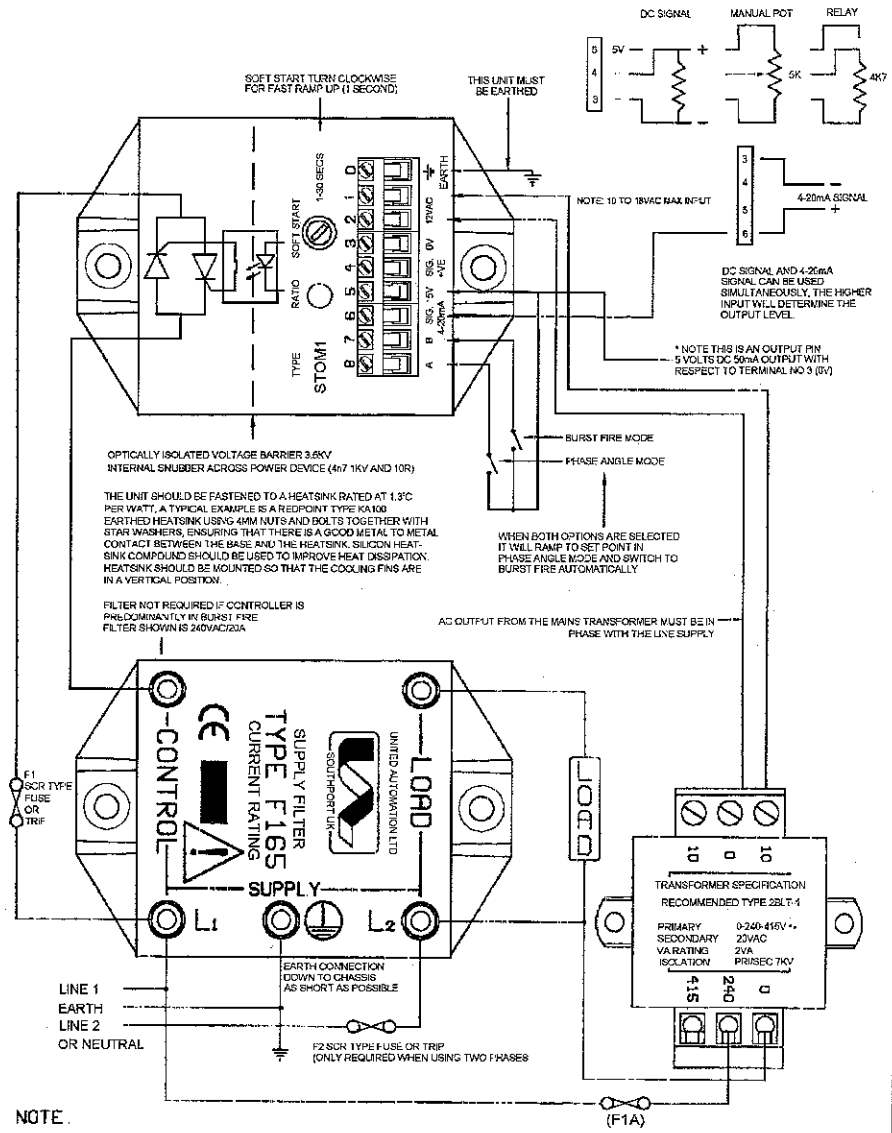
WIRING AND CONNECTIONS



WARNING
SWITCH OFF SUPPLY BEFORE COMMENCING ANY SERVICING WORK

RoHS Compliant Directive 2002/95/EC

INSTALLATION



NOTE.

MATCH MAINS SUPPLY FILTER TO THE SUPPLY VOLTAGE AND MAX LOAD CURRENT WHEN USED IN PHASE ANGLE MODE

INSTALLATION

STOM1 COOLING REQUIREMENTS

HEATSINK CALCULATIONS

THIS APPLICATION NOTE PROVIDES ADDITIONAL INFORMATION AND SIMPLE CALCULATIONS TO ALLOW YOU TO DETERMINE A MAXIMUM PERMISSABLE HEATSINK THERMAL RESISTANCE FOR A GIVEN SET OF OPERATING CONDITIONS. WHEN THE CONTROLLER IS ON THE TEMPERATURE, (T_J MAX) AT THE SEMICONDUCTOR JUNCTION WILL OBVIOUSLY BE HOTTER THAN THE ATTACHED HEATSINK. THIS IS DUE TO RESISTANCE TO HEAT TRANSFER WHICH IS CALLED THERMAL RESISTANCE AND IT IS MEASURED IN DEGREES CELCIUS PER WATT

PARAMETERS -

230V AC SUPPLY AT 25A AND A MAXIMUM AMBIENT AIR TEMPERATURE OF 50°C

1 FROM THE GRAPH BELOW FIND THE MAXIMUM POWER DISSIPATION FOR 25A

25A = 31 WATTS

2 CALCULATE THE TEMPERATURE DIFFERENCE BETWEEN T_J AND THE HEATSINK

31 WATTS X 1.1°C/W = 34.1°C

3 T_J MUST NOT RISE ABOVE 125°C

125 - 34.1 = 90.9°C

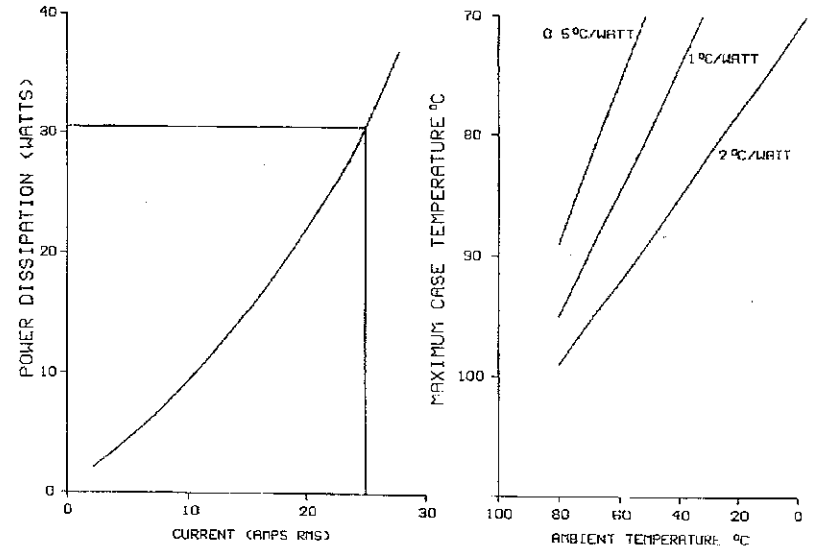
4 THE MAXIMUM AMBIENT TEMPERATURE IS 50°C

90.9 - 50 = 40.9°C

5 DIVIDING THIS TEMPERATURE BY THE WATTAGE (1) GIVES

40.9 ÷ 31 = 1.32°C/W

THEREFORE ANY HEATSINK OF 1.32°C/W OR LESS WILL BE SATISFACTORY



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