

X10298 – BMT3A 3-Phase Burst Firing 0-40°C / 0-150°C Temperature Controller

Issue 6



1 Introduction

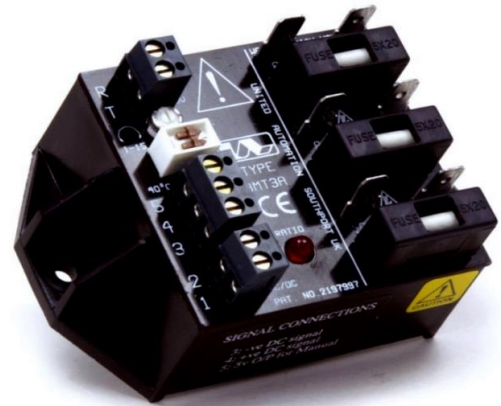
This microprocessor based dual range temperature control module incorporates the unique MONO-LINK™ - Gate to Gate firing feature which uses single path hard firing for each phase thyristor pair eliminating cathode firing connections. The burst firing circuit prevents fast changes in load current thus inhibiting Radio Frequency Interference.

2 Applications

Virtually all resistive heater load, (within temperature limitations) including air temperature controls, space heating, drying and other heating and ventilating applications.

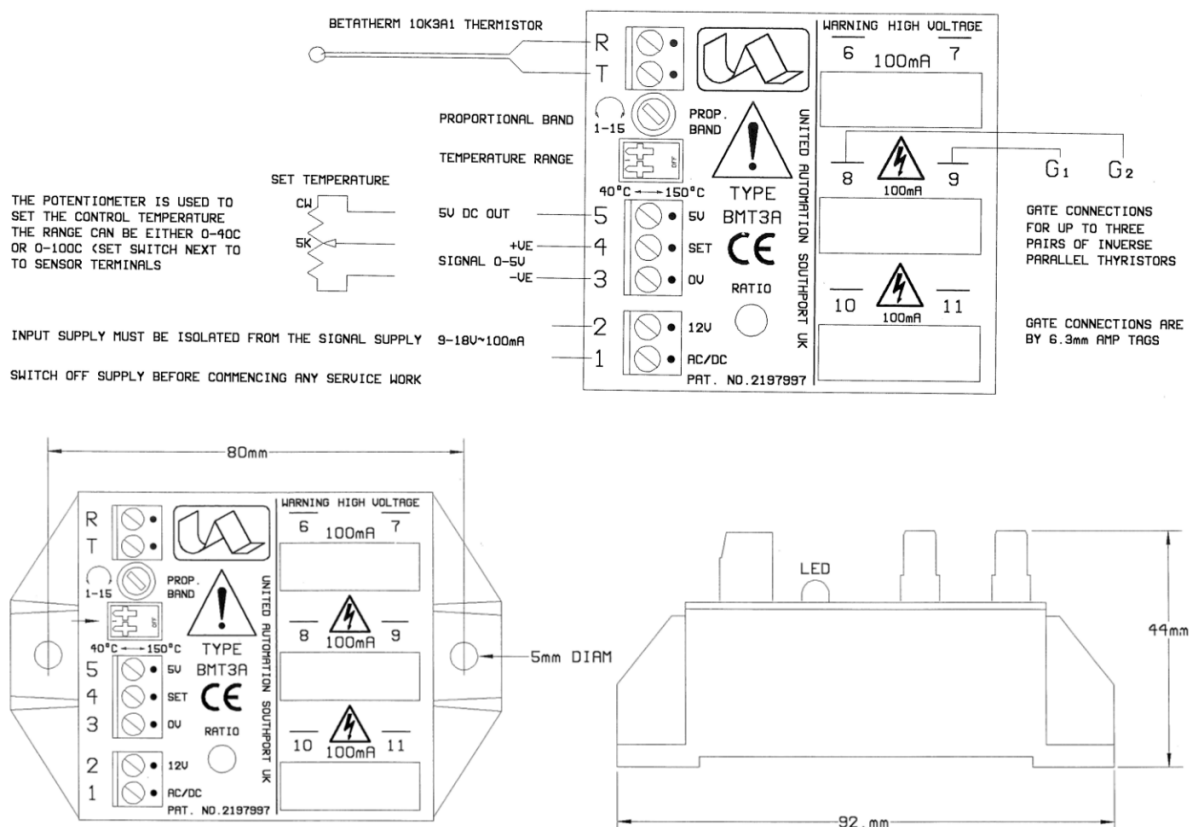
3 Features

- Zero volts switching (RFI free)
- MONO-LINK™ - Gate to Gate firing
- Power ratio indicator
- No phase timing or matching required
- Temperature feedback via thermistor
- Dual temperature range (panel Dials supplied)
- Set Temperature via 5kΩ Pot. or 0 to 5V dc signal



4 Installation

4.1 Dimensions & 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



Page 1 of 3

Issue: 6

Date: 04, November 2022

X10298 – BMT3A 3-Phase Burst Firing 0-40°C / 0-150°C Temperature Controller

Issue 6



4.2 Cooling Requirements

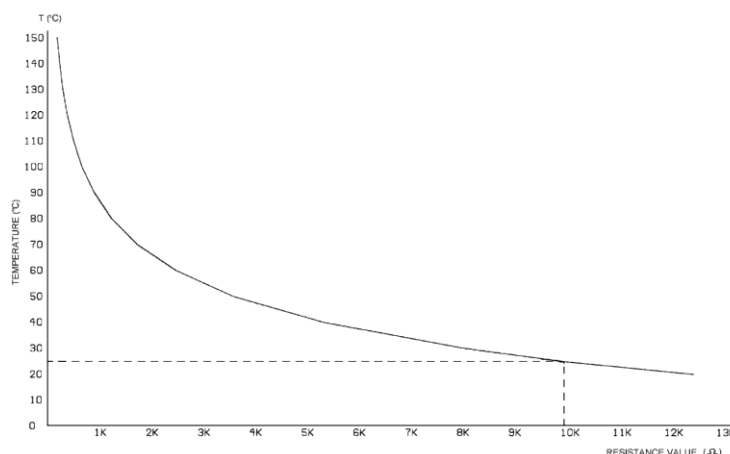


Figure 1: Resistance/Temperature Curve for BETATHERM 10K3A1 Sensor

5 Technical Specifications

Control Temperature Set (Terminals 3, 4 & 5)		Manual control – 5kΩ pot.	Signal Control – 0-5V DC Signal
Input Supply (required to be isolated from a dc signal supply)		9 – 18V AC or DC (12V nominal) @ 100mA	
Temperature Control Option Settings		0-40°C or 0-150°C (Select RANGE switch – see INSTALLATION section)	
Panel Dials (1 each as supplied)		(Adhesive label) 0-40°C & 0-150°C	
Thermistor		Type – Betatherm-10K3A1; Temperature Range – 0 to 150°C	
Cycle Time Base	1s (nominal)	Line Voltage	From 110V to 440V ± 10%
Trigger Output (I _{max})	800mA	Line Frequency	50/60Hz
Isolation Voltage	5kV	Integral Gate Fuses	F100mA ceramic (HRC F100mA)
Unit Operating Temp.	0 to +65°C	Max. Peak Voltage	600V
Unit Storage Temp.	0 to +85°C	Prop Band Setting	Adjust 1-15%

6 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.

7 CE Marking

This product family carries a "CE marking". For information see recommendation section and contact our sales desk. (See the Declaration of Conformity).

8 Recommendations & Safety Requirements

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

Code	Identity	Description
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10390	ZSS	Zero & Span setup procedure
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations
P01.1	COS	UAL Conditions of Sale

Note: It is recommended that installation and maintenance of this equipment should be done with reference to current edition of the I.E.E. 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).

9 Order Code

State Part Number	BMT-3A (complete with 1-each front panel label (0-40°C & 0-150°C Dial)
Optional Extras	Supply transformer, 5kΩ pot., power stack assembly, thermistor – betatherm-10K3A1

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



Page 2 of 3

Issue: 6





Date: 04, November 2022



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

