

X10810 – DCMC 24-40

DC Motor Controller Module

Issue 3



1 Introduction

This general purpose, modulated, pulse-width, low voltage dc controller, can be operated in any of the following modes:

Motor Control: High Frequency (RT/RT1 no link) speed control set by a 5k Ω potentiometer.

Lighting/Heating Control: Low frequency (RT/RT1 linked) output level set by a 5k Ω potentiometer as above.

Temperature Control: Thermistor connected across RT/RT1, with a temperature range of 5-130°C. Temperature set by a 5k Ω potentiometer.

2 Applications

Include speed control of low voltage, high frequency, dc motors, low voltage lighting and medium frequency heaters.

3 Features

- Manual or signal control.
- Temperature control with optional sensor.
- 180 or 350Hz selectable frequency ranges.
- Short-circuit protection.
- 6 to 24V dc supply voltage range.

RoHS Compliant



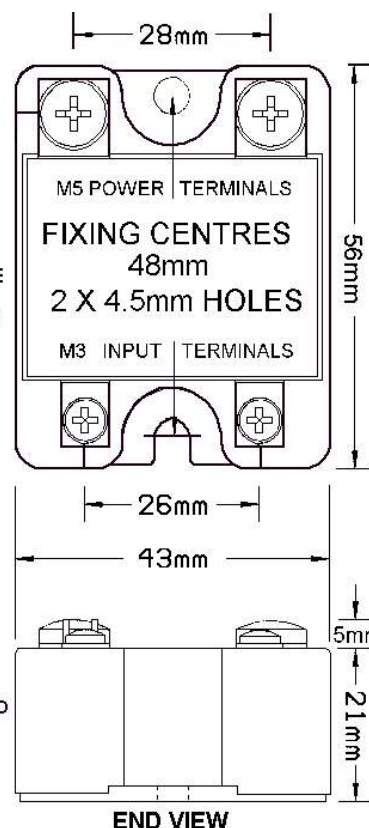
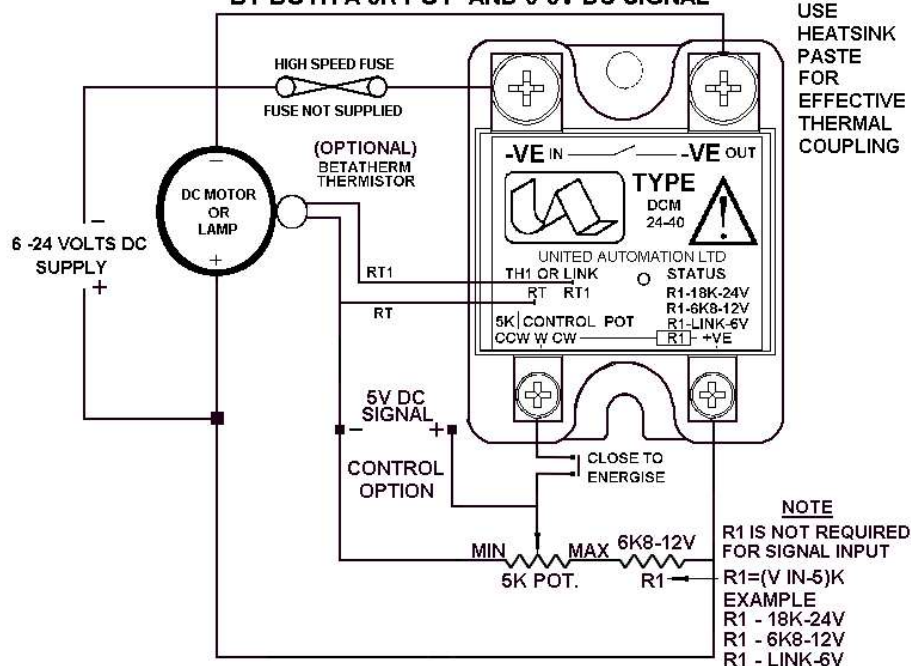
4 Installation

MOTOR CONTROL CONNECTIONS

WARNING

SWITCH OFF SUPPLY BEFORE COMMENCING ANY SERVICE WORK.

ALL SET POINTS CAN BE CONTROLLED BY BOTH A 5K POT AND 0-5V DC SIGNAL



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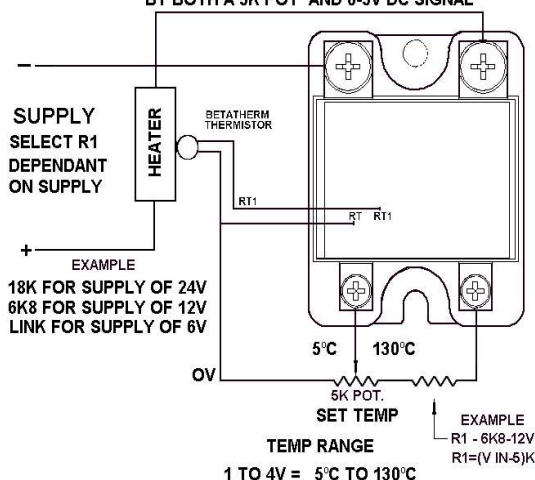
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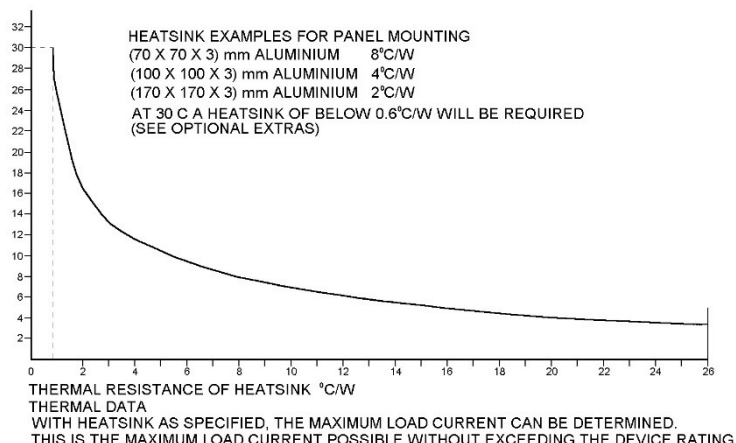
TEMPERATURE CONTROL CONNECTION FOR 12V SUPPLY

WARNING
SWITCH OFF SUPPLY BEFORE COMMENCING ANY SERVICE WORK.

ALL SET POINTS CAN BE CONTROLLED
BY BOTH A 5K POT AND 0-5V DC SIGNAL



COOLING REQUIREMENTS



PROTECTION NOTE:

Use a minimum 3A Rated Cable for the +VE supply of the DCM controller

For controller protection a 'TRANSIL' component device is recommended to be fitted (hard wired) across the following supply terminals – “M3 +ve” and “M5 – ve IN”.

5 Technical Specifications

Maximum DC System Line Voltage	24V DC
Unit Limiting DC Current	40A DC
Control Input Voltage Range	0-5V DC
Control Input Current @ 5V Typical	1mA DC
High Frequency Mode (no link across RT and RT1)	350Hz
Medium Frequency Mode (link RT and RT1)	180HZ
Optional for temperature control (terminals RT & RT1): Thermistor type – Betatherm – 10K3A1	5°C – 130°C
Unit Operating Temperature Range	0°C – 65°C
Unit Storage Temperature Range	0°C – 85°C

6 Fusing

It is recommended that semiconductor, fast-acting type fuses or circuit breakers (semiconductor - MCB) be used for unit/device protection. On initial operation some loads may need an increased factor of safety for unit/device protection (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 des. (see Declaration of Conformity).

8 Recommendations & Safety Requirements

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

Code	Identity	Description
X10229	RFI	Filter Recommendations: Addressing the 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
P01.1	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.T. (formally I.E.E.) regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding installation and safety of electrical equipment. Specific installers should refer to local and national regulations.

9 Order Code

State Part Number	DCM – 24 - 40	Stock Code A75250
Optional Extras	Betatherm 10K3A1 bead sensor only Betatherm 10K3A1 bead (type-X) sensor with 1m PTFE leads Betatherm 10K3A1 enclosed (type-E) sensor with 1m PTFE leads	Stock Code D80005 Stock Code A26046 Stock Code A26036
Further extras include	Heatsink assemblies for 40A capability; heatsink paste; 5K potentiometer	



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