

X10860

Motors, Servos and controllers | DC Motor Control

# DCM-28-40

28V - 40A

DC Motor Controller

## CONTACT US:

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## KEY FEATURES:

- ✓ **Manual or Signal Control:** Choose between manual or signal control, providing flexibility in operation.
- ✓ **Temperature Control with Optional Sensor:** Incorporate temperature control using an optional sensor for precise adjustments.
- ✓ **Selectable Frequency Ranges:** Opt for either 180Hz or 350Hz frequency ranges to match your specific requirements.
- ✓ **Short-Circuit Protection:** Ensure the safety of your equipment with built-in short-circuit protection.
- ✓ **6 to 28V DC Supply Voltage Range:** Accommodate a wide range of applications with a supply voltage range of 6 to 28V DC.

## APPLICATIONS:

- Ideal for a range of applications, including:
- Speed control of low-voltage DC motors
  - High-frequency operations
  - Low-voltage lighting
  - Medium-frequency heaters

Enhance the performance of your DC motors with our versatile DC Motor Controller, a state-of-the-art electronic device designed to efficiently manage direct current (DC) motors. This modulated pulse-width controller provides comprehensive control over motor functions, including start/stop, speed adjustments, torque management, and rotational direction.

## Flexible Operating Modes:

Operate the controller in various modes to suit your specific needs:

- **Motor Control:** Achieve high-frequency speed control with a 5kΩ potentiometer.
- **Lighting/Heating Control:** Utilise low frequency output levels with a 5kΩ potentiometer.
- **Temperature Control:** Connect a thermistor across RT/RT1 for temperature control in the range of 5-130°C. Set temperature using a 5kΩ potentiometer.

Upgrade your motor control system with our DC Motor Controller, offering a comprehensive set of features for diverse applications. Whether you need precise speed control, efficient lighting management, or temperature regulation, our controller delivers flexibility and reliability. Choose advanced control for your DC motors with our cutting-edge controller.

## TECHNICAL SPECIFICATIONS

Specifications	DCM28 - 40
Unit Limiting DC Current	40A
Maximum DC System Line Voltage	28V 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 - 130°C
Unit Operating Temperature Range	0°C to 65°C
Unit Storage Temperature Range	0°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.

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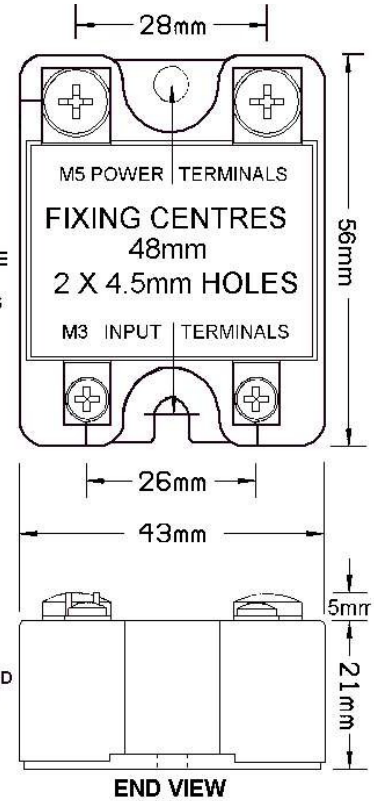
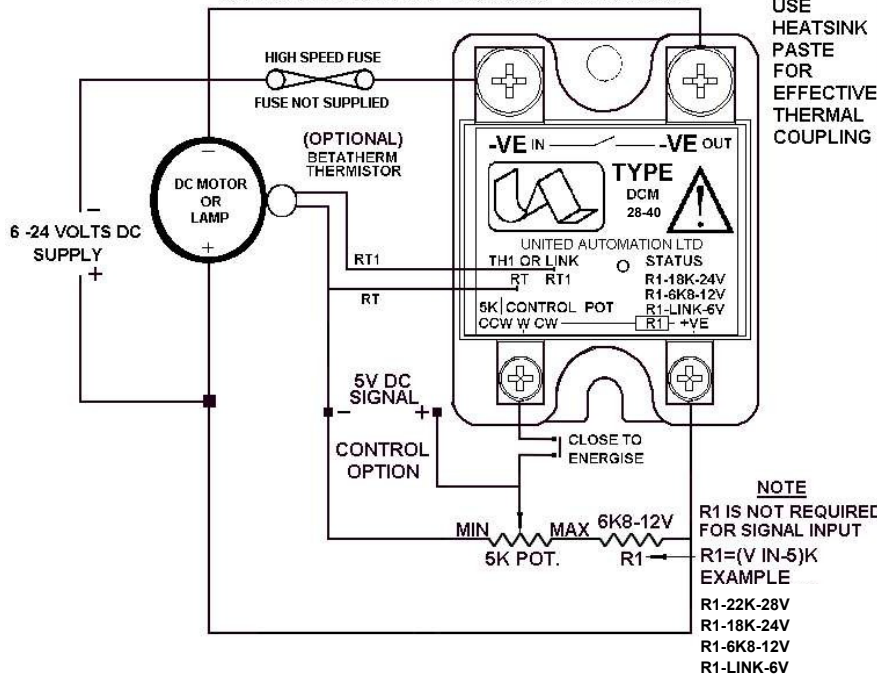
## INSTALLATION

## DIMENSIONS & CONNECTIONS

### MOTOR CONTROL CONNECTIONS

**WARNING**

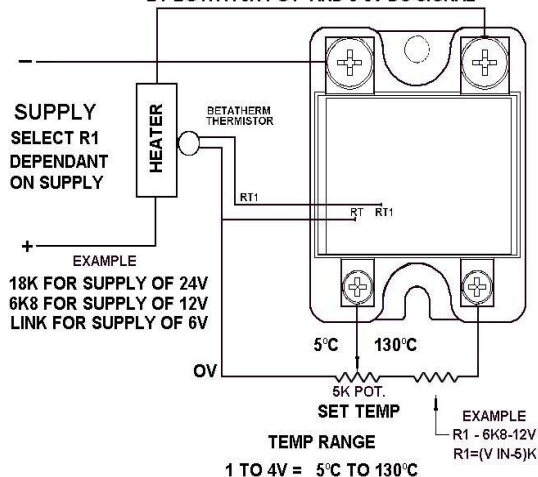
SWITCH OFF SUPPLY BEFORE COMMENCING ANY SERVICE WORK.

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

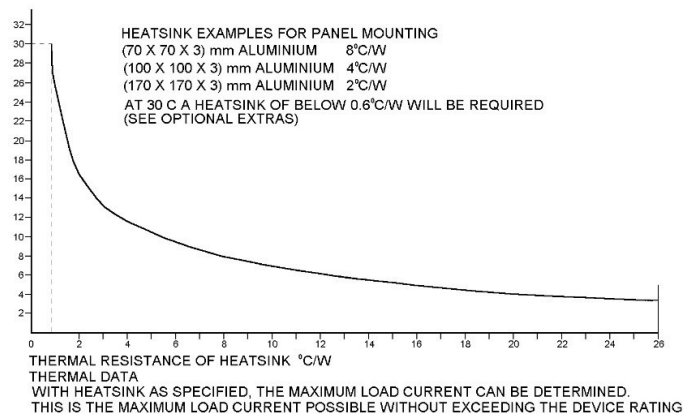
### TEMPERATURE CONTROL CONNECTION FOR 12V SUPPLY

**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".



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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>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>D80005</b>	Betatherm 10K2A1 bead sensor only
<b>A26046</b>	Betatherm 10K3A1 bead (type - X) sensor with 1m PTFE leads
<b>A26036</b>	Betatherm 10K3A1 enclosed (type - X) sensor with 1m PTFE leads
<b>Z01062</b>	Heatsink Compound Syringe <b>(Must be applied while fitting)</b>
<b>A403001</b>	5K Potentiometer
<b>A80030</b>	SSR Cover Kit
<b>A15216</b>	KA100 Black Plate Mounted Heatsink
<b>A15217</b>	KA100 DIN Rail Mounted Heatsink

## PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
<b>A75253</b>	DCM28-40 28V DC 40A Motor Controller



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