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A REGAL REXNORD BRAND

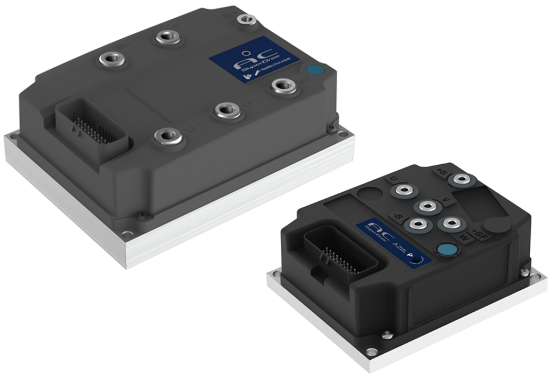
DC7

# Powerful DC motor controller solution

The DC7 motor controller family incorporates a combination of superior quality, flexibility, and efficiency for automated guided vehicle (AGV) and autonomous mobile robot (AMR) designers that only settle for the best.

Kollmorgen offers a wide range of capable and flexible DC motor controllers for all types of AGVs and AMRs.

The DC7 motor controllers employ built-in speed and position regulators suitable for controlling steering and traction in AGV and AMR applications.



## Features

- The DC7 family relies on modern DC control technologies for improved performance and operating efficiency across a wide range of power outputs.
- Designed for the demanding environment of AGVs and AMRs. A rugged system (IP65) ensures protection against dust, water, and physical damage.
- Integral mounting flanges and an integrated connector ensure simple installation and reliable operation.
- The motor controllers have a direct interface with other Kollmorgen vehicle products via the CAN bus for an easy system setup.
- General I/O is available for application use.
- Four-quadrant type motor controllers that can control acceleration and deceleration with high precision in both directions.
- Digital outputs have built-in freewheeling diode.
- Digital outputs have built-in current and voltage control.
- Regenerative braking.
- Feedback interface for incremental encoder.



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| Order information | |
|---|---|
| DC7-50 | 16102-01 |
| DC7-125 | 16102-02 |
| DC7-250 | 16102-03 |
| Connector kit | 18452-02 |

| General | |
|---|---|
| Supply voltage operating range | 24-48 VDC |
| Supply voltage, minimum/maximum | 16.8/62 VDC |
| Motor types | Permanent magnet DC motors |
| Communication | CANopen |
| Connector | AMPSEAL 35-pin connector (TE 776164-1) |
| Feedback interface | Two-channel incremental push-pull encoder (maximum 20 kHz) |
| Sensor supplies | 1 x 5 V (maximum 75 mA)<br>1 x 12 V (maximum 75 mA) |
| Motor temperature sensor | KTY84-130, PT-1000 |

| I/O connections | |
|---|---|
| Analog inputs | Two analog inputs (12-bit ADC with range 0 to 5 V) |
| Digital inputs | Nine digital inputs (low < 2 V, high > 10 V):<br>• Two inputs are dedicated for CAN node ID selection.<br>• Seven inputs are used for general purpose. |
| Digital outputs | Six open drain outputs:<br>• Three sinking 2.1 A (Continuous)<br>• Three sinking 1.1 A (Continuous)<br><br>Two outputs can be used for current control.<br>Four outputs can be used for voltage control.<br>Two outputs can be used for All OK.<br>All six outputs can be used for on/off. |



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| Current and output ratings[1] | | | |
|---|---|---|---|
| Model | Rated current 2 min (A) | Rated current 2 hour (A) | Recommended operating range (A) |
| DC7-50 | 50 | 50 | 5 - 50 |
| DC7-125 | 125 | 75 | 40 - 125 |
| DC7-250 | 250 | 150 | 40 - 250 |

[1] Table values are calculated based on corresponding RMS values for AC motor controllers. Actual values for DC motor controllers might deviate slightly from table values. Values apply at nominal supply voltage of 48 VDC.

| Ambient conditions | |
|---|---|
| Temperature, operation | -40 to +55 °C |
| Temperature, storage | -40 to +85 °C |
| Relative humidity, storage | Maximum 85% |
| Protection class | IP65 |

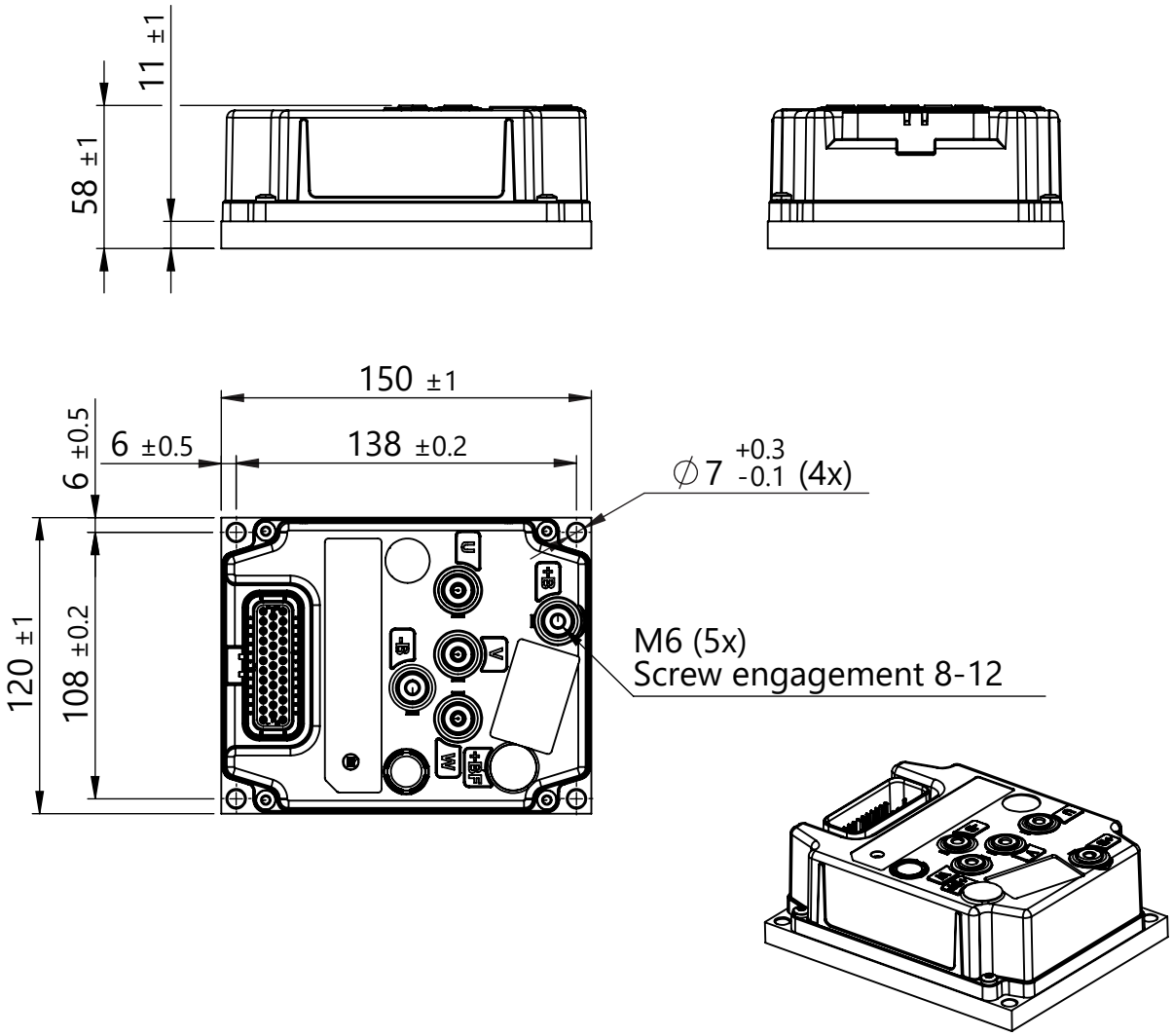


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# DC7-50 and DC7-125 dimensions

| Dimensions | | |
|---|---|---|
| Model | Width x height x depth (mm) | Weight (kg) |
| DC7-50 | 120 x 58 x 150 | 1.0 |
| DC7-125 | 120 x 58 x 150 | 1.0 |



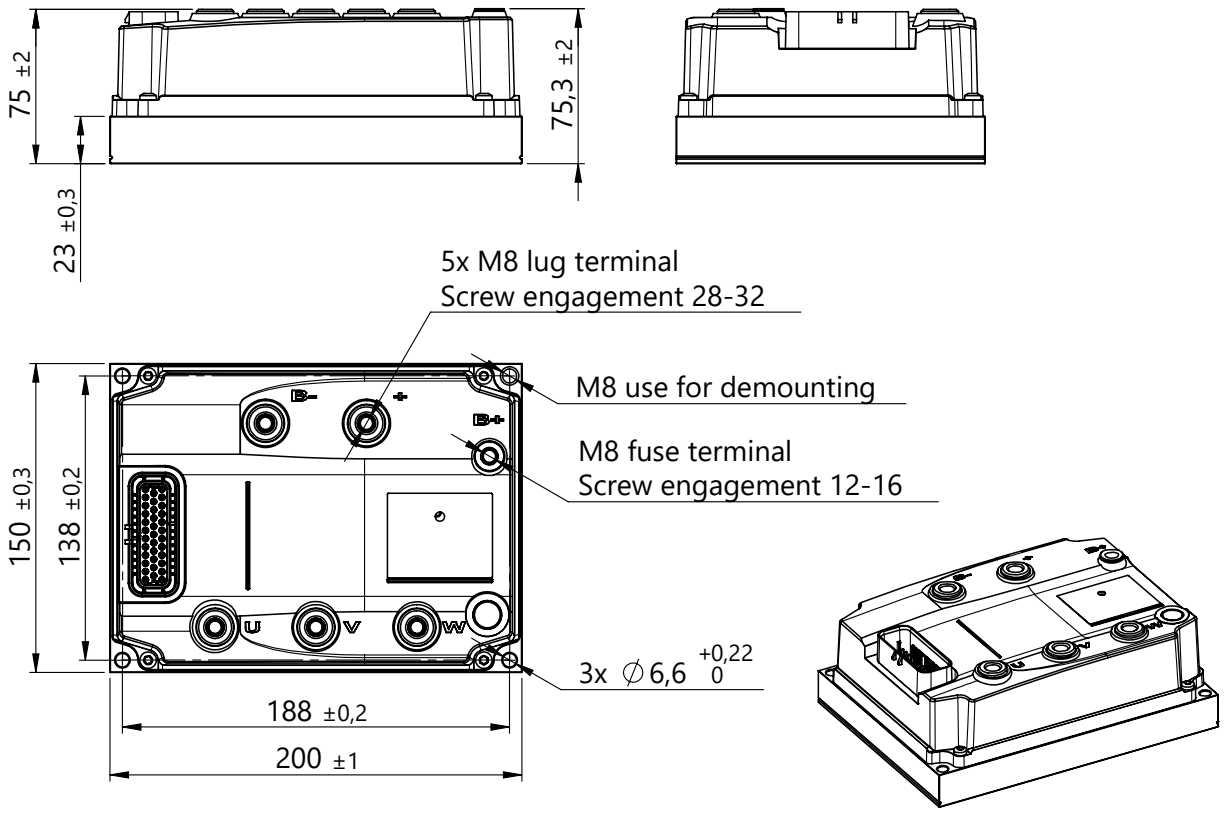



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# DC7-250 dimensions

| Dimensions | | |
|---|---|---|
| Model | Width x height x depth (mm) | Weight (kg) |
| DC7-250 | 200 x 76 x 150 | 2.9 |






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