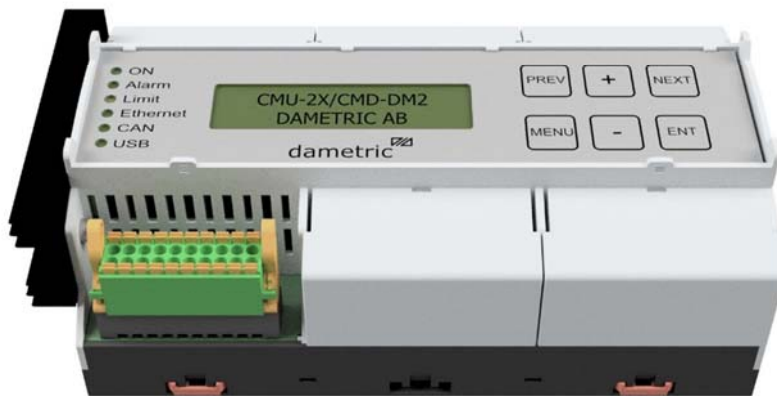


dametric 

# CMD-DM2



## Control Motor Driver

# MANUAL

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## 1 General

The CMD-DM2 is a module designed to control an electric stepping motor.

The unit includes functions and control signals to generate a desired stepping motor action. A cable, K-CM25K, are used to connect the stepping motor to the CMD-DM2 unit.

The unit is normally installed into a Control Motor Unit, CMU-2X.

## 2 Document revision

Sept. 5, 2019/BL	First release.
Oct. 17, 2019/BL	Added installation.
Nov. 21, 2019/BL	Added plinth numbering.

## 3 Article number

<i>Dametric</i>	<i>SKC</i>	<i>Valmet</i>
CMD-DM2	SKC9952364	VAL0427073

## 4 Technical Specification

### 4.1 Closure

Module size	Height=90 mm, Width=162 mm, Depth=66 mm.
Closure	Polycarbonate (30%GV)
Mounting	DIN-rail
Connections	Plug-in spring connectors, max 1.5mm <sup>2</sup> cable area.

### 4.2 Display and buttons

The display and pushbuttons are used to set parameters and to indicate status of the various functions in the unit.

Display	LCD type with backlight, 2 rows with 16 characters each
Buttons	6, PREV, PLUS, NEXT, MENU, MINUS and ENTER

### 4.3 Led indicators

Two of the six led in the front of the unit are used to indicate:

ON	Green, indicates power supply
Alarm	Red, on if there is any alarm in the unit
Limit	Not used
Ethernet	Not used
CAN	Not used
USB	Not used.

### 4.4 CMD Control Motor Driver

Supply voltage	24 VDC, $\pm 10\%$
Power consumption	Nominal 0.4 A, max. 2A, depending of CMD activation
Step motor	CM-2NMHK with cable K-CM25K
Motor output	2-phase, A+, A-, B+, B-
Phase current, RMS	max 1.5A
Phase current, peak	Max 2.3A

#### 4.4.1 DO - Digital Output

Output voltage	24VDC
Type	PNP type
Number	1 digital outputs
Max current/output	200mA

#### 4.4.2 DI - Digital Inputs

Input voltage	24VDC
Type	Active high
Number	3 digital inputs
Max current/input	5mA

## 5 Handling

### 5.1 Panel indicators

The led indicators have the following meaning:

Name	Function	off	flashes	on
ON	Power supply	No power supply	-	Power supply OK
Alarm	Alarm indication	No alarm activated	An alarm detected	A sum alarm detected
Limit	Not used	-	-	-
Ethernet	Not used	-	-	-
CAN	Not used	-	-	-
USB	Not used	-	-	-

### 5.2 Configuration

A few parameters are used to give the user the desired operation.

A parameter list is used to document the settings of the unit. Be sure to keep this up to date in case the module must be replaced.

#### 5.2.1 Configuration of the parameters with the built-in display and buttons

To select the function – press MENU first and scroll with PREV and NEXT until the chosen function is shown. The basic information of the function is displayed, and this can be a parameter value or a measured value.

Press PLUS to select one of the parameters associated with the selected function. Use PLUS and MINUS to scroll among the parameters.

Use MENU if you select to go back to the function level.

Press MENU for more than 1 second to return to the basic display indication.

Use of the buttons.

For the base level:

MENU (short)	Returns to the base level of the chosen function.
MENU (>1s)	Returns to the basic display indication.
NEXT	Step to the next function.
PREV	Step to the previous function.
PLUS	Starts the parameter-level for the chosen function or steps to the next level.
PREV	Step to the previous parameter level.
ENT	No function.

For the parameter-level:

MENU (short)	Returns to the base level of the chosen function.
MENU (>1s)	Returns to the basic display indication.
NEXT	Step to the next digit during edit.
PREV	Step to the previous digit during edit.
PLUS	Increase the digit one step.
MINUS	Decrease the digit one step.
ENT (short)	Toggle between select mode (sel.) and edit mode (edit) for the chosen parameter.
ENT (>1s)	Saves the parameter to the EERPOM-memory.

The list below shows the functions and parameters.

Use buttons NEXT and PREV to step between the functions (bold text).

Then select a parameter for the chosen function with the PLUS and MINUS buttons.

### 5.2.2 Parameters

<b>CMD Screw pitch</b>	Set this parameter according to the thread of the actual adjusting screw in mm/turn.
<b>CMD Low speed</b>	Set the speed when running at low speed. The default value is 0.05 mm/s.
<b>CMD High speed</b>	Set the speed when running at high speed. The default value is 0.25 mm/s.
<b>CMD Direction</b>	Set the direction. Alternate between 0 and 1 to get the desired rotation direction.
<b>CMD Drive curr.</b>	Set the drive current. The default value is 1.0A.
<b>CMD Hold curr.</b>	Set the hold current. The default value is 0.2A.
<b>CMD Status</b>	Indicates the working status of the step motor.
<b>CMD Run current</b>	Shows the actual current consumption (used for troubleshooting).

**6 Installation**

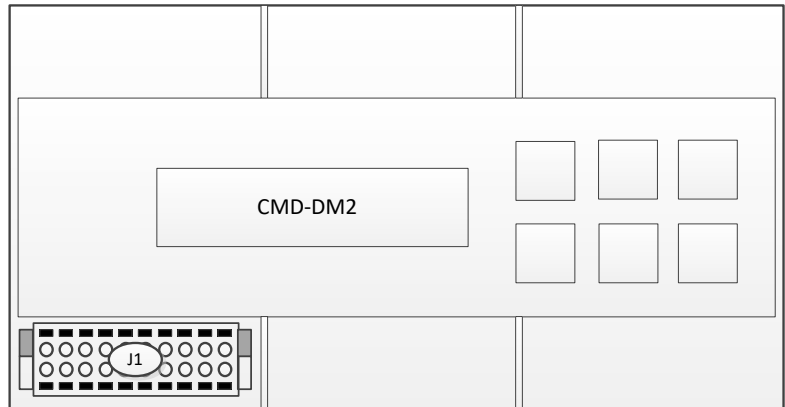
The DCM-DM2 is normally installed into a step motor drive unit, CMU-2X. If the unit is used alone then follow the installation description below.

All electrical connections uses the J1 detachable plinth.

Peel of the insulation app. 10 mm from the wire end.



Use a small screw driver to unload the screw connector and then insert the wire.



**6.1 Power supply**

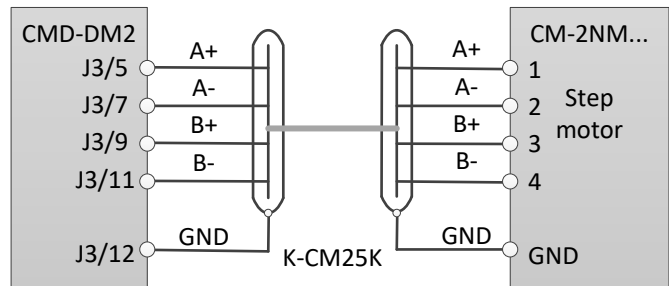
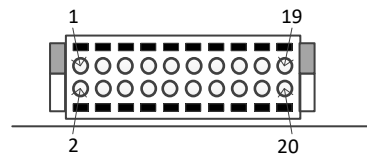
- 1 +24VDC Power supply to the module
- 3 0VDC Power ground

**6.2 Step motor cable**

- 5 SM-WA1 To control motor winding
- 7 SM-WA2 To control motor winding
- 9 SM-WB1 To control motor winding
- 11 SM-WB2 To control motor winding

**6.3 Control I/O**

- 13 DI-CLOSE Close plates
- 14 DI-OPEN Open plates
- 15 DI-HISPEED Move at high speed
- 15 DO-ALARM Alarm output



**7 Contact**

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