DMAC23

Brushless digital axis

MIDI INGENIERIE
A Hensoldt Company

Description:

DMAC23 is a smart DSP motion controller including a NEMA 23 high torque brushless motor, a microstepping driver and encoder. It comes in two different sizes DMAC23-1 (1,2Nm) and DMAC23-2 (2,2Nm).

Simplified DMAC Language is used to send commands from the host to the module and to write programs that can be stored in Sequencer memory so that the module can execute the commands in a stand-alone mode.

The Sequencer can be used together with opto-isolated inputs and outputs, giving **DMAC23** true PLC like capabilities.

The advanced current control technique used in **DMAC23** allows position, torque or speed control over a wide speed range (up to 4000rpm). The controller prevents motor stall and eliminates the need for closed-loop control.

Great smoothness and performance can be achieved with **DMAC23** thanks to sinusoidal motor current generator, S-curve speed ramps and optimized current mode. Resonance is significantly dampened over the entire speed range and audible noise is reduced.

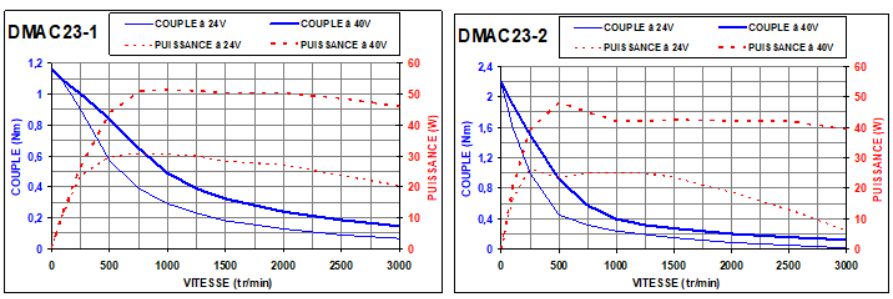
DMAC23 is a compact, powerful and low cost solution for a wide range of brushless motor applications.

Specific serial protocol, based on RS485 or RS232 standard, allows communication up to 115200 bauds with multi-axis features for 2D and 3D application. USB is also available using the TD-DMAC connector.

Technological specifications:

	DMAC23-1	DMAC23-2
Supply voltage	12 Vdc min to 45 Vdc max	
Holding torque	1,2 Nm	2,2 Nm
Max mechanical power	50 W at 40 Vdc	
Max speed	4000 rpm	
Resolution	10.000 pos per revolution	
Logical inputs	6 opto-isolated	
Analog input	1 differential 0-36V	
Logical outputs	4 opto-isolated	
Communication	RS232C / RS485, opto-isolated, 9600 to 115 200 bauds Multi axis configuration possible, Option CanOpen, USB	
Sequencer	500 commands memory	
Fastener	NEMA 23 flange, 6,35 mm axis (see assembling plan)	
Rotor inertia	0,25 Kg.cm²	0,49 Kg.cm²
Dimension	57,15x57,15x138,5mm	57,15x57,15x168,5mm
Weight	1,2 Kg	1,6 Kg
Protection	IP40	
Certifications	RoHs, CE marking, UL PCBs	

Motor torque:



Features

> S-curve speed ramps for smooth resonance-free movements'.

> Optimized current mode to minimize thermal heating.

> Interpolation mode for multi-axis 2D and 3D applications.

> RS485 CanOpen and USB communication.

> User-configurable hardware and software ends.

> Enhanced movement functionalities.

> Integrated commands sequencer.

> High holding torque. Direct Drive applications.

> DSP controller.

References

DMAC23-1 (DMAC23 1,2Nm RS485 / RS232C)

DMAC23-2 (DMAC23 2,2Nm RS485 / RS232C)

DMAC23-1-C (DMAC23 1,2Nm CANOpen DSP402)

DMAC23-2-C (DMAC23 2,2Nm CANOpen DSP402)

DMAC23-1-P (DMAC23 1,2Nm Clock & Dir)

DMAC23-2-P (DMAC23 2,2Nm Clock & Dir)

TD-DMAC (connector block DMAC)

DRVMI (Dll communication library)

WINSIM2 (Interface for PC user)

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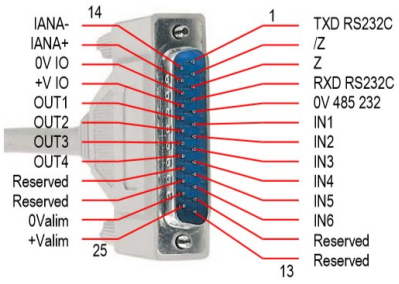
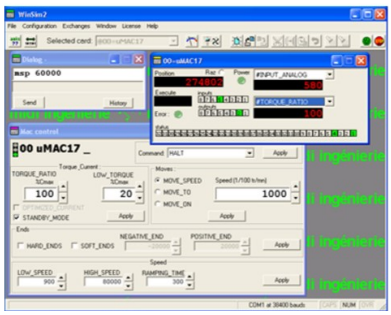
Connector pin-out:



WinSim2:



WinSim2 is a user interface for mono-axis or multiple axis application.

SIMPA, SIMPA µstep, MAC, DMAC and µMAC modules are supported.

WinSim2 is a clever solution to program, setup and control all the axis.

With **WinSim2,** you can download sequences, program limit switches and make interactive execution to simplify the development of your application.

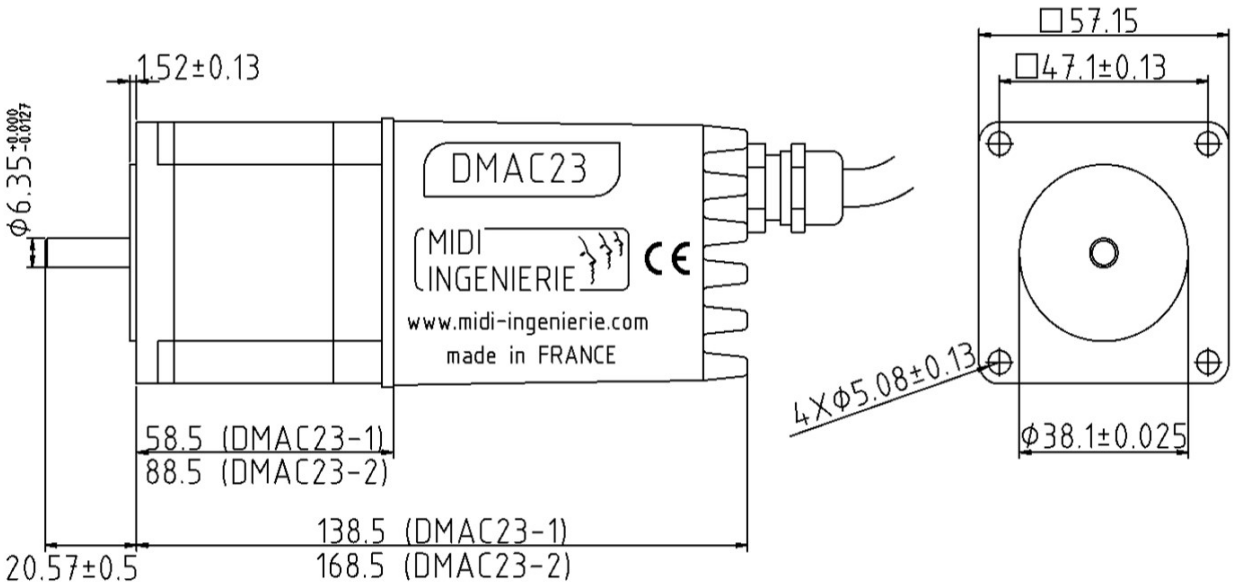
Sequencer:

Integrated command sequencer allows movements and automation in stand-alone mode. Up to 500 commands can be stored in non-volatile memory.

Sample sequence:

```
:1 #HIGH_SPEED := 3000
:2 MOVE_TO 12000
:3 WAIT 4000
:4 #V3 := #POSITION * 32000
:5 #OUTPUT.1 = 0
:6 IF #STATUS.5 = 1 JUMP 2
:7 MOVE_SPEED 4000
:8 IF #INPUT_ANALOG > 67 CALL 120 :9 #OUTPUT.1 = 1
```

Dimensions:



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