DMAC17

Brushless digital axis

midi ingénierie

NEXEYA Products Division

Description

DMAC17 is a smart DSP motion controller including a NEMA 17 high torque brushless motor, a microstepping driver and encoder. It has a torque of 0,5Nm.

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.

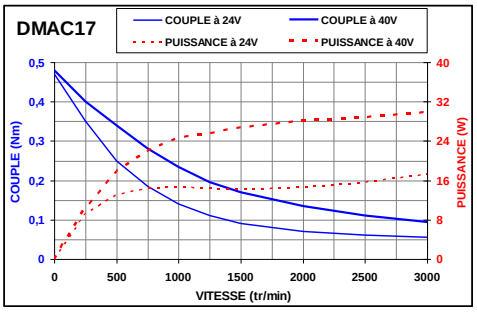
DMAC23 is a compact, powerful and low cost solution for a wide range of brushless motor applications

Specific serial protocol, based on RS485 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.

Technical data

	DMAC17
Supply voltage	12 Vdc min to 45 Vdc max
Holding torque	0.5 Nm
Max mechanical power	28 W at 40 Vdc
Max speed	4000 rpm
Resolution	10.000 pos per revolution
Logical inputs	6 opto-isolated
Analog inputs	1 differential 0-36V
Logical outputs	4 opto-isolated
Communication	RS485, opto-isolated, 9600 to 115 200 bauds Multi axis configuration possible, Option CanOpen, USB
Sequencer	500 commands memory
Fastener	NEMA 17 flange, 5 mm axis (see assembling plan)
Rotor inertia	0,25 Kg.cm²
Dimensions	110 x 45 x 56mm
Weight	800g
Protection	IP40 (option IP55)
Certifications	CE Marked PCB are UL certified

Motor torque



Main 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

DMAC17 (0,5Nm RS485)

DMAC17-C (0,5Nm CANOpen DSP402)

DMAC17-P (0,5Nm Clock & Dir)

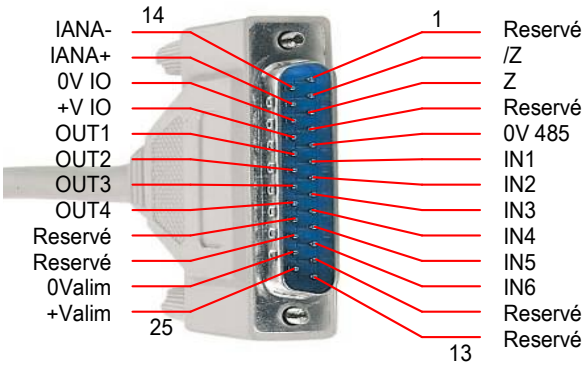
TD-DMAC (connector block DMAC)

DRVMI (Dll communication library)

WINSIM2 (Interface for PC user)

SPxxx-48 (Power supply xxx Watts)

Connector pin-out



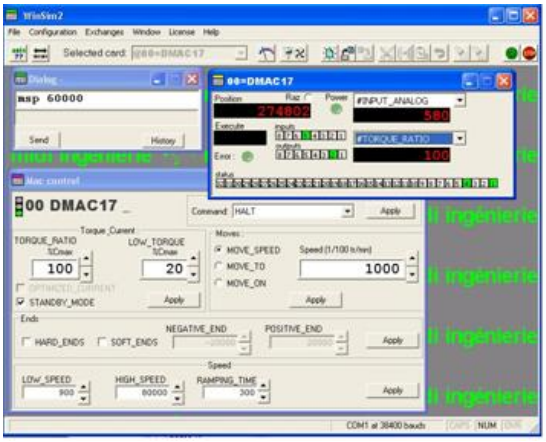
Sequencer

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
```

WinSim2



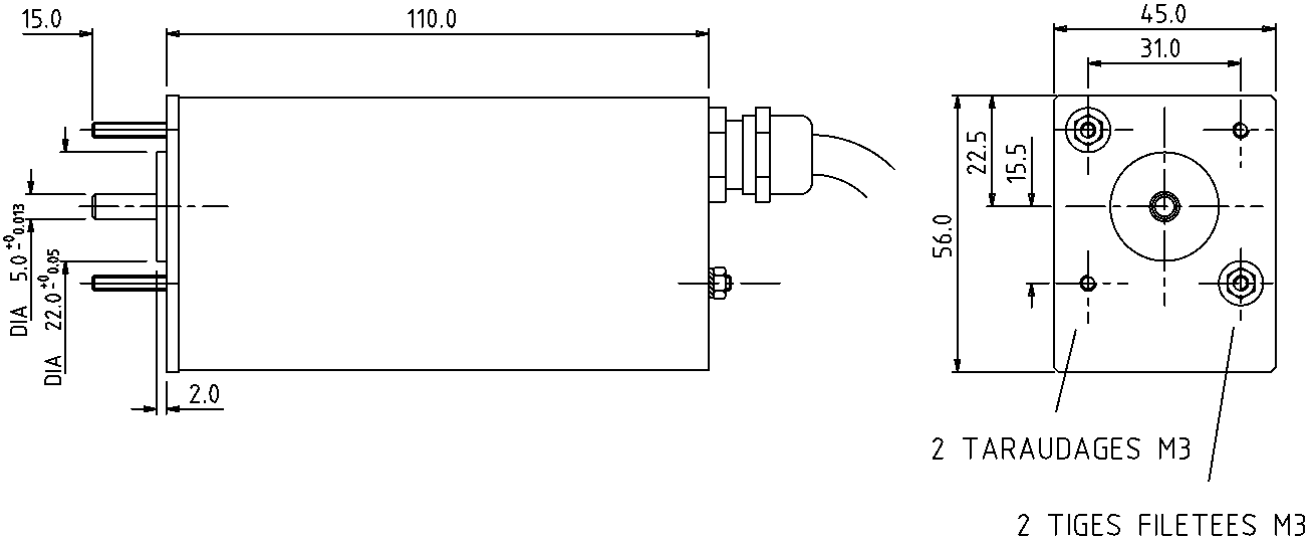
WinSim2 is a user interface for mono-axis or multiple axis application.

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.

Dimensions



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