MicroMAC17

brushless digital axis

midi ingénierie

NEXEYA Products Division

Description

microMAC17 is a smart 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 microMAC17 true PLC like capabilities.
The controller prevents motor stall and eliminates the need for closed-loop control.
microMAC17 is a compact, powerful and low cost solution for a wide range of brushless motor applications
Specific serial protocol, based on RS232 standard, allows communication up to 115200 bauds. USB is also available using the TD-DMAC connector.

Technical data

	uMAC17
Supply voltage	12 – 50 VDC max
Holding torque	0.5Nm
Mechanical power	40W @ 45V
Max speed	1200 RPM
Resolution	2000 pos per rev.
Digital inputs	2xTTL (end-stops) + 4xOptoisolated
Analog input	0-10 V
Digital outputs	4xOptoisolated
Communication	RS232 (optional RS485)
Sequencer	Up to 75 command lines
Rotor inertia	0.08 kg.cm²
Fastener	NEMA17 flange / Axis dia. 5mm
Dimension / weight	72 x 66 x 42 mm / 480g
Protection	IP30
Certifications	CE marked. PCB are UL certified.

Features

> Standby current mode to minimize thermal heating.

> RS232 communication.

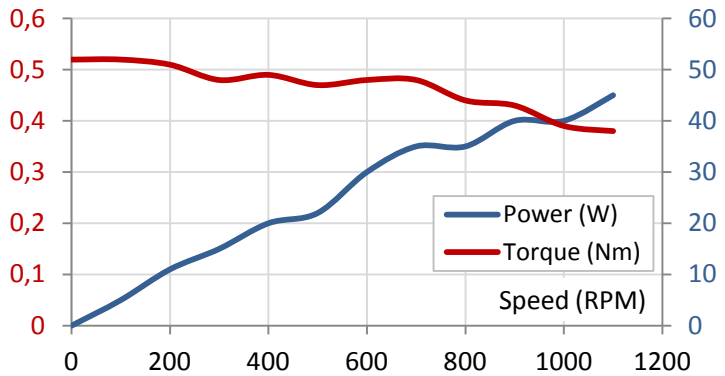
> User-configurable hardware and software ends.

> Enhanced movement functionalities.

> Integrated commands sequencer.

> High holding torque. Direct Drive applications.

Motor torque



References

uMAC17 (microMAC17 RS232C v24)
uMAC17-D (microMAC17 RS485)
uMAC17-m (optional rear wheel)
DRVMI (communication dll library)
WINSIM2 (PC software with GUI)
SPxxx-48 (xxx watts AC/DC power supply)

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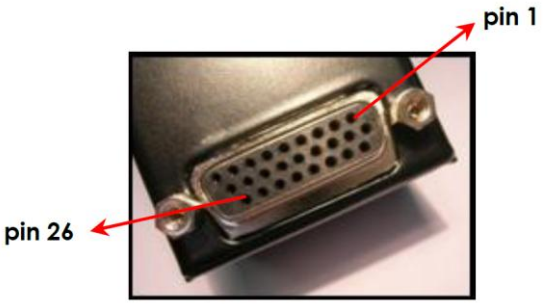
Pinout

High density DSub26 Fem.					
1	+V_supply	10	+V_supply	19	0V_analog
2	0V_supply	11	0V_supply	20	IN_analog
3	IN5 (END-)	12	RESERVED	21	IN6 (END+)
4	0V_inputs	13	IN1	22	IN2
5	0V_inputs	14	IN3	23	IN4
6	TX_V24	15	0V_V24	24	TX_ext
7	+V_outputs	16	RX_V24	25	RX_ext
8	+V_outputs	17	OUT1	26	OUT2
9	OUT4	18	OUT3		



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:

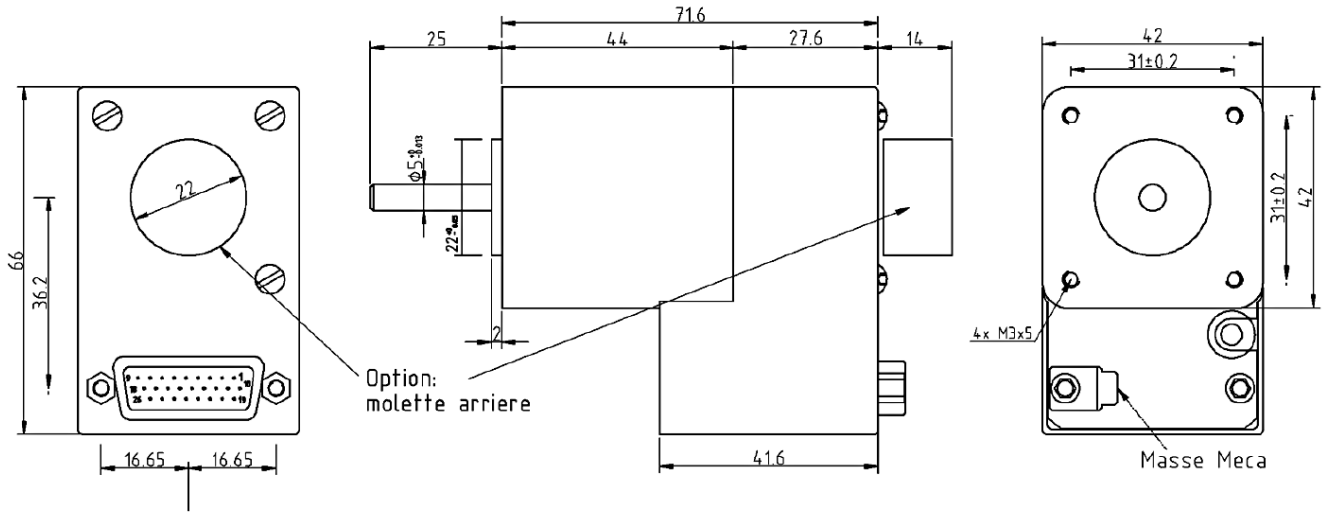
```
:1 #HIGH_SPEED := 3000
:2 MOVE_TO 12000
:3 WAIT 4000
:4 #V3 := #POSITION * 32000
:5 #OUTPUT = 0
:6 IF #STATUS = 8 JUMP 2
:7 MOVE_SPEED 4000
:8 IF #INPUT_ANALOG > 67 CALL 120
:9 #OUTPUT = 1
```

Windows interface

Midi Ingenierie developed a .NET component to control motion controllers.
It can be interfaced with any programming language or even in LabView.

Alternatively users can take advantage of the full-featured GUI Software Winsim2 or the dll library DrvMi.

Dimension



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