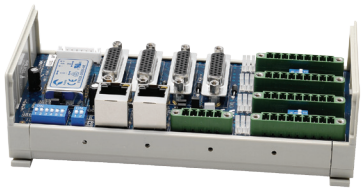
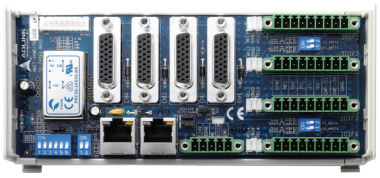
MNET-4XMO / MNET-4XMO-C

Distributed 4-axis Motion Control Modules (with High-Speed Trigger Function)







Introduction

The MNET-4XMO is a 4-axis motion controller module for Motionnet distributed motion systems. It can generate fast frequency pulses (9.9 MHz) to drive stepper or servomotors in the machine automation field. As a motion controller, it can provide comprehensive motion functions which include 2 axes circular interpolation, 2-4 axes linear interpolation, or continuous interpolation for continual velocity and so on. Also, changing position/speed on the fly is available with a single axis operation.

In addition to the motion functions offered, ADLINK offers other model (MNET-4XMO-C) that comes equipped with the real-time position comparison and trigger pulse output function to easy integrate into Automated Optical Inspection application system. Up to 100 KHz trigger output frequency and easy trigger the most frame grabber or CCD to realize the line scan application. The path move function features the continuous moving with constant velocity. By using the path moving function, you can save the host PC resource with path auto-reload function and is able to guarantee the time-deterministic, continuous and smooth in whole motion progression.

Features

- **Up to 256 axes on a single Motionnnet network**
- **Transmission speed selectable: 2.5/5/10/20 Mbps**
- **Maximum wiring distance up to 100 meters**
- **4-axis pulse train output channels; frequency up to 9.9 MHz**
- **Encoder frequency up to 20 MHz under 4xAB feedback mode**
- **26 homing modes which includes 13 auto-homing modes**
- **Pulse output mode: OUT/DIR, CW/CCW, AB phase**
- **Linear interpolation: any 2 to 4 axes**
- **Circular interpolation: any 2 of 4 axes**
- **Position/Speed override**
- **Triangle Driver Elimination**
- **Programmable acceleration and deceleration**
- **4 channels high-speed trigger pulse output frequency up to 100 kHz (MNET-4XMO-C only)**
- **One ultra-high speed linear trigger pulse output up to 1 MHz (MNET-4XMO-C only)**
- **Point table for continuous contouring up to 2,048 points (MNET-4XMO-C only)**
- **Dedicated motion I/O: EL, ORG, INP, RDY, SVON, ERC, and ARM**
- **Hardware emergency stop interface**
- **All digital inputs and outputs are 2500 V_{RMS} isolated**
- **Hardware backlash compensation**

Specifications

Hardware	
Number of Controllable Axes	4
Pulse Output Rate	0.01 pps to 9.9 Mpps
Positioning Range	-2,147,483,648 to +2,147,483,647
Acceleration / Deceleration	1 to 65,535 (16-bit)
Speed Resolution	16-bit
Trajectories	
Acceleration / Deceleration Type	Pure S, T, bell curve programmable
Interpolation Mode	Any 2 - 4 axes linear interpolation Any 2 axes circular interpolation
I/O	
EMG Input	1
CMP Output	4 (differential type)
General Specifications	
Dimension	163.5 (W) × 74.9 (D) × 52.7 (H) mm (6.37" x 2.92" x 2.05")
Module Power Supply Input (I24 V, IGND)	24 V_{DC} ±10% (Consumption current, 0.3 A max.)
I/O Power Supply Input (E24 V, EGND)	24 V_{DC} input (can be common to module power input by jumper)
Operating Temperature	0°C to 65°C (32°F to 149°F)

The following specifications are only applicable to the MNET-4XMO-C.

Trigger Function (channel to channel ONLY)	
Trigger Spec.	Max. 100 KHz (4-axis)
Table Size	32,768 points/4-axis (8,192 points/axis)
High-Speed Trigger Function (Linear function ONLY)	
Trigger Pulse Frequency	Max. 1 MHz/1-axis
Trigger Pulse Width	0.1 us to 1 s (programmable)
Path Move	
Path Number	2,048 points total (min.)
Auto Reload	Point index check
Continuous move	1 group (includes single axis move or linear / circular interpolation move)

Software Support

- OS Information
  - Windows® 8/7/XP

Ordering Information

- **MNET-4XMO**
  Motionnet distributed 4-axis motion control module
- **MNET-4XMO-C**
  Motionnet distributed 4-axis motion control module with high-speed trigger function

Accessories

For more information on terminal boards & cables, please refer to page 6-31.

Cabling

- HSL-4XMO-DM Cable
  For Mitsubishi MR-J2S-A servo amplifier, available for 1 M, 2 M, and 3 M
- 4XMO-DM-J3 Cable
  For Mitsubishi MR-J3 servo amplifiers, available for 2 M
- HSL-4XMO-DP Cable
  For Panasonic MINAS A4/A5 servo amplifiers, available for 1 M, 1.5 M, and 2 M
- HSL-4XMO-DY Cable
  For Yaskawa Sigma V servo amplifier, available for 1 M, 2 M, and 3 M
- 4XMO-DA Cable
  For Delta A2 servo, available for 3 M
- 4XMO-Open Cable
  Controller to amplifier bus (26-pin SCSI to open wire), available for 1 M and 2 M

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

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