

MN-MP4U-DIN

Distributed Motionnet Four-axis Universal Motion Control Module

Features

- Maximum communication speed: 20 Mbps
- Pulse Output Rate: 6.6 MHz (Max.)
- Control up to 64 axes per line
- Multi-axis linear interpolation function
- 2-axis circular interpolation function
- T/S-curve acceleration and deceleration
- Change speed and position on the fly
- Slow down sensor, home sensor, positive and negative limit sensors for each axis
- Software limit and compare trigger output
- Three-way isolation for power, communication and I/O. (Provide better noise immunity and device protection)
- Suitable for controlling a variety of servo drivers and stepper drivers



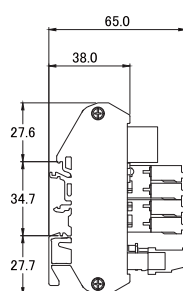
Introduction

The **MN-MP4U-DIN** is used to expand the number of axes for distributed motion control on a Motionnet field bus. These extension slave modules are serially connected to the controller using a simple and affordable Cat.5 LAN cable, and one serial line can support up to 16 four-axis modules. The 26-pin HD D-Sub connector can be used to easily connect with various servo drivers and stepper drivers. ICP DAS also provides a variety of cables suitable for a range of brands of servo drivers, which further reduces the amount of wiring required between the drivers and the controller, making this an ideal solution for highly integrated machine automation applications.

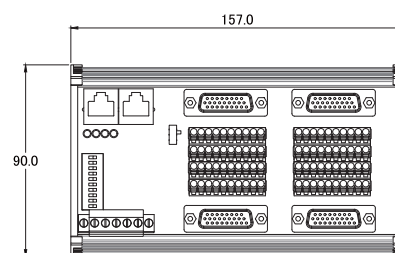
Specifications

Model	MN-MP4U-DIN
General	
Communication Speed	2.5, 5, 10, 20 Mbps
Pulse Output Rate	6.6 MHz (Max.)
Pulse Output Interface	OUT/DIR, CW/CCW
Pulse Output Counter	28-bit
Encoder Interface	CW/CCW, A/B phase
Encoder Counter	28-bit
Speed Profile	Trapezoidal/S-shaped Acc/Dec Driving
Home Mode	13 Types
Mechanical Switch Input	LMT+, LMT-, HOME, SD, EMG
Servo I/O Interface	Input: ALM, RDY, INP Output: SVON, ERC, ALM_RST
High-Speed Position Compare Output	5V TTL or 24V open collector
LED Diagnostics	Communication state (Link, Error) Mechanic Switch Input Internal 3.3V Power Termination Resistor Switch
Communication Connector	MN-MP4U-DIN: RJ-45 x2
Environmental	
Operating Temperature	0 ~ +60 °C
Storage Temperature	-20 ~ +80 °C
Operating Humidity	10 ~ 85%; non-condensing
Storage Humidity	5 ~ 95%; non-condensing

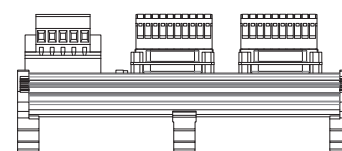
Dimensions: (Units: mm)



Left Side View

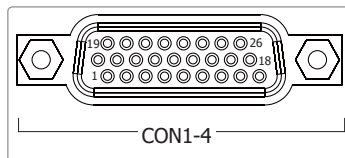
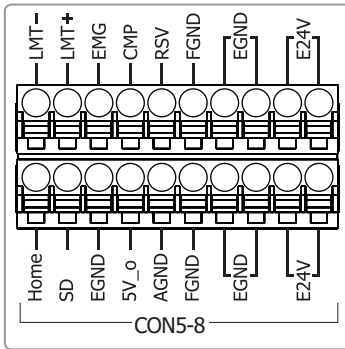


Front View



Bottom View

Pin Assignments



Pin No.	Pin Name	Description	I/O Define.	Pin No.	Pin Name	Description	I/O Define.
CON5-8B (the lower one) Pin Assignments				CON5-8A (the upper one) Pin Assignments			
1	HOME	Home position	Input	1	LMT-	Negative end limit	Input
2	SD	Slowdown	Input	2	LMT+	Positive end limit	Input
3	EGND	External ground	Input	3	EMG*	Emergency stop	Input
4	5V_o	Internal 5V power derived from 24V supply	Output	4	CMP	High-speed position compare	Output
5	AGND	Optional analog ground, no internal connection	Connect to CON1-4 only	5	RSV	Reserved signal (no internal connection)	Connect to CON1-4 only
6	FGND	Frame ground	None	6	FGND	Frame ground	None
7 ~ 8	EGND	External ground	Input	7 ~ 8	EGND	External ground	Input
9 ~ 10	E24V	External power 24V	Input	9 ~ 10	E24V	External power 24V	Input

*Note: The EMG signal is only accessible at CON5, this pin is not connected on CON6-8.

Pin No.	Pin Name	Description	I/O Define.	Pin No.	Pin Name	Description	I/O Define.
1	SRV_ON	Servo On	Output	15	AGND	Optional analog ground (no internal connection)	Connect to CON5-8 only
2	INP	In Position	Input	16	B-	Encoder B-phase pulse	Input
3	ERC	Error Counter Clear	Output	17	B+	Encoder B-phase pulse	Input
4	RDY	Servo Ready	Input	18	N.C.	No internal connection	N.C.
5	P-	Forward rotation pulse train (differential line driver)	Output	19	EMG	Emergency stop	Input
6	P+		Output	20	RSV	Reserved signal (no internal connection)	Connect to CON5-8 only
7	A-	Encoder A-phase pulse	Input	21	EGND	External ground	Input
8	A+		Input	22	EGND	External ground	Input
9	N.C.	No internal connection	N.C.	23	N-	Forward rotation pulse train (differential line driver)	Output
10	RESET	Alarm Reset	Output	24	N+		Output
11	ALARM	Servo Alarm	Input	25	Z-	Encoder Z-phase pulse	Input
12	E24V	External power 24V	Input	26	Z+		Input
13	EGND	External ground	Input				
14	N.C.	No internal connection	N.C.				

Ordering Information

MN-MP4U-DIN CR	Distributed Motionnet Four-axis Universal Motion Control Module with RJ-45 Connector. Includes 4x "CA-PC26M". (RoHS)
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Related Products

PISO-MN200(T/EC) CR	PCI Bus, Dual-line Motionnet Master Card (RoHS)
MN-SERVO-xxx(-EC) Series CR	Distributed Motionnet Single-axis Motion Control Modules (MJ3 / PA4 / YSV / DAA) (RoHS)
MN-2091U(-T) CR	Distributed Motionnet Single-axis Universal Motion Control Module (RoHS)
MN-3254(T) CR / MN-D622-DIN CR	Distributed Motionnet 16-ch Isolated DI 16-ch Isolated DO Module (RoHS)
MN-3253(T) CR / MN-D640-DIN CR	Distributed Motionnet 32-ch Isolated DI Module (RoHS)
MN-3257(T) CR / MN-D604-DIN CR	Distributed Motionnet 32-ch Isolated DO Module (RoHS)
MN-DA2-DIN CR	Distributed Motionnet 2-ch Analog Output Module (RoHS)
MN-AD8-DIN CR	Distributed Motionnet 8-ch Analog Input Module (RoHS)
MN-HUB4(EC) CR	Distributed Motionnet 4 Port Hub Module (RoHS)

Accessories

CA-PC26M	26-pin HD D-Sub solder cup Male connector with plastic cover
CA-26-MJ3-15/30/50(B)	26-pin HD D-Sub Male cable for Mitsubishi servo amplifier, 1.5/3/5 M (for MELSERVO-J3/J4 series)
CA-26-YSV-15/30/50(B)	26-pin HD D-Sub Male cable for Yaskawa servo amplifier, 1.5/3/5 M (for Sigma II/III/V series)
CA-26-PA4-15/30/50(B)	26-pin HD D-Sub Male cable for Panasonic servo amplifier, 1.5/3/5 M (for MINAS A4/A5 series)
CA-26-DAA2-15/30/50(B)	26-pin HD D-Sub Male cable for Delta A2 servo amplifier, 1.5/3/5 M (for ASDA-A2 series)
CA-26-DAB2-15/30/50(B)	26-pin HD D-Sub Male cable for Delta B2 servo amplifier, 1.5/3/5 M (for ASDA-B2 series)
CA-26-FFW-15/30/50	26-pin HD D-Sub Male cable for Fuji servo amplifier, 1.5/3/5 M (for FALDIC-W and ALPHA5 Smart series)
CA-26-TTA-15/30/50	26-pin HD D-Sub Male cable for Teco servo amplifier, 1.5/3/5 M (for TSTA-A/A+ series)