

MN-2091U/MN-2091U-T

Distributed Motionnet Single-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

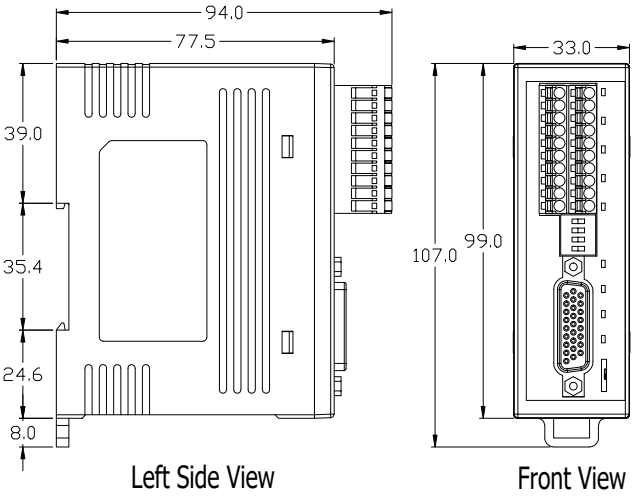
Introduction

The MN-2091U(-T) 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 64 single-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-2091U	MN-2091U-T
LED Indicators		
Status	Communication state (Link, Error), Internal 3.3 V Power, Termination Resistor Switch, Mechanic Switch Input	
General		
Speed Profile	Trapezoidal/S-shaped Acc/Dec Driving	
Auto-Home Search	13 Types	
Axis I/O		
Servo Interface Output	SVON, ERC, ALM_RST	
Latch Input	Yes (shared with SD)	
Mechanical Switch Input	LMT+, LMT-, HOME, SD, EMG	
Position Compare Output	High-Speed 5 V TTL or 24 V open collector	
Servo Interface Input	ALM, RDY, INP	
Encoder Input		
Mode	CW/CCW, A/B phase	
Counter Width	28-bit	
Pulse Output		
Mode	OUT/DIR, CW/CCW	
Counter Width	28-bit	
Rate	6.6 MHz (Max.)	
Motionnet		
Communication Connectors	RJ-45 x2	5-pin terminal block
Transfer Speed	2.5, 5, 10, 20 Mbps	
Power		
Input Range	24VDC +/-5% (1000 V isolated)	
Environment		
Operating Temperature	0 ~ +60 °C	
Storage Temperature	-20 ~ +80 °C	
Humidity	10 ~ 90% RH, Non-condensing	

Dimensions: (Units: mm)



Left Side View

Front View

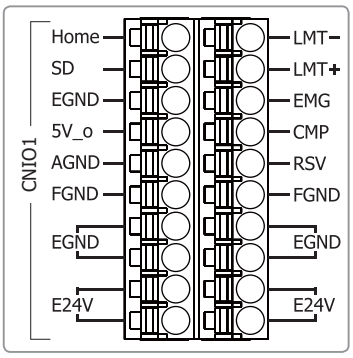


Bottom View

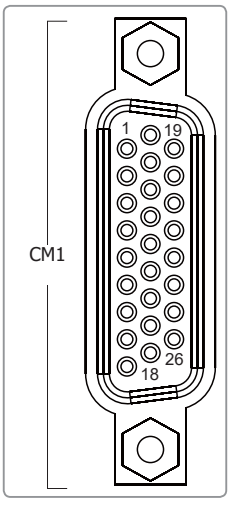
MN-2091U MN-2091U-T

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Pin Assignments



No.	CNIO1B (Left)		CNIO1A (Right)		I/O
	Name	Description	Name	Description	
1	HOME	Home position	LMT-	Negative end limit	Input
2	SD	Slowdown	LMT+	Positive end limit	Input
3	EGND	External ground	EMG	Emergency stop	Input
4	5V_o	Internal 5V power derived from 24V supply	CMP	High-speed position compare	Output
5	AGND	Optional analog ground, no internal connection	RSV	Reserved signal (no internal connection)	Connect to CM1 only
6	FGND	Frame ground	FGND	Frame ground	None
7 ~ 8	EGND	External ground	EGND	External ground	Input
9 ~ 10	E24V	External power 24V	E24V	External power 24V	Input



No.	Name	Description	I/O
1	SRV_ON	Servo On	Output
2	INP	In Position	Input
3	ERC	Error Counter Clear	Output
4	RDY	Servo Ready	Input
5	P-	Forward rotation pulse train (differential line driver)	Output
6	P+		
7	A-	Encoder A-phase pulse	Input
8	A+		
9	N.C.	No internal connection	N.C.
10	RESET	Alarm Reset	Output
11	ALARM	Servo Alarm	Input
12	E24V	External power 24V	Input
13	EGND	External ground	Input
14	N.C.	No internal connection	N.C.

No.	Name	Description	I/O
15	AGND	Optional analog ground (no internal connection)	Connect to CNIO1 only
16	B-	Encoder B-phase pulse	Input
17	B+		
18	N.C.	No internal connection	N.C.
19	EMG	Emergency stop	Input
20	RSV	Reserved signal (no internal connection)	Connect to CNIO1 only
21	EGND	External ground	Input
22	EGND	External ground	Input
23	N-	Forward rotation pulse train (differential line driver)	Output
24	N+		
25	Z-	Encoder Z-phase pulse	Input
26	Z+		

Ordering Information

MN-2091U CR	Distributed Motionnet Single-axis Universal Motion Control Module with RJ-45 Connector (RoHS)
MN-2091U-T CR	Distributed Motionnet Single-axis Universal Motion Control Module with Terminal Block (RoHS)

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-MP4U-DIN CR	Distributed Motionnet Four-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-AD8-DIN CR	Distributed Motionnet 8-ch Analog Input Module (RoHS)
MN-DA2-DIN CR	Distributed Motionnet 2-ch Analog Output 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)

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