

MN-SERVO -EC Series

**MN-SERVO-MJ3-EC / MN-SERVO-PA4-EC / MN-SERVO-YSV-EC/
MN-SERVO-DAA-EC / MN-SERVO-TTA-EC**

Distributed Motionnet Single-axis Motion Control Modules (With *e-CON* Mini-Clamp Connector)



Features:

- Maximum communication speed: 20 Mbps
- Maximum pulse output frequency: 6.6 Mpps
- Control up to 64 axes per line
- Multi-axis linear interpolation function
- 2-axis circular interpolation function
- Programmable 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)
- The EC module equipped with Mini-Clamp connector provide for an easier and debris-free wire termination process.

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Introduction:

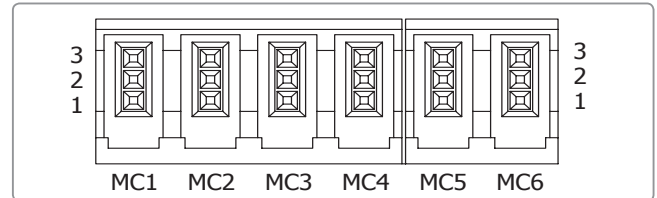
The **MN-SERVO -EC series** is used to expand the number of axes for distributed motion control on a Motionnet field bus. These extension slave modules can be directly connect to the servo driver and are serially connected to the controller using a simple and affordable Cat.5 LAN cable, reducing the amount of wiring required between the drivers and the controller, making this a highly suitable solution for integrated machine automation applications.

After the module is connected to the servo driver, all you need to do is connect a serial LAN cable between the modules. One serial line can support up to 64 single-axis modules. ICP DAS provides a variety of motion control modules suitable for a range of brands of servo drivers, such as Mitsubishi MELSERVO-J3/J4, Yaskawa Sigma II/III/V, Panasonic MINAS A4/A5, Delta ASDA-A/A2 and Teco TSTA-A/A+.

Specifications:

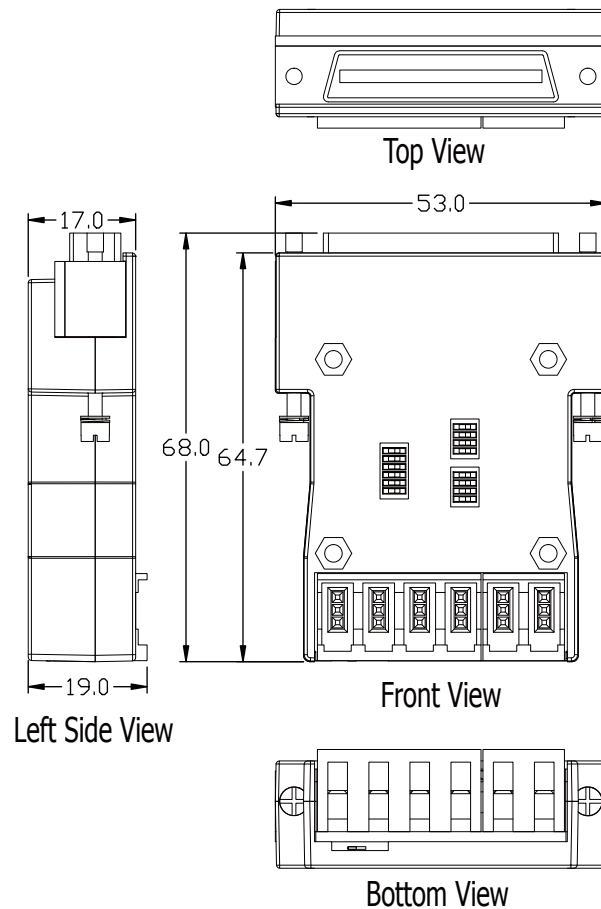
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|------------------------------------|---|
| Communication Speed | 2.5, 5, 10, 20 Mbps |
| Maximum Pulse Output Frequency | 6.6 Mpps |
| Pulse Output Interface | OUT/DIR, CW/CCW |
| Pulse Output Counter | 28-bit |
| Encoder Interface | CW/CCW, A/B 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 | 5 V TTL or 24 V open collector |
| Led Diagnostics | Communication state (Link, Error) Mechanic Switch Input Internal 3.3 V Power Termination Resistor Switch |
| Operating Temperature | 0 ~ +60 °C |
| Storage Temperature | -20 ~ +80 °C |
| Operating Humidity | 10 ~ 85%; non-condensing |
| Storage Humidity | 5 ~ 95%; non-condensing |

Pin Assignments:



| Connector | No. | Name | Description | Signal Direction |
|-----------|-----|-------|-----------------------------|------------------|
| MC1 | 3 | Data- | Serial communication data- | Both |
| | 2 | Data+ | Serial communication data+ | Both |
| | 1 | F.G. | Frame ground | None |
| MC2 | 3 | Data- | Serial communication data- | Both |
| | 2 | Data+ | Serial communication data+ | Both |
| | 1 | F.G. | Frame ground | None |
| MC3 | 3 | E24V | External power 24V | Input |
| | 2 | EGND | External ground | Input |
| | 1 | F.G. | Frame ground | None |
| MC4 | 3 | E24V | External power 24V | Input |
| | 2 | EGND | External ground | Input |
| | 1 | F.G. | Frame ground | None |
| MC5 | 3 | CMP | High-speed position compare | Output |
| | 2 | EMG | Emergency stop | Input |
| | 1 | SD | Slowdown | Input |
| MC6 | 3 | LMT+ | Positive end limit | Input |
| | 2 | HOME | Home position | Input |
| | 1 | LMT- | Negative end limit | Input |

Dimensions: (Units: mm)



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Remote Motion Solutions

Ordering Information:

| Model No. | Description |
|---|--|
| MN-SERVO-MJ3-EC CR | Distributed Motionnet Single-axis Motion Control Module with e-CON Mini-Clamp connector for Mitsubishi MELSERVO-J3/J4 (RoHS) |
| MN-SERVO-PA4-EC CR | Distributed Motionnet Single-axis Motion Control Module with e-CON Mini-Clamp connector for Panasonic MINAS A4 (RoHS) |
| MN-SERVO-YSV-EC CR | Distributed Motionnet Single-axis Motion Control Module with e-CON Mini-Clamp connector for Yaskawa Sigma II/III/V (RoHS) |
| MN-SERVO-DAA-EC CR | Distributed Motionnet Single-axis Motion Control Module with e-CON Mini-Clamp connector for Delta ASDA-A/A2 (RoHS) |
| MN-SERVO-TTA-EC CR | Distributed Motionnet Single-axis Motion Control Module with e-CON Mini-Clamp connector for Teco TSTA-A/A+ (RoHS) |
| MN-3254/MN-3253/MN-3257 CR MN-3254T/MN-3253T/MN-3257T CR | Distributed Motionnet 16-ch Isolated DI and 16-ch Isolated DO / 32-ch Isolated DI / 32-ch Isolated DO Module (RoHS) |
| PISO-MN200(T/EC) CR | PCI Bus, Dual-line Motionnet Control Master Card (RoHS) |

| Mini Clamp Wiremount Plug | | | Applicable Wire | | |
|---------------------------|-------------|------------------|-----------------|---|--|
| ICP DAS Part No. | Cover Color | 3M Part No. | AWG No. | Cross-sectional Area (mm ²) | Finished External Diameter Φ (mm) |
| 4PKD1O0000001 | Gray | 37103-2206-000FL | 20 – 22 | 0.3 – 0.5 | 1.6 – 2.0 |
| 4PKD1O0000002 | Red | 37103-3101-000FL | 24 – 26 | 0.14 – 0.3 | 0.8 – 1.0 |
| 4PKD1O0000003 | Orange | 37103-3163-000FL | 24 – 26 | 0.14 – 0.3 | 1.2 – 1.6 |

