

## CJ1W-MCH72 - MECHATROLINK-II

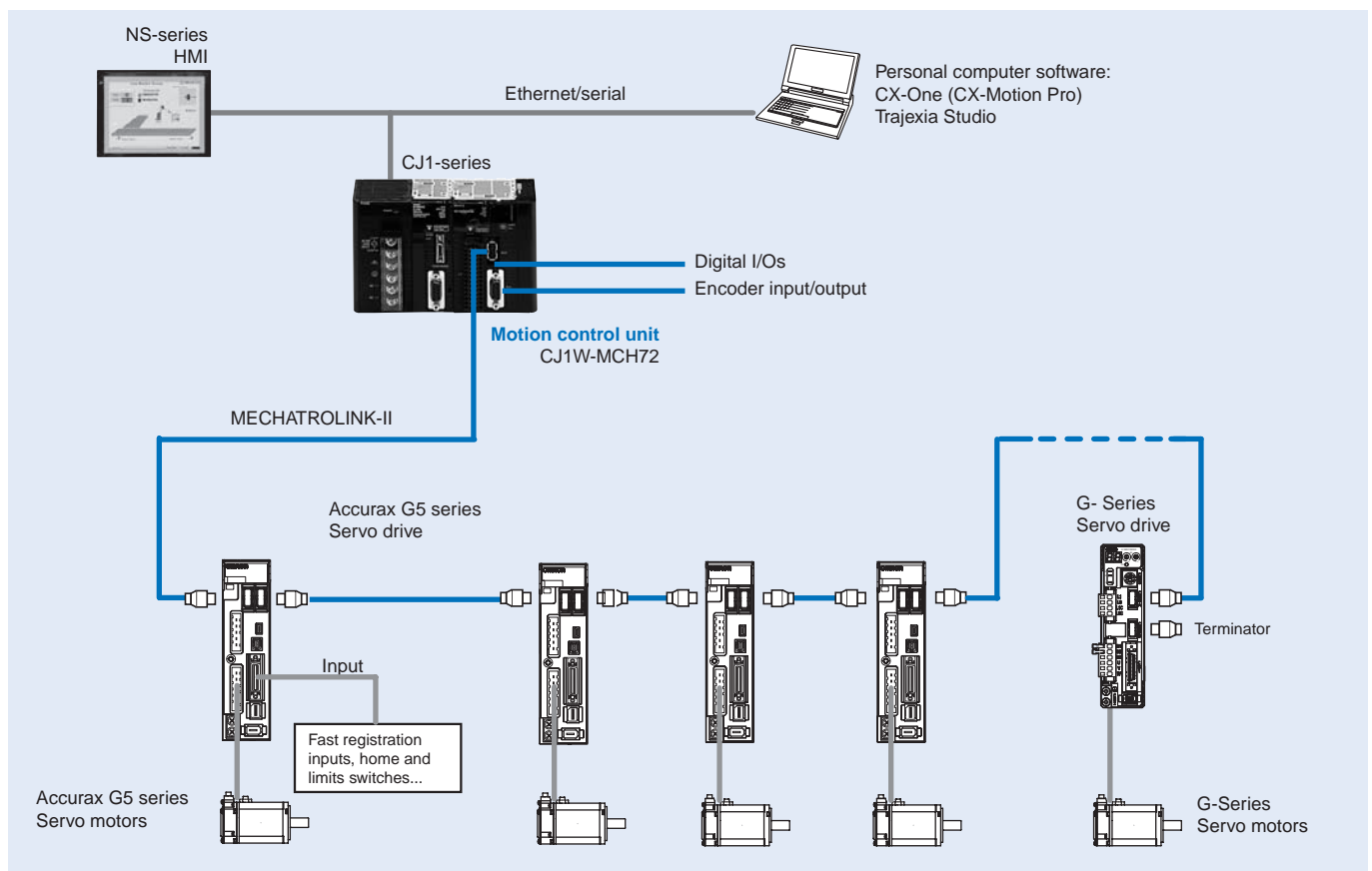
# Motion control unit

## Advanced multi-axes motion controller unit over MECHATROLINK-II motion bus

- Control of up to 30 physical axes
- Selectable cycle time from 0.5 ms to 4 ms
- Control of servos and inverters over a single motion network
- Supports position, speed and torque control
- Advanced motion control such as CAM control, registration control, interpolation and axes synchronization via simple motion commands
- Serial port for external encoder
- Embedded digital I/Os
- I/O data exchange with the PLC CPU



## System configuration



## Specifications

### General specifications

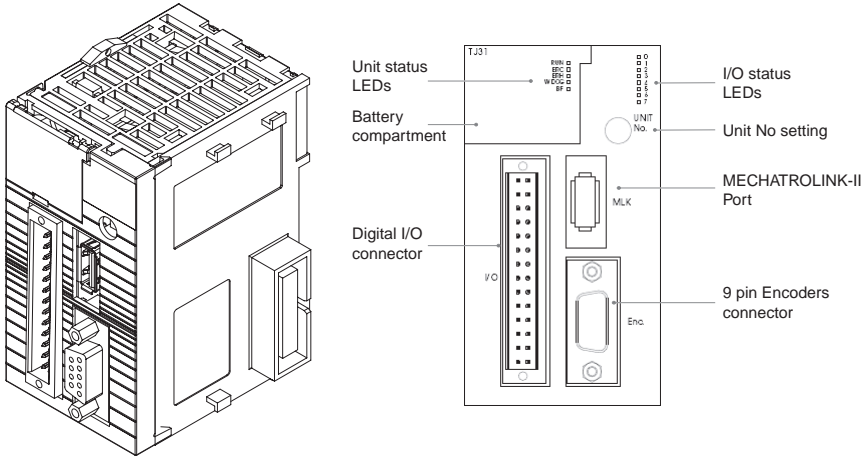
| Item                          | Details   |
|-------------------------------|---|
| Model                         | CJ1W-MCH72  |
| Ambient operating temperature | 0 to 55°C   |
| Storage temperature           | -20° to 70°C  |
| Ambient operating humidity    | 10% to 90% RH   |
| Storage humidity              | 90% max. (without condensation)   |
| Atmosphere                    | No corrosive gases  |
| Vibration resistance          | 10 to 57 Hz (0.075 mm amplitude)<br>57 to 100 Hz, Acceleration: 9.8 m/s <sup>2</sup> , in X Y and Z directions for 80 minutes |
| Shock resistance              | 143 m/s <sup>2</sup> , 3 times each X, Y, Z directions  |
| Insulation resistance         | 20 MOhm   |
| Dielectric strength           | 500 V   |
| Protective structure          | IP20  |
| International standards       | CE, IEC61131-2, IEC61000-6-2, IEC61000-6-4<br>cULus: UL508C (Industrial Control Equipment)<br>Lloyds; RoHS compliant          |
| Weight                        | 180 g   |

### Trajexia Motion Control Unit

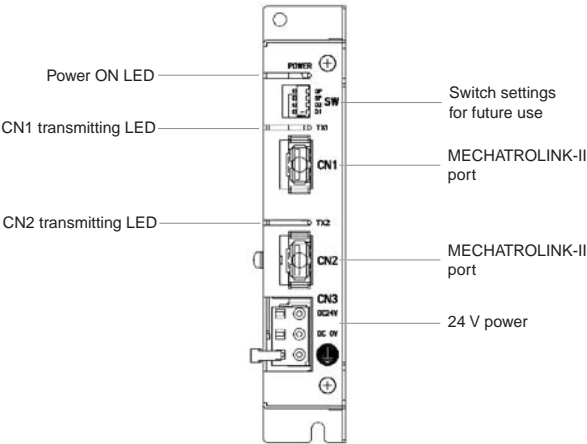
| Item  |                                    | Details  |
|---|------------------------------------|--|
| Classification                              |                                    | CJ-series CPU bus unit   |
| Applicable PLCs                             |                                    | CJ-series  |
| Number of axes                              |                                    | 30 (31 total with virtual axis)  |
| Number of inverters                         |                                    | 8 maximum (Inverters in speed or torque mode)  |
| Cycle time                                  |                                    | Selectable 0.5 ms, 1 ms , 2 ms or 4 ms   |
| Programming language                        |                                    | BASIC-like motion language   |
| Multi-tasking                               |                                    | Up to 14 tasks running simultaneously  |
| Built-in digital I/O                        |                                    | 16 inputs, 2 with registration functionality. 8 outputs, 1 with hardware position switch functionality   |
| Measurement units                           |                                    | User definable   |
| Available memory for user programs          |                                    | 500 KB   |
| Data storage capacity                       |                                    | Up to 2 MB flash data storage  |
| Saving program data, motion controller unit |                                    | SRAM with battery backup and Flash-ROM   |
| Saving program data, personal computer      |                                    | Via CX-Motion Pro/Trajexia Studio software   |
| Firmware update                             |                                    |  |
| Encoder interface                           | Control method                     | Line driver AB output, Stepper pulse output  |
|   | Encoder protocols                  | Abs SSI 200 kHz, Abs EnDat 1 MHz and Incremental Line driver AB  |
|   | Encoder Input max frequency        | 6 MHz  |
|   | Encoder/Pulse output max frequency | 2 MHz  |
| MECHATROLINK-II master port                 | Controlled devices                 | Accurax G5 and G-Series servo drives   |
|   | Electrical characteristics         | Conforms to MECHATROLINK standard  |
|   | Transmission speed                 | 10 Mbps  |
|   | Stations Slave types               | Servo drives and frequency inverters   |
|   | Transmission distance              | Max. 50 meters without using repeater  |
| Data exchange with PLC                      |                                    | CJ1W-MCH72 exchanges data with memory areas in the PLC. Mapping for cyclic data exchange in the PLC CPU to memory areas in the motion unit can be freely configured. |

Nomenclature

CJ1W-MCH72 - Trajexia motion control unit



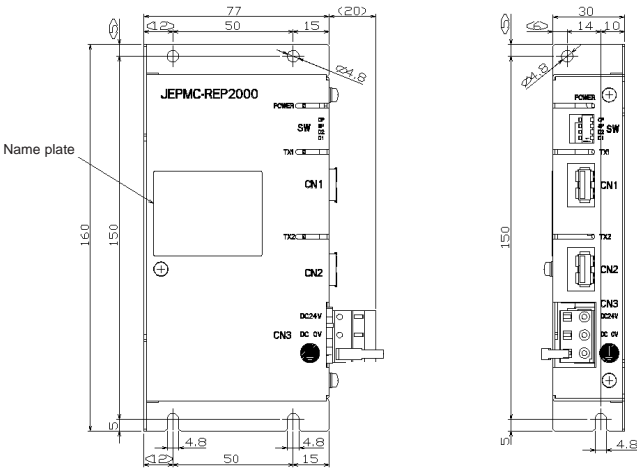
JEPMC-REP2000 - MECHATROLINK-II repeater



Dimensions

CJ1W-MCH72 - Trajexia motion control unit

JEPMC-REP2000 - MECHATROLINK-II repeater





| Name   | Model      |
|--|------------|
| Trajexia motion control unit - MECHATROLINK-II | CJ1W-MCH72 |

## Servo system

| Name                                  | Model           |
|---------------------------------------|-----------------|
| Accurax G5 servo drive ML-II built-in | R88D-KN□□□-ML2  |
| G-Series servo drive ML-II built-in   | R88D-GN□□□H-ML2 |

## MECHATROLINK-II cables

| Name                       | Remarks              | Model          |
|----------------------------|----------------------|----------------|
| MECHATROLINK-II cables     | 0.5 meter            | JEPMC-W6003-A5 |
|                            | 1 meter              | JEPMC-W6003-01 |
|                            | 3 meters             | JEPMC-W6003-03 |
|                            | 5 meters             | JEPMC-W6003-05 |
|                            | 10 meters            | JEPMC-W6003-10 |
|                            | 20 meters            | JEPMC-W6003-20 |
|                            | 30 meters            | JEPMC-W6003-30 |
| MECHATROLINK-II terminator | Terminating resistor | JEPMC-W6022    |
| MECHATROLINK-II repeater   | Network repeater     | JEPMC-REP2000  |

| Specifications                               | Model      |
|--|------------|
| CX-Motion Pro V1.2 or higher                 | CX-One     |
| Trajexia Studio <sup>*1</sup> V1.2 or higher | TJ1-Studio |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.  
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.