

Trajexia-PLC CJ1W-MC472/ MCH72 - MECHATROLINK-II

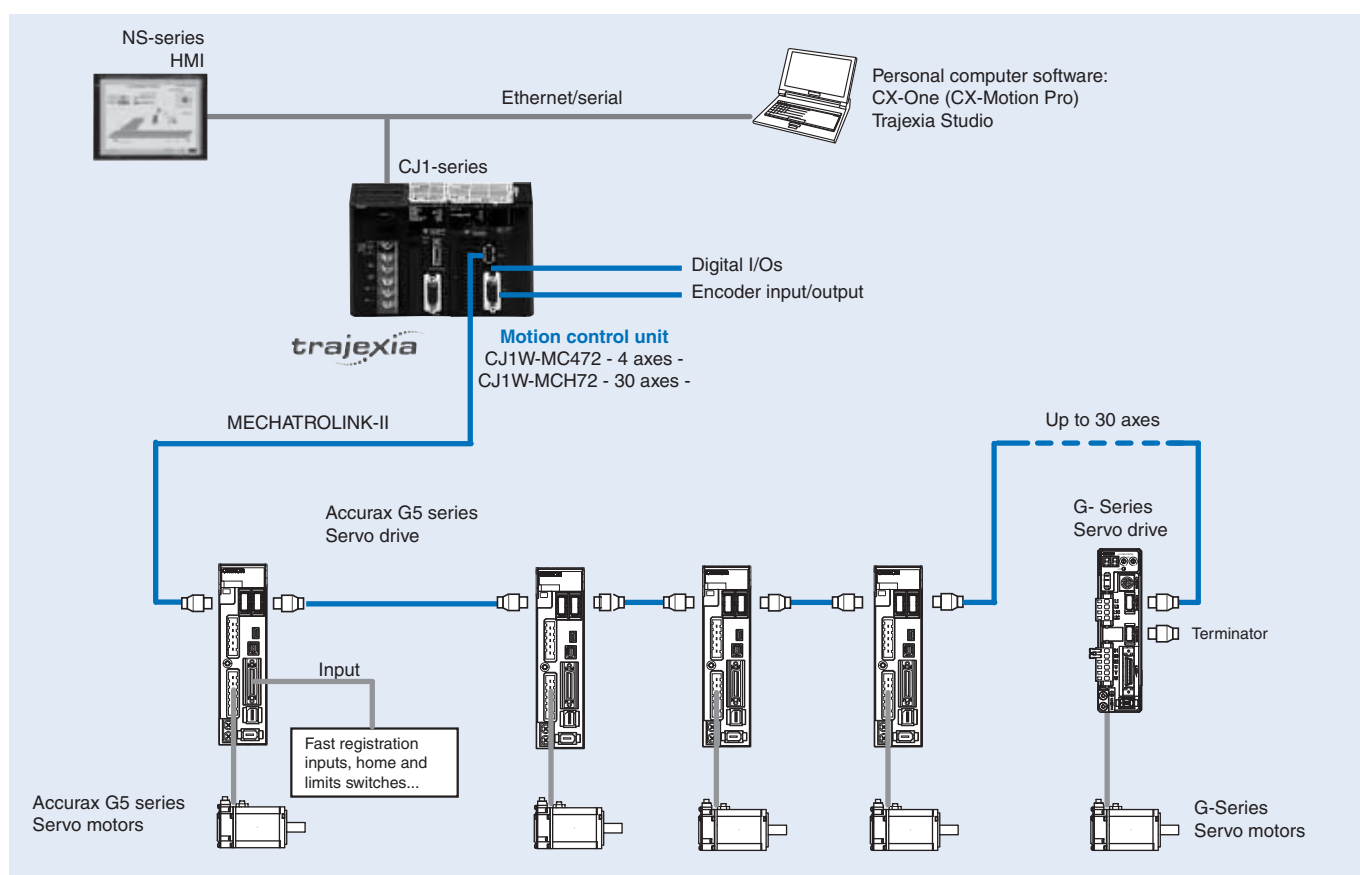
Trajexia motion control unit

PLC-based motion controller unit over MECHATROLINK-II motion bus

- Models with 4 or 30 MECHATROLINK-II 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 master encoder axis
- Embedded digital I/Os
- I/O data exchange with the PLC CPU



System configuration



Specifications

General specifications

Item	Details
Model	CJ1W-MC□72
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) 57 to 100 Hz, Acceleration: 9.8 m/s ² , in X Y and Z directions for 80 minutes
Shock resistance	143 m/s ² , 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 cULus: UL508 (Industrial Control Equipment) Lloyds; RoHS compliant
Weight	180 g

Trajexia Motion Control Unit

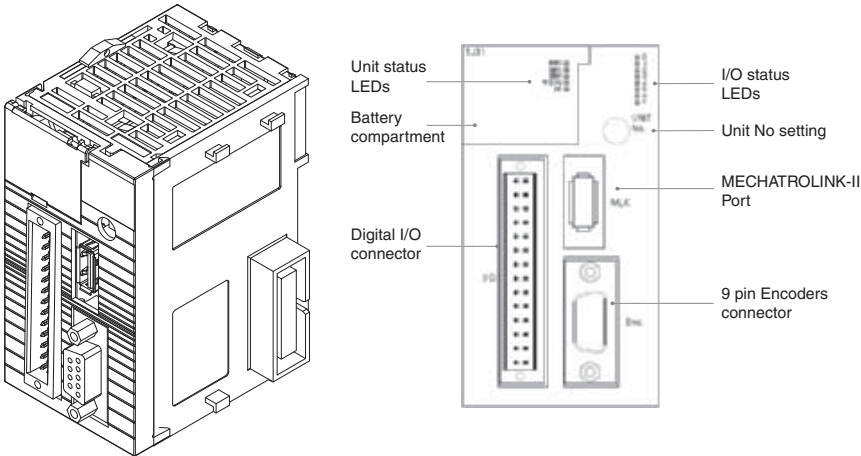
Item	Details
Model	CJ1W-MCH72 CJ1W-MC472
Classification	CJ-series CPU bus unit
Applicable PLCs	CJ-series
Axes	Total number of axes 32 MECHATROLINK-II axes 30 maximum ^{*1} 4 maximum ^{*2} Master encoder axis 1 maximum Virtual axis 32 maximum
MECHATROLINK nodes	Total number of nodes 30 12 Servo Drive 30 maximum 4 maximum Inverter 8 maximum 8 maximum
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 input/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, MX2 inverters Electrical characteristics Conforms to MECHATROLINK standard Transmission speed 10 Mbps Stations Slave types Servo drives and frequency inverters Number of MECHATROLINK nodes/ Cycle time Max. 30 nodes/ 4 ms Max. 12 nodes/ 2 ms Max. 8 nodes/ 1ms Number of inverters in position mode/ Cycle time Max. 8 nodes/ 4 ms Max. 4 nodes/ 4 ms Max. 8 nodes/ 2 ms Max. 4 nodes/ 2 ms Max. 8 nodes/ 1ms Max. 4 nodes/ 1ms 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.

Notes: *1 It includes a maximum of 8 inverters in position mode.

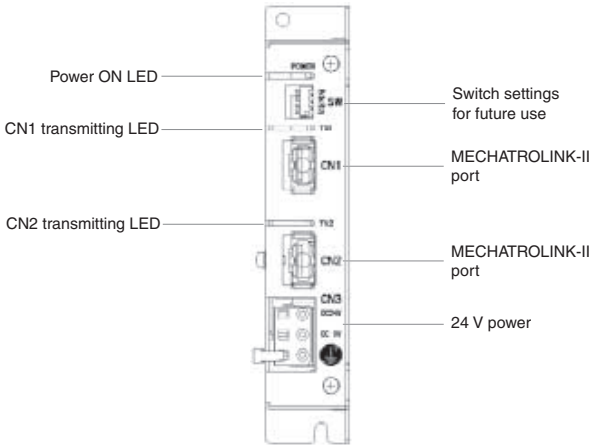
*2 It includes inverters in position mode.

Nomenclature

CJ1W-MC□72 - Trajexia motion control unit

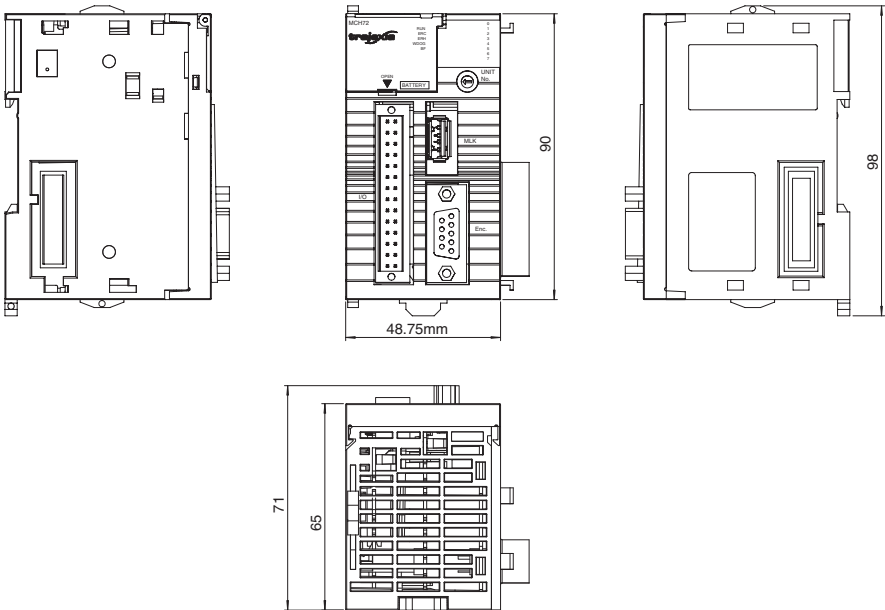


JEPMC-REP2000 - MECHATROLINK-II repeater

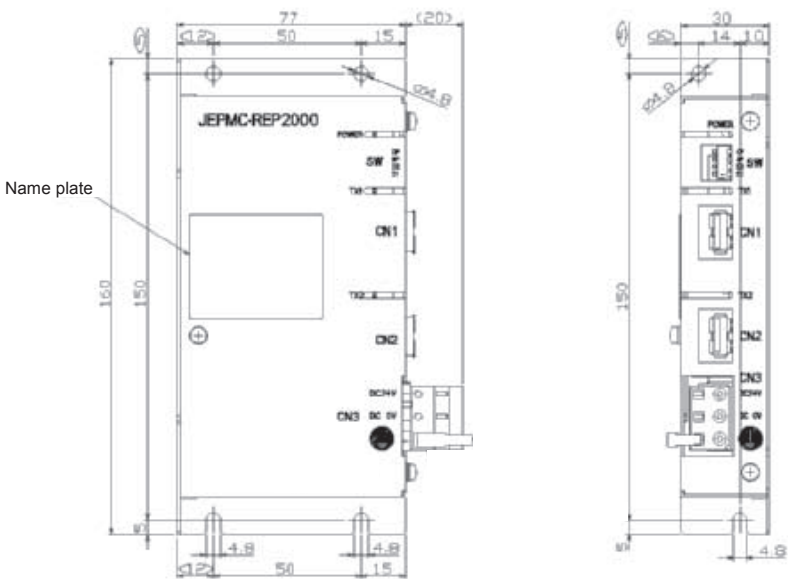


Dimensions

CJ1W-MC□72 - Trajexia motion control unit



JEPMC-REP2000 - MECHATROLINK-II repeater



Ordering information

Motion controller

Name	Model
Trajexia motion control unit, up to 30 MECHATROLINK-II axes	CJ1W-MCH72
Trajexia motion control unit, up to 4 MECHATROLINK-II axes	CJ1W-MC472

MECHATROLINK-II - related devices

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
MX2 inverter with MECHATROLINK-II option board	Frequency inverter 3G3MX2-A□
	ML2 option board 3G3AX-MX2-MRT

Note: Refer to servo systems and frequency inverter sections for detailed specs and ordering information

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

Computer software

Specifications	Model
CX-Motion Pro V1.3.3 or higher	CX-One
Trajexia Studio ^{*1} V1.3.3 or higher	TJ1-Studio

^{*1} 1. When the Trajexia Studio software is included in CX-One, then it is called CX-Motion Pro.

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