{ MECHATROLINK Members Association Website }

http://www.mechatrolink.org/

The MMA website provides the following information:

- About MECHATROLINK
- Guide to the MECHATROLINK Members Association
  (Download the membership agreement and application form.)
- Members list
  (Includes only members who have given their permission.)
- MECHATROLINK compliant products
- Contract manufacturers
- News & Events
- Technical information
  (Download the latest technical documents.)
- Compliance/Certification testing
  (Download the application form and test specifications.)
- MECHATROLINK Products of MMA Members Brochure
- Q & A

*Members ID and password are required for downloading each material.

{ MECHATROLINK Products of MMA Members Brochure }

A MECHATROLINK products brochure can be downloaded from the MMA website.

MECHATROLINK

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KE201903

ENGLISH CATALOG
March 2019

OPEN FIELD NETWORK
MECHATROLINK

OPEN FIELD NETWORK MECHATROLINK

MECHATROLINK

MECHATROLINK

OPEN FIELD NETWORK

The Beat of the Machine

— The control network in an automated system is like the central nervous system in the human body, small in size yet able to control everything from head to toe. The master device in a control unit requires a precise connection to each distributed, internal slave device. The control network communicates master commands to all slaves, and all the slaves' states are reported to the master.
— The machine can function only when precise, accurate data flows as freely as impulses to a nerve ending. This connectivity will now step up to a new level, thanks to instant worldwide communication via internet and cloud computing. A new age is right around the corner, and MECHATROLINK is destined to play a leading role in this new era of connected productivity.

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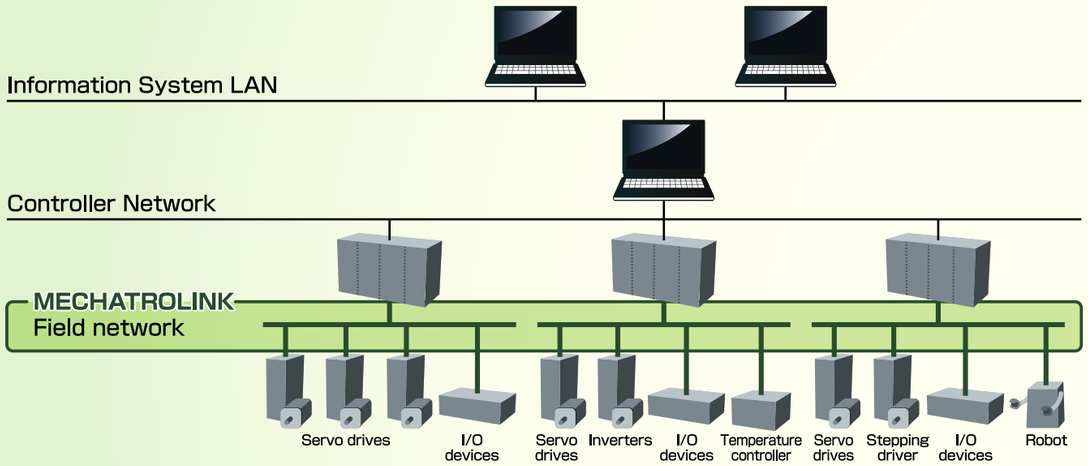
MECHATROLINK

MECHATROLINK is an open field network that connects a controller with a variety of devices. High-speed communications and data synchronization are provided to increase system speed and provide advanced functionality. Moreover, MECHATROLINK uses simple cable connections to reduce wiring, downsize the system, and enable easy system expansion.

Positioning of MECHATROLINK

MECHATROLINK is positioned as a Field Network. A Field Network is a network that drives control elements of a control system such as I/Os and actuators, and allows devices for input control information to be connected.



MECHATROLINK Specification

High-speed MECHATROLINK-Ⅲ and general MECHATROLINK-Ⅱ

MECHATROLINK has two specifications: high-speed MECHATROLINK-Ⅲ and general MECHATROLINK-Ⅱ. The demand for MECHATROLINK-Ⅲ is increasing especially rapidly, due to growing demand for high-speed, high-precision industrial machines. MECHATROLINK-Ⅲ adopts Ethernet as the physical layer and supports a wide range of communication cycles from 31.25μsec to 64msec, which is the fastest cycle time in the industry. It is also capable of supporting up to 62 nodes and flexible topologies such as a cascade or star. Message communication and cyclic communication can occur separately, allowing devices at the top of the control hierarchy to seamlessly gather information from all devices in the system.

■ MECHATROLINK-Ⅲ/Ⅱ Communications Specifications

Function Specification	MECHATROLINK-Ⅲ	MECHATROLINK-Ⅱ
Physical Layer	Ethernet	MECHATROLINK-Ⅱ
Baud Rate	100Mbps	10Mbps
Transmission Cycle Time	31.25μsec～64msec	250μsec～8msec
Data Size	8/16/32/48/64 bytes (Different data sizes can be used as the same time)	17 bytes or 32 bytes (Both data sizes cannot be used at the same time)
Number of Slaves	62 max.	30 max.
Maximum Transmission Distance	100 m between stations	50 m total (100 m with Repeater)
Minimum Distance between Stations	20cm	50cm
Topology	Cascade, star	Bus
Cyclic/Event-driven Communications	Cyclic and event-driven communications supported	Cyclic communications possible
Message Communications	Available	None
Multi-slave Function	Available	None

Realization of high-value added due to a motion control with high spec synchronization

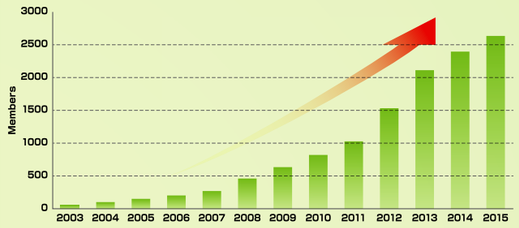
Six merits of MECHATROLINK

1 Network from Japan

MECHATROLINK is a network born in Japan. The Japanese reputation for sophisticated technology and high reliability contribute to creating a confident environment for the network's users.

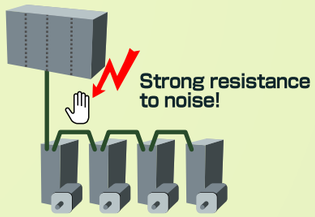
2 Open Network

All technical materials can be downloaded by members, enabling the development of master and slave devices freely.



3 High Reliability

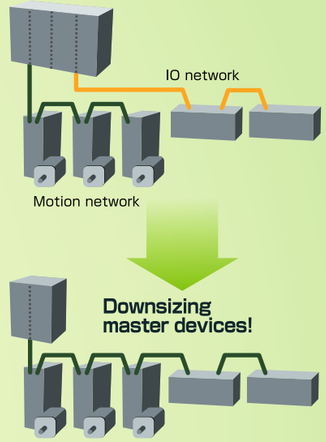
The ASIC assures synchronization of the internal system, which creates a more reliable connection to the master controller. Due to its retry function, MECHATROLINK can detect a communication error automatically and initiate a resending process during the same communication cycle. It has adopted a set of connectors and cables which offer strong resistance to noise and vibration.



Complete synchronization!

4 Low Cost

Developers can download all the necessary software tools at no charge, including ASICs, access drivers, sample applications and standard circuit diagrams. MECHATROLINK users benefit from a wire-saving system which integrates motion networks with IO networks, reducing system cost.



Unified to MECHATROLINK!

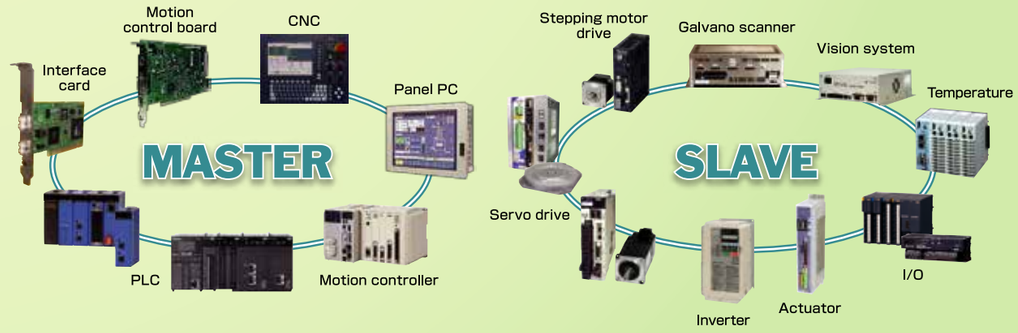
5 Easy Development

Communication is achieved by mounting ASICs to both master and slave devices. Communication functions can easily be embedded into an individual device, rather than relying on a master device to implement all communication processes through a more complex software-based approach. Various tools are available to help minimize system development time.

ASIC for communication

6 Various MECHATROLINK-Supported Products

Various companies sell the products supporting MECHATROLINK. These products from the world-leading manufacturers can be assembled to build a system.



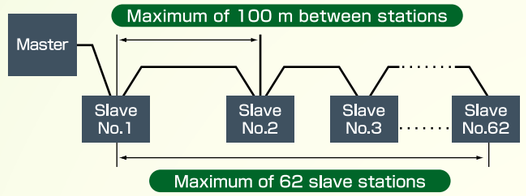
High-Speed MECHATROLINK-Ⅲ

MECHATROLINK-Ⅲ achieves high-speed communications at a baud rate of 100 Mbps by applying Ethernet technology to the physical layer. Furthermore, MECHATROLINK-Ⅲ controls 62 slaves in perfect synchronization using ASICs while achieving the high-speed cyclic communications required for motion control and high-capacity message communications.

MECHATROLINK-Ⅲ

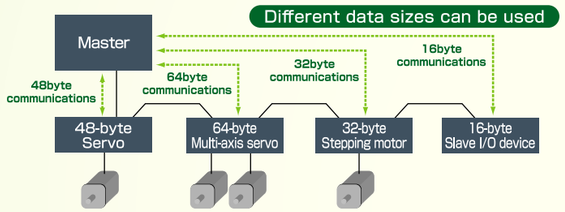
1 High speed network, multi axis control

- Ultra high-speed communications at a baud rate of 100 Mbps and a minimum transmission cycle of 31.25 μsec.
- Connects up to 62 slave stations.
- Supports large- and small-scale systems with a maximum node-to-node distance of 100 m and a minimum station-to-station distance of 20 cm.



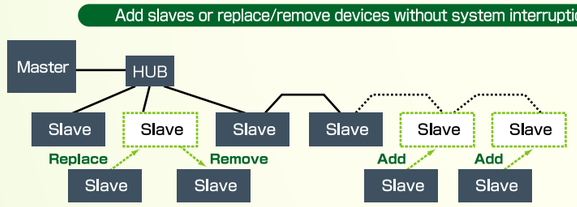
2 Combine of different data size

- Allows combining the use of different data sizes (8, 16, 32, 48, and 64 bytes), making it possible to select the optimum size for each device.



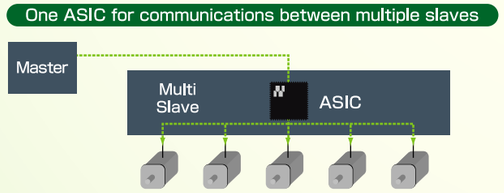
3 Hot plug

- Replace or add slaves while the machine is running.



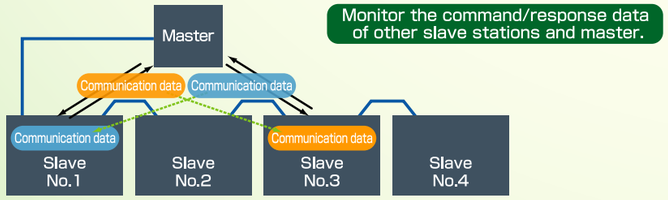
4 Multi-slave function

- Use the multi-slave function to control multiple slaves with a single communication ASIC.



5 Monitor slave function

- A monitor slave can receive the command/response data of other slave stations as well as data from the master. This function enhances the speed of the entire system.

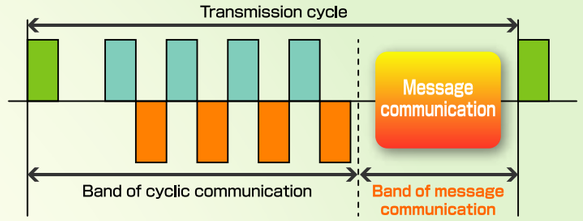


Message Communication

About message communication

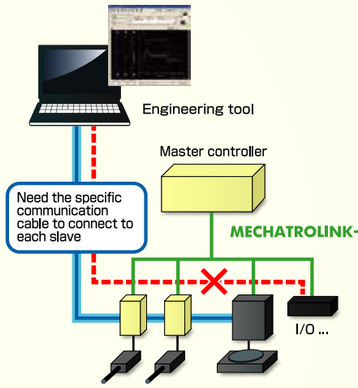
MECHATROLINK-Ⅲ can send data between master and slave devices at any time, without the need to synchronize with the timing of a master device. Message communication utilizes the same areas of the transmission cycle used by cyclic communication, guaranteeing ease of synchronization.

Image of communication path

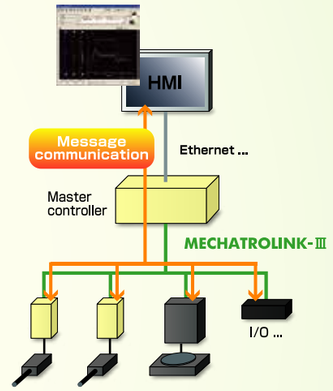


Benefit of the message communication system

Actual (w/o message communication)



Message communication system



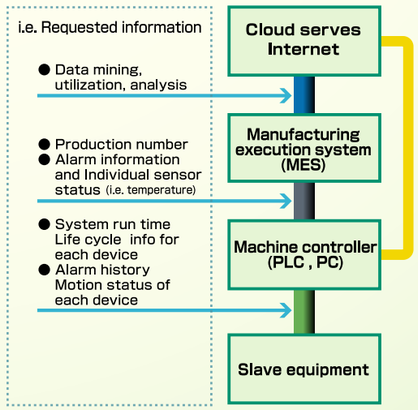
Benefits !

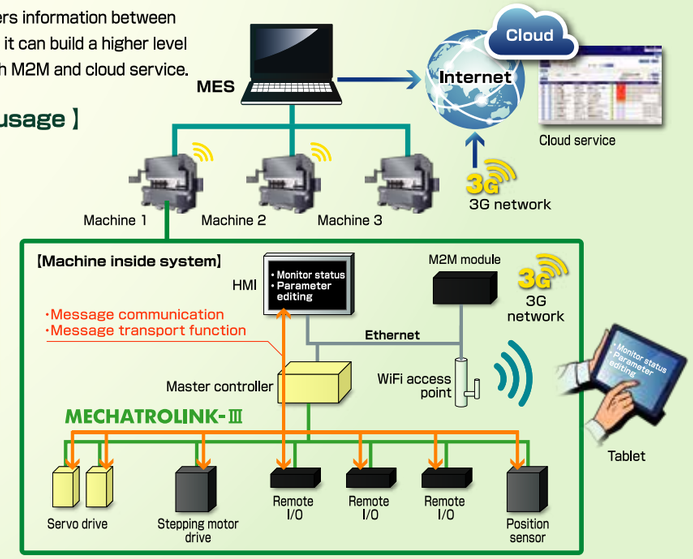
- Control the various devices in a network via MECHATROLINK-Ⅲ tools for your HMI.
- Acquire the high-speed logging data from each device, without the need to use the register data of the controller.
- The network can be used as the infrastructure of M2M / IoT.

Further Utilization of Message Communication and IoT/M2M Equipment

MECHATROLINK-Ⅲ message communication delivers information between devices to an HMI via master controller. In addition, it can build a higher level production system by adapting to Industrie 4.0 with M2M and cloud service.

【 System of taking information and usage 】

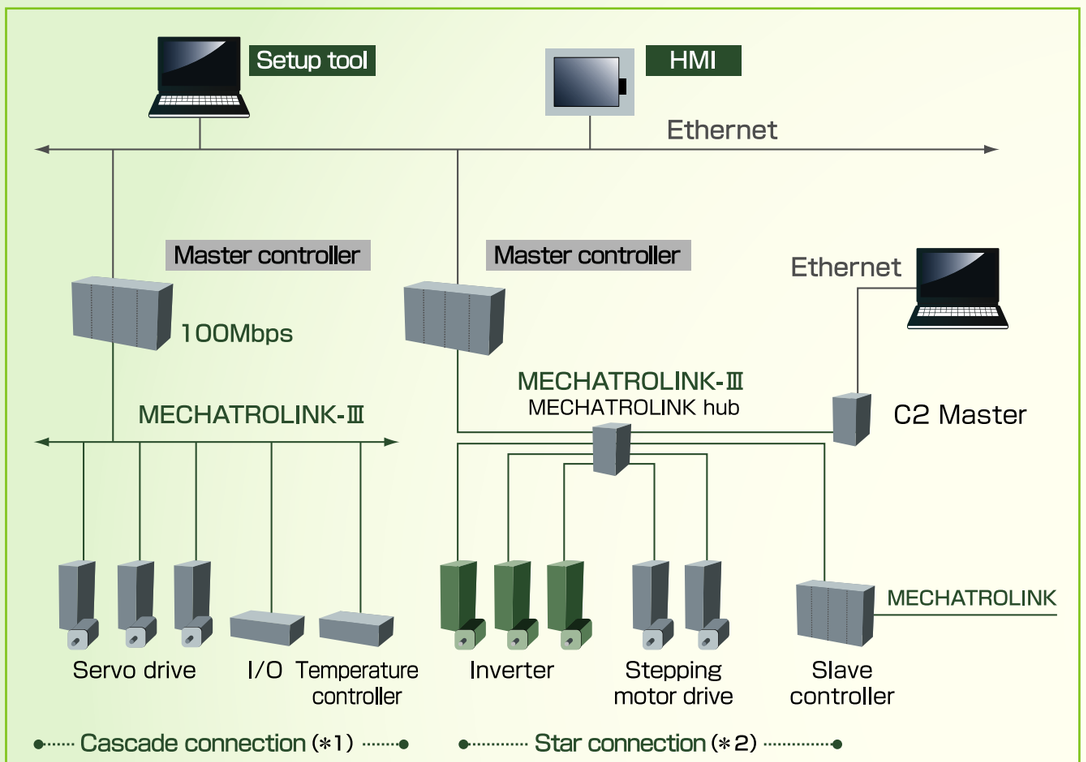




MECHATROLINK-Ⅲ

MECHATROLINK-Ⅲ System Configurations

MECHATROLINK-Ⅲ supports a variety of system configurations through cascade connections or star connections using a hub.
- Connects up to 62 slave stations to a single C1 master station.
- Support Tools can be connected as C2 master stations.



Note : (*1) **Cascade connection** : A slave device can be easily connected to the master without using a hub.
(*2) **Star connection** : Devices connected to a hub can be plugged or unplugged without shutting down the system. More nodes can be connected per cycle time than that with a cascade connection.

Maximum Number of Slaves

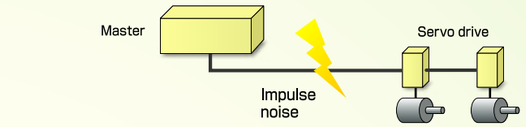
The maximum number of slaves connected to MECHATROLINK-Ⅲ is determined by the transmission cycle time and data size.

Transmission Cycle Time (μsec)	Number of Slaves			
	16byte	32byte	48byte	64byte
31.25	1	1	0	0
62.5	2	2	2	2
125	6	6	5	4
250	11	11	10	9
500	19	19	18	17
1000	31	31	29	28
2000	49	49	47	45
3000	62	62	61	59
4000	62	62	62	62
5000	62	62	62	62
6000	62	62	62	62
7000	62	62	62	62
8000	62	62	62	62

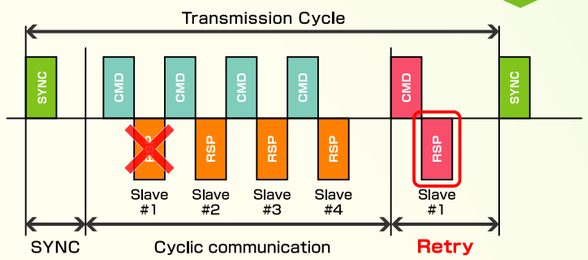
Note:
1. The data in the left table is cascading connections from the master product with two port, and each cable length is 0.2m.
2. Refer to individual product specifications for specific product information.

The Mechanism Behind MECHATROLINK's High Reliability

When the communication abnormality is generated



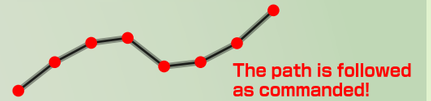
Using the retry function



Benefit !

If a communication error is detected

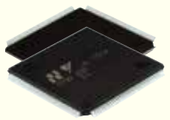
The master ASIC sends the command to the slave again in the same cycle. The CPU is not involved in the retransmission.



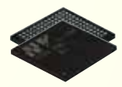
This function is both for MECHATROLINK-Ⅲ and MECHATROLINK-Ⅱ.

MECHATROLINK-Ⅲ Hardware

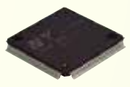
MECHATROLINK-Ⅲ communications ASICs are available. Commercially available parts are also specified or recommended for other components, and standard circuits are available so that you can design your own devices.



Master & Slave
JL-101 LQFP
20mm□



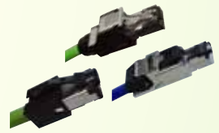
Master & Slave
JL-100 FBGA
Slave only
JL-102 FBGA
12mm□



Slave only
JL-103 LQFP
14mm□

Two types of connectors are available for MECHATROLINK-Ⅲ

- RJ-45 with FA Specification
  The user assembles the RJ-45 with Cat5e STP cable.
- Industrial Mini Connectors
  Assembled models available.



Connector with
FA Specification RJ-45

Industrial Mini I/O
Connectors

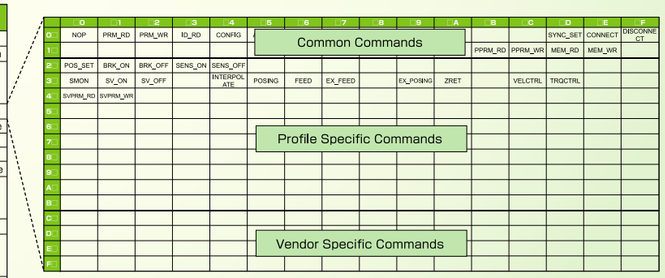
MECHATROLINK-Ⅲ
Cable

MECHATROLINK-Ⅲ Software

A number of MECHATROLINK command sets are available for the application layer for different profile types.

Profile Type	Profile Group	Profile
00	M-Ⅱ compatible	M-Ⅱ compatible
01	ID Info acquisition	ID Info acquisition
02 \ 0F	Reserved	Reserved
10	Servo profile	Std Servo profile
11 \ 1F		Multi-axis servo profile
		High-res servo profile
		:
20	Inverter profile	Std Inverter profile
21 \ 2F		:
30	I/O profile	Std I/O profile
31 \ 3F		:
40 \ 7F	System reserved	System reserved
80 \ FF		

Profile type



Commands table

Byte	Command	Response
0	POSING (35h)	POSING (35h)
1	WDT	RWDT
2	CMD_CTRL	CMD_STAT
3		
4	SVCMD_CTRL	SVCMD_STAT
5		
6		
7		
8	SVCMD_IO	SVCMD_IO
9		
10		
11		
12	TPOS (Target position)	CPRM_SEL_MON1
13		
14		
15		
16	TSPD (Target speed)	CPRM_SEL_MON2
17		
18		
19		
20	ACCR (Acceleration)	MONITOR1
21		
22		
23		
24	DECR (Deceleration)	MONITOR2
25		
26		
27		
28	TLIM (Torque limit)	MONITOR3
29		
30		
31		

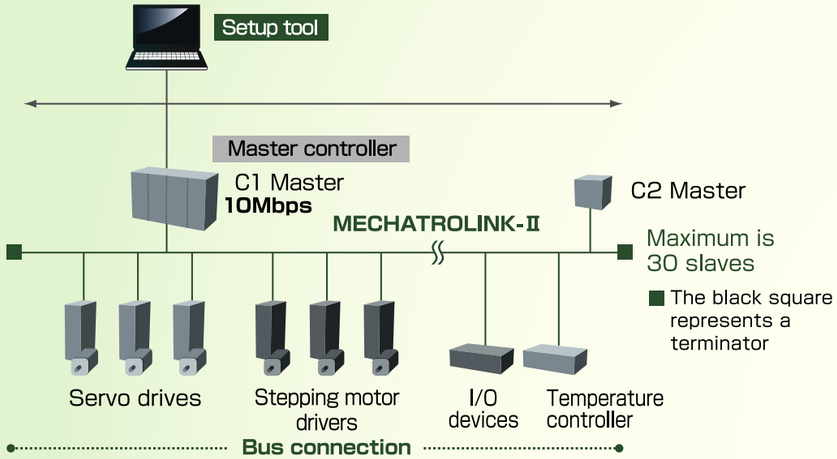
Command sample

The command set for the standard servo profile of MECHATROLINK-Ⅲ has been improved with the addition of new functions. For example, a new positioning command makes it possible to specify the acceleration/deceleration and torque limit at the same time.

General MECHATROLINK-Ⅱ

MECHATROLINK-Ⅱ is an open field network that connects up to 30 slave stations in perfect synchronization. Although MECHATROLINK-Ⅱ is specialized for motion control, it also provides remote I/O signals across to the same network.

MECHATROLINK-Ⅱ System Configuration



Connect a terminator at each end of the network.

Bus connection
Connects each device in parallel.

・Connects up to 30 slave stations to a single C1 master station.
・Support Tools can be connected as C2 master stations.

Maximum Number of Slaves

MECHATROLINK-Ⅱ can transmit 17 or 32 bytes of data per slave. The following table shows the maximum number of slaves to be connected in accordance with data size and transmission cycle.

Transmission Cycle Time (msec)	Number of Slaves	
	17byte	32byte
0.25	2	1
0.5	7	4
1.0	15	9
1.5	23	15
2.0	30	21
2.5	30	26
3.0	30	30
3.5	30	30
4.0	30	30
4.5	30	30
5.0	30	30
5.5	30	30
6.0	30	30
6.5	30	30
7.0	30	30
7.5	30	30
8.0	30	30

Note :
1) This data in this table also serves as the communication specifications for MECHATROLINK-Ⅱ.
Some master devices may support fewer slaves than are listed here.
2) No retries or C2 master devices

MECHATROLINK-Ⅲ/Ⅱ Support Tools

A rich array of support tools are available to assist in the development of MECHATROLINK-Ⅲ/Ⅱ compliant products.

Development Parts

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-Ⅰ/Ⅱ ASIC

Master & Slave
JL-080B (5 V)*
Master only
JL-098B (3.3 V)*
20 mm□

Slave only
JL-052C (3.3 V)*
14 mm□

MECHATROLINK-Ⅲ ASIC

Master & Slave
JL-101 LQFP *
20 mm□

Master & Slave
JL-100 FBGA *
Slave only
JL-102 FBGA *
12mm□

Slave only
JL-103 LQFP
14mm□

MECHATROLINK-Ⅱ
Pulse Transformer

T202004ND

* The source code for the ASIC driver software can be downloaded from the MMA website.

MECHATROLINK-Ⅱ Sample Kits

JEPMC-OPM2SK-1-E for JL-080
JEPMC-OPM2SK-2-E for JL-052
JEPMC-OPM2SK-3-E for JL-098

MECHATROLINK-Ⅲ Sample Kits

JEPMC-OPM3SK-1-E for JL-100
JEPMC-OPM3SK-2-E for JL-101
JEPMC-OPM3SK-3-E for JL-102
JEPMC-OPM3SK-4-E for JL-103

TOKYO ELECTRON DEVICE LIMITED

MECHATROLINK-Ⅲ
For FPGA IP Core

For master, For slave
(Supported for Spartan-6 LX or LXT FPGA.)
(Includes CD-ROM.)

SYSTEC Corporation

SYSTEC Corporation

Matter/Slave IP core for FPGA producted by ALTERA

Development Tools

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-Ⅱ
Network Analyzer

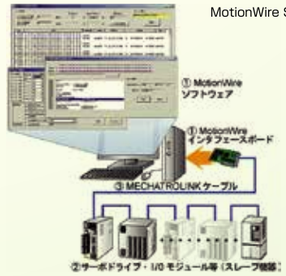
87215-95121-S0103
An RS-232C port is required on the PC.

Enables online monitoring of communications status.
The trace and trigger functions are provided.
The Windows-based software for the Network Analyzer must be installed on the PC.

Hilscher Japan KK

netANALYZER
NANL-B500G-RE

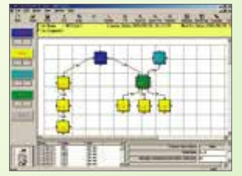
YE DIGITAL Corporation



MotionWire StarterKit

Can be used as a C1 master for MECHATROLINK-Ⅱ slave development

MECHATROLINK Members Association



MECHATROLINK-Ⅲ
Utility Software

Place icons in position and connect them with lines to easily design a system and then automatically calculate the transmission cycle.
MECHATROLINK-Ⅲ Sample application
Includes a sample application in C-language source code as a support tool for software development.

MECHATROLINK Applications

MECHATROLINK has been used in diverse applications, such as those for machine tools, industrial robots, machines for mounting electronic parts and machines for transferring. It is especially suitable for synchronous and interpolated motion control. MECHATROLINK enables control of torque, positioning, and velocity – all of which are necessary to control your machine. Also, the control modes for velocity, torque, and position can be switched while the machine is running, so you can perfectly control the machine's complex motions.

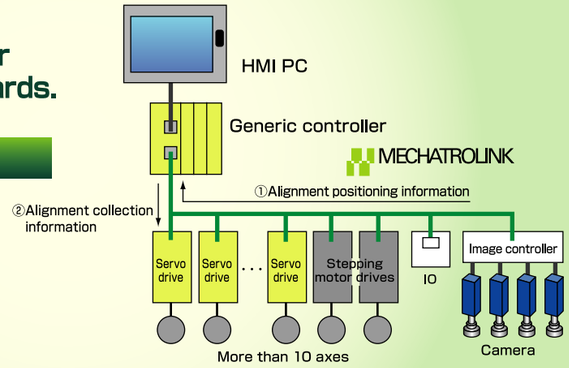
MECHATROLINK SOLUTION 1

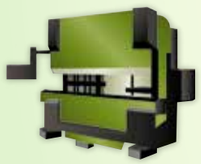
Application **Bonding**

Stick chips from a semiconductor wafer and mount to IC circuit boards.

Challenges solved

- High speed process of alignment information from image controller
- Improvement of cycle time
- Cost down by reducing wiring
- Mixture of servo drives and stepping drives




Press brake

Bonding

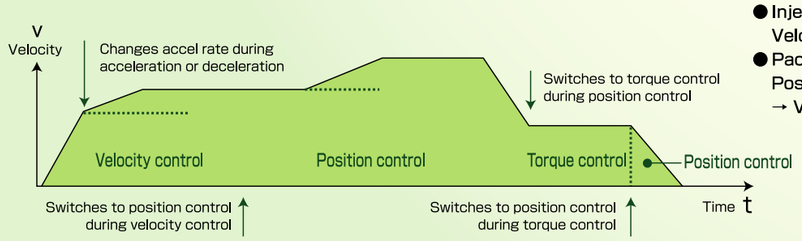
Extraction robot

Ejection molding

Mounting machine

Etching

[Online Switching Control Mode]



Application Examples

- Injection molding machines : Velocity control → Torque control
- Packing machines : Position control or Velocity control → Velocity control

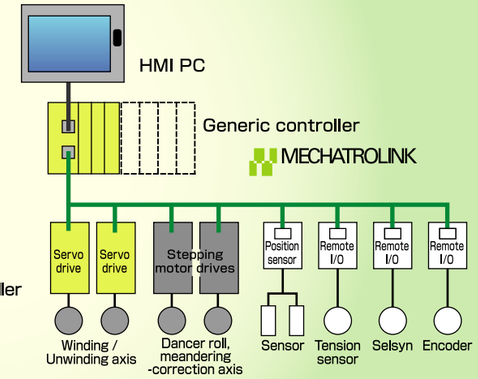
MECHATROLINK SOLUTION 2

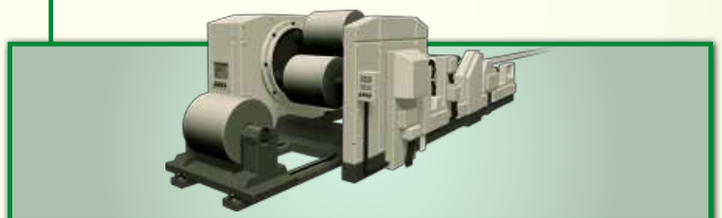
Application **Roll-to-Roll system**

A roll-to-roll system applies various treatments to a film as it moves from an unwinding roll to a winding roll. This application is common in food packaging and general converting machinery.

Challenges solved

- Simple wiring for analog devices
- Costs are reduced by eliminating analog modules of the controller
- Networking the feedback information from each device increases speed and accuracy of winding/unwinding




Roll-to-Roll system

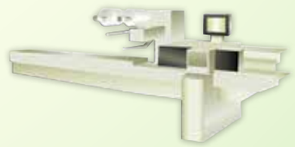
Machine tool

Liquid crystal glass processing

Molding

Probing

Washing


Food packaging

Tester

Commitment to International Standards and Safety

Commitment to International Standards

MECHATROLINK is a network technology ranked by international standards and can be used without any concern since the standards are certified globally.

International Standards (SEMI Standard, IEC Standard, GB Standard)

SEMI Standard

MECHATROLINK is a SEMI E54.19 Standard. It is much easier to implement on semiconductor/liquid crystal-related devices. MECHATROLINK was certified for E54.19 (sensor/actuator network) on March 2007.

IEC Standard

A campaign is currently underway to have MECHATROLINK certified by IEC International Standards, making MECHATROLINK a world standard for open field networks.
Compatible standards : IEC61158 field network protocol and service
IEC61784 field network profile
Acquired IEC International Standards in August 2014.

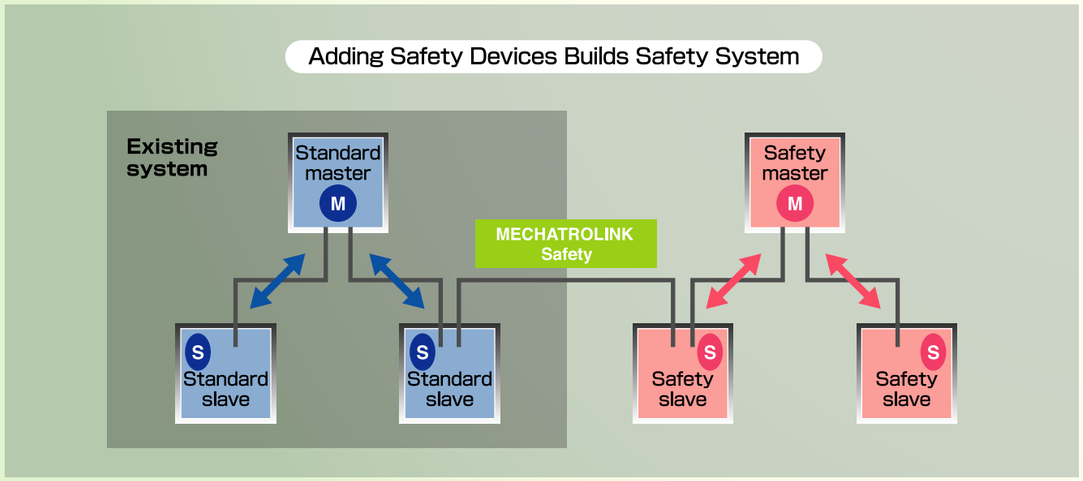
GB Standard

MECHATROLINK is listed up to the official Chinese standardization notification No.7 as a Chinese national standard by STANDARDIZATION ADMINISTRATION OF THE PEOPLE'S REPUBLIC OF CHINA(SAC).
Standard No. : GB/T 18473-2016 (Since November 2016)
Standard title : Electrical equipment of industrial machinesSerial data link for real-time communication between controls and drives

Commitment to Safety

MECHATROLINK Safety Protocols obtained the concept authorization!

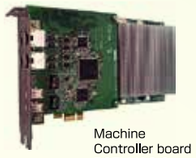
The Safety Technology group in the MECHATROLINK Members Association is assembling the specifications of the MECHATROLINK Safety Protocols for use in an international standard for safety regulation.
Under MECHATROLINK Safety, communication between safety masters & slaves, and standard masters & slaves, can occur in the same network. This status can be established simply by adding a Safety Master (such as a Safety PLC) and Safety Slaves (including Safety I/Os) to the legacy system. Standard MECHATROLINK cables can be used to connect these safety-supported devices.



MECHATROLINK-Ⅲ Compliant Products

CONTROLLER

ALGO SYSTEM CO.,LTD



Machine Controller board
PCELM10-0

MECHATROLINK-Ⅲ Master Modules for AP/APW Series
AP302EX

JTEKT CORPORATION

Motion Controller
TOYOPUC-MCML

Soft Servo Systems, Inc.

Soft motion controller/WMX3

TIETECH CO.,LTD

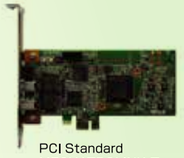
MECHATROLINK-Ⅲ board
169002-ML3-PRO3

PCI Compliant
Motion Control Board
169002-MBY-LE01 Series

YOKOGAWA ELECTRIC CORPORATION

Range-free Multi-controller
FA-M3V

SYSTEC Corporation



PCI Standard
MECHATROLINK-Ⅲ
Interface Card
SY-M3-01

YASKAWA ELECTRIC CORPORATION

General Machine Controller
MP3200

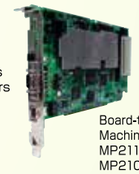
Master Module
for MP2000 Series
SVC-01

Multiple-CPU Module
for MP2000 Series
MPU-01

PCI Standard
MECHATROLINK-Ⅲ
Interface Card
JAPMC-NT112A

All-in-One
Machine Controller
MP3300

MECHATROLINK-Ⅲ
Two-axis servo packs
with built-in controllers
Σ-7C series



Board-type
Machine Controller
MP2111T
MP2101T

Board-type
Machine Controller
MP3100

Multi-axis
Positioning Controller
PCS-2000

YASKAWA CONTROLS CO.,LTD

KEYENCE CORPORATION

Positioning / Motion unit
KV-XH16ML
KV-XH04ML

NEXCOM International Co., Ltd.

NControl 30

NET300-ML3

AJINEXTEK CO., LTD.

PCI Master Controller
PCI-R6200-MLⅢ

COMIZOA Co.,LTD.

COMI-LX530

Prima Electro S.p.A

Prima Electro
OPEN-M

Prima Electro
OPENpanel

DELTA TAU KOREA

Turbo PMAC2
MECHATROLINK-Ⅲ Master Card

cruiser

UMAC-ML3

MECHATROLINK-Ⅲ Compliant Products

SERVO DRIVE

CKD NIKKI DENSO CO., LTD.

Servo driver VPH-HE Type
Direct Drive Motor τ
DISC Series

AC Servo Driver VC Ⅱ
Direct Drive Motor τ
DISC Series

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-Ⅲ
Σ-7S series

MECHATROLINK-Ⅲ
Two-axis servo packs
with built-in controllers
Σ-7C series

MECHATROLINK-Ⅲ
Σ-7W series

MECHATROLINK-Ⅲ
Σ-Vseries

MECHATROLINK-Ⅲ
DC power input Σ-V series

KEYENCE CORPORATION

AC Servo System
SV2 Series

SANYO DENKI CO.,LTD.

SANMOTION R
ADVANCED MODEL
RS2E01A2ML5

HIWIN MIKROSYSTEM CORP.

D1-N Series
Drive

STEPPING MOTOR DRIVE

ORIENTAL MOTOR Co., Ltd.

Network Converter for Controlled Motors
NETC01-M3

αSTEP
AZ-Series
Multi-axis Driver

INVERTER

YASKAWA ELECTRIC CORPORATION

U1000
* Requires a SI-ET3 option card.

V1000
* Requires a SI-ET3/V option card.

A1000
* Requires a SI-ET3 option card.

GA700
* Requires a SI-ET3 option card.

I/O DEVICE

M-SYSTEM.CO.,LTD.

Remote I/O R7 series R7G4HML3
(Analog input/output, Thermocouple input, road cell input, tension input, selsyn input , rotary encoder input)
Digital (Discrete I/O 16 points)

Compact All-in-one Module Remote I/O
R7K4FML3 (Discrete I/O)

Multi-channel, Mixed-signal
Remote I/O R3 Series
(Analog I/O, Contact I/O)

Anywire Corporation

Bit Distribution
I/O Terminal
AB023-M2

YASKAWA ELECTRIC CORPORATION

64-point I/O Module
JEPMC-MTD2310-E

Analog Input Module MTA2900
Analog Output Module MTA2910
Pulse Input Module MTP2900
Pulse Output Module MTP2910

ALGO SYSTEM CO.,LTD

IN 16units
OUT 16units

IN 32units
OUT 32units
IN16/OUT32 units

ACTUATOR

IAI CORPORATION

Robo Cylinder,
Single Axis
Robot Controller

SCON-CA Series

REAL TIME OS

FORKS INC.

QNX NEUTRINO RTOS

Micronet Co.

INtime
Real-time for Windows

MECHATROLINK-Ⅲ
driver for INtime

TOKYO ELECTRON DEVICE LIMITED

IntervalZero

RTX2009

SENSOR

Azbil Corporation

High-Accuracy Position Sensor
K1G Series

NSD Corporation

MECHATROLINK-Ⅲ
Slip Ring
3TEφ17-5P-MⅢ

OTHER

ENDO KOGYO CO., LTD

MECHATROLINK-Ⅲ Slip Ring
SRP-MLⅢ-6

Seal Tech Inc.

MECHATROLINK-Ⅲ
Spip Ring (producted by GAT)
ROTOCAP Series

DYDEN CORPORATION

Optical Media
Converter
DN2800E Series

HOKUYO AUTOMATIC CO,LTD

MECHATROLINK-Ⅲ
Optical data transfer
device
EWF-1E

PERIPHERAL DEVICES

Tyco Electronics JAPAN G.K.

MECHATROLINK-Ⅲ
Connector kit

Connector kit
Blister pack style (1pcs) 2040008-2
Connector kit
Bulk pack style (1000pcs) 2069578-2
Dies kit shell 1891771-2

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-Ⅲ→Ⅱ
Gateway
GW3100

Hub Module for
MECHATROLINK-Ⅲ
JEPMC-MT2000-E

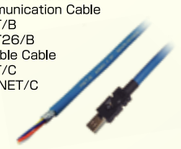
Network Adapter
Module for
MECHATROLINK-Ⅲ
JEPMC-MT2020-E

KEYENCE CORPORATION

MECHATROLINK-Ⅲ
Communication Cable
SV2-L□□(RJ45)
SV2-L□□A(RJ45/IMI)

JMACS Japan Co., Ltd.

MECHATROLINK-Ⅲ
Communication Cable
PNET/B
PNET26/B
Movable Cable
PNET/C
RX-PNET/C



Taiyo Cabletec Corporation

MECHATROLINK-Ⅲ
Communication Cable
FAFXQ-5E22SLAB/CM(BU)

DYDEN Corporation

MECHATROLINK-Ⅲ
Communication Cable
RS-MⅢ(20276) AWG22/4C
Movable Cable
RM-MⅢ(20276) AWG22/4C

NICHIGOH COMMUNICATION ELECTRIC WIRE CO.,LTD.

MECHATROLINK-Ⅲ
Communication Cable
ML3-C＊＊＊

PHOENIX CONTACT K.K.

MECHATROLINK-Ⅲ
Communication Cable
NBC-M□D-93B-MTL (M12)
NBC-M□D-RJ45-93B-MTL (M12/RJ45)

MISUMI Corporation

MECHATROLINK-Ⅲ
Communication Cable
FNMC-MN-**(IMI-IMI)
FNMC-RJ-B-*(RJ-45-RJ-45)
Movable Cable
FNMC-RJ-C-*(RJ-45-RJ-45)

YASKAWA CONTROLS Co., Ltd.

MECHATROLINK-Ⅲ
Communication Cable
JEPMC-W6012-**-E (IMI-IMI)
JZSP-CM3RM0*-**-E (RJ45-IMI)
JZSP-CM3RR0*-**-E (RJ45-RJ45)

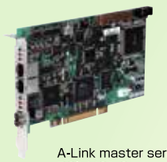
KUNSHAN FUJIX ELECTRONIC CO., LTD

MECHATROLINK-Ⅲ
Communication Cable
MLCC-3-***(IMI-IMI)
MLCC-3IRJ02-***(RJ-45-IMI)
MLCC-3RJ02-***(RJ-45-RJ-45)

MECHATROLINK-II Compliant Products

CONTROLLER

ALGO SYSTEM Co., Ltd.



A-Link master series
PCILM01-0

KOYO ELECTRONICS INDUSTRIES CO., LTD.

Programmable Controller
DL-205 Series
MECHATROLINK Module
D2-MLINK

Programmable Controller
DL-05 Series
MECHATROLINK Module
D0-MLINK

Programmable Controller
DL-06 Series
MECHATROLINK Module
D0-MLINK

KEYENCE CORPORATION

Positioning/Motion Unit
KV-ML16V

MYCOM, INC.

PCI-bus
Host Controller Board
MLH20-1030

YOKOGAWA ELECTRIC CORPORATION

Range-free
Multi-controller
FA-M3V

TECHNO Co.,LTD

Motion Controller
for FA-M3
PLMC-MII EX

YASKAWA ELECTRIC CORPORATION

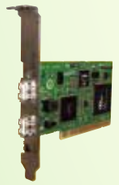
MP2000 Series Machine Controllers

MP2100/
MP2100M

MP2200

MP2110CP

MP2300



PCI Standard
MECHATROLINK-II
Communication
Interface Card
NT110

Prima Electro S.p.A

CNC controller
10/5 10 Light CNC

ESA/GV s.r.l

Compact CNC
KVARA 6

ISAC S.r.l

MACHINE CONTROLLER
CNC 2001M

LS Industrial Systems Co.

Programmable
Controller (PLC)
XGT Series

AJINEXTEK CO., LTD.

PCI Master Controller
PCI-R1604-MLII

Shenyang Golding NC Tech Co., ltd

CNC System GJ-210

Guangzhou LokShun CNC Equipment Ltd.,

Controller
SGDS9-6CNCH2

LNC Technology Co., Ltd.

LNC-M600id System

REAL TIME OS

Micronet Co.

INtime Real-time for Windows

MECHATROLINK-II
driver for INtime
RSI-2110

TOKYO ELECTRON DEVICE LIMITED

IntervalZero

RTX2009

STEPPING MOTOR DRIVE

ORIENTAL MOTOR Co., Ltd

Network Converter
for Controlled
Motors
NETC01-M2

MYCOM, INC.

MLN50 Series
5-phase Driver
MLN20 Series
2-phase Driver

SERVO DRIVE

Harmonic Drive Systems. Inc.

AC servo driver
HA-680ML series

AC servo driver
HA-800B series

KEYENCE CORPORATION

AC Servo System
SV Series

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-II
Σ-7 series

MECHATROLINK-II
Σ-V series

MECHATROLINK-II
DC power input
Σ-V series

DYNASERV DrvGIII

I/O DEVICE

M-System Co., Ltd.

Compact All-in-one
Module Remote I/O
R7 Series
(Analog I/O, Contact I/O)

Compact All-in-one
Module Remote I/O
R7K4F Series
(Contact I/O)

Anywire Corporation

MECHATROLINK
Bit Distributed
I/O Terminal
AB023-M1

YASKAWA ELECTRIC CORPORATION

Digital I/O
Analog I/O
Counter input
Pulse output
Relay output

ACTUATOR

IAI CORPORATION

Robo Cylinder Controller

ACON Series
PCON Series

SCON Series

OTHER

ENDO KOGYO CO., LTD

Slip Ring
SPR-MLII-3

KYOEI ELECTRIC CO., LTD.

Slip Ring System
SRC/20-MLII

NSD Corporation

MECHATROLINK-II
Slip Ring
3TEφ17-7P

TOYO ELECTRIC CORPORATION

MECHATROLINK-II
compliant
Space Optical
Transfer Unit
(Under development)

YASKAWA ELECTRIC CORPORATION

Robot Controller
DX100
* Requires an option card.

7-Axis Arc
Welding Robot
MOTOMAN-VA1400

PERIPHERAL DEVICES

Tyco Electronics JAPAN G.K.

MECHATROLINK-IIConnector kit
Connector kit Blister pack style
(1pcs/pack) 1827525-1
Connector kit Bulk pack style
(500pcs/pack) 2013706-1
Dies kit shell 1891771-1

DYDEN Corporation

MECHATROLINK-II
Communication Cable

HRZFV-SB
AWG25/2C

YASKAWA CONTROLS Co., Ltd.

MECHATROLINK-II
Communication Cable
JEPMC-W6002-□-E

KUNSHAN FUJIX ELECTRONIC CO., LTD

MECHATROLINK-II
Communication Cable
MLCC-2-□□□

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-II Repeater
JEPMC-REP2000

INVERTER

YASKAWA ELECTRIC CORPORATION

V1000
* Requires a SI-T/V option card.

A1000
* Requires a SI-T option card.

Varispeed
G7
* Requires a SI-T option card.

SENSOR

RKC INSTRUMENT INC.

Module Type
Digital
Temperature
Controller
SRZ Series

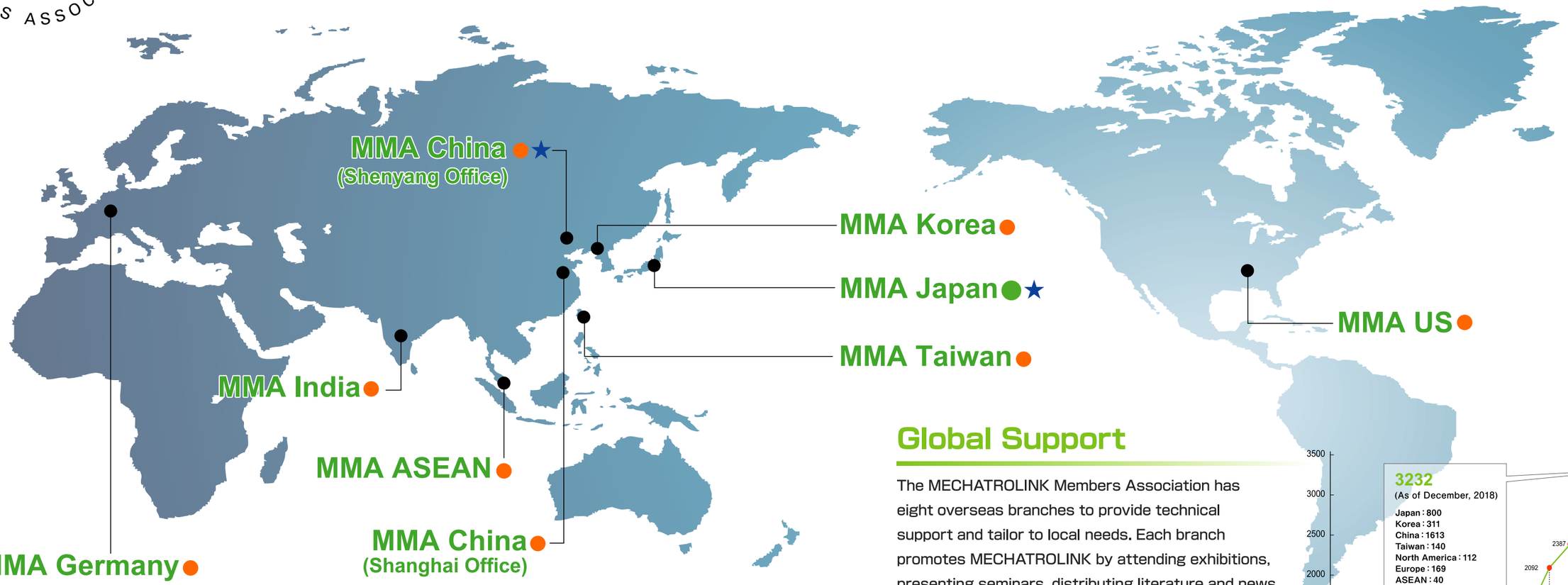
YASKAWA ELECTRIC CORPORATION

Network Machine Vision System
MYVIS YV260

MECHATROLINK MEMBERS ASSOCIATION

URL : http://www.mechatrolink.org/

The MECHATROLINK Members Association (MMA) is a group of MECHATROLINK product developers and users who promote the use of MECHATROLINK throughout the world. MMA has established eight branches in the major markets overseas to support the construction and promotion of a larger MECHATROLINK family.



● Head office ● Branch office ★ Certification Test Site

MMA Japan
● 480 Kamifujisawa, Iruma Saitama, 358-0013, Japan
★ Tel : +81-4-2962-7920 / FAX : +81-4-2962-6343 / e-mail : mma@mechatrorink,org

MMA Germany
● Hauptstr. 185 65760 Eschborn Germany
Tel : +49-6196-569420 / e-mail : mma@mechatrolink.de

MMA US
● 2121 Norman Drive South; Waukegan, IL 60085; U.S.A.
Tel : +1-847-887-7231 / e-mail : mma-us@mechatrolink.org

MMA Korea
● 35F, Three IFC, 10 Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, 07326 Korea
Tel : +82-2-368-8875 / e-mail : mma-kr@mechatrolink.org

MMA China
● 〈Shanghai Office〉
22/F One Corporate Avenue No.222 Hubin Road, Huangpu District Shanghai, 200021 CHINA
Tel : +86-21-53852070／e-mail : mma-sh@mechatrolink.org
● 〈Shenyang Office〉
★ No.16, East Nanping Road, Hunnan High-tech. Industrial Development Zone, Shenyang, 110171 CHINA
Tel : +86-24-24696008 / e-mail : mma-cn@mechatrolink.org

MMA Taiwan
● 12F., No.207, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)
Tel : 886-2-8913-1778 / e-mail : mma-tw@mechatrolink,org

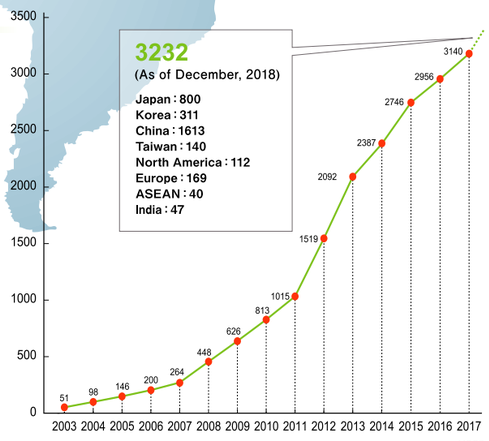
MMA India
● 17/A, 2nd Main, Electronic City, Phase-1, Hosur Road, Bengaluru - 560 100, INDIA
Tel : +91-80-4244-1920 / e-mail : mma-in@mechatrolink.org

MMA ASEAN
● 30A Kallang Place, #06-01 Singapore 339213
Tel : +65-6282-3003 / e-mail : mma-sg@mechatrolink.org

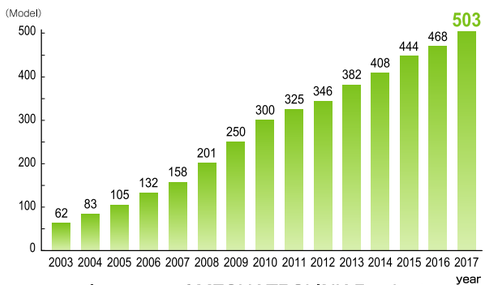
Global Support

The MECHATROLINK Members Association has eight overseas branches to provide technical support and tailor to local needs. Each branch promotes MECHATROLINK by attending exhibitions, presenting seminars, distributing literature and news content. Customers can adopt MECHATROLINK with confidence, assured by the ongoing efforts of the Members Association to promote this valuable standard worldwide.

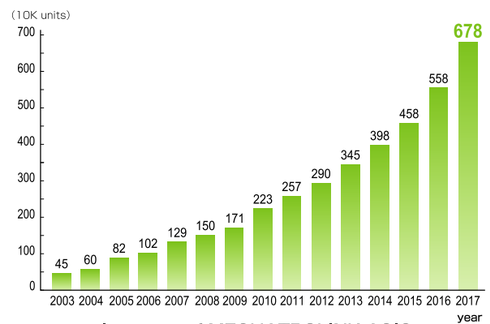
Name :
MECHATROLINK MEMBERS ASSOCIATION (MMA)



Increase of MECHATROLINK Members



Increase of MECHATROLINK Products
(As of April 2018)



Increase of MECHATROLINK ASICs
(As of April 2018)

Organization

Chairman

MMA Executive Committee

- Discusses and determines policy and activities
- Discusses and determines management policy and organization
- Discusses and determines technical specifications
- Audits and approves management costs

Sub committee

Marketing sub committee
- Promotion activities
- Event planning
- Preparation of leaflets and other promotional material

PC tech sub committee
- Promotion activities
- Development promotion

MMA Secretariat
(General secretary, Staff in charge of technical activities and public relations)

MMA Global
•MMA Germany •MMA US •MMA Korea •MMA China
•MMA Taiwan •MMA India •MMA ASEAN

〈Technical Activities〉
- Creates and archives specification
- Settles technical problems
- Prepares and distributes technical documents

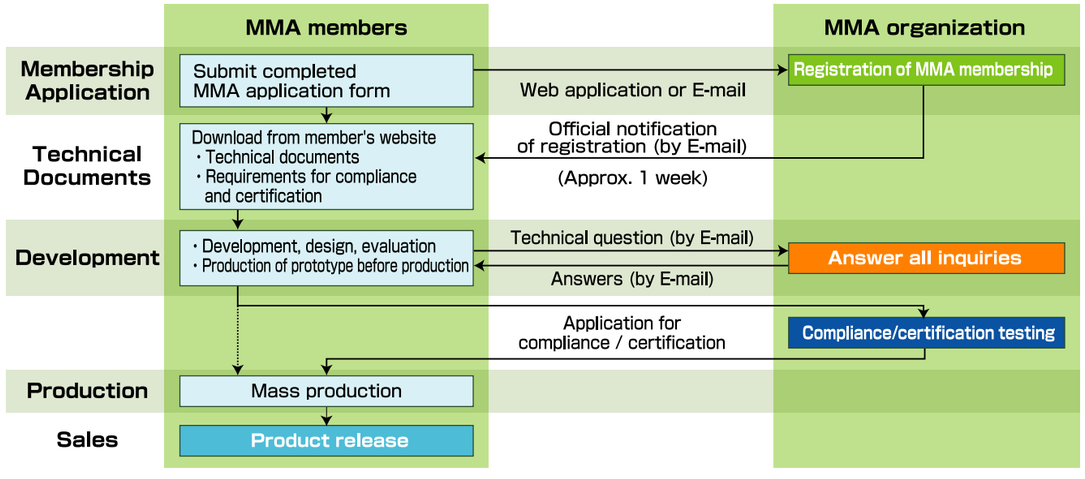
〈Vendor Support〉
- Provides support for presentation of products at exhibitions
- Plans and manages seminars
- Distributes information in E-mail and internet
- Creates and distributes catalogs
- Supports development of MECHATROLINK products by MMA members
- Offers testing for compliance and certification
- Registers new members and collects annual fees

〈User Support〉
- Distributes information in E-mail and internet
- Distributes catalog

MMA Members

From the MMA Membership Application to Product Release

The following flowchart illustrates how to join the MECHATROLINK Members Association (MMA) and how MMA works with members to develop and release MECHATROLINK-compliant products.



MECHATROLINK Certification Test

The certification test is your guarantee that each MECHATROLINK product will be compliant with MECHATROLINK specifications. The certification test is designed to confirm compliance on every certified product regardless of manufacturer. Each certified product is permitted to use the MECHATROLINK logo as an indication of its compliance.

Certification Test Limitations

A certification test is performed using limited MECHATROLINK specifications, which are defined by the specification of the product being tested. The original characteristics of the product such as the functions, performances, reliability, etc. are not subject to examination in the certification test. Each manufacturer must guarantee these characteristics themselves. In addition, the product conformance to the MECHATROLINK specifications is only applicable to the version of the hardware and software of the product when the test is performed. A general rule is that when the product version changes, another certification test is necessary.

Certification Test Details

The certification test includes the following items.
- Verification of MECHATROLINK communications circuit and components
- Noise resistance
- MECHATROLINK communication compliance
- Interconnectability

MECHATROLINK Logo for Certification

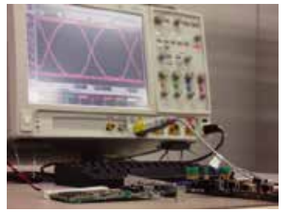
MECHATROLINK

The MECHATROLINK logo for certification indicates that a product meets MECHATROLINK specifications. Any product that displays this logo can be safely used. MECHATROLINK products that have passed our certification test will be allowed to display this logo.

Certification Test Organization

Certification test sites in the following two places:
- MMA Japan
- MMA China Shenyang

Applications for the certification test must be sent to the MMA secretariat.



The activities of the MECHATROLINK Members Association

The MECHATROLINK Members Association conducts various PR activities.

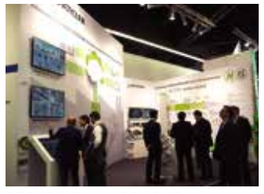
MMA General meeting (Japan)

ACF2018 (Japan)

20th China International Industry Fair

AIMEX2018 (Korea)

Taipei International Industrial Automation Exhibition 2018


SPS IPC Drives 2018 (Germany)

ASEAN Seminar (Vietnam)

SPS2016 (India)

MECHATROLINK Membership Privileges

The benefits of MECHATROLINK membership are:

- You can obtain MECHATROLINK specifications from the Members Association's web site.
- You can obtain technical support for all the processes including product development.
- You can participate in PR activities for MECHATROLINK-compliant products.
- You can participate in exhibitions in collaboration with MMA.
- You can take certification exams of MECHATROLINK-Supported products.
- You will be able to purchase the MECHATROLINK connector kit and make your own cable.
- You can participate in MMA general meetings and development seminars.
- You will be sent the E-mail magazine with the latest MECHATROLINK information.

Membership Categories and Privileges

Type of Members		Board Members	Executive Members	Regular Members	User Members	Registered Members
Annual fee (April to March)		500,000 JPN	200,000 JPN	100,000 JPN	20,000 JPN	Free
Annual fee (October to March)		1/2 of the above annual fee			20,000 JPN	Free
Participation in committee and general meetings		Authorized to participate in the executive committee, subcommittee, and general meeting	Authorized to participate in the subcommittee and general meeting			Not authorized
Services	Downloading technical documents from the website	Free				
	Direct mails from the Association	Free				
	Seminars	Free				
	Product presentation at seminar	Authorized			Not authorized	
	Technical inquiries (by e-mail or telephone)	Free				Not authorized
	Development support for vendors	Free (charged for some cases)				Not authorized
	Introduction of products on the Association's website	Free			Not authorized	
	Advertisement on the Association's website	Free	Charged		Not authorized	
	Compliance certification test	50,000 JPN	100,000 JPN	200,000 JPN		Not authorized
Rights of Members	Development of products	Authorized				Not authorized
	Sale of products	Authorized			Not authorized	
	Participation in formulation of specifications	Authorized	Not authorized (Possible to receive the information on experimental specifications.)		Not authorized (Possible to read the formulated specifications.)	

Member List (Public acceptance company)

Board Members

KEYENCE CORPORATION

M-System Co., Ltd.

NEC Corporation

ORIENTAL MOTOR CO., LTD

Schneider Electric Japan Holdings Ltd.

Texas Instruments Incorporated

YASKAWA ELECTRIC CORPORATION

YE DIGITAL CRPORATION

YOKOGAWA ELECTRIC CORPORATION

Executive Members

ALGOSYSTEM CO.,LTD
ANYWIRE CORPORATION
Art Control Systems, Inc.
EIKO SOKKI CO.,LTD.
KOYO ELECTRONICS INDUSTRIES CO., LTD.
Magnescale Co.,Ltd
PHOENIX CONTACT Development & manufacturing Inc.
SYSTEC Co
TOKYO ELECTRON DEVICE LTD.
Tyco Electronics Japan G.K.
Xi'an Jiaotong University
YASKAWA AMERICA, INC.
YASKAWA CONTROLS CO.,LTD
YASKAWA MECHATREC CORPORATION

Regular Members & User Members

ADLINK Japan
ADLINK Technology Inc.
ADVANTECH Co., Ltd.
AJINEXTEK CO., LTD
Alpha Motion co., ltd
AMADA HOLDINGS CO.,LTD.
APLUS
ARKTAKE, INC.
Azbil Corporation
Beijing Aerospace Numerical Control System Co,Ltd
BEIJING KND CNC TECHNIQUE CO., LTD.
Beijing SCBD Tatfook Precision Machinery Co., Ltd.
BEST F.A
Biesse S.p.A.
C&TECH INDUSTRIAL CO.LTD
CHUNG WOO ELECTRONICS
CHUO ELECTRONICS CO.,LTD.
CKD Corporation
CKD NIKKI DENSO CO., LTD.
COMIZOA
CONTEC CO., LTD.
CONVEX CO.,Ltd.
CURIOUS
D&S CO.,LTD
Daitron Co., Ltd.
DELTA TAU KOREA
Direct Connect Systems
DMP Electronics Inc.
DYDEN CORPORATION
ENDO KOGYO CO., LTD
FA System Engineering CO.,LTD.
FASTECH
FORKS INC.
Gai Kao
GUANGZHOU LOKSHUN CNC EQUIPMENT LTD
HANMI SEMICONDUCTOR.CO.,LTD.
HIGEN MOTOR
HIWIN MIKROSYSTEM CORP.
HOKUYO AUTOMATIC CO,LTD
Hope Automation Co.,Ltd.
HUN
Hurco Automation Ltd.
IAI Corporation
Industrial Technology Research Institute Mechanical and Systems Research Laboratories. Intelligent Machinery Technology Div.
IntervalZero, Inc.
JiaXing HuaLing Mechatronics Equipment Co., Ltd.
JMACS Japan Co.,Ltd.
JTEKT Corporation
JUSTEK
KUNSHAN FUJIX ELECTRONIC CO., LTD
KYOEI ELECTRIC CO., LTD.
Legend
LIYAN ELECTRIC INDUSTRIAL LTD.
LNC Technology Co., Ltd.
Mapletek Co., Ltd.
Matsuura Denkosha Co.,Ltd.
MELEC Inc.Hurco Automation Ltd.
Micronet Co.
Microtechnica Co.,Ltd.
MISUMI Corporation
MPI CORPORATION
MS s.r.l.
MTT CORPORATION
MURATA MACHINERY,LTD.
National Instruments
NEXCOM JAPAN
NICHIGOH COMMUNICATION ELECTRIC WIRE CO.,LTD.
NIPPON PULSE MOTOR TRADING (TAIWAN) CO., LTD
NIRECO CORPORATION
NITTOKU ENGINEERING CO., LTD.
OMRON Corporation
OMRON Europe B.V.
PATEL MACHINERY
PFU Limited
PMC Stone Inc
POSTECH
Prima Electro S.p.A.
Profichip GmbH
RICOH Industorial Solutions Inc.
RKC INSTRUMENT INC.
Samchully Machinery Co., Ltd.
SAMWON ACT
Sanmei Electronics Co.,Ltd.
SANYO DENKI CO.,LTD.
Schleicher Electronic GmbH & Co.KG
Seal Tech Inc.
Servo Dynamics CO., LTD
SHANGHAI inrevium SOLUTIONS LIMITED
Shenyang Golding NC TECH.Co.,Ltd.
SHENZHEN DWL AUTOMATION CO., LTD.
SMC Corporation
Soft Servo Systems, Inc.
SYNTEC TECHNOLOGY CO., LTD
SYSCO Machinery Corportation
Taian Automation Co., LTD.
Taiyo Cabletec Corporation
TECHNO
THE SAILOR PEN CO.,LTD. ROBOTICS DIVISION
TIETECH CO.,LTD
Turbotek Co., Ltd.
UMEDA ELECTRIC CO.,LTD.
VIPA GmbH
Yaskawa Electric Engineering Corporation
ZEST(NANJING)INDUSTRIAL AUTOMATION CO.,LTD

Member List (Public acceptance company)

Registered Members

A&E Technology
A-KYUNG MOTION INC.
AA EDM Corporation
Aarohi Embedded Systems
AB&T s.r.l.
ABILITY Switzerland AG
ABISYS CORPORATION
Academia Sinica
ACE PILLAR (Tianjin) Co., Ltd.
ACRON PRECISION IND. CO., LTD
ACS Motion Control
Act Technologies Corp. (Ningbo, China)
AD-MYCOM CORPORATION
ADFweb.com SRL
Adtech Corp.
Advantage Industrial Automation
Advent Design Corp
AF Robotics
Agile Planet, Inc.
Ahavalink Inc
Aida Engineering,LTD
Airfolc,Inc.
AI Cube Inc.
All Control Enterprises
ALTERA JAPAN, LTD.
Ambisig
Analog Devices K.K.
Anna University
Any Work Corporation
AOYAMA SPECIAL STEEL CO.,LTD.
Applied Machine and Motion Control, Inc.
AR Electro Power Pvt. Ltd.
Aranha Ltd
Arrow7 Co. Ltd.
ARSELON
Arselon SE
ASAHI ENGINEERING CO.,LTD
Asprova Corporation
ATS Technologies
AU optronics Corp.
Automated Solutions
Automation Engineers
Automation Engineers
Automatoin Department of Tsinghua University
Autonics corporation
AVAIL CORPORATION
AVAL DATA CORPORATION
AVAL NAGASAKI CORPORATION
AvtoVAZ
AVW Controls Ltd
AXIS GLOBAL AUTOMATION
Azbil (Thailand)Co.,Ltd.
Beijing ADRC Technology Co., Ltd.
Beijing Automation Technical Research Institute
Beijing BBFCNC Co.,Ltd
Beijing DFJZH Mechanical & Electrical technology Co.,LTD
Beijing Jiaotong University
Beijing SR technology Ltd.
beijing(shanghai)dachenglvshishiwusuo
Beyond the river Inc.
BIONIME
Birkenstock Technical Products
BlueBay Automation
Bright Lux Automation
Bui Van Ngo
BuroMach Ltd.
CADS TECH Inc.
Campat Machine Tool
Cermate Technologies Inc.
Changzhou Master Machinery Co.,Ltd
CHEMI-CON (M) SDN.BHD
Chengdu Tianfu Software Park Co., Ltd.
Chengdu West Taili Crane Co.,Ltd.
CHERN RUEY CO., LTD.
CITCEA - UPC
Clayton Controls, Inc.
CLEAVELAND MOTION CONTROLS
Clevertech., Co.Ltd
CNI INFORMATICA
Codian Robotics BV
COMS corp
CONET CO., LTD.
CONNECT Co.,Ltd.
ConQuip, Inc
Constance Technology Co., Ltd.
control co
Control Technology Corporation
Controls India Pvt. Ltd.
CORE CORPORATION
COSMOTECHS.,LTD.
Costco Wholesale Meats, 210
CRESYN CO., LTD.
CS Electronics Co., LTD
CSCAM
Cyverse Corporation
D.Electron S.r.l
DAELIM UNIVERSITY COLLEGE
DAIDO ENGINEERING CORP
DAIHU MACHINE CO.,LTD
DAIN CUBE Corp.
DATAFACTORY PTY LTD
DELTA ELECTRONICS, INC.
Delta Greentech(China) Co.Ltd Nanjing Branch
Delta Sigma Automation
DENSAN CO., LTD.
DHOWA TECHNOS CO.,LTD
Diesel Locomotive Works, INDIAN RAILWAYS
DIHM
DMC, Inc
Doosan Mecatec Co.,Ltd
DOOSON CO., LTD
Doun-tech Engineering Company
DS4 LASER TECHNOLOGY s.r.l.
DSME
DSP Control Group,Inc
DTS INSIGHT CORPORATION
Dutron Śrem Sp. z o.o.
Dynatorch Inc
DYNAX CORPORATION
E-Tec
E.C.S. Sistemi Elettronici S.p.A
EASTERN NETWORKS
ELCON srl
elecgator bvba
ELTRON
EMMEGI S.p.A.
ENA Industry
EPOCH ELECTRONICS CORPORATION
ESA/GV s.r.l
ESAB-ATAS GmbH
ESOL Soft
ESROBOTEK A.S.
Essmaralda Automation and control
EUMAX (SHANGHAI) CORP.
Evernet Electronic
Extion Co., Ltd.
EZER Laboratory
Fanum
FAPLUS
Filter Specialists
FIT Co.,Ltd
FloorXL industries sdn bhd
Floral,Ltd
FREESTATION incorporated
FUJI Electric SYSTEMS Co.,Ltd.
FUJI MACHINERY CO.,LTD.
Fukunishi Electrical Co., LTD.
FunctionBay Inc
FUTABA ELECTRIC CO.,LTD
F・C・S CO., LTD
Galco Industrial Electronics
Gallant Precision Machining Co., Ltd
GAT Gesellschaft für Antriebstechnik mbH
GENTEC
GH(nanjing) Automatic System Co., Ltd.
GIVIMISURE
Golden Era Automação
GREAT FORWARD INDUSTRIAL CO., LTD
Greatscotts
GROUP UP INDUSTRIAL CO.,LTD.
Guangzhou Daheng Translation Co., Ltd.
Gyronics co.LTD.
GYU BO SYSTEM
HAGIWARA ELECTRIC CO., LTD.
Hai Nam Swithboards Manufacture Co., Ltd
Hangzhou Riding Control Technology Co.Itd.
Hangzhou Zhenggong Technology Co.,Ltd
HI-P Tech Corporation
HIKARI DENSHI
Hilscher Gesellschaft für Systemautomation mbH
HIMA JAPAN
Himawari corporation
HIMS
Hino Engineering Co., Ltd.
HIRAKAWA HEWTECH CORP.
HITE ELECTRIC TECHNOLOGY CO.,LTD.
Hivertec,inc.
HMS Industrial Networks AB
HONDA TSUSHIN KOGYO CO., LTD.
HOPEWIN INDUSTRIAL CO., LTD.
HPC Systems Inc.
HSIN HSIE SHIANG TRADING CO.,LTD.
Hurco Automation Ltd., Shanghai
HUST Automation inc.
HYOGWANG
HYUNDAI & KIAx
I.M.A Industria Macchine Automatiche S.p.A
IAE(Institute for Advanced Engineering)
ICOM K.K
ICOP I.T.G. Inc.
ICP DAS Co.,LTD.
ICW-Ingenieurburo Christian Wolz
IHS Global KK
IM(Intelligents Machines)
Imminent Integrators
IMS-Mechatronics Laboratory, University of California at Davis
INABA DESIGN CORPORATION
Inatech Co., Ltd
Industry Control Solution Laboratory
Innolux
InnoServ, Inc.
Inovance Technology
Institute of Automation, Chinese Academy of Sciences
Interconnect Japan
Interface Corporation
International Laboratory Corporation
Inter Factory Partners Corporation
ISAC S.r.l.
Ishaani Electronics Pvt. Ltd.
ITO Corporation
ITT CO.,LTD.
J.S.T.Mfg.Co.,Ltd
JACETEK Co., Ltd.
JAESUNG FA
Japan Industrial Imaging Association
Japan minicomputer systems co.,ltd
Jarvis Products Corp
Jingjiang Jiang Hao Machinery Co., Ltd.
JinYi Studio
JOHNSON and JOHNSON VISION CARE inc. VISTAKON
Johokobo,Inc.
JOINT STARS TECHNOLOGY CO.,LTD
Jozef Stefan Insutitute
JuYi Electrical and Mechanical Technology Co.,LTD
K turbo
K.MECS CO.,LTD/Elektro Beckhoff GmbH
KAILING
Kaji Seisakusho Co., Ltd.
KAYNES TECHNOLOGY
KEL CORPORATION
KEYENCE(CHINA)CO.,LTD
keystone technology inc.
Kinema AST S.r.l.
King Yuan Electronics Co., Ltd.
KINZOKUGIKEN CO.,Ltd
Kiser Controls Co.
KODAI HITEC Co.,Ltd.
Kokusai electronics
Korea Institute of Industrial Technology
Korea Institute of Science and Technology
KOREA VILENE CO.,LTD
KOSES
KOYO ELECTRONICS INDUSTRIES CO., LTD.
KURAMO ELECTRIC CO.,LTD.
LAM Technologies
Leetro Automation Co., Ltd.
Leggett & Platt,Inc.
Lightec
Linamar Inc.
Line Tech Co.,Ltd
LINGKE AUTOMATION TECHNOLOGY (ZHUHAI) CO., LTD.
linkplan
Linkwell Technologies , Inc.
LiNTECInc.
Lite-On Technology
LS Industrial Systems Co.,Ltd
LSI TECHNOLOGY CO.,LTD
LTS AS
M-tech
M.A.N Industries
M/S LARSEN AND TOUBRO LIMITED EMSYS
M/s. UCAM Pvt. Ltd.
Machine Drive Company
Machinepro JP
MACNICA Inc.
MAKITA(CHINA)CO.,LTD.
MARIX CO.,LTD.
Master-Power Automatic Technology Co., Ltd.
MATICORP
Matthew Kinsman
MCA Industrial Communication
MDSI (Manufacturing Data Systems, Inc.)
MDSI Venture LLC
Measurenix Co.,Ltd
Mechatronic Techniques, Inc.
MEGATRADE Corporation
MEIDENSHA CORPORATION
Meier EDV Beratung
Meiho Electronics Co., Ltd
Merkez Celik AS
METRONIX
MGKOREA Co.,LTD
MGTEC ASIA PTE. LTD.
Micro Base Technology Corp.
MICRO SUMMIT K.K
MICRO TREND AUTOMATION CO.,LTD
MICROTEAM OY
Midea Group
MIFA Systems
Mirea Corporation
MIRTEC Corp
Mogu Engineers
Molex Japan Co.,Ltd
MOS Technology Inc.
Motion System Corporation
MR Systemy PLC
MUJIN ELECTRONICS CO.,LTD
Multiversal Automation (I) Pvt Ltd
MYCOM.INC.
Nakashima Works Limited
Nandini Enterprises
NANJING KANGNI ELECTRONIC TECHNOLOGY CO.,LTD.
Nanjing renhe CNC Co., Ltd.
Nanjing Tunyi Automation Equipment Co.,Ltd.
Nardi Elettronica s.r.l.
National Instruments
National Instruments Japan Corporation
NEOSYSTEM Co., Ltd
Newtouch Electronics (Shanghai) Co.,Ltd.
NexCOBOT Taiwan Co., Ltd.
NEXCOM International Co., Ltd.
Nexcom USA
NICHIEI INTEC CO., LTD.
NIDEC SANKYO CORPORATION
NIE Institute of Technology
Nihon Denkei Co., Ltd.
NIHON MARUKO CO., LTD
NINEBELL
NO.2 WenLing Electrical Insulating Materials
NOV Fiber Glass Systems
NS SYSTEM Co., Ltd.
NTT Communications Corporation
NUMCAD Ltd.
Ochi and Kurosaki Labratory, Kyushu Institute of Technology
OKADA SHOUKAI CO.,LTD.
OKANO CABLE CO.,LTD.
Oki information Systems Co., Ltd
Omron Electronics
Omron Electronics SpA
OMRON YASKAWA Motion Control BV
Opus Automation Inc.
ORIENTAL MOTOR (THAILAND) CO.,LTD
Oriental Motor Asia Pacific Pte Ltd
ORIENTAL MOTOR MALAYSIA SDN BHD
OTSUKA ELECTRONICS KOREA
Padma Soode Indonesia PT.
PAMTEK
PANABIZ
Paris Descartes University
Parker Korea Automation EM Eng.
Peak Force Systems Co., Ltd.
penope
PhaseSpace Inc.
PIONICS Co., Ltd
Plan 9, Inc.
Plot Electronics
PMAC-Japan Co., Ltd.
PMT CORPORATION
POSCON
Prime Motion Inc.
PRITHVI Power Engineers (P) Ltd.
Prithvi Power Engineers Pvt. Ltd.
productora te textiles de tocancipa toptex s.a
Promavtomatika LLC
PROMAX srl
Protec System Laboratory Co., Ltd.
Psylogic
PT. ORIENTAL ABADI INDONESIA
PT. Yaskawa Electrc Indonesia
PTR Communications Inc.,
Puruvesi Automation Inc
Quizhong NC Equipment Company Ltd
Radiant Systems
Radrix co.,ltd.
RANGSONS ELECTRONICS PVT. LTD.
REAWEBTECH
Red Lion Controls
redrover co., ltd.
Renesas System Design Co., Ltd.
Renishaw KK
Renishaw PLC
RENU ELECTRONICS
RMV Motion Inc
Robostar
Rock International Corp.
Rotec Automation
SAISON INFORMATION SYSTEMS CO.,LTD
Saitama Fuji Co.,Ltd.
Samjeong Elecs Co.,Ltd
SAMJUNG TECH
SAMSUNG SDI CO., LTD.
SAMSUNG TECHWIN CO., LTD
Sanken L.,D.
Sankyo Seisakusho Co.
SANSEI SYSTEM CORPORATION
SANWA Engineering Corp.
Sanwa Engineering Corp.
Sarl VERTEX
Schenck Shanghai Machinery
Schneider Electric
Schneider Electric Singapore Pte Ltd
Sciencgo Insertion Machine Sale Centre
SCM GROUP S.p.a. MORBIDELLI
SECUROBOT
SEJU FA CO.,Ltd
SEMES
SEOUL PRECISION MACHINE Co,Ltd.
SERVO DYNAMICS PTE LTD
Shandong university
Shanghai DGE Co., Ltd.
Shanghai DRACOO Automation Co.,LTD
SHANGHAI DW-VISION TECHNOLOGY CO. LTD.
SHANGHAI HAGA ELECTRIC Co.,Ltd
Shanghai HongZhen Automation Equipment Co.,Ltd
SHANGHAI Jiatai ELECTRIC Co.,Ltd
Shanghai MiLing Electronics Co.,Ltd
Shanghai Pang Xiong Information Technology Co.,Ltd.
Shanghai STARKBOT Robot Technology Ltd.
Shanghai Step Elevator Company
SHANGHAI SUN-WA TECHNOS CO., LTD.
Shanghai University of Electric Power
Shengyang Institute of Computing Technology ,Chinese Academy of Sciences
Shengyang Jianzhu University
Shengyang TOP Measurement&Control Technology Co.,Ltd
Shenyang Bluelight
Shenyang Institute of Automation, Chinese Academy of Sciences
SHENYANG Machine Tool (Group) CO., LTD.
Shenyang TieAn New Technology Development Co.Ltd.
Shenyuekong autocontrol co.,ltd
Shenzhen City Bao'an District Songgang Hua Shen automation equipment firm
Shenzhen Hanuc Numerical Control Technology CO.,LTD
SHENZHEN HFCTECHNOLOGY CO.,LTD
Shenzhen longwayer Technology Co.,Ltd.
SHENZHEN VICTORS INDUSTRIAL CO.,LTD.
SHENZHEN VMMORE Control Technology CO.,Ltd
Shiga Yamashita Co.Ltd.
SHINHWA ELECTRONIC
SHINKAWA KOREA LTD.
SHINPO ELECTRONICS CO.,LTD
Shinwha Elecom Co., Ltd
SHUZ TUNG MACHINERY INDUSTRIAL CO., LTD
SID Electric Pvt. Ltd.
SINO L.DIGITAL LTD.
SINTESI SCpA
SIXTH SENSE ROBOTICS AND AUTOMATIONS PVT LTD
Sky Link Corporation
SNTEK Co.,Ltd
Sofix Co.,Ltd.
SoftBank Corp.
SOLITON HI-TEC Co.,LTD.
Somatisme
SORACOM, INC.
Sound Best technologies co., ltd.
SPAV Engineers
Spence Automations
Square Automation
Standard Microsystems Corporation
STAR SEIKI Co.,LTD
STEPTECHNICA Co., Ltd
SUEMATSU KYUKI co.,Ltd
SUEMATSUKYUKI (SHANGHAI) CO.LTD
Sumikougyo Co., Ltd.
SUN-WA TECHNOS CORPORATION
Sun-Wa Technos Europe GmbH
SUN-WA TESCOM CORPORATION
SUNNYTECH s.r.l.
Sunwell Machines Co., LTD.
SUS Corporation
SUWA PLUS
SWCC SHOWA CABLE SYSTEMS CO., LTD.
SwissDrives AG
Syel srl
SYN-TEK Technologies Inc
SYSIN Technology Co., Ltd
SYSTEC Inc.
System Base Co.,Ltd
System Sekkei INC.
T.P.A.s.p.a Technologie Prodotti Automazione
T1 co., ltd
TaeHan Global
TAIMEI SHOKAI Co.,Ltd.
TAIWAN ORIENTAL MOTOR CO.,LTD.
TAIYO ELECTRIC CO.,LTD.
TAKAGI CO.,LTD.
TAKASAGO DENKI COGYO CORPORATION
Tallinn University of Technology Department of Mechatronics
TATA CONSULTANCY SERVICES JAPAN LIMITED
TCI CUTTING
TCOS System Sdn Bhd
TECH
TECH ONE CO.,LTD
TECHMAC
Techmaster, Inc.
Techno Dynamics Inc.
Techno-Holon Corp.
TechnoScope CO., LTD.
Techsoft Tech Co. LTD.
TECNEL S.A.S.
TECO Electric & Machinery Co., Ltd.
TELDA SERVO CO.LTD
TEX COMPUTER
Texas Instruments Japan Limited
The 84 Group, Inc
Tianyi Mould Factory
TIETECH (SUZHOU) CO. , LTD
TOKI COMMERCIAL CO.,LTD
TOP Engineering Co., Ltd.
Top Technology JSC
Torico co., ltd
Toshiba Corporation
totallink
TOYO ELECTRIC CORPORATION
Toyolabel
TRANS-ENERGY ENTERPRISE CO., LTD
TRANSMODULS
Triad Systems Institute
Trio Motion Technology Ltd
Trust Automation Inc.
TSC MEMSYS
Turck
TURCK Japan Corporation
Udit Engineers
UEC Pvt Ltd
UEL(Ushodaya Enterprises Pvt. Ltd)
UMA Technology INC.
University of Southern Denmark
UNIVERSITY PARIS DESCARTES
UPI co.,Ltd.
USCO
Use Electronics Co., Ltd.
Utron Technologies Corp.
Varedan Technologies
Vericz Industries
ViE Technologies Sdn. Bhd.
ViewMove Technologies, Inc.
VINNA TRADING
Vinyas Innovative Technologies Pvt. Ltd.
VIPA Automation India Pvt. Ltd.
VISEL snc
Vishay General Semiconductor Taiwan Ltd.
Wago Company of Japan
WECO
WeiYi M&E Equipment (Shanghai) Co.,Ltd.
Well Time Steel Co., Ltd
WPC Systems Ltd.
Wuhan JoTong Intelligent Technology Co.,Ltd
Wuhan Penta Chutian Laser Equipment Co.,Ltd
XFORCE TECHNOLOGY CO.,LTD.
Xilinx K.K.
XXCAL Japan Inc.
y-sequence
YANGHEON MACHINERY CO.,LTD
YASKAWA ELECTRIC (SINGAPORE) PTE LTD
YASKAWA ELECTRIC (THAILAND) CO., LTD.
YASKAWA ELECTRIC KOREA CORPORATION
YASKAWA ELECTRIC TAIWAN CORPORATION
Yaskawa Elétrico do Brasil Ltda
Yaskawa Europe GmbH
YASKAWA EUROPE TECHNOLOGY Ltd.
YASKAWA FRANCE
YASKAWA INDIA PRIVATE LIMITED
Yaskawa Mechatrec (Thailand) Co., Ltd.
Yaskawa Polska Sp. z o.o.
YASKAWA Turkey Elektrik Ticaret Ltd. Sti.
YD Mechatro Solutions Inc.
Yokogawa China Co., Ltd.
YOSIO ELECTRONIC COMPANY
Youwon precision CO, LTD
ZF Italia S.r.l.
Zhejiang Wolong Servo Technology Co.,Ltd
ZhengZhou RunHua Automation Equitments CO., LTD
Zhongshan HongJu Automation Equipment Manufacturing Co.,Ltd
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