MECHATROLINK NEWS
MMA-FLASH
MMA 10th Anniversary Edition (2)
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MECHATROLINK News "MMA-FLASH" brings the latest MECHATROLINK information.

Feature Article *An Interview with Shenyang Golding NC Tech Co., Ltd.*

Entering the CNC Controller Market in China, Where Network Application is Expanding Important Sales Strategy with MECHATROLINK Compatible Products

We deliver the latest news and information to MMA member companies and MECHATROLINK users in our feature articles.
For this edition, we asked Hu Yi, Ph.D and Director of the Fieldbus Department at Shenyang Golding NC Tech Co., Ltd., to talk about how Shenyang Golding NC Tech came to the decision to adopt MECHATROLINK and what he expects from the MMA.

Q1.First, would you introduce your company for us?

—— Shenyang Golding NC Tech Company develops and manufacturers servo drives, spindle drives, and lathe-related electronic products.
We are currently a member of the Chinese Lathe Tool Association, serve as a vice chairman of the association, are a director of the Safety Controls Subcommittee of the Chinese Industrial Machine and Electrical System Standardization Committee, and are a deputy director of the Lathe Electrical Systems Subcommittee.
We have received ISO 9001 certification, High-Tech Technological Company Certification, and Software Company Certification.
Our product brand is Lantian NC.
We support many product series, including high-end products, low-end products, general-purpose products, and specialized products, and have more than 10 types of products.
In China, we are known as a brand that provides high user satisfaction.

MECHATROLINK in High-end Models

Q2.Would you tell us about your current development and sales in MECHATROLINK compatible products?

—— Currently under the Lantian NC brand, we sell the MECHATROLINK-Ⅱ compatible GJ300 and the MECHATROLINK-Ⅲ compatible GJ400 as high-end models.
The GJ400 was developed in 2011 upon reception of support from the National Science and Technology Major Projects program.
The design took account of the application of an open network and it consists of a human-machine interface unit (HMU) and a machine control unit (MCU).
The units use a high-speed field network to achieve an advanced distributed processing platform. It is used for five-axis machining centers, compound machining centers, metal fabrication machining centers, vertical machining centers, high-speed NC lathes, and other applications.
Our GJ300 Series applies leading-edge software and hardware technology, such as an industrial PC hardware platform, Linux OS, real-time core, and built-in PLC.
It is used for NC lathes, NC milling machines, polishers, wood lathes, machining centers, and other applications.
All of these products have been highly praised by our customers ever since the products were released.

Real-Time Communications at 100 Mbps

Q3.Tell us why you selected MECHATROLINK from among the many communications networks that are expanding in the Chinese market.

—— In previous NC control systems, we used an analog interface between the NC unit and drive, but wiring was complex, communications were slow, and there were problems with reliability.
The many restrictions in system functionality and performance were also a problem.
In comparison, MECHATROLINK provided completely digital

Hu Yi Ph.D
Shenyang Golding NC TECH.Co.,Ltd
Director of Dept.Fieldbus.

two-way communications, high control precision, high reliability, and reduced wiring.
We were able to secure the technology required for our NC control systems to increase speed and accuracy, enable application of an open network, and build in intelligent features.
And as an open high-speed field network, MECHATROLINK reached communications speeds of up to 100 Mbps.
High-speed communications for position information, speed information, I/O status, and other data was a huge advantage in applications in sites that require real-time performance.
We could handle device controls quickly and flexibly, and could use MECHATROLINK with confidence due to its high performance and reliability.
For these reasons, we selected MECHATROLINK for use in our CNC controllers.

Q4.How is the application of networks progressing in the Chinese CNC market?

—— The Chinese machine tool industry is at an important turning point toward an industrial structural revolution.
Up to now, low-end NC systems have been the main stream in CNCs made in China, but a gradual switch is being made to high-end systems.
To shift to high-end systems, networks must be introduced. Many CNC controller manufacturers are now developing network-compatible products.
With this background, advanced MECHATROLINK compatible NC control systems will be critical products for our sales strategy.

Q5.Please tell me about your future expectations for MECHATROLINK and the MMA?

—— In terms of performance, we have no demands for MECHATROLINK for the Chinese market. The current communications speed of 100 Mbps is sufficient.
What we would like in MECHATROLINK is an IP core.
We always mount FPGAs in our CNCs. If there was an IP core, we could reduce the number of components, simplify the boards, and therefore reduce costs.
Also, special connectors are often used for MECHATROLINK-Ⅲ, and it would be advantageous for both costs and procurement if we could obtain commercially available RJ-45 connectors in China.
We expect support from the MMA from many points of view, including connector procurement, as well as support for the development, manufacture, and sales of our CNCs.


GJ300-Series Controller


GJ400-Series Controller

Message from Board Committee Companies

YASKAWA ELECTRIC CORPORATION

Motion Control Div.
Business Planning Dept.

Kiyonobu Oba

Congratulations on the 10th anniversary of the MMA!
We are filled with deep emotion when we reflect upon the 10 years since the establishment of the MMA. Over the past 10 years, the MMA has expanded promotional activities for MECHATROLINK both in Japan and overseas, and has grown to an association of over 1,700 members.
YASKAWA launched MECHATROLINK with the introduction of MECHATROLINK-Ⅰ. This open field network has since evolved into two communication protocols, MECHATROLINK-Ⅱ and the high-speed MECHATROLINK-Ⅲ. YASKAWA has developed controllers, servo amplifiers, and inverter drives that can be connected to each MECHATROLINK network. As the number of MECHATROLINK compliant products increase, business opportunities have expanded.
YASKAWA aims to develop of such networks where users can enjoy the total benefits of the system, including cost, performance, and reliability, not only the performance and functionality of the network itself.
By connecting devices, companies, and people through MECHATROLINK, YASKAWA looks to expand the use of MECHATROLINK use.

YOKOGAWA ELECTRIC CORPORATION

Industrial Automation Platform Business Headquarters
Control Business Div.

Naoe Murakami

Congratulations on the 10th anniversary of the MMA!
YOKOGAWA has taken part in activities to promote MECHATROLINK since the establishment of the MMA.
Today, YOKOGAWA is engaged in the development and sales of MECHATROLINK-Ⅲ compliant products, such as embedded controllers（PLC）for high-performance manufacturing equipment.
Customers have ongoing needs for shorter tact time and production quality improvement for their equipment. To response to such needs, it is essential to increase the speed and data capacity of MECHATROLINK, and improve the processing capability of YOKOGAWA' s controllers（PLC）.
YOKOGAWA will continue to promote MECHATROLINK and develop compliant products in order to meet our customers' demands for high-speed and high-functionality with added value of information technologies.

News & Topics

Exhibition & Event Information

System Control Fair 2013

Event Information

- Dates: November 6 (Wed) to 8 (Fri), 2013
- Place: Tokyo Big Sight
- Booth No.: West Hall 1 S-62
- Information: Access the following website of the organizer.
  URL: http://scf.jp/

The MMA will participate in the System Control Fair 2013 at Tokyo Big Sight from November 6 (Wed.) to 8 (Fri), 2013.
This year, the MMA will present "The Beat of the Machine", which introduces MECHATROLINK's total solution system. The presentation will include a demonstration on the ease of access to information from each MECHATROLINK networked device from indicators by the use of the information systems of MECHATROLINK compliant products and its message communications functions. The presentation will also feature a demonstration of the MECHATROLINK network with its rich lineup of compliant products and PC master solutions in an easy-to-understand manner. Come visit the MMA booth to feel the "beat" of MECHATROLINK.

MMA Participants:

- ALGOSYSTEM CO.,LTD
- ANYWIRE CORPORATION
- Digital Electronics Corporation
- FASTECH
- IAI Corporation
- Micronet Co.
- M-System CM-System Co., Ltd.o., Ltd.
- NIKKI DENSO Co., Ltd.
- ORIENTAL MOTOR CO., LTD
- YASKAWA ELECTRIC CORPORATION
- YOKOGAWA ELECTRIC CORPORATION

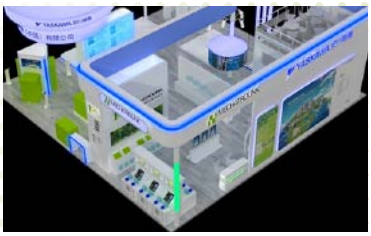
Tentative design of the MMA booth

2103 China International Industry Fair, Robotics Show

Event Information

- Dates: November 5 (Tues) to 9 (Sat), 2013
- Place: Shanghai New International Expo Centre
- Booth No.: N1-A115
- Information: Access the following website of the organizer.
  URL: http://www.ciif-expo.com/

The MMA will be exhibiting at the China International Industry Fair in Shanghai.
Our exhibition will feature demonstrations of MECHATROLINK-Ⅱ compatible and MECHATROLINK-Ⅲ compatible products developed by some of our Chinese members, as well as products from members around the world.
We'll be looking forward to seeing everyone at the fair.



Tentative design of the MMA booth

Report of Exhibitions and Seminars

Taipei International Automation Technology Exhibition 2013

The MMA participated in the Taipei International Automation Technology Exhibition held at the Nangang Exhibition Hall in the Taipei World Trade Center (TWTC) from Aug. 28 (Wed) to 31 (Sat), 2013.
Many people stopped in front of the MMA booth to see the panel demonstration board that shows operation of MECHATROLINK-Ⅱ/-Ⅲ networked products. And, the MMA booth was always bursting with so many people who were interested in the demonstration of MECHATROLINK compliant products manufactured by Taiwanese manufacturers.
The number of visitors to the MMA booth totaled more than 1,500 during the three-day exhibition. Through this event, we felt that the MMA took another step forward towards expanding the use of MECHATROLINK in Taiwan.

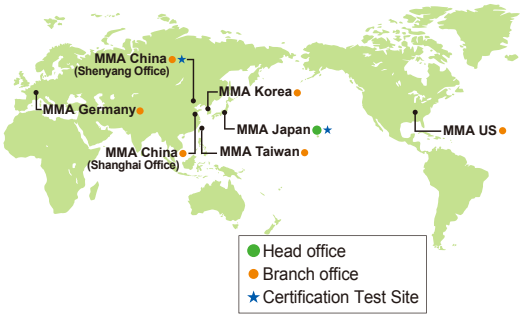
Product demonstration by Art Control Systems, Inc.

MMA booth

Establishing the MMA Taiwan Office

Five MMA offices in the U.S., Germany, China, Korea, and Japan form the activity base of the MMA. The MMA celebrated its 10th anniversary this year and the number of member companies exceeds 1,700 as of September, 2013.
The MMA established its Taiwan office to globally expand MECHATROLINK promotional activities. The office will be established in December, 2013. With the establishment of this office, MMA members in Taiwan and MECHATROLINK local users can directly receive information on MECHATROLINK, advice for product development, and technical support.
The MMA devotes itself to supporting MMA members from a global perspective.

Note: More information on the Taiwan office is coming soon on the MMA Global(World Wide) page.
http://www.mechatrolink.org/en/association/worldwide.html



New MECHATROLINK Products

M-System Co., Ltd. "MECHATROLINK-Ⅲ Compatible Compact Remote I/O Module"


R7G4HML3
(for analog/pulse I/O)


R7K4FML3
(for 32 discrete signals)

Features

- **Compact, all-in-one module**
- **Can handle up to 4 analog I/O signals and 16 to 32 discrete I/O signals**
- **High-speed conversion type with isolation between analog I/O channels is also available.**

Inquiries

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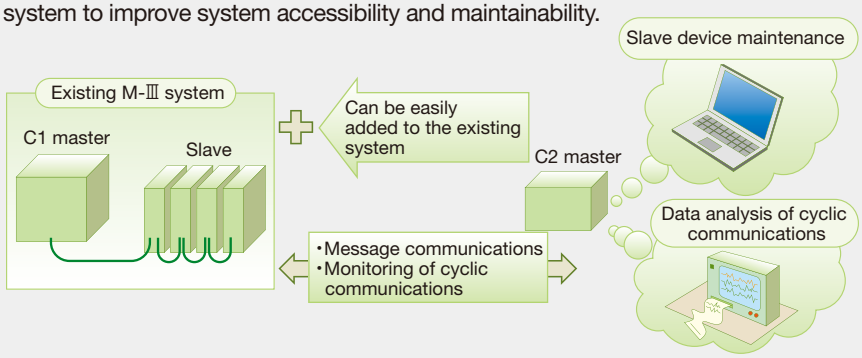
Column MECHATROLINK-Ⅲ C2 Master

Both the C1 master and C2 master can be connected to a MECHATROLINK-Ⅲ network.
While the C1 master acts as the main station to control slave stations, the C2 master acts as the support station for the MECHATROLINK-Ⅲ network system.
The C2 master has the following functions.
・Message communications directly with C1 master device and slave devices
・Monitoring of cyclic communications between C1 master device and slave device
Taking advantage of the message communication function, the slave information collection and maintenance functions can be added to the network by connecting the C2 master. In the same way, the function to monitor commands and responses exchanged between the C1 master device and slave device makes it possible to add a data analysis function, such as simple analyzer.
The C2 master can be easily added to the existing MECHATROLINK-Ⅲ network system to improve system accessibility and maintainability.



Editor's Comment

The autumn is upon us as the leaves reach their brilliant peak. When I was staying in Canada, I would rent a car and drive to the Algonquin Provincial Park. The park was about three hours to the north by car from Toronto in the eastern part of Canada. The colorful leaves would join the trees into a breath-taking landscape. More than 10 years have past since then, but the many colors of the autumn scenery are still clearly etched in my mind. I highly recommend this area for viewing autumn leaves, and hope to return there again some day myself. Written by Hiranuma.

Inquiries

For questions about joining MECHATROLINK Members Association and other inquiries, please contact the MMA.

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