

» [Newsletter Archive](#)



## April 2009

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## Featured This Month



## In This Issue...

### FOUNDATION BRIEFS

[Two educational institutions first to offer certified Fieldbus training](#)

### GLOBAL NEWS & EVENTS

[Fieldbus Foundation plans Interkama 2009 exhibit](#)

[Developer training courses set for May at Fieldbus Foundation headquarters](#)

[Asia/Pacific region plans 2009 events](#)

[End-user seminar targets 'achieving operational excellence'](#)

[2009 Fieldbus educational events planned around the world](#)

### TECHNOLOGY NEWS

[Updated FOUNDATION Fieldbus host test kit now available](#)

[New ARC whitepaper explains FOUNDATION SIF solution](#)

[Two Yokogawa systems among those first to achieve host profile registration](#)

### END USER INFORMATION

[Emerson chosen to automate Mitsubishi Chemical polymers plant](#)

[MTL supplies Fieldbus solution for Saudi Aramco plant](#)



## Sponsors



## PRODUCTS & SOLUTIONS

[New Softing device will give fast access to H1 networks](#)

## FOUNDATION BRIEFS

### Two educational institutions first to offer certified Fieldbus training

Two educational institutions are now offering certified fieldbus training. STC Brielle and the Fieldbus Center at Lee College have become the first worldwide to offer courses certified under the Fieldbus Foundation's FOUNDATION Certified Training Program (FCTP). The program establishes uniform standards for a fieldbus educational curriculum around the globe, and defines acceptable levels of learning for students of the technology.

The FCTP is intended to raise the visibility and prestige of institutions offering certified FOUNDATION fieldbus training to a new and exclusive level. Educational facilities successfully completing a multi-stage certification process can issue certificates showing that the Fieldbus Foundation accredits their courses. They are also recognized on the [foundation Website](#).

This comprehensive initiative benefits the entire industrial automation community, particularly so in today's challenging economy and employment market. The program currently offers three levels of certification; additional certifications may be added in the future. Current certifications include:

- Foundation Certified Professional, which recognizes engineers, engineering technologists, system integrators, and technologists; main instrumentation controls contractors/main automation contractors (MAC); EPC (engineering procurement and construction) professionals; contract administrators/estimators; certified fieldbus instructors; programmers; startup and commissioning specialists; designers; and system analysts;
- Foundation Certified Support Specialist, which recognizes salespeople, end-user management, estimators, operations staff, quality control specialists, reliability analysts, and other FOUNDATION fieldbus generalists who can communicate intelligently about the technology, but do not have the knowledge required for other certificates;
- Foundation Certified Technical Specialist, which recognizes those who have demonstrated competence to install, maintain, repair/replace, and troubleshoot FOUNDATION fieldbus systems, including maintenance technicians, network technicians, vendor/contract service specialists, maintenance and contract maintenance supervisors, control automation instructors, and in-house trainers.

The FCTP gives end users access to highly skilled employees who have a strong knowledge of FOUNDATION technology principles; a consistent understanding of fieldbus fundamentals, regardless of geographical location; and a proven ability to implement fieldbus-based control systems. Beginning automation students are able to identify colleges, universities, and other facilities offering a certified FOUNDATION educational curriculum. After graduation, students will receive FCTP certificates that can be presented to potential employers. Existing automation professionals completing certified courses can expand their job skills and employment value within their companies.

According to Stephen Mitschke, Fieldbus Foundation director-fieldbus products, the FCTP is an evolutionary extension of the foundation's original training site certification process. "Due to the growing FOUNDATION technology market," he said, "there was a strong demand within process industry companies, including the control engineers, plant operators, and instrumentation technicians they



employ, for a uniform, global fieldbus training curriculum and standardized certification process. With the establishment of the FCTP, we have developed formalized procedures to meet different certification standards within the plant automation fieldbus. Regardless of where certified fieldbus training courses are conducted, students will encounter a consistent level of knowledge and curriculum requirements.”

STC Brielle, located in Brielle, The Netherlands, close to the Rotterdam-Europoort industrial areas, has established a unique training center for process control and automation. Its combination of complex simulation facilities and hands-on training gives students a chance to enhance theoretical knowledge and gain user experience by working on actual fieldbus equipment and configurations.

Said Gertjan Siemons, industrial automation instructor for STC Brielle, “Certification is important for STC because we are recognized by the foundation as a high-quality training center. This gives our customers a guarantee that the content of our courses, the materials used, and the knowledge of our trainers are up to date. For most of our customers, it is essential to be certified because of the value in their professional environment.”

Lee College, in Baytown, Texas, USA, is a leading educational center for emerging technologies in the field of industrial automation. Lee College facilities include a multi-million dollar pilot plant and several state-of-the-art microplants that allow students to build fieldbus segments, configure devices, and develop control strategies. Fieldbus Center Director and Principal Investigator Chuck Carter said, “Having the Fieldbus Center, the instructor, and the curriculum certified by the Fieldbus Foundation is not just a great move for Lee College, but also for our client industries. It means we have demonstrated our capabilities to meet each and every student’s training and development goals. Clients from the processing, pulp/paper, pharmaceutical, power, manufacturing, and related industries who take our courses are assured they will receive up to date, consistent, and fully applicable training.”

Educational institutions must follow rigorous procedures to gain certified training site status and to certify course instructors and curriculum. Certified training centers are required to maintain multiple hosts and devices onsite to demonstrate competence with fieldbus technology. They are audited to ensure that course material adheres to established instructional standards covering fieldbus segment limits; device replacements; commands, icons, menus, and screen designs of various software packages; and communication, scheduling, and function block assignments enabling configuration.

Certified instructors also are audited to ensure that they have achieved specified Fieldbus Foundation training goals. Instructors must demonstrate expertise in areas such as human-machine interface (HMI) tools, fieldbus troubleshooting, simple device configuration, and device deployment and functionality across a fieldbus network.

*To learn more, visit the [Fieldbus Foundation Website](#).*

[Return to Top](#)

## GLOBAL NEWS & EVENTS

### Fieldbus Foundation plans Interkama 2009 exhibit

“Tea and Technology” will be the theme of the Fieldbus Foundation’s Interkama 2009 exhibit. The international process automation trade exhibition and conference will run April 20-24 in Hannover, Germany.



The Fieldbus Foundation’s prime 200-sq-m corner booth, B09, located in Hall 7, is dedicated to process automation technologies. Visitors will be able to sample from some 30 teas as they talk with Fieldbus Foundation staff and representatives from participating member companies. Coordinated by the Fieldbus Foundation German Marketing Committee, the booth will feature purpose-built kiosks demonstrating FOUNDATION technology solutions and applications through static and operational displays of registered devices, host systems,

tools, and services available from at least 17 leading automation equipment suppliers. Information about the latest technological developments from the Fieldbus Foundation, including FOUNDATION for Safety Instrumented Functions (FF-SIF), also will be available.

In addition, the booth will host a trade press briefing on Tuesday, April 21 from 2-3 pm. A reception will follow. Dr. Raimund Sommer, Chairman–Fieldbus Foundation EMEA Executive Advisory Council (EMEA EAC), will update attendees on several aspects of FOUNDATION technology and their impact in the EMEA region, including the FOUNDATION for SIF development project, progress made by the EDDL cooperation team, and the wireless cooperation team. He will also highlight the Fieldbus Foundation's EMEA marketing activities and German end-user initiatives.

Looking forward to the upcoming Interkama show, Marc Van Pelt, vice president–Fieldbus Foundation EMEA Operations, said, “The Fieldbus Foundation and its members continue to achieve major milestones in technological and product developments, which will be reflected in the live demonstrations on and between some kiosks at the show. We are looking forward to discussing developments such as FOUNDATION for SIF, wireless and remote I/O, and advanced diagnostics with visitors to the booth. The German Marketing Committee has a particularly busy schedule this year. Not only have they participated in last month's PMA Europe, they are also exhibiting at both Interkama and AACHEMA and will host an end-user conference in Frankfurt later this year.”

Members participating at Interkama 2009 to date include: APAT, Bürkert, Emerson Process Management, Endress+Hauser, Enotec, Fieldbus International, Hans Turck, Honeywell, Leoni Kerpen, Northwire, Pepperl+Fuchs, Phoenix Contact, R. Stahl, Samson, Siemens, Softing, and Yokogawa.

*For more information about the Fieldbus Foundation German Marketing Committee and its activities, visit the Fieldbus Foundation [Website](#) or [email the committee](#).*

[Return to Top](#)

## Developer training courses set for May at Fieldbus Foundation headquarters

The Fieldbus Foundation will offer FOUNDATION fieldbus developer training in May 2009 at its headquarters in Austin, Texas. The vendor-neutral “Introduction to FOUNDATION Fieldbus” and “Advanced Principles of FOUNDATION Fieldbus” courses cover the key aspects of open, non-proprietary FOUNDATION fieldbus technology.



The one-day “Introduction to FOUNDATION Fieldbus” course will be offered on May 5; the three-day “Advanced Principles of FOUNDATION Fieldbus” course will be held May 6-8.

“Introduction to FOUNDATION Fieldbus” is designed for developers, end users, marketing professionals, applications engineers, system integrators, and others interested in obtaining a fundamental knowledge of FOUNDATION technology. Students become familiar with basic concepts and new terminology related to the FOUNDATION integrated architecture. They gain an understanding of the strategies for wiring and installing a fieldbus network. Design issues such as power requirements, device types, and topologies are emphasized. The recently updated course also includes new information about grounding and shielding, and safety instrumented functions (SIF).

“Advanced Principles of FOUNDATION Fieldbus” is intended for manufacturers and developers of fieldbus hardware and software. It is best suited for development engineers, test engineers, and those who need to understand the detailed, inner workings of a FOUNDATION fieldbus device. The course covers major tools used by FOUNDATION device developers. Students gain an understanding of the basics of the bus monitor and apply this tool in interactive exercises demonstrating fieldbus communications and the use of filters for network troubleshooting. The curriculum also addresses H1 and High Speed Ethernet (HSE) communications between fieldbus devices.

This advanced course includes updated information on alerting/alarming and Electronic Device

Description Language (EDDL), and includes new sections on developments in field diagnostics and capability files. The new technology implements role-based diagnostics—in other words, the right information is sent to the appropriate person when they need it. The system of push diagnostics, rather than pull diagnostics, allows the user to receive alerts quicker and ensures they are delivered to the right people, instead of having to request information from the devices. The Device Development section incorporates previously included information, but has been expanded to describe the process more thoroughly.

*For more information about FOUNDATION fieldbus developer training, or to register for an upcoming course, visit the [Fieldbus Foundation Website](#).*

[Return to Top](#)

## Asia/Pacific region plans 2009 events



The Fieldbus Foundation is offering a series of events in the Asia/Pacific region in 2009 to promote the adoption of FOUNDATION fieldbus. Intended to serve automation end users and other industry stakeholders in these fast-growing industrial markets, these activities include:

In Southeast Asia:

- Chennai, India, FOUNDATION Fieldbus End User Council Meeting, in June
- Singapore, FPSO (Offshore) Exhibition, in August
- Mumbai, India, Automation 2009, Sept. 16-19

FOUNDATION Fieldbus End User Seminars are also being planned for Surat, India; Vietnam; The Philippines; Thailand; and Malaysia. More information will be available at a later date.

In East Asia:

- Kunming, China, FOUNDATION Fieldbus End User Seminar, July 16
- Tokyo, Japan, FOUNDATION Fieldbus End User Seminar, in September
- Shanghai, China, Miconex 2009, October 20-23
- Beijing, China, FOUNDATION Fieldbus End User Seminar, in November
- Tokyo, Japan, JEMIMA M&C Exhibition, Nov. 18-20

A FOUNDATION Fieldbus End User Seminar is also being planned for Korea.

In Australia:

- Perth, Australia, Jump Aboard Seminar, May 15

*For more information about Asia/Pacific events, visit the [Fieldbus Foundation Website](#) or call 512-794-8890.*

[Return to Top](#)

## End-user seminar targets 'achieving operational excellence'

Free FOUNDATION fieldbus educational seminars will be held at various

locations in North America in 2009. Based on the theme "Achieving Operational Excellence with FOUNDATION Technology," the events are intended for end users, system integrators, and engineering firms seeking to learn about the economic benefits of the FOUNDATION automation architecture. Topics include:



- Open, scalable integration/segment design and layout;
- Process integrity/SIL and SIF; and
- Business intelligence/maintenance and troubleshooting.

Attendees may earn professional development hours (PDH). Lunch is included.

Preliminary 2009 seminar dates include:

- April 21, Calgary, AB, Canada
- April 23, Edmonton, AB, Canada
- Oct. 15, Long Beach, CA
- Nov. 3, Pasadena, TX
- Nov. 5, Houston, TX

For seminar updates, visit the [Fieldbus Foundation Website](#).

[Return to Top](#)

### 2009 Fieldbus technology events planned around the world

The Fieldbus Foundation is planning many informational and educational events around the world in the new year. Make plans now to attend an event in your area.

LOCATION	DATE	EVENT and CONTACT INFORMATION
<b>EVENTS IN NORTH AMERICA</b>		
Calgary, Alberta, Canada	April 21, 2009	FOUNDATION Fieldbus End User/EPC Seminars More information to come
Edmonton, Alberta, Canada	April 23, 2009	FOUNDATION Fieldbus End User/EPC Seminars More information to come
Long Beach, California, USA	Oct. 15, 2009	FOUNDATION Fieldbus End User/EPC Seminar More information to come
Pasadena, Texas, USA	Nov. 3, 2009	FOUNDATION Fieldbus End User/EPC Seminars More information to come
Houston, Texas, USA	Nov. 5, 2009	FOUNDATION Fieldbus End User/EPC Seminars More information to come
Las Vegas, Nevada, USA	Dec. 8-10, 2009	Power Gen 2009 More information to come
<b>EMEA (EUROPE, MIDDLE-EAST, AFRICA) EVENTS</b>		
Hannover, Germany	April 20-24, 2009	Interkama Trade Show <a href="#">Click here for more information online</a>
Ravenna, Italy	April 22, 2009	FOUNDATION Fieldbus Study Day <a href="#">Click here for more information online</a> <a href="#">Click here to email for more information</a>
Milan, Italy	May 6, 2009	Seminar ENI-SAIPEM <a href="#">Click here for more information online</a> <a href="#">Click here to email for more information</a>
Frankfurt, Germany	May 11-15, 2009	ACHEMA Trade Show More information to come
Cagliari, Italy	June 11, 2009	FOUNDATION Fieldbus Study Day <a href="#">Click here for more information online</a>

		<a href="#">Click here to email for more information</a>
Le Havre, France	June 2009	FOUNDATION Fieldbus End User/EPC Seminar More information to come
Brands Hatch, Kent, UK	October 2009	FOUNDATION Fieldbus End User/EPC Seminars More information to come
Bahrain	October 2009	Multaqa 2009-FOUNDATION Fieldbus End User Conference More information to come
Frankfurt, Germany	November 2009	FOUNDATION Fieldbus End User/EPC Seminar More information to come
Russia (various locations)	To be determined	FOUNDATION Fieldbus End User/EPC Seminars More information to come
<b>SEMINARS IN SOUTH EAST ASIA</b>		
Thailand	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Malaysia	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Jakarta, Indonesia	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
<b>SEMINARS IN INDIA</b>		
Chennai, India	Mid-December 2009	FOUNDATION Fieldbus End User Seminar More information to come
<b>SEMINARS IN EAST ASIA</b>		
Osaka, Japan	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Tokyo, Japan	To be determined	FOUNDATION Fieldbus End User Seminar More information to come
Korea	To be determined	To be determined

[Click here](#) for a complete list of events.

[Return to Top](#)

## TECHNOLOGY NEWS



### Updated FOUNDATION Fieldbus host test kit now available

The Fieldbus Foundation has released an updated FOUNDATION fieldbus Host Test Kit (HTK) DD Application Module (Version 1.1.0). This powerful test kit, driven by the foundation's End User Advisory Council (EUAC), includes hardware and software for testing the functionality of a fieldbus host and its conformance with FOUNDATION host profile specifications.

The HTK is designed to validate host applications implementing DD services, files for persistent storage of functional parameter data, and grids for vector data visualization and manipulation. Under

the new host registration program, hosts successfully completing the test requirements will be authorized to bear the official FOUNDATION fieldbus product registration symbol.

According to Stephen Mitschke, Fieldbus Foundation manager, fieldbus products, the updated HTK will streamline the process for automation suppliers to test and validate their fieldbus hosts prior to formal registration. For end users, the enhanced testing capabilities will provide greater assurance of seamless integration and interoperability within a FOUNDATION fieldbus system. "The Host Test Kit DD Application Module Version 1.1.0 is yet another solution offered by the Fieldbus Foundation to support the needs of automation equipment stakeholders around the world," said Mitschke. "This versatile tool will bring added value to our overall product registration program."

The updated Version 1.1.0 offers enhanced performance features, most significantly support for device-level menus, enabling visualization of multiple blocks and significantly improving the device integration experience; and support for Unicode, providing device and system suppliers with an expanded ability to write and visualize DDs using local (including Asian) languages. The updated test kit also includes cross-block built-ins and references, and testing for enhanced DD support.

The Host Test Kit DD Application Test Module benefits end users by significantly improving host-to-device integration. FOUNDATION fieldbus host suppliers benefit from standardized test requirements and test cases for all hosts within a profile tested to the same requirements; standardized DD and CF files ensuring hosts can parse files; and standardized test devices for all basic I/O function blocks and specialized test transducer blocks.

The HTK is designed to validate host applications implementing DD Services 4.2 or greater. This includes DD Services 5.0 constructs such as charts, graphs, images, and waveforms for visualization; files for persistent storage of functional parameter data; and grids for vector data visualization and manipulation.

Developed in cooperation with the Fieldbus Foundation's EUAC and System Integration and Maintenance team, the HTK was driven by end users to bring about consistent interoperability between hosts and devices regardless of host supplier. Specifications now include profiles for functionally different hosts and the appropriate features that apply to each profile.

*Purchase a licensed copy of the Host Test Kit DD Application Test Module from the Fieldbus Foundation. For more information, [email Member Services](#) or call 512-794-8890.*

[Return to Top](#)

### **New ARC whitepaper explains FOUNDATION SIF solution**



users.

Learn more about FOUNDATION Safety Instrumented Functions (SIF) in a new whitepaper from the Fieldbus Foundation. Authored by the ARC Advisory Group, a leading research and advisory firm for manufacturing, energy, and supply chain solutions based in Dedham, MA, the document discusses the implications of FOUNDATION SIF (FF-SIF) technology for the global plant safety system market and end

FOUNDATION Fieldbus Safety Instrumented Functions Forge the Future of Process Safety explains how successful beta testing of FOUNDATION SIF will mean significant changes in the way automation end users approach Safety Instrumented System (SIS) implementations in process industry plants. In May 2008, the Fieldbus Foundation conducted a successful live demonstration and press day for FOUNDATION SIF technology at Shell Global Solutions in Amsterdam, The Netherlands. At the event, several leading energy companies described their use of FOUNDATION SIF in a wide range of industrial safety system applications.

In the new whitepaper, Larry O'Brien, ARC Advisory Group's research director—process automation, describes how FOUNDATION SIF is a critical part of the FOUNDATION fieldbus automation infrastructure. FOUNDATION fieldbus' industry-proven distributed function blocks and open communications protocol make the platform ideal for advancing standards-based solutions for plant SIFs. FOUNDATION SIF lets end users reduce TCO (total cost of ownership) by extending fieldbus benefits into plant safety systems.

"It is very clear that end users want this technology and are striving to include FF-SIF systems in their project specifications," said O'Brien. "Many major end users will probably be specifying FF-SIF systems for their new projects starting in 2011."

The whitepaper reviews the history and development path of FOUNDATION SIF technology, and discusses SIF product registration, conformance to international standards, diagnostics functions and benefits, and future challenges. It also outlines key advantages of FOUNDATION SIF at the safety system layer.

According to O'Brien, "FF-SIF meets the IEC 61508 standard for functional safety systems up to SIL 3, and allows users to build safety systems that adhere to the IEC 61511 standard for functional safety in the process industries. The protocol has already received TÜV approval, and suppliers are going to start submitting their products for TÜV approval over the next year. This means that we should see actual products that are certified by TÜV available commercially some time in 2010."

Download the FOUNDATION SIF whitepaper free from the [Fieldbus Foundation Website](#).

[Return to Top](#)

## Two Yokogawa systems among those first to achieve host profile registration



**CENTUM VP**

Two Yokogawa systems have successfully completed the Fieldbus Foundation's Host Profile Registration Process. Centum VP Integrated Production Control System and Stardom Network-based Control System are among the first systems to be officially certified as registered host systems by the Fieldbus Foundation.



**STARDOM**

Centum VP and Stardom were tested as Class 61a (Integrated Host), defined in FF-569 Rev. 2 (Host Interoperability Support Test and Procedures Revision 2.0), and audited to comply with all requirements for registration. Yokogawa will start interoperability tests for third-party devices with those registered hosts to improve confidence of interoperability for end users.

For more information, visit [Centum VP](#) and [Stardom](#) Websites.

[Return to Top](#)

## END USER INFORMATION

### Emerson chosen to automate Mitsubishi Chemical polymers plant

MCC Advanced Polymers (Ningbo) Co. Ltd. has chosen Emerson Process Management to digitally automate its new advanced polymers plant in Zhejiang Province, Peoples Republic of China. Emerson will provide engineering and project management, and supply PlantWeb digital



architecture. Mitsubishi Chemical Corp., Tokyo, Japan, is the majority owner of MCC Advanced Polymers (MAP), which will produce PTMG (polytetramethylene glycol) fibers for use in China's textiles industry.

With an initial capacity of 25,000 tons per year, the highly automated, state-of-the-art facility is designed to be competitive, safe, and easy to expand. MAP planners selected PlantWeb digital automation because they were interested in using FOUNDATION fieldbus instrumentation and communications technology in the new plant, which is scheduled for startup in September, 2009.

Among the project's main goals is to provide production flexibility that will enable MAP to offer quality products at competitive pricing to their customers in China. MAP expects to benefit from the use of the fieldbus technology.

To learn more, visit the [Emerson Process Management Website](#).

[Return to Top](#)

### MTL supplies Fieldbus solution for Saudi Aramco plant



MTL Instruments is supplying a range of custom packaged FOUNDATION fieldbus wiring components for the major oil and gas plant in Khursaniyah, Saudi Arabia. The integrated solution consists of Megablock wiring hubs with built-in spur short-circuit protection, mounted in 316L stainless steel custom junction boxes for Zone 2 installation and providing in excess of 10,000 segments.

The company is also providing F800 fieldbus power supplies to achieve redundant fieldbus power at the price of simplex power. The F800 "Naked Carrier" concept was a key criterion for selecting the power supply on this project.

Saudi Aramco chose Bechtel Overseas of London and Technip of Rome to provide engineering, procurement, construction, commissioning, and start-up services for the Khursaniyah gas plant. Said Brian Parkes, lead control systems engineer at Bechtel, "The choice of MTL for this project was made easier by the fact that their FOUNDATION fieldbus solutions were already approved by Saudi Aramco and proven on many Aramco sites. But, of course, the final decision recognized that MTL-Relcom products fulfilled the technical and commercial requirements of the project, and that theirs was ultimately the most competitive solution."

For more information, visit the [MTL Website](#).

[Return to Top](#)

## PRODUCTS & SOLUTIONS

### New Softing device will give fast access to H1 networks

A new, innovative FOUNDATION fieldbus device will be introduced in Q3 2009 by Softing, a technological leader in providing key components for FOUNDATION fieldbus and Profibus PA devices. FBK-2 Start is a registered H1 device that can be used for rapid prototyping to connect HART devices to FOUNDATION fieldbus H1 networks. The versatile product is especially



suitable for use in test environments to emulate the behavior of standard transmitters and actuators in process automation applications.

FBK-2 Start is based on Softing's FBK2 board, used by many manufacturers as their means of providing registered FOUNDATION fieldbus devices. The device is DIN-Rail mountable to allow quick installation in industrial laboratory environments. Its main features include:

- Support for FOUNDATION fieldbus standard function blocks AI, AO, DI, DO, and PID;
- Link Master capability for configuration as backup LAS device; and
- HART protocol on UART interface with support for HART Universal Commands.

In addition, the FBK-2 Start will be qualified for the following certifications:

- FOUNDATION fieldbus registered field device (ITK5.1); and
- ATEX (Appareils destinés à être utilisés en ATmosphères EXplosibles).

Softing's FOUNDATION fieldbus development team will customize a device on request to meet specific requirements.

To learn more, visit the [Softing Website](#).

[Return to Top](#)



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