comX PROFINET Embedded Module
S2 Redundancy Success Story

Embedded Module comX

Enabling PROFINET S2 redundancy for Yokogawa's CENTUM VP™

Yokogawa Electric Corporation, a leading company in Distributed Control Systems, has implemented S2 redundancy for their PROFINET Communication Module by adopting Hilscher's comX embedded module, thereby improving the availability of plants.

CENTUM: Distributed Control System

Yokogawa's CENTUM provides customers with an optimal operating and engineering environment throughout the plant lifecycle. This includes plant design, engineering, installation of systems and equipment, production ramp-up, and even termination of operation through post-commissioning and modifications.
The CENTUM VP, now in its ninth generation, combines cutting-edge technology with 50 years of technical expertise, ensuring continuous innovation in process control systems. It maintains backward compatibility with previous CENTUM systems, allowing for seamless upgrades and minimizing downtime for users transitioning from legacy systems.
Yokogawa launched PROFINET Communication Module redundancy on April 9, 2024.

One of the main discussion points in the advancement of CENTUM VP was the incorporation of redundancy mechanisms to improve the reliability and uptime of plants.
After extensive discussions between Yokogawa and Hilscher, both companies determined this capability is essential for the future market.
In this context, Yokogawa was able to improve the operation rate of plants by enhancing a Communication Module of "CENTUM VP" with Hilscher's comX module supporting the S2 redundancy function for PROFINET.
PROFINET is one of the world's most widely used communication protocols in industrial networks, leveraging Ethernet technology to deliver exceptional real-time performance. Its ability to ensure deterministic communication makes it particularly well-suited for applications requiring precise timing and high-speed data exchange.

At a Glance: CENTUM VP with comX

- **PROFINET S2 redundancy support improves reliability and plant uptime**
- **Enables monitoring of PROFINET devices as well as remote I/O and Ethernet Advanced Physical Layer (Ethernet-APL) compliant devices**
- **Cost savings and increased safety by using NAMUR NE107 compliant self-diagnostic information from devices that support the PA Profile 4.0**

Evolution of Yokogawa's PROFINET Communication Module for increased reliability and uptime

Back in 2019, Yokogawa developed a Communication Module that supported PROFINET. This Communication Module made it possible to monitor the operation of PROFINET compatible devices from CENTUM VP. However, there emerged a need to improve reliability and utilization in customer plants. In order to meet the needs of its customers, Yokogawa turned to Hilscher to jointly develop a new PROFINET Communication Module with Hilscher's netX-based comX module. Thus, Yokogawa is able to support redundancy functions and achieves high reliability as well as high operating efficiency for its customers.

With this new module, it became possible for Yokogawa's customers to configure the Communication Module with additional PROFINET S2 redundancy, further improving the plant utilization rate. With the support of this S2 redundancy function and enhanced network diagnostics, Yokogawa has obtained Conformance Class B (CC-B) certification, which defines specific PROFINET functionalities. This means that the redundancy of the system, which is considered an important factor in the field of process control, has been recognized by a third-party organization.
In addition, by supporting NAMUR NE107-compliant self-diagnostic information of the PA Profile 4.0, customers can monitor the operation of remote I/O and Ethernet-APL (APL: Advanced Physical Layer)

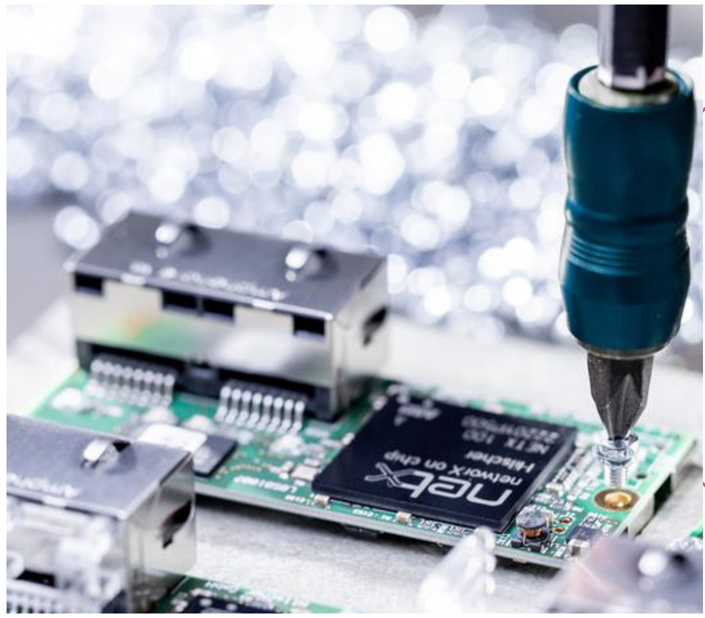
→Product Information: comX
https://www.hilscher.com

"For more than 25 years, Yokogawa Electric has received tremendous support from Hilscher in the development of various communication interface cards, including PROFIBUS and PROFINET communication cards,and we hope to continue the cooperative relationship between the two companies in the future."
Mitsuhiro Yamamoto
Vice President & Executive Officer
Yokogawa Electric Corporation

compatible devices. Furthermore, the motor control center, called power panel, centrally controls the power supply of drives. Consequently, Yokogawa was able to expand the range of operation monitoring that can be achieved by a customer with a single production control system.

Strategic deployment of comX in Yokogawa's (CENTUM) portfolio

For the development of the newest PROFINET Communication Module, as in previous developments, Yokogawa relies on Hilscher's embedded module comX equipped with Hilscher's netX technology. By using Hilscher's multiprotocol-capable comX module to handle the different communication protocol technologies, Yokogawa was able to standardize its hardware while simultaneously supporting various protocols, such as PROFIBUS-DP, PROFINET, and also other Ethernet-based communication protocols in the future.
In addition to the embedded modules, Yokogawa also used Hilscher's standard software Communication Studio for the engineering of each field device. This saved Yokogawa from having to develop a customised solution in-house and decreased the time to market while reducing development costs and risks. Hilscher's netX technology provides a significant strategic advantage for Yokogawa's PROFINET Communication Module in CENTUM VP by enabling multiprotocol compatibility and simplified device connectivity through a single hardware platform.

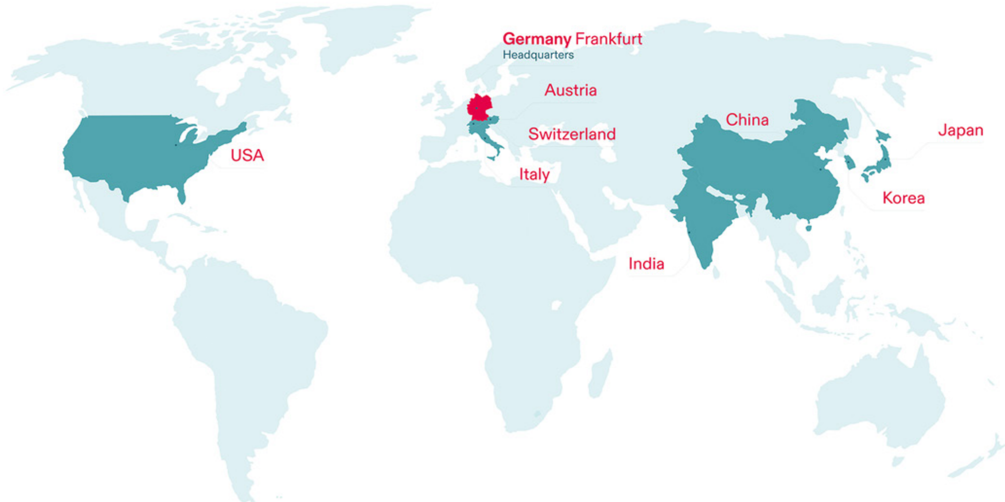


Benefits of Hilscher Technology

- **Only one hardware variant of multi-protocol supporting modules**
- **Reduced development time due to the Communication Studio configurator**
- **Short integration time due to the use of certified PROFINET technology**

For further information about Yokogawa, please visit: https://www.yokogawa.com/
For further information about comX, please visit: https://www.hilscher.com

We look forward to meeting you!



Contact

Headquarters

Germany
Hilscher Gesellschaft für
Systemautomation mbH
Rheinstraße 15
65795 Hattersheim

Phone: +49 (0) 6190 9907-0
E-Mail: de.info@hilscher.com

Sales
Phone: +49 (6190) 99 07-90
E-Mail: de.sales@hilscher.com

Subsidiaries

Austria
Hilscher Austria GmbH
Phone: +43 (0) 732 9316750
E-mail: at.info@hilscher.com

China
Hilscher Systemautomation (Shanghai) Co. Ltd.
Phone: +86 (0) 21 63555161
E-mail: cn.info@hilscher.com

India
Hilscher India Pvt. Ltd.
Phone: +91 020 24243777
E-mail: in.info@hilscher.com

Italy
Hilscher Italia S.r.l.
Phone: +39 02 25007068
E-mail: it.info@hilscher.com

Japan
Hilscher Japan KK
Phone: +81 (0) 3 53620521
E-mail: jp.info@hilscher.com

Korea
Hilscher Korea Inc.
Phone: +82 (0) 31 7398361
E-mail: kr.info@hilscher.com

North America
Hilscher North America, Inc.
Phone: +1 630 5055301
E-mail: us.info@hilscher.com

Switzerland
Hilscher Swiss GmbH
Phone: +41 (0) 32 6236633
E-mail: ch.info@hilscher.com

→Product Information: comX
https://www.hilscher.com

empowering communication