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MELSEC FX5S PLC Accelerates Businesses' Digital Transformation Processes with Its Flexible and Easy-to-Integrate Structure

Mitsubishi Electric Türkiye Factory Automation Systems Servo Motion and PLC Product Manager Ali Kıbrıslı stated that, with its flexible and easy-to-integrate structure, the MELSEC FX5S PLC accelerates businesses' digital transformation processes and supports them in achieving their smart factory goals.

1. Which industries do your automation controllers address?

As Mitsubishi Electric Factory Automation Systems, we offer flexible solutions for companies aiming for digital transformation, ease of use, and cost reduction. Mitsubishi Electric's compact, high-performance MELSEC FX5S PLC, the newest member of the MELSEC iQ-F series, is ideal for simple, straightforward applications in industries such as food and beverage, water, and processing industries. By offering Industrial Internet of Things (IIoT) functionalities, it also provides a suitable solution for businesses using effective entry-level industrial automation applications.

2. What are the main technical features and advantages of your controllers? Can you provide information about the processors and software used in your products?

The MELSEC FX5S PLC is extremely easy to configure and use, with fast installation. Machine builders can develop and implement cost-effective machines with up to 60 I/O points using the FX5S. With its IIoT capabilities, the solution offers data logging and data flow analysis functions, helping to accelerate and improve troubleshooting and root cause analysis processes. Thanks to the built-in web server in the FX5S, operators can remotely access these functions and monitor operations at any time.

The update to the FX5-ENET Ethernet unit enables machines using MELSEC iQ-F series PLCs to offer IIoT capabilities, allowing end users and machine builders to collect data via the cloud in line with IIoT principles. As a result, machines using this unit can leverage data-driven analytics to support predictive maintenance strategies, simplify troubleshooting, and increase productivity. This update, which supports advanced connectivity and data management, also provides extended access to cybersecurity, cloud computing, and email functions, further enhancing operational efficiency.

3. **Can you provide information about your controllers' communication protocols and data transfer speeds? What can you say about their modular structure or expandability? Which standards do you meet in terms of durability and reliability?**

Thanks to its compatibility with open industrial Ethernet technologies such as CC-Link IE Field Basic, the MELSEC FX5S can seamlessly connect with other factory automation devices (such as HMIs, drives, and remote I/O). This ensures reliable communication and facilitates the creation of interconnected production environments. By reducing investment costs on the path to digitalization, it makes a significant contribution to building future-ready smart factories.

The MQTT protocol used in the FX5-ENET Ethernet unit enables users to connect machines for smart operations while protecting their factories against cybersecurity threats. With features such as message retransmission in case of non-delivery, TLS encryption, and client authentication, the protocol helps prevent, detect, and resolve potential risks. In addition, encryption and digital certificates further enhance security.

4. **Which software tools and programming languages are your controllers compatible with? Are they easy to integrate into existing systems? Can you share information about how users adapt your products to various applications?**

Thanks to its easy configuration and user-friendly design, the MELSEC FX5S allows users to complete installation quickly. This intuitive system also delivers the high-speed performance required for precise positioning applications. With the update to the FX5-ENET, it can be integrated with extended access to cloud computing, cybersecurity, and email functions that support advanced connectivity and data management.