

SF SMARTPRODUCTION

S7™ CMX - JAVA AND .NET DRIVER

Drivers for communication with Simatic S7 over TCP/IP

Simatic S7™ controllers make Ethernet connections possible. The S7 CMX software makes it possible to connect to an S7 controller from within a Java application via an RFC1006-compatible protocol. For this to be possible, the S7 must possess a communication module with an Ethernet connection (e.g. CP 343 or CP 443).

Optimized Maintenance with Risk Assessment

The connection protocol takes the form of OSI over TCP/IP in accordance with RFC 1006. In the S7 environment, this protocol is also referred to as "ISO-on-TCP" or CMX and permits telegram-oriented communication. Telegrams can be sent by S7 using the "AG_SEND" function. In each cycle, "AG_RECV" must be called in order to be able to receive telegrams again.

In Java, the connection is established using the class: `com.sf.s7cmx.S7Connection`. Here, telegrams can be sent using the "send" method. It is possible to receive telegrams by implementing the abstract method "receive". This results in communication based on the ISO/OSI model. TCP/IP and Ethernet are used for the actual data transfer. This telegram-based communication permits event-driven applications, i.e. the Simatic S7 PLC can trigger actions at the higher-level controller.

The achievable response times are in the order of approximately 100 ms. S7 CMX supports both active and passive mode. Thanks to the use of 100% Pure Java, the S7 communication module is available on all commonly used platforms. A demo version can be requested for evaluation purposes. The source code of a sample application and the documentation of the Java API are also supplied.

The Java versions 1.4, Java 6 and 7 are currently supported. The S7 CMX driver is also available as a .NET variant for Windows.



S7™ Communication Module

Features

- Implementation of OSI on TCP/IP according to RFC1006
- Active / passive mode
- Event-driven applications
- Support for all commonly used platforms (Windows, Linux, UNIX)
- 100% Pure Java
- Object-oriented API
- Response times of 100 ms possible

Possible Applications

- Control and monitoring of assembly lines
- Manufacturing documentation
- Statistical process control (SPC)
- Visualization

Summary

- S7™ CMX allows the connection of a S7™ controller from within a Java application
- Using Java, the S7 communication module is available on all common platforms



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