

CC-Link IE's Seamless Message Protocol (SLMP) simplifies integration of Schaeffler's FAG SmartCheck into Industrial Automation

Schaeffler has taken intelligent machine monitoring to a new level with its FAG SmartCheck monitoring system. This detects early signs of potential damage to rotating machines and instantly alerts the operators and/or control system so that appropriate actions can be taken.

The FAG SmartCheck is able to measure a number of parameters, such as temperature and vibration, and if these go out of predefined tolerance limits a signal is sent periodically to the control system. The signal is transmitted via the CC-Link Partner Association's (CLPA) Seamless Message Protocol. SLMP is a feature of the CC-Link IE open Ethernet based network that allows users to easily integrate field devices with gigabit CC-Link IE network systems.

SLMP can be used with any Ethernet-compatible device including barcode readers, RFID scanners, sensors, check weighers, etc., and communicates over a standard Ethernet physical layer network.

The key benefit of SLMP is that it provides a way for virtually any Ethernet based device to connect to a CC-Link IE network without the need for hardware development or gigabit performance. It is a simple client/server type protocol and so can be easily implemented into firmware for 100Mbit devices. The devices then easily connect to the CC-Link IE network via an Ethernet adapter. This opens up CC-Link IE to the full range of device manufacturers, regardless of whether or not their devices support its unique industry leading gigabit performance or not. With SLMP every Ethernet device can have the potential to be connected to a CC-Link IE network. This includes HMI, PLCs, drives, printers, timers and sensors – in fact virtually any device that can support Ethernet which could be wanted on a control network. Since CC-Link IE and SLMP are open technologies, the technical specifications of both are freely available to companies who join the CLPA. Basic membership is free of charge.

A further advantage of developing CC-Link IE compatible products using SLMP is that the simplicity means rapid progress and a short development cycle. Traditional new product development programmes require the development of both hardware and software, but SLMP can do away with the hardware development completely, as it allows the simple adaption of existing devices.

Further, in normal development programmes, considerable time has to be allowed for conformance testing, but with SLMP only the software functions need to be tested, reducing the time to market significantly.

CC-Link IE and SLMP are managed by the global office network of the CC-Link Partner Association (CLPA), which oversees their development and encourages device manufacturers to support them in most key world markets. They have their origins in Japan, where they quickly became a de facto industrial standard. The CC-Link IE network technologies are widely used in Asia and are spreading to the rest of the world.

John Browett, General Manager of the CLPA in Europe, says: "The potential is enormous. Now any product with Ethernet connectivity can be integrated into a CC-Link IE network.

"Device manufacturers can make their whole product range compatible with CC-Link IE at a stroke, while systems integrators and end users can add any device they like to their networks."

CC-Link IE is the one of the fastest, growing industrial Ethernet protocols in the world. SLMP makes it easy for companies to enter this market and quickly develop fully compatible products.

As a long-standing member of CLPA, Schaeffler quickly realised the potential of SLMP and its FAG SmartCheck is the first product in Europe to be developed using it. Due to the fast and straightforward development, FAG SmartCheck is redefining the price/performance ratio expected of condition monitoring devices in the market. It can make a valuable contribution to optimizing processes and reducing Life Cycle Cost (LCC) as well as Total Cost of Ownership (TCO). As such it is proving very popular and it is being used in many areas where cost-effective, condition monitoring was not previously possible.

Photo Caption:

Photo 1: The FAG SmartCheck is able to measure a number of parameters, such as temperature and vibration, and if these go out of predefined tolerance limits a signal is sent periodically to the control system.

Statement Schaeffler:

Integrating CC Link technology into our products is the key for developing the classic condition monitoring solution towards a fully integrated process and automation world. That is especially important for regions in Asia (e.g. Japan) - where CC-Link is the leading open network – to meet the growing market requirements in this sector.

About the CLPA

The CC-Link Partner Association (CLPA) is an international organisation with over 2,300 member companies worldwide. The partners' common objective is promotion and technical development of the family of CC-Link open automation network technologies. Over 1,400 certified products are now available from more than 290 manufacturers. CC-Link is the leading open industrial automation network technology in Asia and is becoming increasingly popular in Europe and the Americas. The European headquarters is in Germany, with offices throughout the continent. The CLPA's main initiative for Europe is the Gateway to Asia (G2A) programme, which helps European businesses develop their Asian business further. More details are at www.cc-link-g2a.com.

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