



CC-Link News

From initial idea to certified product in just six months



In the current economic climate many companies are looking for markets with potential for sustained growth. The sensor specialist Balluff has now added a new line of distributed I/O modules for the CC-Link fieldbus network technology to its range of networking products for industrial automation applications.

This is in response to rising demand, mainly in Asia, but also in other regions, for mature network solutions for this open fieldbus technology that was originally introduced in the year 2000. Development of the new modules was completed in just six months, from the initial idea to the marketable product. Based in the German town of Neuhausen near Stuttgart, Balluff GmbH is a leading manufacturer of sensor technology for factory automation applications. Originally established in 1921 as a mechanical repair shop, the company now has over 2,100 employees worldwide and is represented on all continents by 24 subsidiaries and another 30 local offices.

Balluff is now particularly well known for its comprehensive range of sensors – hardly surprising when one considers that the company developed its first electro-mechanical sensor over 50 years ago. In recent years, alongside its many innovative products in the sensors field, Balluff has also been developing and expanding its own range of products for networking and system solutions. “To make full use of the power and capabilities of modern sensors users need high quality, robust and fully-compatible network technology that can ensure fast and reliable data communication with the controller,” explains Rainer Traub, head of product marketing at Balluff.

A certified family of products

One of the company’s latest developments is a line of encapsulated I/O modules for the CC-Link open fieldbus network, with a variety of different input and output combinations. Designed for use in heavy-duty industrial environments, the CC-Link I/O modules enable fast installation of distributed automation systems without complex wiring and switchgear cabinets. Sensors, actuators and other devices are connected directly to the module with pre-assembled standard cables and communicate with the programmable logic controller via the deterministic fieldbus network. Coloured LEDs for operating status and a display with soft keys for setting the station address and data transfer rate facilitate installation, maintenance and troubleshooting. The products are certified by the CC-Link Partner Association (CLPA) and combine simple M12 connection technology and vibration-proof electronics including the CC-Link interface, all fully enclosed in a sturdy die-cast zinc housing. The compact modules have an IP67 ingress protection rating (dust-tight and protected against temporary submersion in water), so that they can also be used in locations exposed to dust, water, oil and mechanical stresses. Typical applications include machine tools, machining centres and manufacturing equipment in the automobile industry.



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A fast-growing fieldbus system

Why is the sensors specialist Balluff investing in the development of components for this fieldbus technology which is still not very widely known in Europe? Marketing expert Rainer Traub has a simple answer to this question:

“Balluff is an international company and we need a broad portfolio of products catering to the diverse needs of the world market,” he explains. “CC-Link is one of the newer fieldbus systems for industrial automation, but it is growing rapidly and it has a very strong proponent in Mitsubishi Electric, one of the world’s biggest controller manufacturers and a driving force for the development and adoption of this network standard.” This has already made CC-Link one of the world’s most popular fieldbus networks, which in turn makes it attractive for leading device manufacturers, mechanical engineering firms and plant operators in Germany and Europe.

Acceptance of distributed automated systems and open fieldbus systems has been increasing considerably recently, particularly in the Asian market. Rainer Traub sees good market potential for the new CC-Link I/O modules in combination with other Balluff products, both in the USA – where CC-Link is already widely used in the automotive industry – and in other regions. “Asia and Eastern Europe are particularly prominent among the markets with good potential for long-term growth,” he emphasises, “but our customers in Germany are also asking for mature products for this network technology.” For example, a well-known manufacturer of machine tools and long-standing Balluff customer is now equipping its products with CC-Link as the standard network technology. This was another factor that influenced the decision to develop the new line of modules.

A complete package for fast development

Balluff’s popular splitter boxes are a product under ongoing development, and implementation of CC-Link technology in them turned out to be quite straightforward. “Even with the new integrated display, which is a first for these devices, the new CC-Link I/O modules were ready and certified just six months after we commenced development,” reports Traub, who praises the easy handling of the network technology, the excellent collaboration with the CLPA and their great support and service throughout the development process. “This includes the comprehensive specifications documents and check lists, which leave virtually no questions unanswered,” he adds.

CC-Link technology is based on an application-specific integrated circuit, or ASIC, which handles the entire management of the security and transport layer and ensures trouble-free communication between the automation components in the network. The CLPA provides wide-ranging support for device and machine manufacturers who want to equip their products with a CC-Link interface. This includes comprehensive information and advice services for the CC-Link network family, special development packages, chipsets that facilitate fast integration of the interface in the vendors’ own products, and facilities for preliminary engineering tests and conformity checks. Companies can also access a worldwide CLPA network of branches and regional offices that can help them to get their products to market.



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About the CLPA

The CC-Link Partner Association (CLPA) is an international organisation with over 1,330 member companies. The partners' common objective is promotion of the technical development and adoption of the standardised network technologies CC-Link, CC-Link Safety, and CC-Link IE Gigabit Industrial Ethernet.

Over 1,050 certified products are now available for the CC-Link network family from over 220 manufacturers worldwide. Seven million CC-Link devices are installed, increasing at over one million p.a.

CC-Link is now the leading industrial fieldbus protocol in Asia and it is becoming increasingly popular in Europe and America as well. In addition to its European headquarters in Ratingen, Germany, the CLPA also has four regional offices in England, Poland, Turkey and the Ukraine.

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