



CC-Link; the Non-Stop Open Network™

Of the criteria that may influence the choice of a communications network today factors such as speed, ease of integration, open communications, vendor support, etc. can be taken for granted with most major protocols. The same cannot be said, however, for availability; the ability to keep the network running with the minimum of interruptions under the faults and events typical of real-world manufacturing operations is critical. Maximising availability is critical for anyone looking to boost productivity to world class levels.

This is where CC-Link network technology from CLPA offers real benefits, with a range of technical features that are designed to keep the network functioning even under a range of fault conditions that might usually cause a fieldbus to cease operation. With features such as high noise immunity, 'floating master' capability, hot-swap capability and station bypass, CC-Link is unique in offering genuine 'non-stop' functionality.

Modern manufacturing environments can be characterised by high levels of electrical noise, and this can be a real problem for fieldbus systems, often requiring the use of optical fibres to achieve noise immunity. CC-Link of course offers such a fibre option, but the networking technology is also designed to reject a high degree of electrical noise even with standard twisted pair cabling. This gives outstanding noise immunity at the lowest installed cost.

Another cause of loss of production can be the principal controller of the network going offline, due to loss of power, technical fault, etc. With CC-Link's 'floating master' capability, an alternative controller on the network can immediately take over operation to maintain production with no interruptions.

Network availability is also increased through CC-Link's hot-swap capability and station bypass. The hot-swap functions and related technical features mean that stations can be removed from and returned to the network as required without causing any malfunctions. This dramatically simplifies maintenance or testing of stations with no risk of interrupting operation. Station bypass is a feature that makes future expansion of the network just as simple, by allowing network designs to include future stations without the need to actually implement them, instead bypassing them until they are actually added to the network.

The 'Non-Stop' principle extends to development, installation and maintenance of the network as well. Since configuration is parameter based and requires no configuration files, CC-Link does not require users to learn any complex software tools, so there is no programming effort and a minimal learning curve. This helps to significantly shorten development time, getting networks up and running more quickly. Standard networks are built around simple twisted pair twisted cables or familiar CAT-5/fibre based Ethernet, making installation quick and simple for anyone, rather than requiring an IT network management specialist. Finally, because problems such as station errors, broken cables or disconnected cables are easily identified using the diagnostics tools, maintenance is a much simpler process, enabling network problems to be rectified much more quickly.

The benefits of implementing a non-stop network technology will become clear after visiting the CC-Link Partner Association in **Hall 6, stand number 6-435** at the **SPS/IPC/DRIVES** fair.

About the CLPA

The CC-Link Partner Association (CLPA) is an international organisation with over 1,500 member companies worldwide. The partners' common objective is promotion and technical development of the family of CC-Link open network technologies. Over 1,100 certified products are now available from over 240 manufacturers. CC-Link is the leading industrial fieldbus in Asia and is becoming increasingly popular in Europe and the Americas. The European headquarters is in Germany, with offices throughout the continent.

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