

Decentralised Automation Solutions

Is there an optimum automation solution for a given application? **Murrelektronik** has the know-how in all aspects of automation technology and decentralised field installation.

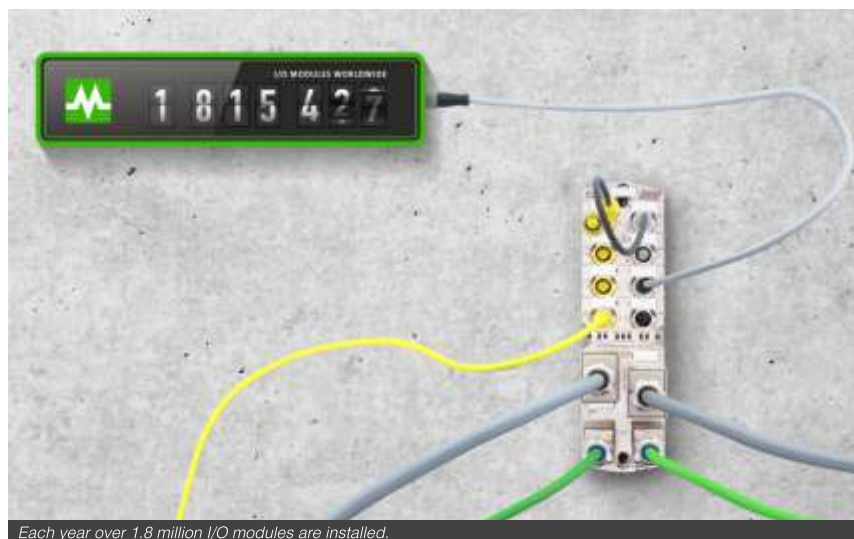
Advanced electrical installation concepts connect all sensors and actuators in machines or systems to the controller or cloud solution in the most economical way. The key to the best possible electrical installation is to consider all phases of the machine or system's lifecycle. The manufacturers of

machines and systems should also benefit from the chosen electrical installation concept, as should the future operators. The focus is on low 'total cost of ownership' and a 'life cycle' that is profitable for all parties involved.

The key to the best possible electrical installation is to consider all phases of the machine or system's lifecycle.

How do manufacturers benefit?

- Standardisation and simplification of planning and programming processes
- Considerable simplification of wiring
- Reduction of the space required in the control cabinet
- Simple assembly (Plug & Play)
- High modularisation possibilities in the application
- Low variance of the required components
- Shorter commissioning times



- Machines can be delivered faster
- Safety integrated – safety aspects are part of the concept, and
- Strengthening competitiveness through attractive overall packages.

How do machine and plant operators benefit?

- Finding errors instead of searching through channel granular and diverse diagnostic options
- Simple and proactive replacement of components in the sense of predictive maintenance
- Low downtimes, high machine availability, maximum output, and
- Digitisation of processes and routines.

There are no off-the-shelf electrical installation solutions. In addition, there is a wide variety of applications and requirements. Just three examples: In some machines there are many IO points in a compact space, in others these are distributed over a large area. Some systems are located in a protected

environment, in others the components are exposed to harsh industrial conditions. In some machines it is necessary to realise the power supply from the control cabinet, in others it can be transferred directly to the consumer in the industrial field with IP67 devices.

Is there an optimum automation solution for a given application?

Murrelektronik, a global leader in the development, manufacture and distribution of automation solutions, has the know-how in all aspects of automation technology and decentralised field installation. The company brings these strengths together to create the perfect automation solution. Their application engineers help users in the analysis, and identify the requirements in the expansion of the technical concept, in the economic evaluation and in the decision making process.

The Software Engineer

The Software Engineer is a forward-thinking installation concept that is geared towards a maximum price/performance ratio brings advantages to companies as a whole. However, it is also important to realise that all departments and persons involved in the creation of a new concept gain a benefit.



The Software Engineer – everyone benefits!



Cables by the metre.

Depending on the implemented solution – The benefits to the Software Engineer are as follows:

- Configurations can be transferred to other machines as required (copy & paste)
- The software configuration can be carried out independently of the hardware structure
- Sensors do not have to be parameterised, instead the device file is fed in directly
- Topology recognition and detailed diagnostics for easy troubleshooting and rectification
- Establishment of modular systems in the control software for clear option management
- Reduced program effort due to the elimination of separate safety circuits, and
- Industrial standards such as OPC-UA and IO-Link are the interface from the cloud to the IO level.

The current trend in decentralisation is the formation of mechatronic units. The modularisation of machines and plants is regarded as the business model of the future: Standardised mechatronic units



MVK Fusion – the revolutionary 3-in-1 I/O module.

are assembled flexibly and demand-oriented. With MVK Fusion, Murrelektronik has developed a fieldbus product that implements exactly this idea of modularisation in a simple manner.

The PROFINET/PROFIsafe module combines three elementary functions of installation technology in a single compact module:

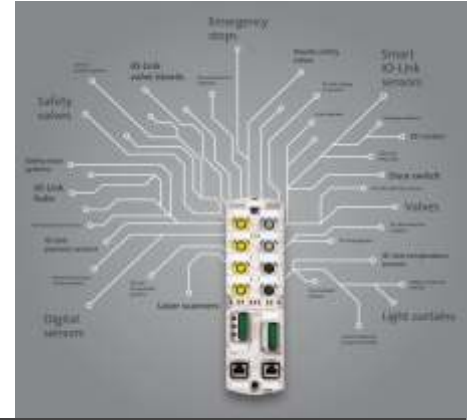
- Digital standard sensors and actuators
- Digital safety-related sensors and actuators up to PLe, and
- IO-Link.

The great advantage of push-pull connectors is that they can be assembled and connected in a few simple steps and in a short time.

This combination is impressively innovative. With MVK Fusion, fewer fieldbus modules are required per modular unit, in the best case only one. This offers attractive opportunities for a large number of automation applications and is a pleasure for the buyer.

MVK Fusion with push-pull connection technology is the clever solution for the construction of machines and plants.

The MVK Fusion fieldbus module is connected using push-pull connection technology. This enables fast installation of the fieldbus and power connectors with just one 'click'. Why does Automotive, the



leading German industry, opt for push-pull in its release specifications – and can this also be the right choice for machine and plant manufacturers in other segments?

The fast push-pull connection process has its origins in the idea forges of the automotive industry. This is why it is also a very attractive solution for many other industries and applications. The great advantage of push-pull connectors is that they can be assembled and connected in a few simple steps and in a short time.

If the exact cable lengths can only be determined when the machine components are assembled, the self-assembly push-pull connectors show their full strength! In combination with cables that Murrelektronik sells by the metre on reels, connecting cables accurately cut to the centimetre can be 'produced' on site. This provides a fast and flexible solution that makes MVK Fusion with push-pull connection technology a highly interesting option for professional work when setting up plants and machines. A good example: a plant structure in a large logistics unit.

Murrelektronik products can be divided into four core lines: Power Supplies and Control, Interfaces, Cables/Connectors and IO Systems. High-quality, innovative products and focus on market requirements sets the company apart from the crowd.