

RAPID LINK Conveys Plugs



Over 1,800 individual inventions and over 8,700 patents worldwide testify to the company's innovative strength. Three company divisions form the pillars of this success story: „fischer fixing systems“, “fischer Automotive Systems” and “fischertechnik”. The company founder revolutionized the fixing market with the development of the S plug.

THE COMPANY

The Fischer factories, founded in 1948 by Arthur Fischer in the Black Forest community of Waldachtal, developed into a worldwide company once it was taken over in 1980 by the founder's son Klaus Fischer. The group's intensive development activity and business foresight enabled it to achieve a turnover in 2001 of around 402 million Euros with 3,400 employees in 17 countries worldwide.



We keep power under control.



Today Fischer is still generating the major part of its turnover from this company sector. Fischer has 1,200 employees at its headquarters in Waldachtal – Tumlingen, which is also the location of the fixing systems division with its production areas and central warehouse. Changes in warehouse capacities have doubled the goods turnover within a few years. This meant that the process between incoming goods and the dispatch area had reached its performance limits. Transport in Fischer's central warehouse was implemented exclusively with fork lift trucks, with a transport route of over 100 meters. When the level of fork lift truck traffic was high, the transportation time from incoming goods to the pallet warehouse was over three minutes, compared to a travelling time of one minute when the journey was clear. The objective: to reduce the transport times in spite of the high goods volume and to manage volume increases in the future. Fischer decided to build a 150 meter long pallet conveying system on two floors.

Double the capacity

In single shift operation, the company can now transport 300 pallets from the incoming goods area to the warehouse, and from there to the goods dispatch area. The system is designed for twice the capacity and thus ensures future material transport with high volumes. RAPID LINK Conveys Plugs

Every day of building work counts. Only onworking week was available for installing and commissioning the first section for the pallet conveyor system. The fast, reliable and simple installation possible was good enough reason to choose Moeller's RAPID LINK system. A further argument was the future security of the system. The switchgear and installation

system uses AS-Interface, and the RAPID LINK Interface Control Unit allows it access for all higher-level fieldbus systems.

Fischer uses the flat cable concept for the power supply with a flexible busbar (7 x 2.5 mm²) for 400 Volt /24 Volt. The flat busbar, and the AS-Interface flat cable are laid on the lower level in cable racks. They are electrically isolated, and supply the power to the motor starters, as well as transferring the control commands and diagnostics messages to the PLC. Those responsible for the project at Fischer chose a new strategy with regard to safety: they fully used the AS-Interface for this as well. AS-i Safety was used for Emergency-stop functions. Benefit: no additional cable installation required for the emergency stop circuit or for the feedback from the individual emergency-stop units.

Reduced installation costs

The second building section was carried out on the second floor. The motors and AS-i stations were installed at a transport height of 2.8 meters. The individual runs for the data and power bus were laid so that the motors and AS-i stations were connected to the runs on the lower level. This considerably reduced installation requirements for the second building phase.

The RAPID LINK motor starters for both transport levels are installed on the lower level. The low working height involved simplified this installation. The key benefit of this positioning, however, was the continuous operation it allowed: if a fault occurs, for example AS-Interface fault, or a PLC failure, the motors could still be run manually using the Hand-0-AUTO operating element on the motor starter, without having to climb up ladders to the upper level. At the same time, the position on the ground floor allows the motor operating states to be checked quickly via the LEDs on the motor starter. All motors are connected to the power bus and to the AS-Interface via made up cables by means of IP 65 plug connectors. The motor feeder plug is designed according to the Desina standard. The extensive use of plug connections ensures the fast exchange of the motor starter in the event of a fault. As Eckhard Hagen, Sales Logistics manager at the Fischer plants reports, this hasn't been necessary since the system was commissioned and accepted in June 2001.

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CONCLUSION

The Fischer production plants decided on the RAPID LINK decentralized control system in order to be able to plan and operate effectively in the future: this is ensured by the simple installation procedures, the reduced stockkeeping costs, the high level of availability and flexibility in the system. Fischertechnik building blocks and the modular structure of Moeller's RAPID LINK System have at least one thing in common: elegance, but with unmistakable simplicity in design and outstanding technical expertise – each in their own particular field...

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