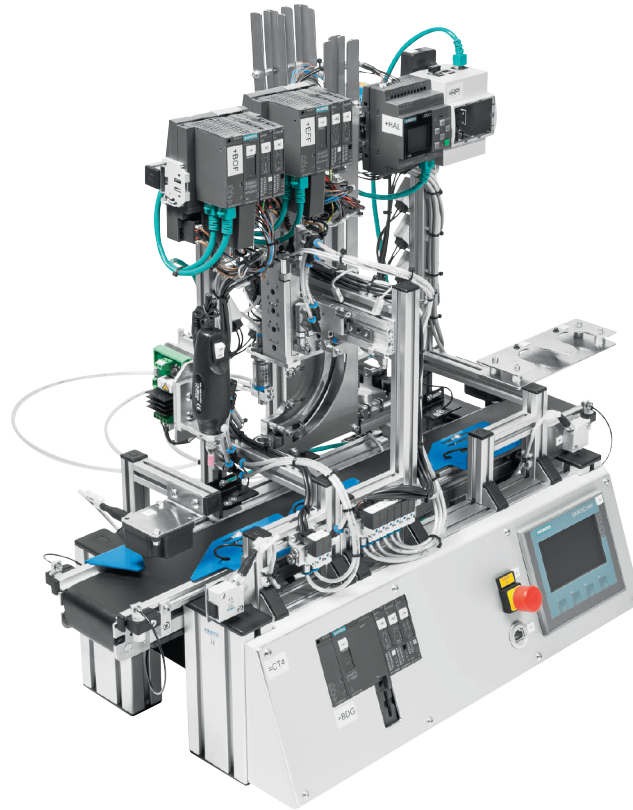


MPS® TS Compact Trainer I4.0

Industry 4.0 for preliminary vocational training

FESTO



Highlights

- RFID order entry
- IoT functions
- Pick-by-Light manual workstation
- Energy monitoring
- Raspberry Pi single-board computer as data center
- Web server

Practical learning with IoT functions

The MPS® transfer system forms the basis for the MPS® TS Compact Trainer I4.0. An RFID read/write system that communicates with the controller via an IO-Link® interface is responsible for exchanging data with the intelligent workpiece.

The PLC is equipped with an integrated web server, ensuring fast process diagnostics using standardized IT technology.

The Raspberry Pi that provides the data center enables statuses to be archived, evaluated, and displayed via the web server.

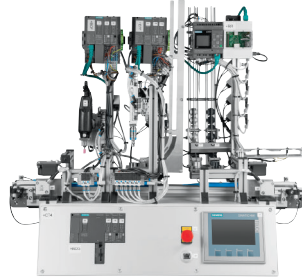
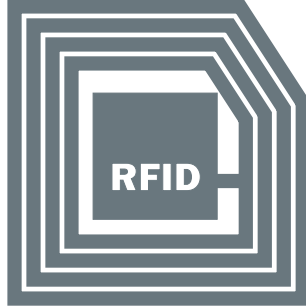
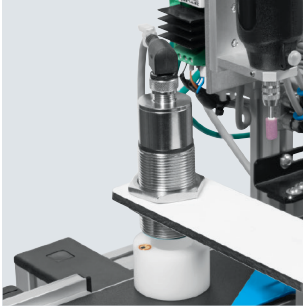
Industry 4.0 – Solutions for the factory of the future

Based on the smart factory concept, the MPS® TS Compact Trainer I4.0 integrates the following main components into a turnkey learning scenario, providing a fast and reliable introduction to the subject of Industry 4.0:

- Conveyor belt with two RFID sensors
- Integrated S7-1500 controller and IO-Link® communication module
- KTP400 Basic operator unit
- Drilling module and inserting module, each with an ET200SP PROFINET IO device
- Pick-by-Light manual workstation module with LOGO! 8 Raspberry Pi Ethernet device
- Workpiece set with RFID tags and USB read/write device

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The intelligent workpiece

The workpieces used in this system feature a digital product memory based on an ISO 15693-compliant RFID data storage medium. This contains all production data in the form of a tabular process plan. During production, process-related production data is also stored in the production memory. This may include:

- the current production step
- time stamps for the start and completion of production, as well as quality data.

Once the production process is complete, unique serial numbers ensure traceability. This makes it possible to illustrate customized production with a batch size of 1.

RFID order entry

The ability to store order data on the workpiece is one of the hallmarks of Industry 4.0. During the production process, readouts of current data enable visualization and order tracking. It is also possible to establish links to server databases in order to obtain additional data for more in-depth information. This means that the machine operator on site can be given access to key production order information on the mobile device itself.

An RFID read/write device, with a USB interface and PC software, is supplied for the purposes of transmitting and checking data outside the MPS® TS Compact Trainer I4.0, using the RFID chip on the workpiece. Data records can be loaded and stored in the form of a text file.

Be prepared for the lesson

The MPS® TS Compact Trainer I4.0 is supplied ready to use. All you need is a compressed air supply and a power supply unit with a 24 V DC output voltage.

We also offer tasks (including solutions) on the following subjects to assist with lesson preparation:

- Basic principles, station analysis, and commissioning
- Production scenario: first steps
- Digital product memory with RFID
- Task control
- Data acquisition
- Messages
- Energy monitoring
- Web servers

Please check compatibility with existing MPS® transfer systems or MPS® stations based on your specific project.

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