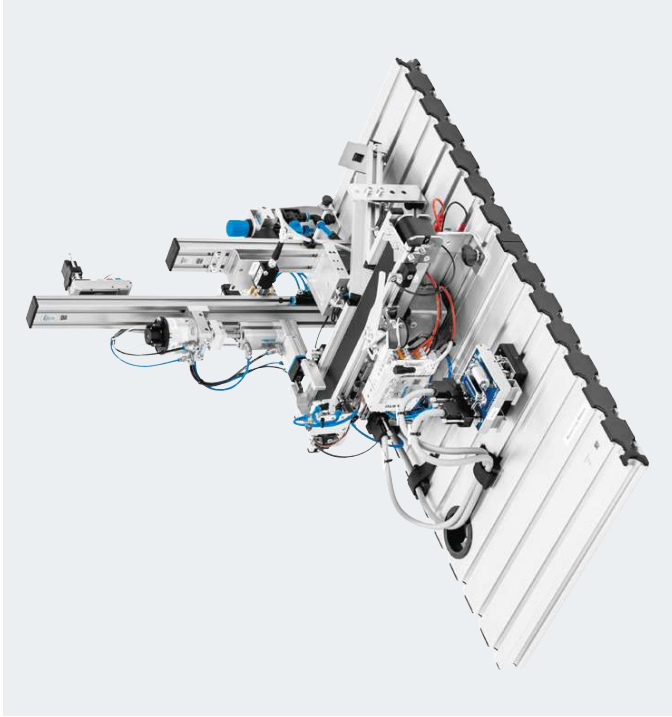


Measuring station

Analog measurement technology in quality processes



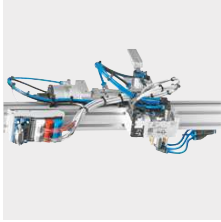
The MPS measuring station D tackles a number of topics, including how to record and process analog and digital signals. The station also provides insight into how pneumatic actuators work and are used, and how actuators are calibrated.

The station takes workpieces out of the ongoing process in order to place them on a measuring table and measure their height. The conveyor module transports the workpieces to the measurement point. The rotary lifting module moves a workpiece into the measuring position. The diffuse sensor measures the height of the workpiece. Depending on the result of the measurement, an electric quarter-turn actuator either moves the workpiece onto a material slide or places it on the conveyor.

Fiber-optic through-beam sensors and opto sensors monitor the material flow on the conveyor. The conveyor can be used in both directions.

The diffuse sensor supplies either an analog or a digital output signal, as required. The module can thus be used for various levels of training. The binary switching output can be adapted to the measurement requirement and the signal type by means of teach-in programming.

The rotary lifting module uses an electric quarter turn actuator and a pneumatic gripper to automate the measurement task and take random samples from the process.

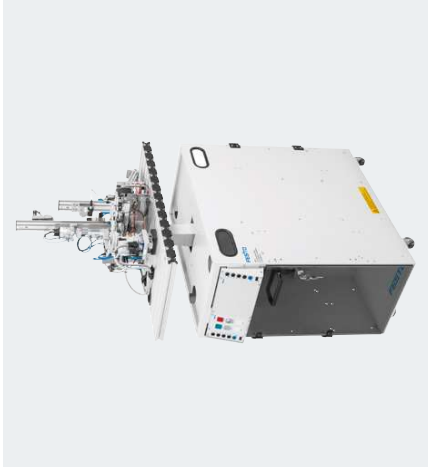


Measuring station, mounted	8038623
Additional equipment, also order:	
MPS trolley 700 x 350	8033590
Control console, Syslink	195764
EduTrainer Universal → Pages 166 – 167	
2x I/O data cable with SysLink connectors IEEE 488	34031

Recommended accessories:	
Simulation box, digital	170643
Simulation box, digital/analog	526863
I/O data cable with Syslink connectors (IEEE 488), crossover	167106
Analog cable, crossover	533039
PA workpiece set	554301

The most important components at a glance:	
1x Aluminum profile plate, 700 x 350 mm, with cable guide	170395
1x Conveyor module, 350 x 40 mm, DC motor	8032692
1x Rotary lifting module	8035936
1x Slide module	653393
1x Measuring table	8040204
1x Stopper, simple, with valve	8046324
1x Start-up valve with filter control valve	540691
1x Cable holder with hook-and-loop fastener (back of 10)	8034300
1x C interface	8025738
1x Quick-Fix clamping adapter	8026327

Technical data	
– Operating pressure:	600 kPa (6 bar)
– Power supply:	24 V DC
– Round workpiece dimensions:	max. 40 mm
– 8 digital sensors	
– 7 digital actuators	
– 1 analog input	



Measuring station with additional equipment

Training content

- Familiarization with the various functions of the MPS measuring station D
- Gaining insight into common measurement and sorting processes

- Acquisition of basic PLC programming skills
- Introduction to pneumatic control systems
- Introduction to how sensors and actuators work and are used
- Executing processes based on measurements recorded by sensors
- Controlling a DC motor using a motor controller
- Controlling a conveyor; programming and processing standardizations
- Calibration of actuators
- Preparation and commissioning of a mechatronic system

Benefits

- The highly modular nature of the station makes it incredibly versatile and allows it to be used for many different types of project work.
- The station can be used individually or together with other stations at various points in a system or process.

- With the aid of this station, students will develop basic knowledge of measurement and sorting processes and of how to control a conveyor.

- The students will also learn the basics of sensor signal recording and processing and how to program standardizations for the calibration of actuators.

Recommended training media

Courseware

- Complete overview → page 270

For example:

eLearning course

- PLC Programming
- GRAFCET

eTheory course

- CIROS – First steps



eLab course

- CIROS – Basics of 3D Simulation

Workbook

- Basic level PLC programming
- Advanced level PLC programming



Evaluation

- Basics of PLC Programming
- Basics of GRAFCET Programming

User Guides

- CIROS – Installation Instructions