Robotino 4
The flexible mobile robotics platform in vocational training

FESTO

Robotino and Industry 4.0

Mobile robots are becoming increasingly important in automation technology alongside industrial robots. They can be used as logisticians for simple material transport. However, flexible production processes in smart factories place ever more complex demands on mobile robotics systems. With Robotino 4, the new competencies in the Industry 4.0 environment are quick and easy to learn. The integrated learning system is available with hardware, software and introductory workbooks.

Highlights

- Easy integration into mechatronic learning systems
- Compatible with previous generation experiments
- Stereo camera with depth measurement system for 3D mapping
- Toolless replacement of battery packs during operation
- Improved interfaces, incl. 4 x USB 3 and 2x12V interfaces
- Wi-Fi access point with 2.4 and 5 GHz
- Programmable in common languages
- Outstanding computer performance
- Reliable omni-directional actuator

Robotics in training

Our autonomous mobile platform is open to common programming languages and can be combined with a variety of external devices and media. This flexibility makes Robotino 4 an ideal learning system for mobile robotics in the vocational training of mechatronics technicians and computer scientists. Robotino 4 ensures straightforward entry into mobile robotics as well as integration into advanced learning systems in the smart factory environment.

Robotino 4 conveys topics such as mechatronics, programming, sensor technology, motor and drive technology, control technology and image processing in a simple and straightforward manner.

Training content

Ideal introduction to the world of mobile robotics through 11 projects designed to be worked through consecutively:

- Analyzing electronic systems and testing functions
- Analyzing and adapting controllers
- Analyzing systems and testing safety
- Programming and implementing controllers according to IEC 61131
- Getting to know drive concepts
- Integrating control and communication systems
- Repairing, commissioning and handing over automation systems
- Mapping and autonomous navigation
- Motor activation and control

Robotino 4
Innovations and accessories

Plug-and-learn

Robotino 4 offers various interfaces for many external devices and media. This unique extendibility enables interesting learning scenarios and ‚hands-on learning'.

For easy integration into an Industry 4.0 environment, the Robotino has a Wi-Fi access point with 2.4 and 5 GHz, allowing fast switching between operating modes.

Robotino 4 can be programmed using all common programming languages such as JAVA, Matlab, C/C++ or LabVIEW, thereby offering a simple introduction for students and apprentices. The integrated RESTful API will comply with your wishes in just a few minutes. Students and apprentices can configure tasks for Robotino 4 simply in no time at all.

Powerful innovations

Powerful latest-generation lithium-ion battery packs with a running time of up to 10 hours guarantee uninterrupted use in teaching. Robotino 4 always remains mobile due to rapid replacement of battery packs, even during operation. This enables ongoing project work and focused learning.

Robotino 4 particularly demonstrates its performance by travelling individual or custom-defined routes as required. With the new stereo camera system, journeys can be programmed in real and virtual environments. The RGBD sensor depth provides an excellent spatial image for laboratory environments.

With its ESD-optimized wheels, the Robotino 4 also travels safely and reliably on demanding surfaces. Controlled by its omni-directional actuator, it can rotate on the spot and travel in all directions.

Versatile learning scenarios

Thanks to its wide range of accessories, Robotino 4 is something of a model pupil. Laser scanner, electric gripper, forklift or tower are available for continuing tasks.

When experimenting with the Robotino SIM simulation software, students and apprentices can work creatively without having to enter a real danger situation.

The practical relevance of the tasks in the workbook will motivate students and apprentices. The solutions proposed facilitate understanding, thereby ensuring learning success.

More information

Anytime on our InfoPortal