ABB Robotics training catalogue 2023
The objective of the robotics trainings is to increase qualifications of persons using robotised manufacturing systems. The programme is structured in such a way to meet expectations of all target groups. It contains basic trainings on operation of robots and work safety, trainings on programming of manipulators and specialized courses concerning individual system options. Furthermore, we offer trainings on subject customized to match specific needs of each customer. In addition to the robot operation, the proposal covers courses on offline programming of robots in RobotStudio. It is a very useful tool which significantly increases effectiveness of the robot operation. Training can be conducted at the ABB Robotics Training Center, virtually or at the customer’s site. Do not hesitate to contact us. Our team will help you to select a proper training path or adapt it to your individual requirements so that you can fully use the potential of ABB robot systems.

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IRC5 Controller

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OmniCore Controller
Courses by job title
Operator

OmniCore Operator

SafeMove End user
Courses by job title
Operation maintenance engineer
Courses by job title
Process Engineer

OmniCore Programming I → RobotStudio basic course → RobotStudio advanced course
Courses by job title

Integrator

OmniCore Programming I → botStudio basic course → RobotStudio advanced course → SafeMove
Courses by job title
Programmer

- OmniCore Programming I
- RobotStudio basic course
- RobotStudio advanced course
- SafeMove
Courses by job title
OHS Specialist

OmniCore
Programming I
→ SafeMove
Courses by job title
Manager

OmniCore Programming I → RobotStudio basic course
General trainings
Transition from IRC5 to OmniCore

The goal of this course is to highlight the major changes in OmniCore compared with IRC5. After completed course the student should be able to confidently operate and configure an OmniCore robot system.

Training objectives:
Upon completion of this course, the student should be able to:
• Navigate and use the OmniCore FlexPendant.
• Create paths with the Easy Programming Wizard.
• Read the values of digital inputs and manipulate digital outputs.
• Create own dashboards.
• Backup and restore data and programs in the controller.
• Restart the controller in different ways.
• Setup the User Authorization System.
• Reinstall systems and create snapshots.

Training target group:
This course is targeted to new OmniCore users with previous experience of the IRC5 robot system.

Requirements:
A basic IRC5 training course or an equivalent level of knowledge of IRC5 is required.

Information:
Course duration: 2 days.
Price: 4300 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Additional information:
Online course available.
Course duration: 2 days.
Price: 4000 PLN.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
General trainings
Omniscore Operator

The objective of the course is to provide the participants with the knowledge about using the robot and modifying paths on the operator panel.

**Training objectives:**
- Independent use of the station.
- Startup of the robot system.
- Moving a robot with a joystick.
- Loading and startup of programmes, correction of points.
- Identification of the most frequent causes of stopping and activating to resume operation (e.g. emergency stop).

**Training scope:**
- Safety of work with a robot.
- Use of FlexPendant.
- Structure and operation of the robot system.
- Types of motions in automatic and manual mode.
- Monitoring of input and output signals.
- Short RobotStudio introduction.
- Uploading and saving of modules and programmes.
- Saving and restoring of backup.
- Robot synchronization.
- Error messages and controller status report.

**Training target group:** Operators

**Requirements:**
None.

**Information:**
- Course duration: 2 days.
- Price: 4300 PLN.

**Additional information:**
- Online course available.
- Course duration: 2 days.
- Price: 4000 PLN.

Number of participants: 2–10 people.
Maximum: 2 people per training robot.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website: [https://app1.edoobox.com/pl/ABBPL/](https://app1.edoobox.com/pl/ABBPL/)

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the knowledge on operation and basic programming of robots with the use of the operator panel and selected aspects of RobotStudio support software.

**Training objectives:**
- Independent use of the station.
- Startup of the robot system.
- Moving a robot with a joystick.
- Development and implementation of simple motion programmes.
- Testing and optimization of the existing software.
- Create a real virtual copy controller.

**Training scope:**
- Safety of work with a robot.
- Use of FlexPendant.
- Types of motions in automatic and manual mode.
- Working with RobotStudio
- Structure of the programme in RAPID language.
- Creation of basic movement programmes.
- Basic instructions and functions in RAPID language.
- Coordinates systems of tools and object.
- Creating and saving of modules, programmes and system parameters.
- Performance of basic manipulation jobs.
- Change of state of input and output signals combined with the robot movement.
- Robot synchronization.
- Error messages and controller status report.
- Virtual robot controller.

**Training target group:**
Operation maintenance engineers, process engineers, integrators, programmers, OHS specialists, managers

**Requirements:**
Basic computer skills.

**Information:**
Course duration: 4 days.
Price: 7900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

**Additional information:**
Online course available.
Course duration: 4 days.
Price: 7000 PLN.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
Operation maintenance
Electric maintenance of robots with OmniCore system

The objective of the course is to provide the participants with the knowledge about identification of failures and basic servicing of electric components of the robot system.

Training objectives:
• Work systematically when troubleshooting
• Troubleshoot based on fault symptoms/units
• Use practices that is safe for both equipment and personnel
• Update revolution counters
• Calibrate the robot
• Reinstall RW7 systems
• Configure ABB IO units

Training scope:
• Health and safety
• Safety: Electrical Troubleshooting
• Electrostatic Discharge
• OmniCore Overview: Electrical Units & Components
• Introduction to troubleshooting
• Troubleshooting by fault symptoms
• Troubleshooting by unit
• Troubleshooting Exercises:
  • Power, Run chain, Drive system/Mechanical unit
  • Revolution Counters
  • Calibration
  • Overview of system parameters
  • Backup/Restore
  • Reinstall Software
  • IO Configuration of ABB Units

Training target group:
Operation maintenance engineers.

Requirements:
Completion of the OmniCore Operator course.

Information:
Course duration: 5 days.
Price: 9900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
## Robotics training catalog 2023

List of courses offered

OmniCore

### General trainings

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IRC5 Controller
Courses by job title

Operator

Robot operator

Welding robot operator

Painting robot operator

SafeMove End user
Courses by job title
Operation maintenance engineer
Courses by job title
Process Engineer

IRC5 Operator → IRC5 Programming I → RobotStudio basic course
IRC5 Programming I for arc welding → PickMaster 3 → RobotStudio advanced course
Integrated Vision
Courses by job title
Process Engineer – Painting process

IRC5P Operator → IRC5P Programming I → RobotStudio with Painting PowerPac add-in

IPS
Courses by job title

Integrator

IRC5 Operator → IRC5 Programming I for arc welding → IRC5 Programming I → External Axis → MultiMove → SafeMove → Integrated Vision → PickMaster 3 → RobotStudio basic course → RobotStudio advanced course → IRC5 Programming III → IRC5 Programming II
Courses by job title

Programmer

IRC5 Operator

IRC5 Programming I

IRC5 Programming I for arc welding

RobotStudio basic course

External Axis

RobotStudio advanced course

MultiMove

SafeMove

Integrated Vision

PickMaster 3

IRC5 Programming III

IRC5 Programming II
Courses by job title

OHS Specialist

IRC5 Operator → IRC5 Programming I → SafeMove
Courses by job title
Manager
General trainings
IRC5 Operator

The objective of the course is to provide the participants with the knowledge about using the robot and modifying paths on the operator panel.

Training objectives:
• Independent use of the station.
• Startup of the robot system.
• Moving a robot with a joystick.
• Loading and startup of programmes, correction of points.
• Identification of the most frequent causes of stopping and activating to resume operation (e.g. emergency stop).

Training scope:
• Safety of work with a robot.
• Use of FlexPendant.
• Structure and operation of the robot system.
• Types of motions in automatic and manual mode.
• Monitoring of input and output signals.
• Uploading and saving of modules and programmes.
• Saving and restoring of backup.
• Robot synchronization.
• Error messages and controller status report.

Training target group:
Operators, operation maintenance engineers, process engineers, integrators, programmers, OHS specialists, managers.

Requirements:
None.

Information:
Course duration: 2 days.
Price: 4300 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Additional information:
Online course available.
Course duration: 2 days.
Price: 4000 PLN.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the knowledge on operation and basic programming of robots with the use of the operator panel and selected aspects of RobotStudio support software.

Training objectives:
• Independent use of the station.
• Development and implementation of simple motion programmes.
• Testing and optimization of the existing software.

Training scope:
• Safety of work with a robot.
• Modifying a program using RobotStudio.
• Structure of the programme in RAPID language.
• Creation of basic movement programmes.
• Basic instructions and functions in RAPID language.
• Coordinates systems of tools and object.
• Creating and saving of modules, programmes and system parameters.
• Signal Instructions
• Basic instructions and functions in RAPID language:
  - Offset, RelTool.
  - TEST, IF.
  - FOR, WHILE.
  - TP library.
  - CLK library.

Training target group:
Operation maintenance engineers, process engineers, integrators, programmers.

Requirements:
Basic computer skills, completion of the IRC5 Operator course.

Information:
Course duration: 4 days.
Price: 7900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Additional information:
Online course available.
Course duration: 4 days.
Price: 7000 PLN

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the knowledge about programming of robots with the use of the operator panel.

**Training objectives:**
- Development and implementation of advanced movement programmes.
- Testing and optimization of the existing software.
- Operation, monitoring, change of signal status with advanced instructions.
- Monitoring of current robot position.

**Training scope:**
- Recap of safety rules for working with the system.
- Recap of basic information about RobotStudio.
- Creation and installation of robot system.
- Defining stationary tools
- Declarations of programme data.
- Adding modules and signals.
- Programme handling of interrupts and events.
- Programme error handling.
- Programme offset of path.
- World Zones.
- Advanced instructions in RAPID language:
  - AccSet, VelSet.
  - SoftAct, SoftDeact.
  - Trigg.
  - ConfJ, ConfL.
  - SignArea.

**Training target group:**
Operation maintenance engineers, integrators, programmers.

**Requirements:**
Basic computer skills, completion of the IRC5 Programming I course.

**Information:**
Course duration: 5 days.
Price: 9900 PLN
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

**Additional information:**
Online course available.
Course duration: 5.
Price: 8900 PLN

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website: [https://app1.edoobox.com/pl/ABBPL/](https://app1.edoobox.com/pl/ABBPL/)

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
General trainings
IRC5 Programming III

The objective of the course is to provide the participants with the knowledge about advanced programming of robots with the use of the operator panel and RobotStudio.

Training objectives:
• Development, implementation, testing and optimization of advanced functions of the robot system.
• Modification of advanced controller configuration parameters

Training scope:
• Programming with several threads.
  – Multitasking.
• Creation of the user’s own instructions, functions and data types.
• TCP/IP communication.
• SoftMove option.
• Automatic tool weighting
• System Inputs and Outputs.
• Event Routines.
• Creating Backups from RAPID.
• Advanced relocation of programmed paths.
• Automatic program loading.
• User authorization system.

Training target group:
Integrators, programmers.

Requirements:
Basic computer skills, completion of the IRC5 Programming II course.

Information:
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is passing the knowledge about using the robot system with SafeMove option.

Training objectives:
• Electrical integration of SafeMove card.
• Creation of conditions necessary for functioning of the system with the SafeMove option.
• Configuration of SafeMove controller.

Training scope:
• Safety of work with SafeMove option.
• Install the DSQC1015 Safety Module.
• Set up safety users.
• Configure safe I/O and safe fieldbuses.
• Set up zones and ranges.
• Configure safety functions.
• Review the ABB Safety Configuration Report.
• Validate the configuration.
• Reinstall RobotWare on a system with SafeMove.
• Backup and restore the safety configuration.

Training target group:
Operation maintenance engineers, integrators, programmers.

Requirements:
Basic computer skills, completion of the IRC5 Programming I course. Knowledge of English.

Information:
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Additional information:
Online course available.
Course duration: 3 days.
Price: 5400 PLN

The training ends with an examination. Passing of the examination is confirmed by a certificate which is valid for 2 years. After this period it will be necessary to take part in the SafeMove training – recertification in order to prolong validity of the certificate for another 2 years.

Program RobotStudio is available only in English.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
General trainings
SafeMove – recertification

The objective of the course is to refresh, update and verify the knowledge on the connection and configuration of the SafeMove option.

Training objectives:
- Reminding of the information on the design and configuration of SafeMove controller.
- Discussing of changes and current status of the SafeMove option and safety requirements for working with robots.

Training scope:
- Safety of work with SafeMove option.
- Discussing changes in the SafeMove option and safety requirements.

Reminder:
- Set up safety users.
- Configure safe I/O and safe fieldbuses.
- Set up zones and ranges.
- Configure safety functions.
- Review the ABB Safety Configuration Report.
- Validate the configuration.
- Reinstall RobotWare on a system with SafeMove.
- Backup and restore the safety configuration.

Training target group:
Inżynierów utrzymania ruchu, integratorów, programistów.

Requirements:
Podstawowa znajomość obsługi komputera, ukończenie szkolenia SafeMove - certyfikacja

Information:
Course duration: 2 days.
Price: 4300 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Additional information:
Kurs dostępny w formie online
Course duration: 2 days.
Price: 4000 PLN.

The training ends with an examination. Passing of the examination is confirmed by a certificate which is valid for 2 years. After this period it will be necessary to take part in the SafeMove training – recertification in order to prolong validity of the certificate for another 2 years.

Program RobotStudio is available only in English.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
General trainings
SafeMove – end user

The objective of the course is passing the knowledge about using the robot system with SafeMove option.

Note: This is NOT a SafeMove configuration training

Training objectives:
• Getting knowledge about SafeMove functionality.
• Overview of SafeMove controller limitations.
• Robot System with SafeMove option usage.

Training scope:
• Safety of work with SafeMove option.
• Safety Users configuration.
• Overview of the safety functions.
• SafeMove controller synchronization.
• Safety Report overview.
• Validate the configuration
• Reinstallation of RobotWare with SafeMove option.
• Saving SafeMove configuration backup.
• Restoring SafeMove configuration backup.

Training target group:
Operation, process engineers, OHS specialists, managers.

Requirements:
Basic computer skills, completion of the IRC5 Operator course.

Information:
Course duration: 2 days.
Price: 4300 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Additional information:
Online course available.
Course duration: 2 days.
Price: 4000 PLN.

Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

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The QR code directs you directly to the registration website.
General trainings
Integrated Vision

The objective of the course is to provide the participants with the information about connection, configuration and programming of the 2D vision system interoperating with a robot.

Training objectives:
• Ability to connect a camera to the robot system.
• Configuration of Integrated Vision option.
• Programming of the station with a camera placed on the robot and a stationary camera.

Training scope:
• Safety rules for using a robot with the Integrated Vision option.
• Use of a camera and cell adjustment (lighting).
• Installation and configuration.
• Recap of basics on RobotStudio.
• Creation and uploading of a new robot system.
• Customer interface of RobotStudio and FlexPendant.
• Camera calibration.
• Vision tools and instructions in Rapid language.
• Functions and data types used during work with vision system.
• Programming of a station with Integrated Vision option.

Training target group:
Process engineers, integrators, programmers.

Requirements:
Basic computer skills, knowledge of English, completion of IRC5 Programming I training.

Information:
Course duration: 4 days.
Price: 7900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.
Training materials and RobotStudio software available in English only.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the information about connection, configuration and programming of robots with a common control unit.

**Training objectives:**
- Ability to perform electric connection of two robots under one system.
- Robot configuration in the MultiMove system.
- Robot programming in the MultiMove system – movement synchronization.

**Training scope:**
- Safety rules for working with robots.
- Structure of connection by controller type.
- Recap of basics on RobotStudio.
- Creation and uploading of new MultiMove system.
- Positioning of robots against one another.
- Definition and edition of coordinates systems of tools and detail.
- Coordinated motion test.
- System parameters, creation and restoration of backups.
- Programming of robots in Independent, Synchronized and Coordinated modes.
- Cooperation of the movement task with static/semistatic task.
- Validation and maintenance servicing – recap.

**Training target group:**
Operation maintenance engineers, integrators, programmers.

**Requirements:**
Basic computer skills, completion of the IRC5 Programming I course.

**Information:**
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the information about connection, configuration and programming of external axes cooperating with a robot.

**Training objectives:**
- Ability to perform electric connection of external axes motors and drives.
- Configuration of external axes.
- Programming of robot with external axes.

**Training scope:**
- Safety rules for working on stations with external axes.
- Selection of drives and motors for external axes.
- Electric system diagram and connection variants for drives and motors.
- Recap of basics on RobotStudio.
- Creation and uploading of a new robot system.
- Parametrisation of external axes.
- Definition and edition of coordinates systems of tools and detail.
- Programming of independent external axes.

**Training target group:**
Operation maintenance engineers, integrators, programmers.

**Requirements:**
Basic computer skills, completion of the IRC5 Programming I course.

**Information:**
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
Operation maintenance
Electric maintenance of robots with IRC5 system

The objective of the course is to provide the participants with the knowledge about identification of failures and basic servicing of electric components of the robot system.

Training objectives:
• Learning about the detailed design and working principles of the controller and the robot.
• Identification of causes of failures based on information about events.
• Ability to eliminate failures by replacing individual modules of the controller.
• Robot calibration and synchronization.

Training scope:
• Detailed controller design.
• ESD – electrostatic discharge.
• Detailed design of the main computer.
• Restart procedures.
• Recap of basics on RobotStudio.
• Creation and uploading of a new robot system.
• File Management - FlexPendant.
• Power supply scheme.
• Safe circuits.
• Robot drive system.
• Resolvers.
• Calibration with Calibration Pendulum.
• Controller input/output system.

Training target group:
Operation maintenance engineers.

Requirements:
Completion of the IRC5 Operator course.

Information:
Course duration: 4 days.
Price: 7900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
Painting applications
IRC5P Operator

The objective of the course is to provide the participants with the knowledge about using the robot and modifying paths on the operator panel.

Training objectives:
- Independent use of the station.
- Startup of the robot system.
- Moving a robot with a joystick.
- Loading and startup of programmes, correction of points.
- Identification of the most frequent causes of stopping and activating to resume operation (e.g. emergency stop).

Training scope:
- Safety of work with a robot.
- Operation of the FlexPaint panel.
- Structure and operation of the robot system.
- Types of motions in automatic and manual mode.
- Monitoring of input and output signals.
- Uploading and saving of modules and programmes.
- Saving and restoring of backup.
- Error messages and controller status report.

Training target group:
Paint process operators, operation maintenance engineers, process engineers, integrators, programmers, OHS specialists, managers.

Requirements:
None.

Information:
Course duration: 2 days.
Price: 4300 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

The training is organized exclusively at the customer's site using his equipment.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
Painting applications
IRC5P Programming I

The objective of the course is to provide the participants with the knowledge on operation and programming of robots with the use of the operator panel and support software.

Training objectives:
- Independent use of the station.
- Development and implementation of simple movement programmes using the operator panel and RobotStudio, Shop Floor Editor and Robview 5.
- Testing and optimization of the existing software.
- Robot following an object moving on conveyor.

Training scope:
- Safety of work with a robot.
- Coordinates systems of tools and detail.
- Rules for creating programmes and process variables.
- Programme modification methods.
- Basic use of RobotStudio and Shop Floor Editor.
- Production management from the operator panel and RobView 5.
- Creation of basic movement programmes.
- Readout and change of input and output signal status.
- Loading and saving of modules, programmes and system parameters.
- Cooperation of the robot with conveyor.

Training target group:
Process engineers and programmers of painting processes.

Requirements:
Basic computer skills, completion of the IRC5P Operator course.

Information:
Course duration: 4 days
Price: 7900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

The training is organized exclusively at the customer’s site using his equipment.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

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Painting applications
Integrated Paint System (IPS)

The objective of the course is to provide the participants with the knowledge about using and troubleshooting the IPS interface.

**Training objectives:**
- Independent use of the station with IPS interface.
- Equipment identification and providing information about operation of the applicator and the painting system.
- Monitoring of the system operation using RobView 5.
- Making changes in the painting system to avoid delayed operation of the adjustment system.

**Training scope:**
- Safety measures applied when making changes in parameters of fluid control.
- Information on the paint gun control, configuration of signals in open and closed control loop.
- Structure of ips.cfg and eio.cfg files.
- Use and configuration of the software and monitoring of robot configuration via network.

**Training target group:**
Painting process engineers.

**Requirements:**
Basic computer skills, completion of the IRC5P Programming I course.

**Information:**
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

**The training is organized exclusively at the customer’s site using his equipment.**

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the knowledge about using RobotStudio with Painting PowerPack add-in.

**Training objectives:**
- Learning about the design of offline painting stations.
- Writing programmes in offline mode and simulation of operation of the station with conveyor.
- Connection and edition of the real system.
- Simulation of painting process.
- Use of Painting PowerPac module.

**Training scope:**
- Introduction to RobotStudio
- Basic - menu, windows
- Graphical Programming
- Signal Analyzer
- Modeling
- Programming and Simulating IO Signals
- Transfer
- Configuration of conveyors
- Configuration of the painting application station with Painting PowerPac module

**Training target group:**
Process engineers and programmers of painting processes.

**Requirements:**
Process engineers and programmers of painting processes.

**Information:**
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

The training is organized exclusively at the customer's site using his equipment.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
The objective of the course is to provide the participants with the knowledge on operation and basic programming of welding robots with the use of the operator panel and selected aspects of RobotStudio support software.

Training objectives:
- Training objectives:
  - Independent use of the station.
  - Development and implementation of simple motion programmes.
  - Modification of welding parameters.
  - Testing and optimization of the existing software.

Training scope:
- Safety of work with a robot.
- Structure and operation of the robot system.
- Working with RobotStudio.
- Structure of the programme in RAPID language.
- Creation of basic movement programmes.
- Monitoring of input and output signals.
- Robot synchronization.
- Coordinates systems of tools and object.
- Loading and saving of modules, programmes and system parameters.
- Error messages and controller status report.
- Performance of basic manipulation jobs.
- Discussing the process and welding parameters.
- ArcWare Menu in the FlexPendant panel.
- Change of input and output statuses combined with the robot movement.

Training target group:
Operation maintenance engineers, process engineers, integrators, arc welding process programmers.

Requirements:
Basic computer skills, completion of the IRC5 Operator course.

Information:
Course duration: 4 days.
Price: 7900 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.

The training is organized exclusively at the customer’s site using his equipment.

Available dates and registration:
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
**Palletization**

**PickMaster 3**

The objective of the course is to provide the participants with the knowledge on operation and programming of FlexPicker robot with vision system with the use of the operator panel and support software.

**Training objectives:**
- Learning about the design and connection of elements of PickMaster 3 option.
- Acquiring the ability of modelling, parametrization, configuration and calibration of the vision system.
- Learning about basic programming of a robot with PickMaster 3 option.
- Conveyor tracking.
- Learning about possibilities of PickMaster 3 option.

**Training scope:**
- Introduction to PickMaster 3.
- Scope of basic PickMaster 3 options.
- Configuration.
- Calibration of the vision system, modelling and parametrization.
- Production panel.
- PickMaster – programming in RAPID.
- PickMaster – conveyor tracking.
- Hardware – components and connections.
- Efficiency and limitations.

**Training target group:**
Process engineers, integrators, programmers.

**Requirements:**
Completion of the IRC5 Programming I course.

**Information:**
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Maximum: 2 people per training robot.
Training materials and PickMaster program available in English only.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/
The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
Online/offline programming
Online/offline programming
RobotStudio – basic course

The objective of the course is to provide the participants with the basic information about the design of the station, offline and online programming of robots in RobotStudio environment.

Training objectives:
- Design of a basic offline station.
- Writing programmes in offline mode and simulation of operation of the station.
- Connection and edition of the real system

Training scope:
- Introduction to RobotStudio
- Basic - menu, windows
- Zone Visualization
- Graphical Programming
- Signal Analyzer
- Modeling
- Programming and Simulating IO Signals
- Transfer
- External Axis
- Sales Tools

Training target group:
Operation maintenance engineers, process engineers, integrators, programmers, managers.

Requirements:
Basic computer skills, basic command of English, recommended completion of the IRC5 Programming I course.

Information:
Course duration: 4 days.
Price: 7900 PLN.
Number of participants: 2–10 people.
Training materials and RobotStudio are available only in English.

Additional information:
Online course available.
Course duration: 4 days.
Price: 7000 PLN

Available dates and registration:
The Robotics Training Center allows you to register for training via the website:
https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
Online/offline programming
RobotStudio – advanced course

The objective of the course is to provide the participants with the information about the design of the station and advanced offline programming of robots in RobotStudio environment.

**Training objectives:**
- Design of advanced offline stations.
- Creation of Smart Components and use of Simulation Setup.
- Using additional system options.
- Creation of Screen Maker application.

**Training scope:**
- Recap of basics on RobotStudio.
- Event Manager
- Smart Components
- MultiMove
- Mechanisms
- Conveyor Tracking
- ScreenMaker
- Layout Tools
- Physics

**Training target group:**
Integrators, programmers.

**Requirements:**
Basic computer skills, basic command of English, completion of the basic RobotStudio course.

**Information:**
Course duration: 3 days.
Price: 6000 PLN.
Number of participants: 2–10 people.
Training materials and RobotStudio are available only in English.

**Available dates and registration:**
The Robotics Training Center allows you to register for training via the website: https://app1.edoobox.com/pl/ABBPL/

The website contains the schedule of courses available at the Robotics Training Center in Warsaw.

The QR code directs you directly to the registration website.
## Robotics training catalogue 2023

List of proposed courses

### General trainings

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
<th>days</th>
<th>Net PLN price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IRC5 Operator</td>
<td>2</td>
<td>4300</td>
</tr>
<tr>
<td>2</td>
<td>IRC5 Programming I</td>
<td>4</td>
<td>7900</td>
</tr>
<tr>
<td>3</td>
<td>IRC5 Programming II</td>
<td>5</td>
<td>9900</td>
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<tr>
<td>4</td>
<td>IRC5 Programming III</td>
<td>3</td>
<td>6000</td>
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<tr>
<td>5</td>
<td>SafeMove - certification</td>
<td>3</td>
<td>6000</td>
</tr>
<tr>
<td>6</td>
<td>SafeMove - recertification</td>
<td>2</td>
<td>4300</td>
</tr>
<tr>
<td>7</td>
<td>SafeMove - end user</td>
<td>2</td>
<td>4300</td>
</tr>
<tr>
<td>8</td>
<td>Integrated Vision</td>
<td>4</td>
<td>7900</td>
</tr>
<tr>
<td>9</td>
<td>MultiMove</td>
<td>3</td>
<td>6000</td>
</tr>
<tr>
<td>10</td>
<td>External Axis</td>
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<td>6000</td>
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### Operation maintenance

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Electrical maintenance</td>
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<td>7900</td>
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</table>

### Online/offline programming

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
<th>days</th>
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</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>RobotStudio – basic course</td>
<td>4</td>
<td>7900</td>
</tr>
<tr>
<td>13</td>
<td>RobotStudio – advanced course</td>
<td>3</td>
<td>6000</td>
</tr>
</tbody>
</table>

### Palletization

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
<th>days</th>
<th>Net PLN price</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>PickMaster 3</td>
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<td>6000</td>
</tr>
</tbody>
</table>

### Painting applications

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
<th>days</th>
<th>Net PLN price</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>IRC5P Operator</td>
<td>2</td>
<td>4300</td>
</tr>
<tr>
<td>16</td>
<td>IRC5P Programming I</td>
<td>4</td>
<td>7900</td>
</tr>
<tr>
<td>17</td>
<td>Integrated Paint System IPS</td>
<td>3</td>
<td>6000</td>
</tr>
<tr>
<td>18</td>
<td>RobotStudio with Painting PowerPac add-in</td>
<td>3</td>
<td>6000</td>
</tr>
</tbody>
</table>

### Welding applications

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
<th>days</th>
<th>Net PLN price</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>IRC5 Programming I for arc welding</td>
<td>4</td>
<td>7900</td>
</tr>
</tbody>
</table>

### Online courses

<table>
<thead>
<tr>
<th>Item</th>
<th>Training type</th>
<th>days</th>
<th>Net PLN price</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Programming I online</td>
<td>4</td>
<td>7000</td>
</tr>
<tr>
<td>21</td>
<td>Programming II online</td>
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<td>8900</td>
</tr>
<tr>
<td>22</td>
<td>SafeMove Pro online</td>
<td>3</td>
<td>5400</td>
</tr>
<tr>
<td>23</td>
<td>SafeMove – recertification online</td>
<td>2</td>
<td>4000</td>
</tr>
<tr>
<td>24</td>
<td>SafeMove – end user online</td>
<td>2</td>
<td>4000</td>
</tr>
<tr>
<td>25</td>
<td>RobotStudio basic online</td>
<td>4</td>
<td>7000</td>
</tr>
</tbody>
</table>
General information
The objective of our trainings is to provide the participants with knowledge and skills necessary for proper operation and full use of the possibilities offered by the ABB robots. The ABB robotics training programme is to be held in the ABB Robotics Training Centre. The trainings are universal which means that they are not focussed on any specific technology. Also a model of robot to be used by the participants in their own plants is of little importance. The exception is the painting process and robots used in this process, either robots of Scara and YuMi type. Upon prior agreement the training programmes may be modified and supplemented to match the scope of the knowledge provided to needs and expectations of customers. The language used during the trainings is Polish or English. We also organize trainings conducted in any language with simultaneous interpretation. The trainings are held for groups of minimum two persons and maximum ten persons. During the practical part one robot is used by no more than three participants. During the training the participants are provided with a set of training materials in Polish or English.

Location
The trainings are conducted in the ABB Robotics Training Centre in Warsaw, at Zeganska 1 street. The trainings may also be held at the employer’s location on our or the employer’s equipment.

Dates
The trainings are held all year round. If there are two or more applicants, it is possible to set individual dates of the training. Applications of individual persons are added to the already scheduled dates of the trainings.

ABB reserves the right to cancel the training date. In such a case, the participants will be provided with a different date.

Training schedule
The courses begin at 9:00 am on the first day and end at 3:00 pm on the last day of the training. On other days the training sessions begin at 8:30 am and end at 4:00 pm. Lunch break is at 12:00 (included in the price of the training).

Applications
In order to register participants for the training, please register online via the website website: https://app1.edoobox.com/pl/ ABBPL / or send it as a completed scan and signed application form. Please enter in the application form details of the company registering its employees for the training, course code, total amount of payment for the training (for all the participants) and suggested or scheduled dates of the training. Participation in the trainings shall be reserved on a first-come- first-served basis. In order to facilitate planning please specify alternative dates of the courses.

Order cancellation
If the Employer resigns from the ordered training at least 7 days before the beginning of the training, it shall be charged with the payment amounting to 50% of the total value of the order. If the resignation was filed after this date, the Employer shall bear all the costs of the training.

Certifications
At the end of the training the participants receive training completion certificates. At the Employer’s request the training may end with an examination. SafeMove - certification and SafeMove - recertification trainings end with an examination. The certificate is awarded only to participants who passed the examination. The certificate is valid for two years as of the date of its issuance.

Quotation
This information shall not be regarded as a proposal within the meaning of the Civil code. The aforementioned information may be used to fill in the training application. Detailed information concerning the price, payment terms, dates and scope of the training is included in the individual proposal addressed to a person interested.

ABB’s responsibility
ABB shall not be responsible for any personal belongings of the participants left in the ABB head office. In case of trainings conducted on the Employer’s equipment ABB shall not be held responsible for the equipment used during the training.
Travelling

- Acces from Poznan direction
- Acces from Gdansk direction
- Acces from Wroclaw direction
- Acces from Krakow direction
- Acces from Lublin direction
- Acces from Bialystok direction

ABB Sp. z o.o.
1 Zeganska Street
04-713 Warsaw
Accommodation:

Travelling:
We invite you to the ABB head quater in Warsaw, at 1 Zeganska street. Please register at the headquater next to the gate and inform the security guards about the purpose of your visit. Roadmap with the location of the nearest hotels is placed below.

Accommodation:
For your convenience we provide telephone numbers and addresses of hotels of various standards located in the vicini of the ABB head quater in Warsaw, at 1 Zeganska street. Participants will be responsible for booking the hotels.

Best Western Hotel Felix, 24 Omulewska Street, 04-128 Warsaw
Phone: 22 210 71 50
Mail: recepcja@bwfelix.pl

Centrum Konferencyjno-Szkoleniowe Boss Sp. Z o.o., 20 Zwanowiecka Street, 04-824 Warsaw
Phone: 22 516 61 00
Mail: hotelboss@hotelboss.pl

DoubleTree by Hilton Hotel & Conference Centre Warsaw 21 Skalnicowa Street, 04-797 Warsaw
Phone: 22 278 00 00
Mail: doubletreeWarsaw.reservations@hilton.com

Hotel Zajazd Napoleoński, 83 Plowiecka Street, 00-001 Warsaw
Phone: 22 815 30 68
Mail: recepcja@napoleon.waw.pl

Hotel Arkadia Royal, 10 Bronisława Czech St., 04-555 Warsaw
Phone: 22 517 36 60
Mail: hotel@arkadiaroyal.pl
Contacts

If you are interested in this proposal, please contact our Training Centre:

Pawel Dziedzic  
Manager of the Robotics Training Center  
Service and Digital  
Mobile: +48 609 991 641  
e-mail: robotyka.szkolenia@pl.abb.com

Additional Information

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