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ScorBase | RoboCell
Robotic Control and Simulation Software

Robotics control and simulation software provides a comprehensive and intuitive tool for programming and operating robotics workcells. The software allows students to experiment with a variety of simulated workcells for CNC machines, welding cells, and Flexible Manufacturing Systems (FMS) with robot. The Cell Setup application allows a user to create a new virtual robotic cell, or modify an existing cell. Advanced students can design 3D objects and import them into the software for use in virtual workcells.

SCORBASE

SCORBASE provides user friendly interface and visible robotic program execution. The software has several operational levels, each with progressively more functions, making the software suitable for both novice and advanced users.

Standard Features

Position Recording

- Positions can be recorded both online & offline
- Positions can be absolute or relative
- Position coordinates may be for robot arm, peripheral axes, or both

Manual Control of Robot & Peripheral Axes

- Movement by joints and and Cartesian coordinates at selectable speeds
- Movement control from dialog box, keyboard and teach pendant
- Graphic image of robot; user clicks on axis arrows to move robot axes.

Program Execution

- Programs can be executed both online & offline
- Options to execute one command, single cycle or continuous cycle
- Command currently being executed is highlighted in program window

Real-Time Data Display

- Real-time, continuous display of robot and peripheral positions (encoder values and XYZ coordinates) and I/Os
- Real-time, continuous display of home switches' status, joint angles, command value (PWM) and position error
- Dynamic charts present encoder values, command value (PWM) and position error
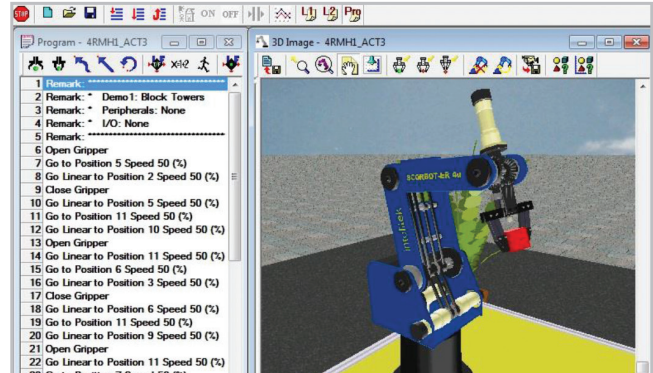
User Interface

- Industrial functions in an intuitive interface designed for training environments 3 operating modes: Online: SCORBASE communicates with the controller. The robot, peripheral axes and I/Os execute all commands. Offline: SCORBASE does not communicate with the controller, even though it may be connected; axes do not move; I/Os are not switched, but different I/O states can be simulated by user (useful for testing/debugging programs). Optional ROBOCELL software integrates SCORBASE robotic control software with interactive 3D graphic simulation.

Programming

- SCORBASE robotic language integrated with Visual Basic Script language which adds new facilities, for sample serial communication and calling an external program.
- SCORBASE for Controller USB-PRO enables multitasking facility (up to 100 concurrent programs). Advanced students can write on C++ language their programs for control of the SCORBOT-ER 4u.

Interface Languages

- SCORBASE for Controller USB: English, Spanish, Portuguese, German, Korean, Vietnamese, Polish SCORBASE for Controller USB-PRO: English. SCORBASE can be easily translated into any user language

Computer Requirements

- Intel Core i5 2400 GHz 2400 GHz or higher
- 4GB RAM
- 200MB available disk space
- Windows 10
- Mouse, USB, CD Drive

Related Products

Hardware

For Controller USB:

- SCORBOT-ER 4u
- ASRS-36U
- ASRS-36Ux2

Software

- OpenCIM/OpenFMS – Computer Integrated Manufacturing software
- ViewFlex - machine vision system

Optional Accessories

- Teach pendant, belt conveyor, rotary table, linear slidebases, XY positioning table, parts feeders, sensors, I/O experiment table.

Curriculum

- Robotics and Materials Handling I with SCORBOT-ER 4U

ROBOCELL

RoboCell integrates Scorbase robotic control software with interactive 3D solid modeling simulation software. RoboCell's virtual robots and devices accurately replicate the actual dimensions and functions of SCORBOT equipment.

Standard Features

Robotic Workcell Setup

- Interactive graphic setup enables creation of virtual robotic workcells
- Simple point and click manipulation of object for placement and definition
- Peripheral axis placement and connection
- Part definitions and properties
- Definition and connection of sensors and I/O devices
- Definition of parts in storage devices and feeders; feeders can supply any quantity of any part
- Definition of CNC machines, control of machine doors and machine cycle time
- Predefined welding cell; user can modify.
- CAD file import utility for user-defined parts and objects
- Setup module can be activated directly from SCORBASE module

Programming & Control

- Fully integrated with SCORBASE robotics control software, an intuitive tool for programming & operating robotic workcells

Dynamic 3D Simulation

- Fully functional 3D graphic display module provides dynamic simulation and tracking of the robot and devices in the workcell
- Simulation of robot movements and gripper part manipulation
- Simulation of peripheral axes: conveyor belts, XY tables, rotary tables, linear slidebases
- Simulation of CNC mills and lathes: moveable machine parts such as door, chuck and spindle
- Simulation of automated welding system: welding of multiple parts of varying shapes
- Simulation of parts: objects fall according to laws of gravity
- Simulation of different types of sensors
- Detection and response to impact conditions and axis limits
- Point and click on screen to move the robot and teach position
- Display of robot origin, work envelope and gripper position
- Display of coordinates of workcell objects and devices: absolute positions or positions relative to robot origin
- Display of names of robot, workcell objects and devices

Computer Requirements

- Intel Core i5 2400 GHz 2400 GHz or higher
- 4GB RAM
- 200MB available disk space
- Windows 10
- Mouse, USB, CD Drive

Related Products

Hardware

- SCORBOT-ER 4u

Software

- SCORBASE

Curriculum

For SCORBOT-ER 4u

- Fundamentals of Robotics for SCORBOT-ER 4u
- Robotics and Materials Handling 1 with SCORBOT-ER 4u (laboratory)
- Robotics and Materials Handling 2 with SCORBOT-ER 4u
- Automated Welding with SCORBOT-ER 4u
- Advanced Robotic Programming with SCORBOT-ER 4u

Ordering Information

Software

RoboCell/SCORBASE USB Pro - ER 4u	63-7000-0100

Hardware (SCORBASE included)

Scorbot-ER 4u	00-0413-0000

Contact Us:

intelitek ®

Toll Free:	800-221-2763
Phone:	603-413-2600
Fax:	603-437-2137

Email:
info@intelitek.com
www.intelitek.com