High Speed Alignment

Robotic software increases alignment speed by 70% and accuracy by 50% for electronics assembly applications

High Speed Alignment software offers solution for electronics manufacturers demanding high accuracy and fast time-to-market

High Speed Alignment
Is the first software in the market that provides visual servoing technology for 6-axis and SCARA robots. Developed for electronics manufacturing, this unmatched technology reduces cycle times by 70% whilst increasing accuracy by 50%. This enables high productivity and precision for applications including assembly, alignment of components, picking or placing a work piece in a tool, and placing a part in a fixture.

High Speed Alignment
Uses one or more cameras and a computer vision system to control the position of the robot's device or tool relative to the workpiece. Meeting the demand for higher accuracy and faster time to market, the high-speed alignment enables precision of robotic movements to achieve 0.01 – 0.02 mm levels. Thanks to auto-calibration and tuning, deployment time is reduced from an entire shift to just one hour.

Highlights:
- Speeds up productivity by 70% for highly accurate alignment applications with 6 axis and SCARA robots
- Effortless commissioning with auto-calibration and tuning, reducing deployment time from 8 hours to 1 hour
- Designed for highly precise assembly lines that require 0.01 – 0.02 mm accuracy levels
- Easy-to-use software and intuitive user interface, little expertise required to operate the system
- Compatible with a wide range of cameras, IRC5 and OmniCore™ robot controllers for high flexibility

Features

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Supported robots	IRB 1100, IRB 120, IRB 1200, IRB 1300 and IRB 910SC
Alignment cycle speed	2 - 3 seconds
Position variance	Reduced variance of alignment speed compared to look-then-move approach
Commissioning	Easy commissioning with auto calibration and tuning for servoing purpose
Vision sensors	Compatible with a wide number of vision sensors

Applications

Assembly applications

Alignment of components

Picking/placing a work object in a tool

Placing a part in a fixture

Sensor and EGM parameters set up
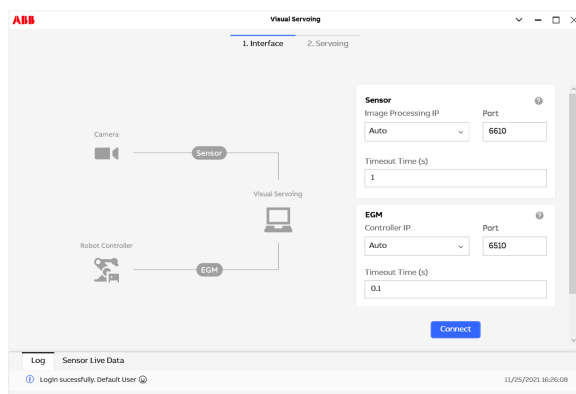
Alignment parameters and visualization
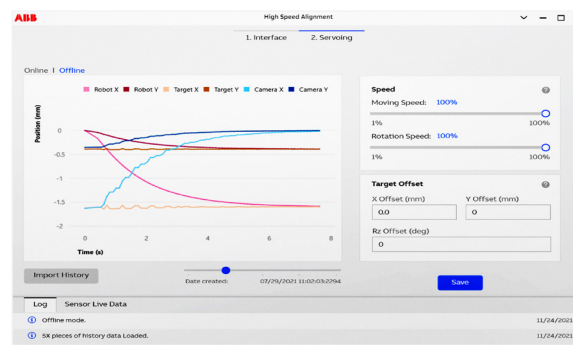
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Technical data

Visual servoing license

Controller	Option	Description
IRC5	1586-1	Prep. Visual Servoing
OmniCore	3135-1	Prep. Visual Servoing

System prerequisites

Requirement	Note
RobotWare 6.13 or 7.4 and later versions	Required to make sure the communication with the robot can be set up.
Net Core Desktop Runtime 6.0 and later versions	Available in: https://dotnet.microsoft.com/en-us/download/dotnet/6.0
Visual Servoing installation package	Available in: https://new.abb.com/products/robotics/application-software/visual-servoing

Recommended hardware (not included)

Items	Basic specs	Quantity
Camera (with global shutter)	5.0 MPx	2
Lens	X0.22 300±10mm	2
Light	4 Channel	6
Light controller	4 Channel	1
Board	License	1
PC	I7/8GB/1TB/1920x1080	1
Ethernet cable	GigE Ethernet cable	2
Monitor	Touch screen	1

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