Integrated PLC Controller option

Highly capable ABB PLC conveniently integrated in the IRC5 controller, offers cost saving, ease of use and powerful performance for robotic production cells.

Integrated PLC - AC500
A standard ABB PLC from the AC500 product range is optionally integrated into the IRC5 controller cabinet. The PLC interacts closely with the IRC5 main computer to provide a flexible and powerful platform for a wide scale of automation tasks, where the PLC can take on anything from a subordinate role, e.g. gripper control, all the way to acting as master of a complete production cell. The AC500 PLC is easy to program and easy to use. It is mounted inside the Single Cabinet door.

The integrated PLC is suitable for control of a wide range of production cell functions, from peripheral equipment such as grippers, feeders and ancillary machines to overall orchestration of the complete cell.

High performance PLC
AC500 is a complete family of PLCs, I/O (local, remote and wireless), fieldbus couplers, operator screens etc. The subset selected for the IRC5 option can easily be extended through the comprehensive AC500 catalogue.

Ease of use
The PLC integration offers ease of use throughout the life cycle:
• Easy to order, “one stop shopping” together with the robot.
• Easy to commission, since the installation is done from factory in a standardized and quality assured way.
• Easy to program, thanks to the high capacity of the powerful CPU, the preinstalled software and templates and the first class PC tool provided through Control Builder (supporting all the six IEC 61131-3 programming languages).
• Easy to operate, with convenient FlexPendant status screens.
• Easy to support and service, with one contact for the complete system.
Integrated PLC

**Specification**

**CPU features**
- 512 MB program memory
- Battery for data and clock retention
- SD memory card slot for loading/saving programs and data (128 MB card included)
- Serial link interface for connection of e.g. CP400 operator panel and/or remote I/O

**Performance**
- 1000 instructions: 0.07 ms (binary/word), 1.6 ms (floating point)

**I/O support**
- Up to three I/O modules of type
  - 16/16 DI/DO
  - 8 DI/Relay out
  - 4 AI/4 AI

**Controller variant**
- Available in Single Cabinet controller only

**PC connection**
- The service port on the operator panel connects to both PLC and IRC5 main computer

**Fieldbus support**
- One field bus coupler can be added for master bus control. Available buses:
  - ModBus, Modbus TCP, DeviceNet, PROFIBUS, CANopen, CS31 Bus, PROFINET, EtherCat, EtherNet
- Available through AC500 sales channel

**Communication link**
- DeviceNet Lean provides a low cost communication link to the PLC (also works on standard DeviceNet)

**Software integration**
- Background tasks for data exchange
- RAPID instructions for PLC interaction
- PLC function blocks for IRC5 interaction
- PLC configurable for master or slave role
- Graphical interface on FlexPendant for status and interaction

**Control Builder programming tool**
- Based on CoDeSys, the leading programming tool in discrete manufacturing
- Very fast and easy installation
- All six IEC 61131-3 programming languages
- Powerful debugging environment

ABB reserves the right to change specifications without notice.