



Communication

Industrial Robot Controller Functionality



On speaking terms with your needs

The unmatched communication capabilities of the IRC 5 robot controller provide you with superior performance in terms of easy integration and total flexibility, as well as efficient monitoring and plant-wide data collection.

Two Ethernet channels enable optimum separation of communication tasks. This reduces installation and booting time and improves productivity. The service channel is located at the operator's panel and provides a plug-and-play connection for e.g. service tasks. The LAN-channel can be permanently connected to the factory network for tasks such as program transfer, monitoring, customized operator screens and business data collection.

The controller can be integrated into single work-cell systems as well as into large scale factory automation systems. Since the I/O system supports a wide range of fieldbus standards, the extensive configuration possibilities include distributed devices, safety equipment and third party equipment as well – the flexibility corresponds to all your needs.

Key benefits

- Facilitates integrated solutions and reduces installation costs.
- Increases productivity with a PC connected to the robot controller.
- Supports third party fieldbus modules and gives you total flexibility.
- Enables local and remote monitoring of plant wide production data, statistics and diagnostic information using a standard Internet browser.

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TECHNICAL FEATURES

I/O SYSTEM

Functionality	Up to 1 024 signals 8 in/out discrete I/O Up to three fieldbus channels 20 boards per channel Customizable I/O names Grouping of signals Interrupts on both discrete and analog signals Capability to connect 3rd party modules Wide range of ABB boards in DeviceNet Multiple fieldbuses simultaneously possible Cross connection with logical conditions
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FIELD BUSES

Master and/or Slaves	ODVA compliant DeviceNet 1 or 2 channels. Profibus DP, Interbus
DeviceNet Gateway modules	Allan-Bradley RIO Interbus Profibus CC-link

NETWORK CAPABILITY & FILE MANAGEMENT

Service channel and LAN	Two built in Ethernet channels
Fast communication	10 or 100 Mbit/s
Network file access	The robot controller can host both NFS (Network File System) and FTP (File Transfer Protocol) client software.
Robot Control system file access	FTP (server software) The FTP server on the robot allows the controller to respond to a request from an FTP client on a remote computer.
DNS	Domain Name Server Correlates device names to associated network IP addresses through a DNS server. Allows the robot to access a network computer via a DNS server to determine the network IP addresses of other devices on the network.
DHCP	Dynamic Host Configuration Protocol Enables quick connection to the network IP addresses are automatically obtained. LAN channel (DHCP client software) The channel has either a fixed IP address or it can be obtained from a DHCP server on the network. Service channel (DHCP server software) The channel has a fixed IP address and can assign the connected PC an IP address.
SNMP	Simple Network Management Protocol Enables quick access of control system network information.

SERIAL CHANNELS

	One channel, RS 232 or RS 422
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RobotWare Options

Booting capability	RobotWare and RobotWare options. RobotStudio Online
I/O System	The I/O system has the possibility to use several types of fieldbuses both as master and slaves. A large number of I/O modules of different brands can be used.
PC-interface	This option enables the robot to communicate with a PC using WebWare products. Typical actions are program execution, write/read data and change of robot mode. It also enables communication with RobotStudio, otherwise restricted to the service channel only.
NFS/FTP-client	Are used to access files on a corresponding server over the factory network.
Socket Messaging directly from RAPID.	The possibility to communicate with the network,
File and serial channel handling	Read/write to service channels and files
Fieldbus command interface	Enables command messages to field bus modules

SOFTWARE PRODUCTS

OPC server	Enables access to the controller via a standardized OPC server.
Robot SDK	A software development kit that allows you to design your own PC application which communicates with the robot controller.
WebWare	A family of software products which provides services to Internet clients. Backup, monitoring, control, remote diagnostics, scheduled events. Access to the robot controller also via the office network and Internet.

For more detailed information about Software tools, see separate data sheets for each tool.



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