



# IRC 5

## Industrial Robot Controller



### High performance robot controller

IRC 5 is ABB's fifth generation robot controller. It sets new standards with its modular concept, a completely new ergonomically designed portable interface unit, the FlexPendant™ and fully synchronous multiple (up to four) robot control through the MultiMove™ function.

The new controller is focussed directly at the customer with greatly simplified application planning, set-up, operation and serviceability of single and multiple robot cells. A key element in this superior 'customer friendliness' is the new class-leading portable interface unit, the FlexPendant, with its intuitive Windows layout and touch-screen operation. The modular concept also means every system is a cost-efficient investment, designed to match the exact needs of the user, and yet is readily expandable to meet future demands. It is a true lean solution that will lead to increased customer life-time profitability.

The modularity of the IRC 5 is a major step forward in robot control with a logical split of functions into control, axis drives and process. Each module is housed in its own cabinet with an identical footprint so they may be stacked for minimal floor occupancy or distributed depending on the user's need. There is minimum dependency between the modules, each having its own computer power and supervision and linked to the others by Ethernet. This flexibility makes it possible to optimize cell layouts and to upgrade or replace one module with minimal interference to the others.

### MultiMove

IRC 5 has the ability to control multiple robots with the potential to reduce costs, improve quality, increase productivity and expand robot applications. MultiMove allows applications that were previously impossible – all thanks to the perfect coordination of complex motion patterns.

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### TECHNICAL DATA, IRC 5 INDUSTRIAL ROBOT CONTROLLER

#### PERFORMANCE

Control hardware	Multi-processor system PCI bus Pentium® CPU Flash disk or hard disk for mass memory Energy back-up for power failure handling USB memory interface
Control software	Object-oriented design High-level RAPID robot programming language Portable, open, expandable PC-DOS file format RobotWare software products Pre-loaded software. Also available on CD-ROM

#### ELECTRICAL CONNECTIONS

Supply voltage	200-600 V, 50-60 Hz Integrated transformer or direct mains connection
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PHYSICAL	Size	Weight
Control module	625 x 700 x 700mm	105 kg
Drive module	625 x 700 x 700mm	145 kg
Wheels	Available as option	

#### ENVIRONMENT

Ambient temperature	5-45°C (41-113° F) option 5-52°C (41-125° F)
Relative humidity	Max. 95%
Level of protection	IP 54
Fulfilment of regulations	Machine directive 98/37/EC Annex II B EN 60204 ISO 10218, EN 775 ANSI/RIA 15.06/1999 ANSI/UL 1740-1998 (option)

#### USER INTERFACES

Control panel	On cabinet or remote
FlexPendant	Weight 1.3 kg Graphical colour touch screen Joystick and emergency stop 8 hard keys only For additional details, see separate data sheet.
Maintenance	Status LEDs Diagnostic software Recovery procedures Logging with time stamp
Safety	Safety and emergency stops 2-channel safety circuits with supervision 3-position enabling device

#### MACHINE INTERFACES

Inputs/outputs	Up to 1 024 signals
Digital	24V DC or relay signals
Analogue	2 x 0-10V, 3 x ±10V, 1 x 4-20mA
Serial channels	1 x RS 232/RS 422
Network	Ethernet (10/100 Mbits per second)
Two channels	Service and LAN
Fieldbus scanners	DeviceNet Interbus Profibus DP DeviceNet Gateway Allen-Bradley Remote I/O CC-link
Internal I/O	8 in/8 out 24V DC 100mA
Process encoder	Up to 6 channels
Process interfaces	Connections for signals to manipulator upper arm Space in controller for extra equipment

#### SENSOR INTERFACES

Search stop with automatic program shift  
Seam tracking  
Contour tracking  
Conveyor following

#### FEATURES AND FUNCTIONALITY

See separate RobotWare data sheet

*Data and dimensions may be changed without notice.*

*Pentium is an Intel trademark.*

#### Flexible Controller



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