The heart of Robotics

IRC5

Industrial Robot Controller

High performance robot controller

IRC5 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 IRC5 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. A single cabinet version, with control and drive functions combined in one compact cabinet, is also available.

MultiMove

IRC5 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.

IRC5

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TECHNICAL DATA, IRC5 INDUSTRIAL ROBOT CONTROLLER

PERFORMANCE

Control hardware	Multi-processor system PCI bus 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

PHYSICAL	Size H x W x D	Weight
Single cabinet	970 x 725 x 710 mm	150 kg
Dual cabinet	1370 x 725 x 710 mm	180 kg
Control module	720 x 725 x 710 mm	50 kg
Drive module	720 x 725 x 710 mm	130 kg
Wheels	Available as option	

ENVIRONMENT

Ambient temperature	0–45°C (32–113° F) option 0–52°C (32–125° 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 Emergency stop 8 hard keys only Hot plug
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 2048 signals
Digital	24V DC or relay signals
Analogue	2 x 0-10V, 3 x ±10V, 1 x 4-20mA
Serial channel	RS 232/RS 422
Network Two channels	Ethernet (10/100 Mbits per second) Service and LAN
Fieldbus scanners and gateways	DeviceNet Interbus Profibus DP Allen-Bradley Remote I/O
Process encoder Process interfaces	Up to 6 channels 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 tracking

FEATURES AND FUNCTIONALITY

See separate RobotWare data sheet

Data and dimensions may be changed without notice.
ABB reserves the right to change specifications without notice.

Dual cabinet

Single cabinet

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