IRC5 Compact controller
Optimized for small robots

The IRC5 Compact controller extends the comprehensive IRC5 family of robot controllers. It brings the familiar benefits of the world leading robot controller, including superior motion control and flexible RAPID language, while adding the advantage of a minimized footprint.

IRC5 Compact

The IRC5 Compact offers the capabilities of the extremely powerful IRC5 controller in a truly compact format. In addition, the IRC5 Compact delivers space saving benefits and easy commissioning through one phase power input, external connectors for all signals and a built in expandable 16 in, 16 out I/O system.

Utilizing many of the well-known features of the IRC5 controller, the new compact version offers familiar programming and operation, ensuring no additional training is required.

Initially released for the new IRB 120, the IRC5 Compact controller is also scheduled to be released on other ABB small robots such as the IRB 140 and IRB 360 ‘Flexpicker’ throughout 2010.

Safety

Operator safety is a central quality of the IRC5 Compact, fulfilling all relevant regulations, as certified by third-party inspections.

Motion Control

Based on advanced dynamic modeling, the IRC5 optimizes the performance of the robot for the shortest possible cycle time and precise path accuracy. Together with a speed independent path, predictable and high performance behaviour is delivered automatically, with no tuning required by the programmer. What you program is what you get!

FlexPendant

The FlexPendant is characterized by its clean, color touch screen-based design and 3D joystick for intuitive interaction. Powerful customized application support enables loading of tailor-made applications, for example operator screens, thus eliminating the need for a separate operator HMI.

RAPID programming language

RAPID programming provides the perfect combination of simplicity, flexibility and power. It is a truly unlimited language with support for structured programs, shop floor language and advanced features. It also incorporates powerful support for many process applications.

Communication

The IRC5 supports the state-of-the-art field busses for I/O and is a well-behaved node in any plant network. Sensor interface functionality, remote disk access and socket messaging are examples of the many powerful networking features.

Remote service enabled

Remote monitoring of the robot is available through standard communication networks (GSM or Ethernet). Advanced diagnostic methods allow fast investigation on failure as well as monitoring of the robot condition throughout the life cycle. Service packages are available, including new services like backup management, reporting and proactive maintenance activities.

RobotStudio

RobotStudio is a powerful PC tool for working with IRC5 data. It can be used offline, providing a perfect digital copy of the automation system together with strong programming and simulation features.

IRC5 Compact

Specification	
Controller hardware	Multi-processor system
	PCI bus
	Flash disk mass memory
	Energy back-up power failure handling
	USB memory interface
Control software	Well proven real-time OS
	High-level RAPID programming language
	PC-DOS file format, preloaded software, available on DVD
	Extensive functionality set, see separate RobotWare data sheet

Electrical Connections	
Supply voltage	Single phase 220/230 V, 50-60 Hz

Physical		
	Size HxWxD	Weight
	258 x 450 x 565	27.5 kg

Environment	
Ambient temperature	+ 0° C (32°F) - +45°C (122°F)
Relative humidity	Max. 95%
Level of protection	IP20
Fulfilment of regulations	Machine directive 98/37/EC regulation
	Annex II B
	EN 60204-1:2006
	ISO 10218-1:2006
	ANSI/RIA R 15.06 -1999

User Interfaces	
Control panel	On cabinet
FlexPendant	Weight 1 kg
	Graphical color touch screen
	Joystick
	Emergency stop
	Support for right and left hand operators
	USB Memory support
Maintenance	Diagnostic software
	Recovery procedure
	Logging with time stamp
	Remote Service enabled

Safety	
Basic	Safety and emergency stops
	2-channel safety circuits supervision
	3-position enabling device

Machine Interfaces	
Inputs/outputs:	Standard 16/16 (up to 8192)
Digital	24V DC or relay signals
Analogue	1 x 0-10V
Serial channel	1 x RS 232 (RS422 with adaptor)
Network	Ethernet (10/100 Mbits per second)
Two channels	Service and LAN
Fieldbus Master	DeviceNet™
	PROFINET
	PROFIBUS DP
	Ethernet/IP™
Fieldbus Slave	PROFINET
	PROFIBUS DP
	Ethernet/IP™
	Interbus
	Allen-Bradley Remote I/O
	CC-link
Process encoder	Up to 6 channels

Sensor Interfaces	
	Search stop with automatic program shift
	Conveyor tracking
	Machine vision
	Seam tracking

Data and dimensions may be changed without notice