

IRB 540-12

A Cost-effective Solution



Gain an Edge on the Competition

The IRB 540 is a user-friendly and smart paint robot, using the same technology as the other ABB robots. It will maximize your paint performance and minimize your cost. This robot delivers constant high finish quality and reduced over-spray, thus reducing material consumption and waste.

Our solutions draw on over 30 years of paint process know-how and experience to address your requirements for lower costs, higher finish quality and reduced emissions.

User-friendly

The user-friendly IRB 540 is a fully balanced, streamlined robot with a unique patented FlexiWrist that is designed for easy manual programming (Point-to-point and Continuous Path). You simply move the robot by hand to the desired program point, press the trigger button and the system will write the RAPID program instruction (PaintL), it will number the program point and store the position. Then you enter test mode, and let the robot run through

the program while you select the desired set of paint parameters at the specified positions.

State-of-the-art Technology

State-of-the-art motor, motor drive and transmission technology gives the IRB 540 high speed and acceleration. The resolvers are integrated in the motors, resulting in a slim design and reduced need for access.

ABB's proven standardized technology provides high-quality finish for all powder, solvent and waterborne paint processes, however complex the product shape. Our solutions also include processes for difficult materials such as glaze, enamel, shield material and adhesives.

Global Controller Platform

The S4P+ Controller is modular and designed to the highest level of operational reliability. Because of ABB's Global Controller Platform training, service and engineering costs can be significantly reduced.



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TECHNICAL DATA, IRB 540-12

SPECIFICATIONS

Handling capacity FW	5 kg
Number of axes	6

Axis movements:

Axis	Working range	Max. speed
1. Rotation	300°	112°/s
2. Vertical arm	145°	112°/s
3. Horizontal arm	95°	112°/s
4. Wrist	176°	360°/s
5. Bend	176°	360°/s
6. Turn	640°	700°/s

ELECTRICAL CONNECTION

Supply voltage	3 ph, 200-600 V, 50/60 Hz	
Power consumption	Stand by	<300W
	During production	~1000W
	Peak	5000W
Electrical Safety	According to international standards	

PHYSICAL

Robot unit mounting	Floor, inverted
Dimensions:	
Robot Footprint	660 X 750 mm
Vertical arm	L 1000 mm
Horizontal arm:	L 1000 / 1620 mm
Robot Controller	H 1280, W 800, D 550 mm
Weight:	
Robot Unit 1220 mm	607 kg
Robot Unit 1620 mm	610 kg
Robot Controller	240 kg

ENVIRONMENT

Explosion protection:	Class 1, Division 1, Group C&D	
North America	IIGT4	
Japan	IIBT4	
Europe	Electro Magnetic Compatibility certificate	
EMC	Robot Unit 5-45°C	
Ambient temperature	Robot Controller	5-52°C
	Non condensing max.	95%
Relative humidity	Protection Standards	IEC 529
Degree of protection	Robot Unit	IP 67
	Wrist	IP 54
	Robot Controller	IP 54

USER INTERFACES

Operator panel	In cabinet or external
Programming unit	EExi protected. Portable, joystick and keyboard
	Display 16 lines x 40 characters
	Graphical 240 x 320 pixels
	Distributed intelligence
	Configurable on screen menus
Safety	EMY stop, Enable device, General mode stop, Auto mode stop, Test mode stop, Cabin interlock

MACHINE INTERFACES

Digital inputs/outputs	512/512
Analog inputs/outputs	16/12
Remote I/O	Interbus-S 64/64
	Allen Bradley RIO 128/128
	ProfiBus DP 128/128
Serial Channels	RS-232, RS-422, RS-485
Network	Ethernet NFS/FTP
	RAP Robot Application Protocol
	Factory Ware interface
	High Speed IPS link
	Real Time data logger
	DDE server
Diskette drive	3.5" MS-DOS format

BASEWARE

BaseWare OS	Robot Operating System, multitasking capability
RAPID	Powerful application programming language
Conveyor Tracking	Accurate synchronization of robotic motion, paint process regulation and the moving part for both linear and circular tracking in any direction

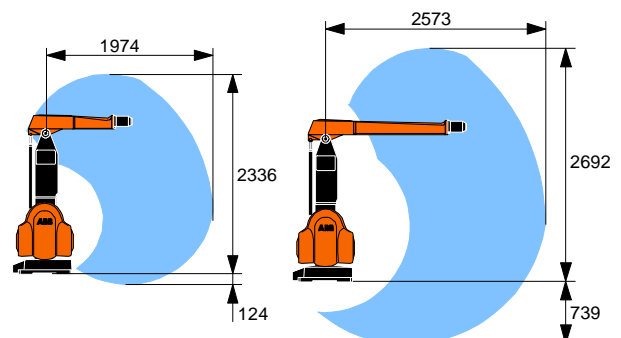
PROCESSWARE

APR	Analog Paint Regulation to atomizer. Fluid, Air and Electrostatic control.
IPS	Integrated Process System. Unique system for closed loop regulation and high speed control for paint and air flow adjustments. Based on open, flexible and adjustable architecture philosophy.

PC TOOLS

CAP	A Computer Aided Painting package containing ShopFloor Editor and RobView.
ShopFloor Editor	Off-Line editing of programs using 3D graphics for path and process tuning.
RobView	Monitoring of robots and process in production. Easy design of user screens.

WORKING AREA



For information on "Small 540" see separate Data Sheet
Data and dimensions may be changed without notice.