ROBOTICS

IRB 5350, Door Opener Robot

Compact – Flexible – High performance

The IRB 5350 door opener robot is a compact and precise robot assistant for automotive interior painting, both for stop-and-go and moving-line solutions. A specially designed door opener tool with integrated sensors for search and force feedback makes this an efficient and important part of the interior paint zone.

Optimized design for various applications
The IRB 5350 robot provides two options for different interior painting solutions: the three axes stop-and-go version and the four axes moving-line version. This capable and efficient interior painting solution can support booth width from 4.5 to 6 meters, booth length from 3 to 10 meters and conveyor speeds ranging from 5 to 10 m/min.

Compact design and flexible installation
With the compact arm/foot/rail system, the IRB 5350 can accomplish the following:

- easily integrated into a narrow booth
- increased flexibility for the paint robot by using a dedicated rail system
- common solutions to be used on both sides of the booth, shift the working range for axis 2 for a left or right version
- the rail system support floor mounting.

High performance and reliability
For the last several decades, ABB has been peerless in robotic motion control technology. With the QuickMove™/TrueMove™ technology, the IRB 5350 robot is able to utilize swift acceleration and smart sensor tooling to complete a door opening cycle within 3 seconds (A typical cycle includes approaching, searching, gripping, opening, closing, releasing etc.)

The IRB 5350 handles a gripper tool of up to 7kg to grip, open and close different kinds of car doors using its advanced sensors, built into the tooling for detecting the door. Wellknown for its high protection standards, ABB's IRB 5350 has an IP66 rating. The rail axis has IP66 protection as standard.

Easy control and programming
With clear functionality, ABB offers a manageable solution to any interior painting challenge.

- Use the IRC5P robot controller to command both the IRB 5350 door opener r obot along with the ABB's paint robots, common spare parts and interface.
- The EX-certified Teach Pendant can be used inside the paint booth for pr ogram modifications and testing.
- Offline programming of the entire interior zone is possible with use of ABB's innovative RobotStudio.

Global service and support
ABB customers can take advantage of the company's service organization; with more than 40 years of experience in the paint application area. ABB has support offices in 53 countries.

Specification	
Number of axes	3 axes/4 axes when rail-mounted
Robot mounting	Floor and rail mounted
Payload on tower	7 kg
Opening and closing force	Max 150N, Force is Perpendicular to the door blade.
Ingress protection degree	IP66
Robot unit ambient temperature	+0°C to +40°C*
Relative humidity, non-condensing	95% maximum
Ex classification	II 2 G Ex ib px IIB T4 Gb II 2 D Ex ib pd IIIC T65°C FM Class I, II. Div.1, Group C, D, G 135°C
Robot controller ambient temperature	+48°C maximum

* Recommended max ambient temp <30°C

Performance (according to ISO 9283)	
Position repeatability (RP)	0.02 mm
Path repeatability (RT)	0.13 mm

Physical	
Robot footprint	410 x 430 mm (standard foot) 465 mm x (3 – 10 m) length* (rail)
Robot height	1256 mm
Robot weight (3 axes)	215 kg
Robot weight (4 axes)	316 kg
Rail weight	124 kg/m
Robot Controller (H x W x D)	1450 x 725 x 710 mm
Robot controller weight	180 – 200 kg

*Longer rail lengths on request

Movement			
Axis motion	Working range		Max speed
	3 axes	4 axes	
1 – Inner arm	+150º to -150º	+88º to -88º	167º/s
2 – Outer arm	+175º to -125º (left) +125º to -175º (right)	+175º to -125º (left) +125º to -175º (right)	180º/s 180º/s
3 – Tower	350 mm	350 mm	780 mm/s
4 – Rail axis*	/	**	1920 mm/s

*Optional axis for rail motion
**Determined by the rail length

Controller interfaces	
Backup	USB connection and Ether net
I/O boards	Analog, digital, relay, 120VAC, encoder and process I/O boards available
Fieldbus support	Interbus-S, ProfiBus, Profinet, CC Link, DeviceNet and Ether net IP available
Network	Ethernet FTP/NFS

PC tools	
RobView 5 (included)	Paint cell supervision and operation
ShopFloor Editor	Off-line editing and pr ocess tuning
RobotStudio Paint	3D off-line simulation and pr ogramming

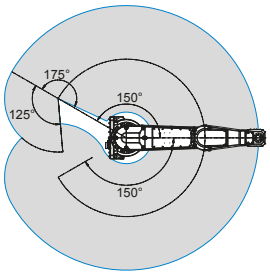
Electrical connection	
Mains voltage	200 – 600VAC, 3-phase, 50/60 Hz
Power consumption	Stand by <300 W, production <800 W
Electrical safety	According to inter national standards
Emission	EMC/EMI shielded

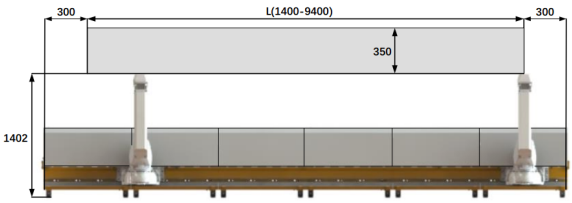
Information may be changed or updated without notice

Flexible rail system

The rails are designed for overspray protection and are available in a 1 m module that combines to the desired length, up to the 10 m (standard). It can be mounted on floor. One or two door opener robots can be mounted on one rail.

Work envelope, left version





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