ROBOTICS

IRB 1660ID
High performance ID robot for arc welding and machine tending

When shorter cycle times, unmatched versatility, and a smaller, more powerful wrist matter - ABB's IRB 1660ID is the robot of choice.

Up to 10% shorter cycle times
IRB 1660ID's new compact wrist with very powerful motors enables fast and reliable movements that do not impede swinging cables and allow maximum acceleration and speed at all times. This combined with ABB's QuickMove™ technology allows the IRB 1660ID to shorten cycle times up to 10% compared to competition.

Outstanding weld quality
The demand for superior and quality in arc welding applications has increased, requiring improved wire feeding control near the arc to guarantee high volume production. The IRB 1660ID has a stronger more rigid upper arm able to lift up to 6 kg to accommodate heavier torches. This, combined with ABB's TrueMove™ technology and the new motion process "Accuracy mode" provides 0.05 mm path repeatability for excellent welding results.

Safe robot movements enable high density cells
The IRB 1660ID with the aid of RobotStudio®, ABB's premier offline robot software programming tool, enables robot programmers to envision high density cells with several robots welding close to each other with a minimum of work piece heat distortions.

RobotStudio simulations help to secure safe robot movements with max speed and accelerations at all times to provide predictable and shortest possible and cycle times. Such high density cells can maximize your output, provide top quality parts and operate with unmatched reliability.

Fast, agile and reliable for machine tending
The compact and hollow wrist enables fast and reliable movements since the robot can move at maximum acceleration and speed without damaging the Integrated DressPack. The risk of collision in confined spaces is also eliminated. The combined working range of axes 4, 5 and 6 of 1,390° provides outstanding agility inside CNC machines. The IP67 wrist, the protection of the cablings from water and the controlled movements provide up to 50 percent lower maintenance costs and a longer life expectancy.

Simplified online programming
Online programming is further simplified thanks to the full control of the hose packages or cablings, the compact 135 mm size wrist for faster re-orientations and the 0.30 mm TCP reorientation accuracy (absolute accuracy option needed) for highly accurate corner re-orientations.

Main applications
• Arc welding
• Machine tending
• Material handling

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Specification

Robot version	Reach (m)	Payload (kg)	Armload (kg)
IRB 1660ID	1.55	6	15+15
Number of axes	6		
Protection	IP67 (IP40 for axis 4)		
Mounting	Floor, tilted, inverted		
Controller	IRC5 Single Cabinet/IRC5 PMC Panel Mounted/IRC5 Compact		

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Performance (according to ISO 9283)

	IRB 1660ID
TCP reorientation accuracy average	0.30 mm*
Path repeatability	0.05 mm
Position repeatability	0.02 mm

* Absolute accuracy option required.

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Technical information

Electrical Connections

Supply voltage	200-600 V, 50-60 Hz
Power consumption	0.62 kW, ISO-Cube at max. load and speed

Physical

Robot base	484 x 648 mm
Robot height	1392 mm
Robot weight	257 kg

Environment

Ambient temperature for mechanical unit

During operation	+5° C (41° F) to + 45°C (113°F)
During transportation and storage	-25° C (-13° F) to +55° C (131° F)
During short periods (max. 24 h)	up to +70° C (158° F)
Relative humidity	Max. 95%
Noise level	< 70 dB(A)
Safety	Double circuits with supervisions, emergency stops and safety functions. 3-position enable device
Emission	EMC/EMI shielded

Data and dimensions may be changed without notice.

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Movement

Axis movement	Working range	Axis max. speed
Axis 1 rotation	+180° to -180°	180°/s
Axis 2 arm	+150° to -90°	180°/s
Axis 3 arm	+79° to -238°	180°/s
Axis 4 wrist	+175° to -175°	320°/s
Axis 5 bend	+120° to -120°	360°/s
Axis 6 turn	Default: +400° to -400° Max. rev: +191 to -191	500°/s

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Working range

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