D controller

An Evolution of Engineering Excellence

Kawasaki

Kawasaki Robotics (USA), Inc.

Simple friendly

simply the highest performance robots on the planet

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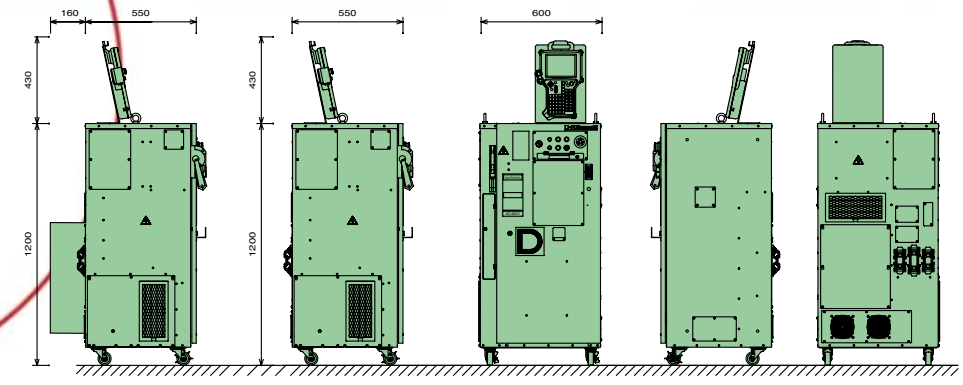
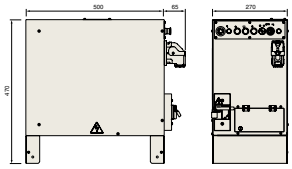


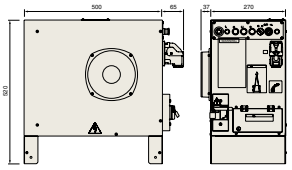
D33/34 SIDE VIEW for Palletizing | SIDE VIEW | FRONT VIEW | SIDE VIEW | REAR VIEW

D30/32/34

D76



D77



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Specifications

		STANDARD	OPTION
Model		D30/32/33/34/76/77	
Structure		Self-Standing Main Enclosure	
Number of Controlled Axes	D30/32/34	6 Axes	Max. 16 Axes (Please contact us when using 9 Axes or more.)
	D33/34 for Palletizing	4 Axes/5 Axes	Max. 15 Axes (Please contact us when using 8 Axes or more.)
	D76/77	6 Axes	
Servo Motor		AC Servo Motor	
Position Detector		Absolute Encoder	
Drive System		Full Digital Servo System	
Programming		Block Teaching, AS Language, Off-line, (5) PC Programs	K-Logic, S- Logic
Coordinate Systems		Joint, Base, Tool	Fixed Tool Point
Types of Motion Control		Joint, Linear, Circular Interpolated Motion	
General Purpose Signals	External Operation Signals	External Motor Power Off, External Hold	
	Input Signals	32 Channels (Includes Dedicated Signals)	64/96/128 Channels (Includes Dedicated Signals)
	Output Signals	32 Channels (Includes Dedicated Signals)	64/96/128 Channels (Includes Dedicated Signals)
Memory Capacity		1MB (Includes System Memory): Approx. 5,000 steps	4MB (Includes System Memory): Approx. 35,000 steps
External Storage		PCMCIA Card Slot	
Communication Interface	PC, Network etc.	RS-232C	RS-485, Ethernet (Please contact us.)
	Fieldbus		CC-Link, DeviceNet, PROFIBUS-S, ControlNet, Ethernet I/P, AB Remote I/O, Interbus-S (Please contact us.)
Teach Pendant		6.4 in. TFT Color LCD with Touch Panel, 640 x 480 VGA, Emergency Stop SW., Teach Lock SW., 3-Position enabling device 58 Hard Keys (Robot Manual Operation Keys, Cursor Keys, etc.)	
Operation Panel		Basic Switches: Motor Power ON, Cycle Start, Error Reset, Emergency Stop, RUN/HOLD, TEACH/REPEAT, etc.	
Cable Length	Teach Pendant	10m (D76/77 - 5m)	15 m (D76/77 - 10, 15 m)
	Robot-Controller	7m (D76/77 - 5m)	10 m, 15 m (D76/77 - 10, 15 m)
Dimensions	D30/32/34	W600 x D550 x H1,200 (mm)	
	D33/34 for Palletizing	W600 x D710 x H1,200 (mm)	
	D76	W270 x D500 x H470 (mm)	
	D77	W307 x D500 x H520 (mm)	
Weight	D30	155kg	
	D32/34	190kg	
	D33/34 for Palletizing	200kg	
	D76/77	30kg	
Power Requirements	D30	AC440/460/480/515/575V ± 10%, 50/60Hz, 3-Phase, 5.4 kVA	
	D32/33/34	AC440/460/480/515/575V ± 10%, 50/60Hz, 3-Phase, 11 kVA	
	D76/77	AC200-240V +/-10%, 50/60Hz, 1Phase 1.5KVA(D76), 3KVA(D77)	
Robot Dedicated Grounding		Less than 100 ohms CAUTION: Separate welder power ground (Robot dedicated ground) and leakage current (Max. 10mA).	
Environmental Conditions		0~45°C, 35-85%RH without Condensation	
Color		Kawasaki Standard	

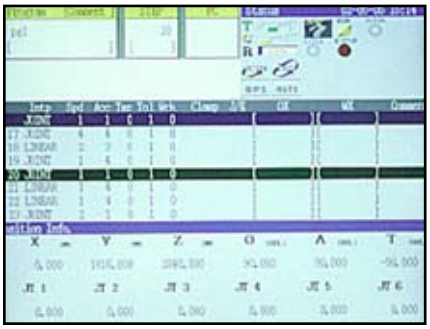
The Heart of Robotic Automation

controller

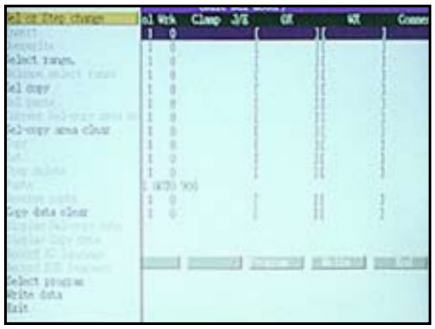
1 Ergonomic teach pendant reduces programming time

The Teach Pendant incorporates both an operator keypad and an easy to read 6.4" color LCD touch screen. The utilization of this keypad, along with improved hardware capabilities, results in significant improvements in key response and robot control. The key arrangement is optimized for quick simple data entry and can be used in conjunction with the large LCD touch screen providing the user with an ergonomic platform for the control, operation, and programming of the robot.

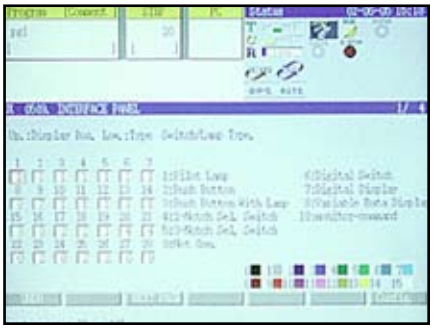
In terms of programming, the D Controller is backward compatible supporting previous controller versions and incorporating the same concept of teaching and operation. Programming can be executed quickly and efficiently utilizing Kawasaki's simple Block Step Teaching menu while the powerful Kawasaki AS Language is the ideal tool for off-line programming, language based programming, program line commenting, etc.



Teaching Screen
Simplified operation (Block) teaching.



Program Editing Screen
On-screen editing.



Operating Function Screen
Easy input of system data.

2 Software for a wide range of applications

Software packages are available to simplify the programming for a variety of applications such as: palletizing, material handling, spot-welding, sealing/dispensing, and arc welding. In addition, Kawasaki AS Language, a highly sophisticated robot programming language, expands the possibilities for advanced motion and process control. With available options including servo spot welding, multiple servo axis control, networking support function, and high performance vision, Kawasaki can deliver solutions to even the most complex applications.

3 Enhanced control through advanced technology

Processing capability is optimized via a state-of-the-art CPU with multi processors. Improved processing speed between the CPU and the Kawasaki fully digital servo drives has resulted in increased motion control performance, such as path speed and accuracy. Furthermore, this rapid processing speed reduces the risk of a system failure through high-speed signal monitoring of E-stop and collision detection circuits while improving path recovery after resetting the system.

4 Expandable platform simplifies system upgrades

• Control of peripheral equipment

The Kawasaki D Controller is compatible with a variety of Fieldbus I/O systems such as DeviceNet, Allen Bradley Remote I/O, CC-Link, Profibus, Interbus-S as well as dedicated digital I/O enabling straightforward communication to a wide range of peripheral equipment. A built-in sequencer, using Kawasaki K-Logic, is also available making it possible to configure a highly advanced control system without the additional cost of adding an external PLC.

• Network Communications

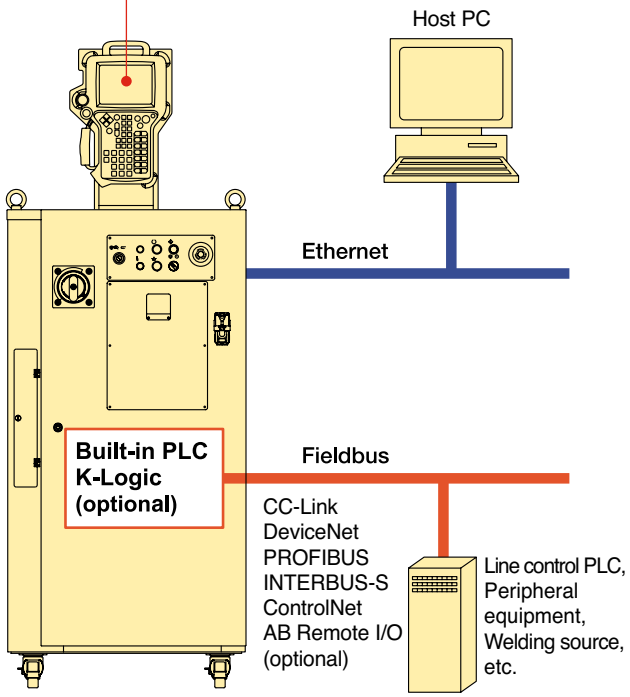
The D Controller system supports network communications through Ethernet allowing data transfer between the controller and the host computer. Web server functions can also be utilized for remote access to the controller via the Internet or Intranet, enabling remote diagnostics and monitoring of robot/controller status.

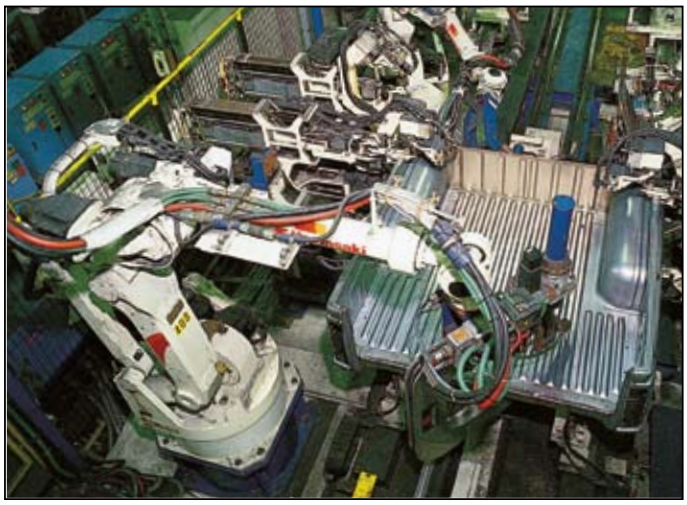
• Multi-Axis Control

Two external servo axis control packages can be installed within the controller cabinet, and a total of sixteen axes can be programmed and operated via the Kawasaki D Controller and teach pendant. The additional axes expandability allows for complete cooperative robot/system motion, enabling the full control of positioners, traversing axes, servo drive end-effectors, turn-tables, servo drive pumps, servo spot welders, etc.

System Expansion by Communication

Interface Panel screens can be easily customized to function as an operating panel (GUI) for peripheral equipment.





5 Innovative design for ease of maintenance

Kawasaki engineers have carefully designed the D Controller to allow for easy maintenance, repair and troubleshooting. Overall wiring has been significantly reduced while modular components have been added to allow for quick and easy replacement and repair. Software functions, such as Data Storage, allow detailed status reports of various machine operations, with the information output provided in spreadsheet format for easy analysis. In the event of a failure, the maintenance support function provides troubleshooting procedures, while the Web Server function allows the system to be diagnosed remotely.

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The Kawasaki Robot and Controller are designed to easily integrate into a wide variety of applications. Kawasaki understands the controller is the heart of any robotic application, and the success of a project is often measured by the ease in which the system is set-up, integrated, programmed, and maintained, as well as its flexibility to accept changes during production. The 'D' Controller was carefully designed to meet these objectives, providing an ultra-ergonomic teach pendant and an easy to maintain expandable controller design allowing customization to meet even the most demanding applications.

The D Controller provides all of the latest technical features while incorporating Kawasaki's "Simple and Friendly" design. The Kawasaki D Controller is loaded with standard equipment, while the expandable platform allows for easy equipment and capacity upgrades. This flexible configuration enables customers to create automation systems perfectly tailored to meet their specific needs.

Kawasaki's role as a leader in industrial robot technology has enabled them to develop a robot control system that provides the most efficient and intuitive robot operation. In addition to highly sophisticated hardware, Kawasaki's advanced software incorporates user friendly programming with advanced features and functions never before available. This latest innovation of robot controllers is an evolution of years of Kawasaki's engineering excellence.

Kawasaki Robotics (USA), Inc.
28140 Lakeview Drive
Wixom, Michigan 48393
Phone: (248) 446-4100
Fax: (248) 446-4200

Louisville, Kentucky
Phone: (502) 893-3889

Atlanta, Georgia
Phone: (770) 218-5887

San Jose, California
Phone: (408) 432-0990

Canada
Phone: (905) 465-0880

Mexico
Phone: (52) 33 3110-1895

www.kawasakirobotics.com

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