Kawasaki Robot

English

Simple and friendly

D series Controller

FOR EUROPE

Kawasaki Robotics GmbH
Kawasaki Robotics (UK) Ltd.

Simple and friendly
Kawasaki Robot

The Kawasaki robot is designed to integrate easily into a variety of applications. This newly designed model, the culmination of our engineering excellence, improves yet further its capacity for expansion, erqonomic operation and ease of maintenance.

D70

D42

Teach Pendant

D-Controller

Kawasaki continuing in its role as a leader in industrial robot technology, aims to develop the robot control system to allow more effective and intuitive operation of the robot.

The result is the Kawasaki D Controller. A high functionality robot controller for the next generation which combines the latest hardware technology with software developed through Kawasaki's diverse experience in control system engineering with its ease of operation, high level of expansion possibilities and excellent maintenance characteristics the Kawasaki D Controller will enable our customers to create automation systems perfectly tailored to their requirements.

The D4x is the standard powerful controller with many available options including external axes. This model is for medium to large robot arms (FS006N or larger).

The D7x is a compact, yet powerful controller using 200/220V single-phase power supply. This model is for small to medium arms (FS10E or smaller).

Features

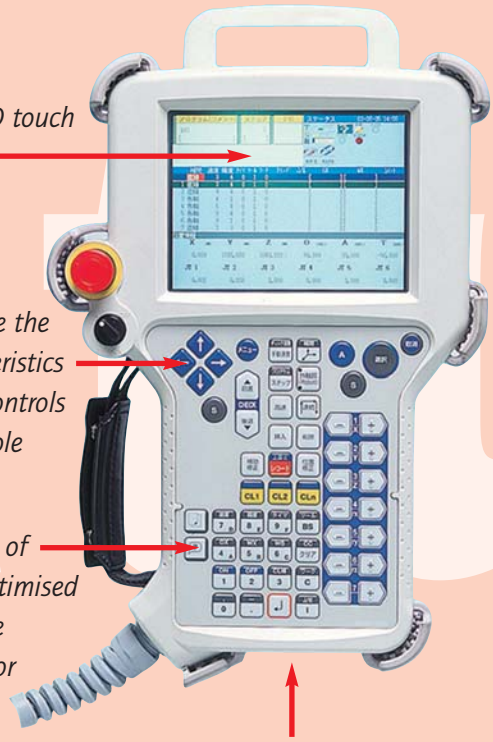
1 Ergonomic operating environment to reduce teaching time

The Teach Pendant utilises a combination of operator keypad and an easy to read 6.4" colour LCD touch screen. The utilisation of this keypad along with improved hardware capabilities results in significant improvements in key response.

The key arrangement, optimised for quick and simple data entry, in conjunction with a large, easy to read colour LCD touch screen provides the user with an ergonomic platform for the control and operation of the robot.

In terms of programming, the new controller is upward compatible, supporting existing conventional controllers, with the main concepts of operation being the same. Using the Simplified Operation (Block) teaching system from Kawasaki original menu, teaching can be carried out quickly and efficiently.

Teach Pendant



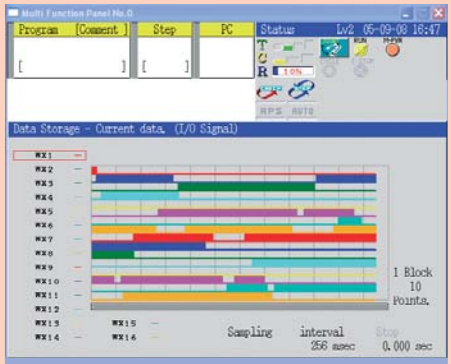
Large, colour LCD touch Screen display

The cursor keys positioned to give the as same characteristics as the familiar controls of a games console

The arrangement of keys has been optimised through extensive studies of operator hand movements.

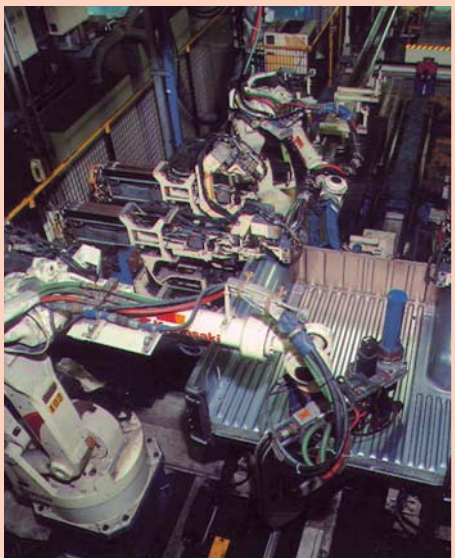
Equipped with deadman switches

Teaching Screen
Simplified Operation (block) teaching system by block selection



Data Storage Screen (option)
Show and store important data direct on the Controller or PC-Card

Operating Function Screen
Easy input of system data



2 Dedicated software for a wide range of applications

Software is available to simplify the programming for a variety of applications such as palletising, handling, spot-welding, sealing 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 welding, network support function and high performance vision Kawasaki can deliver a solution to even the most complex customer application.

3 Enhanced control through new technology

Processing capability has been upgraded through the incorporation of a state of the art CPU and multi processors whilst motion control performance, such as path accuracy and cycle time, has benefited from the application of fully digital servos. Furthermore the possibility of a system failure can now be reduced to a minimum by the inclusion of functions for collision detection and, in the event of an emergency stop, path recovery.

4 High expansion capability simplifies system upgrades

Control of peripheral equipment The Kawasaki system is compatible with, not only standard digital 110, but also a variety of Fieldbus 1/0 systems such as DeviceNet, CC-Link, Profibus and Interbus-S enabling straightforward connection 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 with minimum cost.

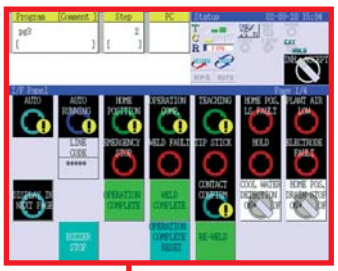
Network Communications The system supports network communications through Ethernet allowing data transfer between the controller and host computer e.g. program upload and download. Web server functions can also be utilised for remote access to the controller via the Internet or an intranet enabling remote diagnostics and monitoring of robot status.

Expansion of Multi-Axis An additional 2 axes can be easily incorporated into the standard 6-axis controller. Three or more additional axes (9 axes or more including the robot arm) are available by the selection of SSCNET compatible motors. Therefore, a multi-axis system can be easily configured to meet the customer requirements.

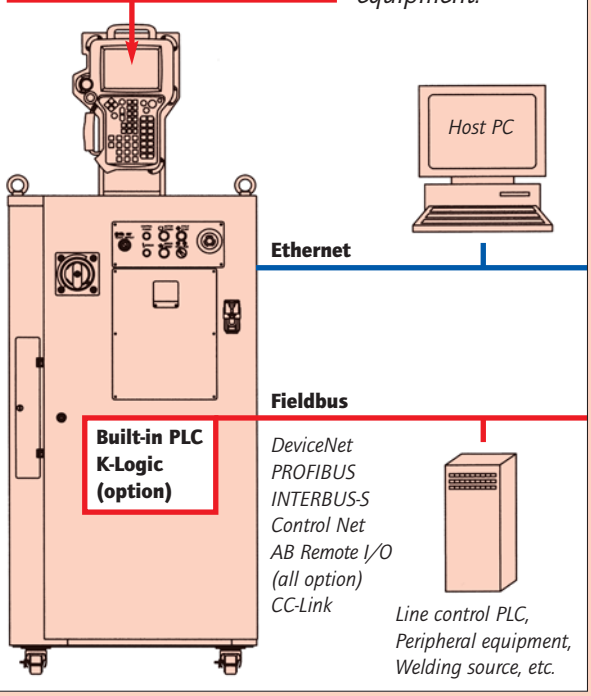
5 Innovative design for ease of maintenance

Careful design to reduce wiring and to utilise, where possible, component modules enables quick and efficient repairs and replacement. Software functions such as Data Storage allow detailed recording of various machine states, with the stored information output in spreadsheet format to aid analysis. Maintenance support functions indicate troubleshooting procedures in the event of a failure and the Web Server function enable diagnostics to be effected remotely.

System expansion by communications



Interface Panel screens can be easily customised to function as an operating panel of HMI for peripheral equipment.

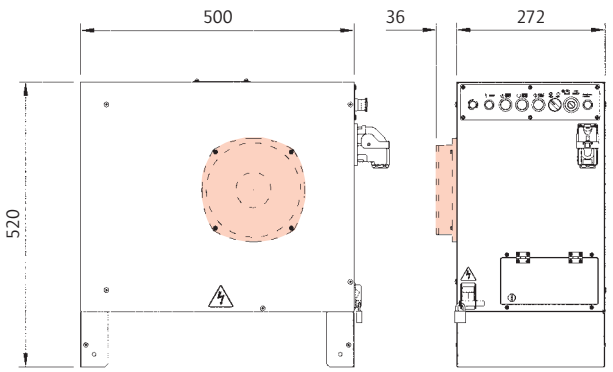


Specifications

Model		D70/71	D40	D42/44	D43/44 palletizing
Structure		Self-standing main enclosure			
Number of controlled axes		6	6	6	4/5
Servo motor		AC servo motor			
Position detector		Absolute encoder			
Drive system		Full digital servo system			
Programming		Block teaching or AS language			
Coordinate systems		Joint, Base, Tool			
Types of motion control		Joint, Linear, Circular interpolated motions			
General purpose signals	External operation signals	External motor power off, External Hold			
	Input signals	32 channels (including dedicated signals)			
	Output signals	32 channels (including dedicated signals)			
Memory capacity		1MB (including system memory), approx. 5,000 steps			
External storage		PCMCIA card slot			
Communication interface	PC, Network, etc.	RS232C			
	Fieldbus	Ethernet			
Teach pendant		6.4" TFT color LCD with touch panel, 640x480 VGA, Emergency stop SW, Teach Lock SW, Deadman SW, 58 hard keys (Robot manual ope. 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	10 m			
	Robot-controller	10 m			
Dimensions (W x D x H mm)		272/308 x 500 x 520	600 x 550 x 1,200	600 x 550 x 1,200	600 x 710 x 1,200
Weight (Kg)		30	155	190	200
Power requirements		AC200/220V +/- 10%, 50/60Hz,1-phase,5.4kVA	AC380/400/415/440V +/- 10%, 50/60Hz, 3-phase, 54kVA		
Robot dedicated grounding		D-class ground (Ground for robot), Max. leakage current 100mm A			
Ambient temperature/humidity		0-45_, 35-85% RH without condensation			
Color		Munsell 10GY9/1 equivalent			

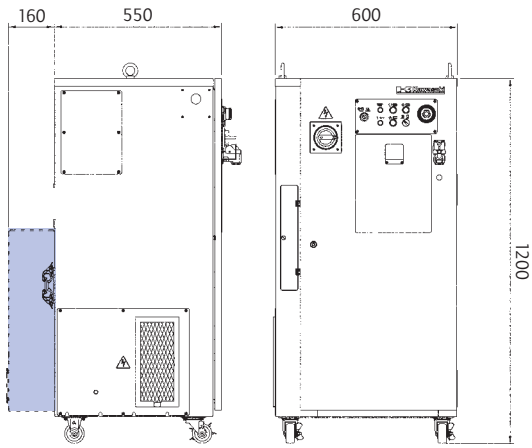
Options	Input/Output signals	64/96/128 channels (including dedicated signals)
	Memory capacity	4MB (including system memory), approx. 35,000 steps
	Fieldbus	CC-Link, DeviceNet, Profibus-DP, Interbus-S, ControlNet
	External storage	FDD
	Coordinate system	Fixed tool point

External View and Dimensions



D70/71

fan for only D71



D40/42/43/44

Regenerative Register

Cautions to be taken to ensure safety

! For those persons involved with the operation/service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related safety documents.

! Products described in this catalogue are general industrial robots. Therefore, if a customer wishes to use the Robot for special purposes, which might endanger operators or if the Robot has any problems, please contact us. We will be pleased to help you.

! Be careful as Photographs illustrated in this catalogue are frequently taken after removing safety fences and other safety devices stipulated in the safety regulations from the Robot operation system.

Inquiries

Kawasaki Robotics GmbH
Sperberweg 29 · 41468 Neuss · Germany
e-mail info@kawasakirobot.de
www.kawasakirobot.de
Phone +49 2131 3426-0
Fax +49 2131 3426-22

Kawasaki Robotics (UK) Ltd.
Units 6 & 7 Easter Court, Europa Boulevard, Westbrook
Warrington WA5 5ZB · United Kingdom
e-mail info@kawasakirobot.co.uk
www.kawasakirobot.uk.com
Phone +44 1925 71 3000
Fax +44 1925 71 3001

Akashi Works/Robot Division
1-1 Kawasaki-cho, Akashi 673-8666 Japan
e-mail robot-pj@khi.co.jp
www.khi.co.jp/robot/
Phone +81 78 921 2946
Fax +81 78 923 6548

Agent

* Materials and specifications are subject to change without notice.

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