Kawasaki arc welding robots use the latest arc welding technology to rival the quality of a skilled human welder.

**Features**

**Application specific operation**
Each robot is equipped standard with an easy to view and operate color LCD touchscreen teach pendant. The operator teaches the process path using dedicated arc welding teaching screens that are designed for simplified use and easy operation.

**Welding condition database**
During an automated process, the operator can change the welding conditions on-the-fly, and then store these changes to a built-in database. The saved conditions can then be recalled from the database and reused.

**Reduced downtime**
A standard, dedicated start sequence function improves the arc establishment. Also, for weld process faults, the robot includes a restart sequence function to automatically conduct overlap welding and resume the operation.

**Manual arc control**
The Kawasaki arc welding robots feature a one button “arc on / arc off” function to allow operators to easily and quickly turn the weld off and on during the automatic weld process. This manual arc control helps operators deal with part anomalies.

**Advanced technology**
Servo torch, touch sensing, special weaving pattern, real-time path modification (RTPM) sensor, start point sensing, multilayer welding function, and auto voltage control (AVC) sensor are some of the advanced arc welding options available with the Kawasaki welding robots.

**Offline programming**
Kawasaki offers arc welding specific offline programming software to automatically generate robot programs from 3D CAD data. Kawasaki's KCONE software significantly reduces robot teaching time and lowers production costs.
KCONG, Kawasaki Common Offline NC data generator

**Features**

- **No need for time-consuming robot teaching**
  KCONG generates robot welding paths quickly and easily from 3D CAD data such as DXF, IGES, STEP or VRML.

- **Offline process verification**
  Once KCONG automatically generates the robot welding path, users can then view the simulation of the arc welding process, check for collisions, view access, and system layout issues, and make fine adjustments to the generated welding path.

- **Direct program download**
  After verifying the weld process and making any necessary adjustments, the operation program is generated by KCONG. The completed weld operation program can then be downloaded directly to the robot controller.

**Servo torch**

Kawasaki’s servo torch option delivers high quality welding.

**Features**

- Can be used with small-gauge iron or aluminum wire
  The steady feed of the iron (or 0.6 mm) or aluminum wire results in no buckling.

- Excellent arc stability
  The constant speed and control of the wire feed results in excellent arc stability.

- Improved arc ignition performance
  The servo torch can control complex wire feeding at the start and end of welding operations, thereby improving arc ignition.
Motion range & dimensions

RS010L

Working range
based on point A

Installation dimensions

RS020N

Working range
based on point A

Installation dimensions

RS015X

Working range
based on point A

Installation dimensions
E series
- An evolution of engineering excellence

Kawasaki has incorporated more than 45 years of experience as a robot industry leader into the development of the most technically advanced controller available. The E Controller combines high performance, unprecedented reliability, a host of integrated features and simple operation, all in a compact design.

Features

Compact
The overall volume of the E Controller has been reduced compared with the previous model. The small footprint of this compact controller allows for installation in high-density applications. For further space saving options, an upright position or stacked installation is possible, without impeding performance.

User-friendly operation
The easy-to-use teach pendant now incorporates motor power and cycle start at your fingertips. Multiple information screens can be displayed simultaneously. The intuitive teaching interface is simple to use.

Programming ease & flexibility
A rich set of programming functions come standard with the E Controller to support a wide range of applications. Functions can be combined and easily configured within a system to suit a particular application. Also the powerful Kawasaki AS Programming Language provides sophisticated robot motion and sequence controls.

Advanced technologies
The enhanced CPU capacity allows for more accurate trajectory control, faster program execution, and quicker loading and saving of files. In addition, memory has been expanded to meet the need for higher program storage capacity. The controller comes equipped with a USB port for external storage devices.

Easy maintenance
Modular components with limited cables translate into easy diagnostics and maintenance. A host of maintenance features are available, including self-diagnostics on hardware and application errors to minimize troubleshooting and reduce MTR (Mean Time To Repair). Remote diagnostics via the web server function enables service support from anywhere in the world.

Expandable
Two external axes can be added to the E01/E02 controller for a total of nine controlled axes. Numerous communication fieldbusses are available for controlling peripheral devices. The Kawasaki K Logic sequencer software can be combined with user customized interface panels on the teach pendant.

Specifications

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Controller</strong></td>
<td>E01 / E02</td>
<td>Transformer unit</td>
</tr>
<tr>
<td><strong>Dimensions (mm)</strong></td>
<td>W510 x D580 x H527</td>
<td>W580 x D580 x H567</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td>Enclosed structure / Indirect cooling system</td>
<td>Full digital servo system</td>
</tr>
<tr>
<td><strong>Number of controlled axes</strong></td>
<td>7</td>
<td>Max 9</td>
</tr>
<tr>
<td><strong>Drive system</strong></td>
<td>Joint, Brake, Tool</td>
<td>Fixed-foot point</td>
</tr>
<tr>
<td><strong>Types of motion control</strong></td>
<td>Joint / Linear / Circular Interrelated motion</td>
<td>Point to point teaching or language based programming</td>
</tr>
<tr>
<td><strong>Memory capacity (bit)</strong></td>
<td>8</td>
<td>Max 36</td>
</tr>
<tr>
<td><strong>General purpose signals</strong></td>
<td>32</td>
<td>Max 36</td>
</tr>
<tr>
<td><strong>Operation panel</strong></td>
<td>Cycle start switch, Motor on switch, Hold run switch, Error light, Rapid feed check mode switch</td>
<td>Cycle start switch, Motor on switch, Hold run switch, Error light, Rapid feed check mode switch</td>
</tr>
<tr>
<td><strong>Cycle length (sec)</strong></td>
<td>10.15</td>
<td>10.15</td>
</tr>
<tr>
<td><strong>Max (kg)</strong></td>
<td>40</td>
<td>Transformer unit: 45</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>AC200-230V +10%, 50/60Hz, 3A</td>
<td>AC380-415V +10% 50/60Hz, 3A</td>
</tr>
<tr>
<td><strong>Environmental conditions</strong></td>
<td>Class 3 with connection (Earth connection dedicated to robots, Leakage current: maximum 100mA)</td>
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</tr>
<tr>
<td><strong>Body color</strong></td>
<td>Mitsubishi 10C25/1 equivalent</td>
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</tr>
<tr>
<td><strong>Teach pendant</strong></td>
<td>TFF color LCD display with teach-panel, 6-step switch, Teach-lock switch, Simulate switch</td>
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</tr>
<tr>
<td><strong>Auxiliary storage unit</strong></td>
<td>USB memory</td>
<td>USB memory</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB, Ethernet (100BASE-TX), RS-232C</td>
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</tr>
</tbody>
</table>

System configuration diagram

DI0 board
- Standard
- Option

Optional board
- DI0 board: 32 points each (max. 3 boards (96 points))
- DeviceNet board, master/slave
- CC-Link board, master/slave
- PROFIBUS board, master/slave
- PROFINET board, master/slave
- Ethernet/IP board, master/slave
- CAN open board, slave
- EtherCAT board, master/slave
- Converter (F board, Cubic-S (area monitor/ speed monitor)

Optional device
- Rapid feed check mode switch
- Brake release switch
- Transformer unit

Software
- Terminal software
- Vision controller

External axis motor
- USB memory
- Teach pendant

Ethernet
- USB
- Terminal software
- Vision controller