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* Materials and specifications are subject to change without notice.

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Kawasaki Robot

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.

QUALITY SYSTEM CERTIFICATION ISO 9001 DNV RvA MGMT.SYS. C 024

ENVIRONMENTAL SYSTEM CERTIFICATION ISO 14001 DNV RvA MGMT.SYS. C 024

ISO certified in Akashi Works.

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Kawasaki Robot

Kawasaki Robot BX series

Spot welding robots

BX series

Japan & Asia

Our advanced robotics technologies streamline the spot welding process.

The BX series is a line of spot welding robots that perfectly embodies the expertise we have cultivated in the field of spot welding, effectively taking performance to the next level.

Features

1. High-speed spot welding

The BX series robots come with lightweight arms and high-output, high-revolution motors, and utilize the latest in anti-vibration control technology. These features help to reduce the time needed for short-pitch movements, which constitute the main part of spot welding. The improved sequence of axial operations performed by the servo welding guns also leads to a significant reduction in cycle time.

2. Integrated dress package

Exposed cable harnesses on conventionally dressed robots present a number of drawbacks, such as interference caused by adjacent robots or peripheral devices during in-field teaching or while executing playback after offline programming. The BX series eliminates this problem by housing the cable harness within the robot arm. The arm and wrist of the BX series robot are hollow, allowing the cable harness for spot welding to be internally routed between the base and wrist. This greatly boosts the efficiency of both offline programming and in-field teaching.

3. Higher density installation

Compared to conventional robots, the BX series robots have a much smaller footprint and an even thinner body. Coupled with the cable harnesses housed within the robot arm, these features make it possible to install a large number of BX series robots within a confined space.

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BX series

BX100N　　BX200L

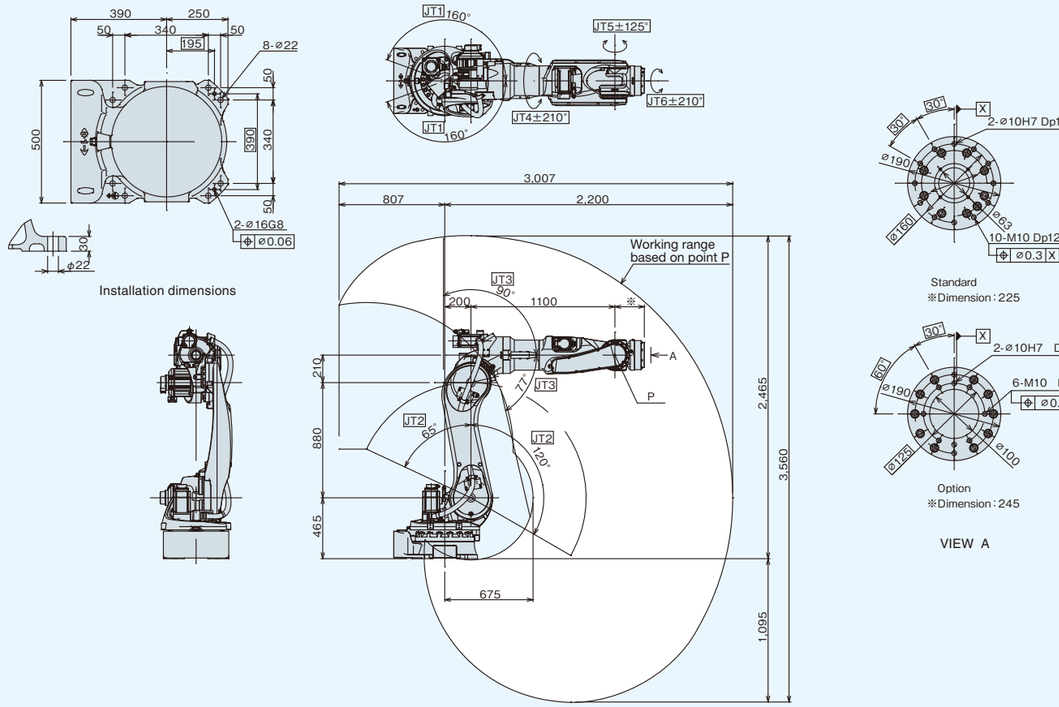
● Standard specifications

Model			BX100N	BX200L
Type			Articulated robot	
Degree of freedom			6 axes	
Max. rayload (kg)			100	200
Motion range (°)	Arm rotation	(JT1)	±160	±160
	Arm out-in	(JT2)	+120～−65	+76～−60
	Arm down-up	(JT3)	+90～−77	+90～−75
	Wrist swivel	(JT4)	±210	±210
	Wrist bend	(JT5)	±125	±125
	Wrist twist	(JT6)	±210	±210
Max. speed (°/s)	Arm rotation	(JT1)	135	105
	Arm out-in	(JT2)	110	90
	Arm down-up	(JT3)	140	100
	Wrist swivel	(JT4)	200	120
	Wrist bend	(JT5)	200	120
	Wrist twist	(JT6)	300	200
Moment (N·m)	Wrist swivel	(JT4)	588.4	1,334
	Wrist bend	(JT5)	588.4	1,334
	Wrist twist	(JT6)	294.2	588
Moment of Inertia ($kg·m^2$)	Wrist swivel	(JT4)	60	199.8
	Wrist bend	(JT5)	60	199.8
	Wrist twist	(JT6)	30	154.9
Repeatability (mm) ※1			±0.2	±0.2
Max. reach (mm)			2,200	2,597
Mass (kg)			740	930
Body color			Munsell 10GY9/1 equivalent	
Installation			Floor	
Environmental condition	Temperature		0 – 45 ° C	
	Humidity		35 – 85% (No dew, nor frost allowed)	
	Vibration		Less than 0.5 G	
	Others		The robot installing place should be free from : •inflammable or corrosive liquid or gas •electric noise interference	
Power requirements (kVA) ※2			5	7.5
Degree of protection			Wrist : IP67 Base axis : IP65	
Matching controller			E22	

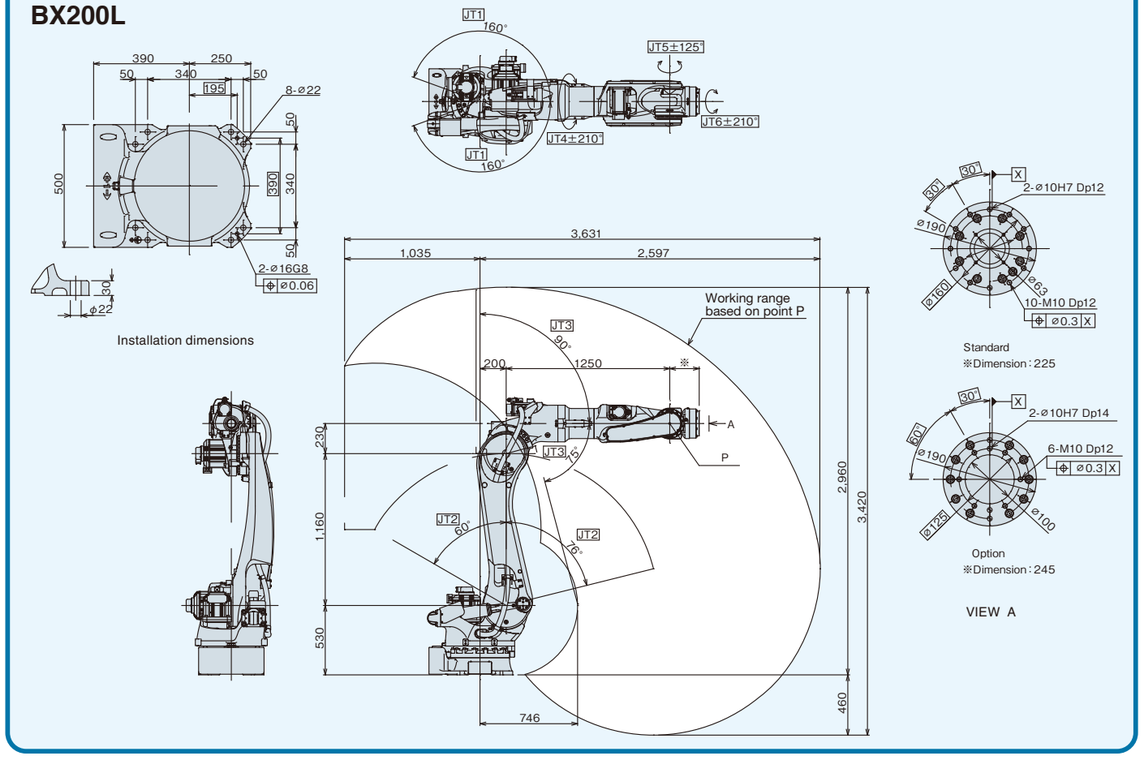
※1 : conforms to ISO9283
※2 : depends on the payload and motion patterns

● Motion range & dimensions

BX100N



BX200L



CONTROLLER

Controller

E22

The E-Controller, with unprecedented quality and compact size, was created in response to customer demand. Kawasaki's collaboration of past achievements and experience has lead to the development of the most technically advanced controller available. This industry leading design provides increased performance and easy operation that exceeds expectations.

● Features

1. Compact

By reducing the controller's footprint and overall volume, high-density layouts are more easily achieved.

2. User-friendly operation system

The operation system has now fully developed into a more user-friendly design. The operator can turn on the motors and activate the cycle start all from the teach pendant, thereby realizing a more convenient system control. The two information screens can be displayed simultaneously, enabling the operator to view different types of information easily (for example, positional and signal information).

3. Abundance of functions

The large variety of unique functions makes it possible to support a wide range of applications. These functions can be combined and easily configured within a system to suit a particular application. Likewise, the built-in Kawasaki "AS Language" provides sophisticated robot motion and sequence controls.

4. Incorporating the latest technologies

The enhanced CPU capacity allows for more accurate trajectory control, faster program execution, and quicker saving and loading of files, and countless other advantages. In addition, the memory has been expanded to answer the need for higher program storage capacity. A USB port is equipped as a standard external storage conduit.

5. Easier maintenance

With modular components and fewer cables, Kawasaki has developed a controller that is compact and easy to maintain. A host of maintenance functions are available, including the DIAG function for self-diagnostics, a maintenance support function that can handle not only hardware errors but also application errors. In addition to the DIAG function, there are other additional functions, such as a Web server that enables engineers to perform remote diagnostics.

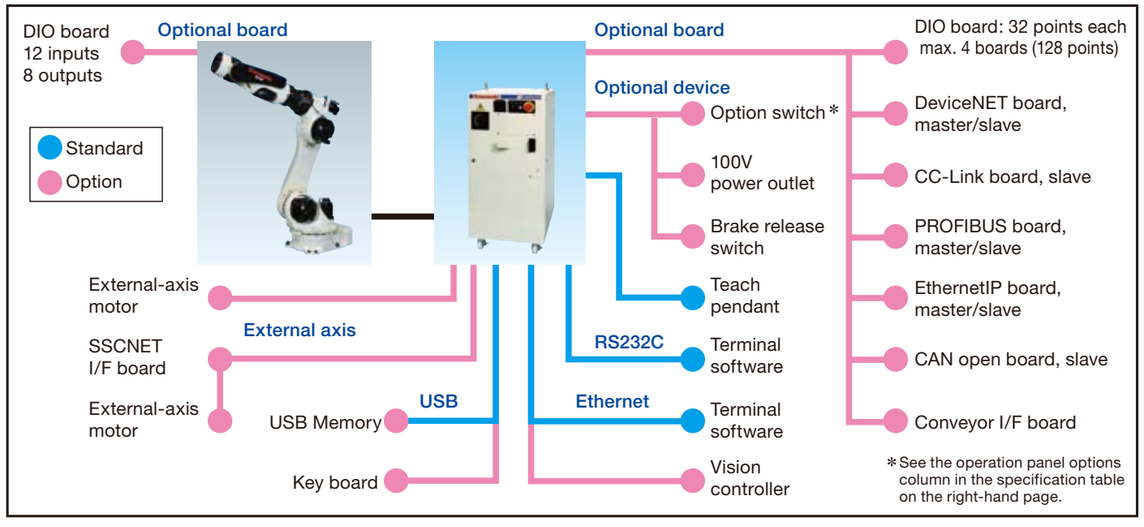
6. Highly expandable

The controller can accommodate 2 external axes inside the cabinet. In addition, by adding an expansion board, the controller can control up to 16 external axes. The system is compatible with a large number of field buses that are used for controlling peripheral devices. Users can combine the Kawasaki KLogic software sequencer function, which can be edited on the teach pendant, with the user-customizable interface panels to create a highly sophisticated system.

● Specifications

		Standard	Option
Model		E22	
Dimensions		W450×D550×H950 (mm)	
Structure		Self-standing main enclosure	
Number of controlled axes		6 axes	Max.16 axes (Please contact us when using 9 Axes or more.)
Drive system		Full digital servo system	
Coordinate systems		Joint, Base, Tool	Fixed tool point
Types of motion control		Joint/Linear, Circular Interpolated motion	
Programming		Point to point teaching or language based programming	
Memory capacity		8 MB (Approx. 80,000 steps)	
General purpose signals	External operation	Motor power Off, Hold	
	Input	32 Channels	128 Channels
	Output	32 Channels	128 Channels
Operation panel		E-Stop switch, teach/repeat switch, control power light (Cycle start, motor-on, hold/run, errors, and error reset are activated from the teach pendant.)	Cycle start switch, motor-on switch, hold/run switch, error light, error reset switch
Cable length	Teach pendant	5 m	10 m, 15 m
	Robot-controller	5 m	10 m, 15 m
Mass		95 Kg	
Power requirements		AC200-220V ±10%, 50/60Hz, 3Ø	
		Class-D earth connection (Earth connection dedicated to robots), leakage current: Maximum 100mA	
Environmental condition		Ambient Temperature:0~45°C, Relative Humidity:35~85% (No dew, nor frost allowed)	
Body color		Munsell 10GY9/1 equivalent	
Teach pendant		TFT color LCD display with touch-panel, E-Stop switch, teach lock switch, deadman switch	
Auxiliary storage unit			USB Memory
Interface		USB, Ethernet (100BASE-TX), RS232C	

● System configuration diagram



● Teach pendant

● External view & dimensions