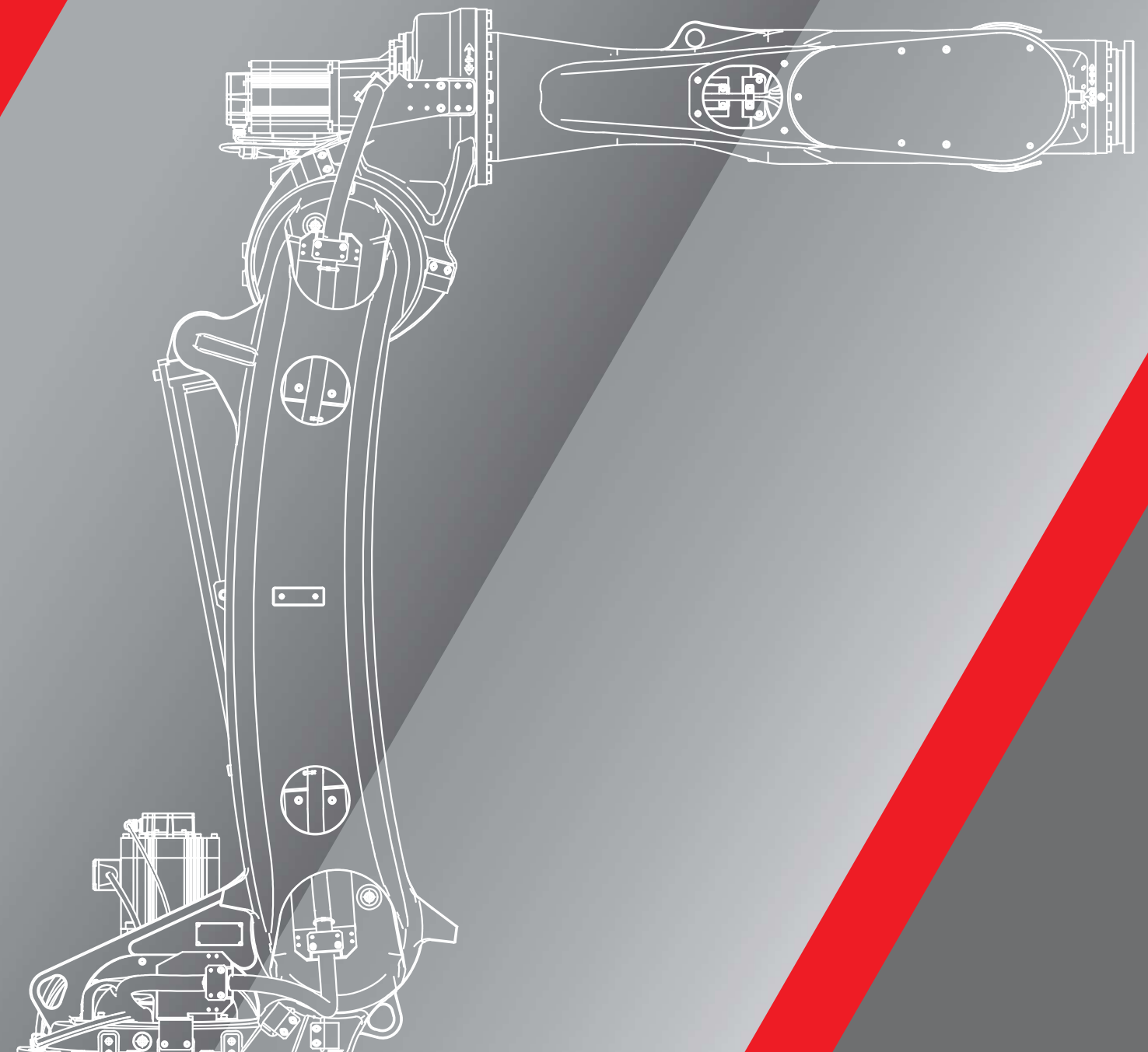


Kawasaki Robot CX series

Large payload robots - up to 210 kg



Kawasaki Robotics (USA), Inc.

Corporate Headquarters for Americas
 28140 Lakeview Drive, Wixom, MI 48393, U.S.A.
 Phone: +1-248-446-4100 Fax: +1-248-446-4200

Global Network

Kawasaki Heavy Industries, Ltd.
 Tokyo Head Office/Robot Division
 1-14-5, Kaigan, Minato-ku, Tokyo 105-8315, Japan
 Phone: +81-3-3435-6852 Fax: +81-3-3437-9880

Kawasaki Heavy Industries, Ltd.
 Akashi Works/Robot Division
 1-1, Kawasaki-cho, Akashi, Hyogo 673-8666, Japan
 Phone: +81-78-921-2946 Fax: +81-78-923-6548

Kawasaki Robotics (UK), Ltd.
 Unit 4 Easter Court, Europa Boulevard, Westbrook Warrington
 Cheshire, WA5 7ZB, United Kingdom
 Phone: +44-1925-71-3000 Fax: +44-1925-71-3001

Kawasaki Robotics GmbH
 Im Taubental 32, 41468 Neuss, Germany
 Phone: +49-2131-3426-0 Fax: +49-2131-3426-22

Kawasaki Robotics Korea, Ltd.
 43, Namdong-daero 215beon-gil, Namdong-gu
 Incheon, 21633, Korea
 Phone: +82-32-821-6941 Fax: +82-32-821-6947

Kawasaki Robotics (Tianjin) Co., Ltd.
 Bldg 3, No.16, Xiang'an Road, TEDA, Tianjin 300457, China
 Phone: +86-22-5983-1888 Fax: +86-22-5983-1889

Kawasaki Motors Enterprise (Thailand) Co., Ltd.
 Rayong Robot Center
 119/10 Moo 4 T. Pluak Daeng, A. Pluak Daeng, Rayong 21140, Thailand
 Phone: +66-38-955-040-58 Fax: +66-38-955-145

KawasakiRobotics.com

Kawasaki Robot



CAUTIONS TO BE TAKEN TO ENSURE SAFETY

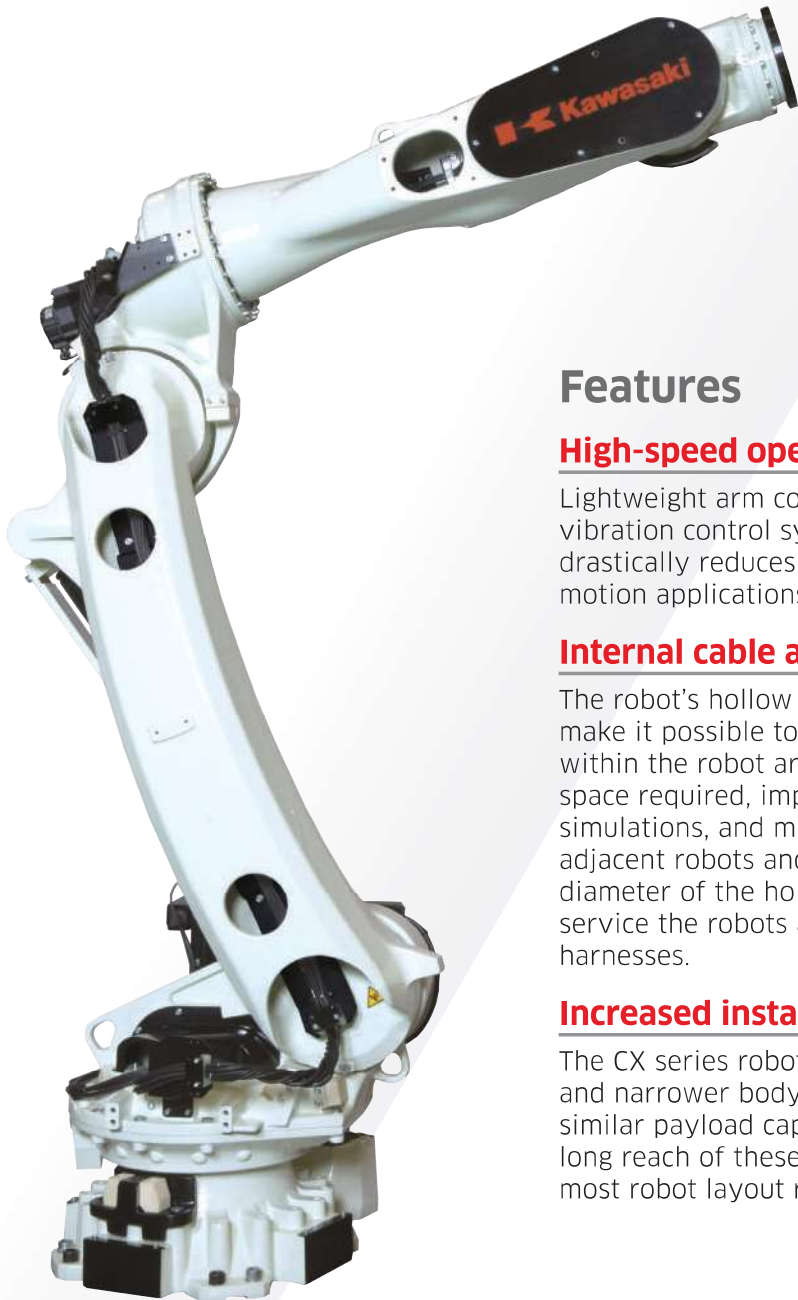
- For those persons involved with the operation / service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related safety documents.
- Products described in this catalogue are general industrial 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.



ISO certified in Wixom, Michigan U.S.A.

Kawasaki's latest advances in technology deliver increased robot motion speed and range.

The general-purpose CX series robots offer a large payload capacity and feature a robust, yet lightweight, hollow arm and a new smaller sized universal controller. The CX series' slim and high-speed arm design was developed to suit a wide range of applications, from material handling to spot welding.



Features

High-speed operation

Lightweight arm construction and a cutting-edge vibration control system result in a robot that drastically reduces cycle time, especially in long-stroke motion applications such as material handling.

Internal cable and hose harnesses

The robot's hollow upper arm and base construction make it possible to house cable and hose harnesses within the robot arm. This reduces the amount of work space required, improves the efficiency of offline simulations, and minimizes potential interference with adjacent robots and peripheral equipment. The large diameter of the hollow structure makes it easier to service the robots as well as retrofit cable and hose harnesses.

Increased installation flexibility

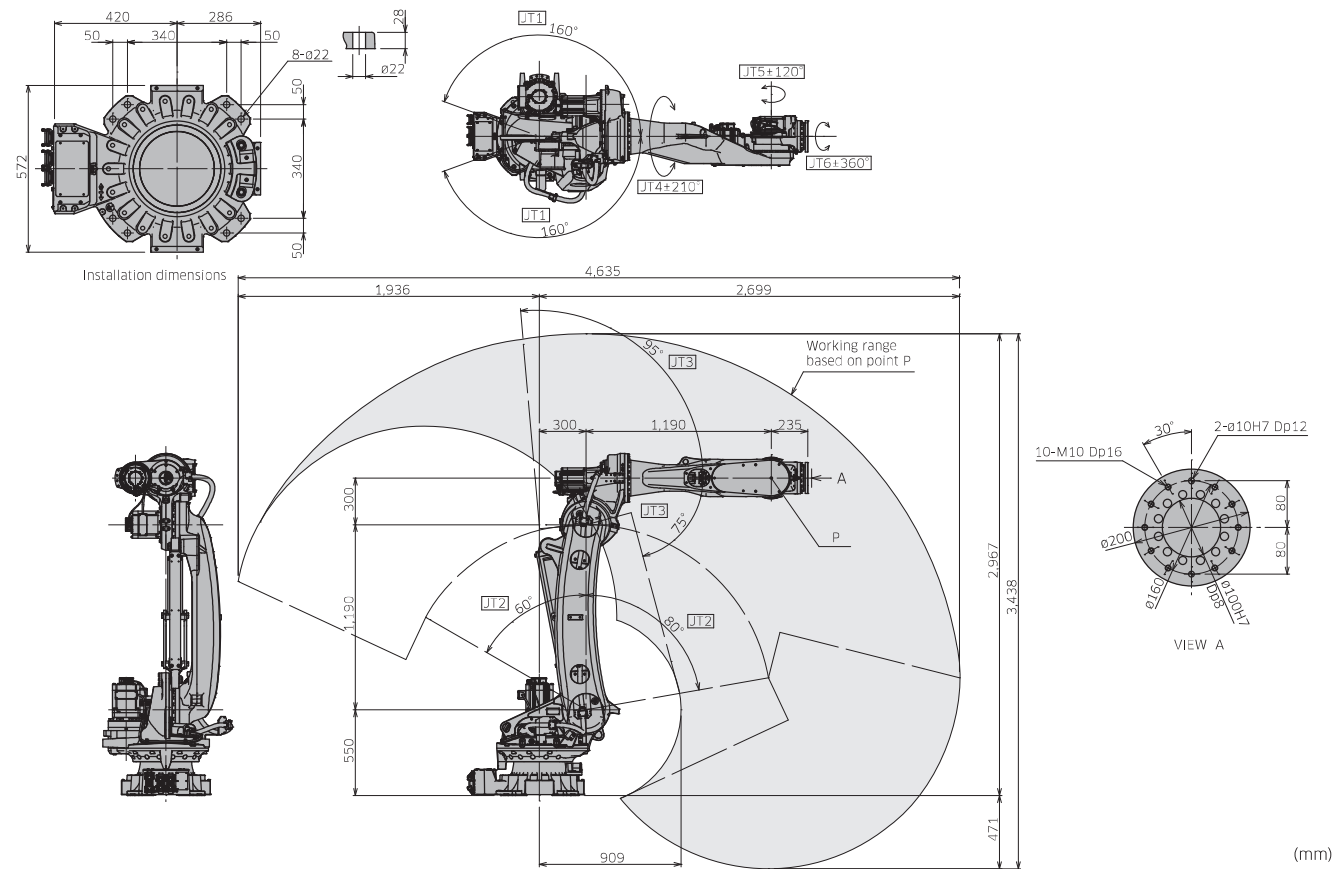
The CX series robots have a much smaller footprint and narrower body compared to other robots with similar payload capacity. The space saving design and long reach of these robots make it possible to satisfy most robot layout requirements.

Standard specifications

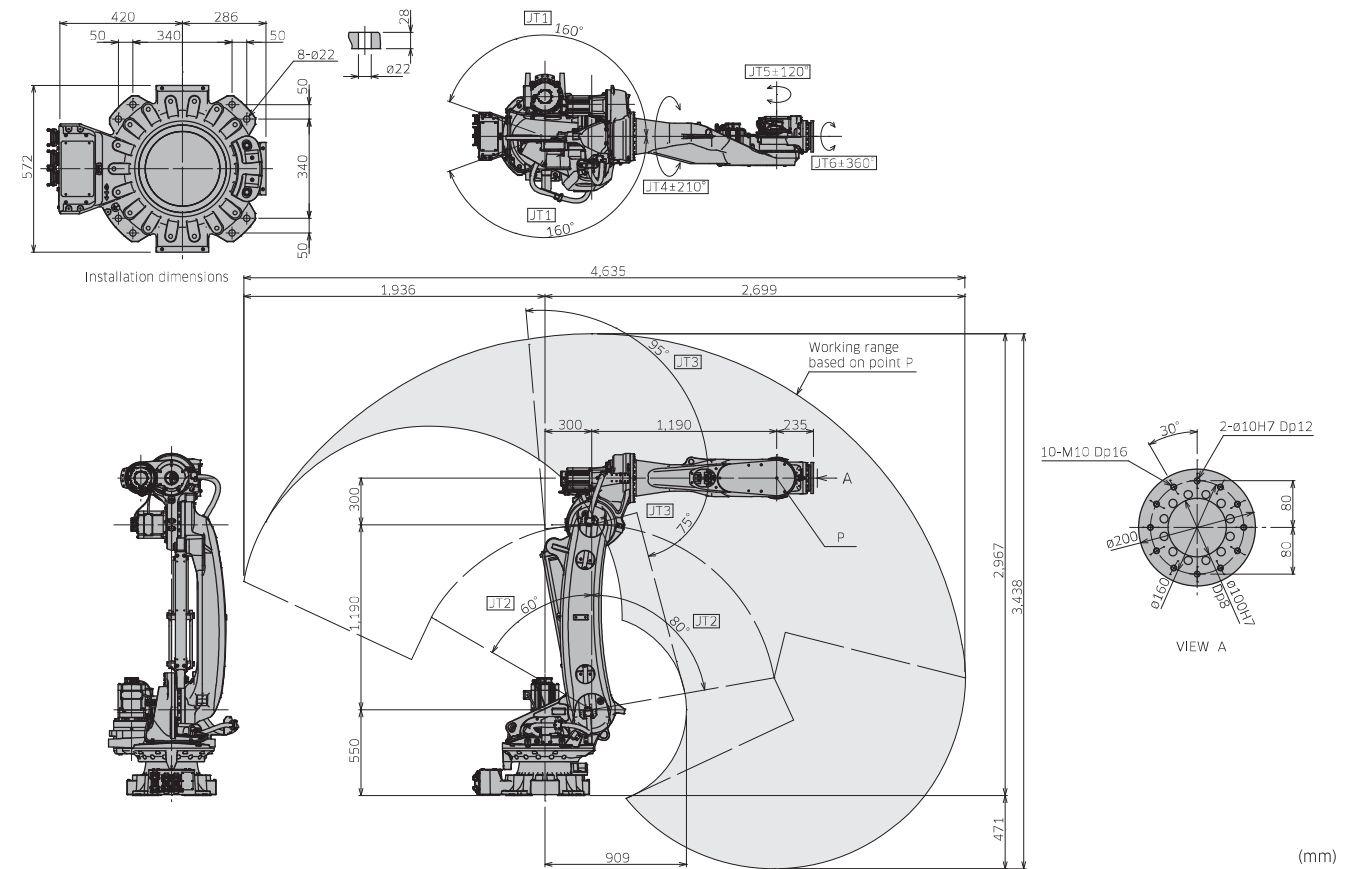
		CX110L	CX165L	CX210L
Type		Articulated		
Degrees of freedom (axes)		6		
Max. payload (kg)		110	165	210
Max. reach (mm)		2,699		
Repeatability (mm) *1		±0.06		
Motion range (°)	Arm rotation (JT1)	±160		
	Arm out-in (JT2)	+80 - -60		
	Arm up-down (JT3)	+95 - -75		
	Wrist swivel (JT4)	±210		
	Wrist bend (JT5)	±120		
	Wrist twist (JT6)	±360		
Max. speed (°/s)	Arm rotation (JT1)	140	130	125
	Arm out-in (JT2)	135	125	115
	Arm up-down (JT3)	135	125	115
	Wrist swivel (JT4)	200	180	155
	Wrist bend (JT5)	200	180	160
	Wrist twist (JT6)	300	280	220
Max. torque (N·m)	Wrist swivel (JT4)	830	952	1,370
	Wrist bend (JT5)	830	952	1,370
	Wrist twist (JT6)	441	550	700
Moment of inertia (kg·m²)	Wrist swivel (JT4)	85	99	199.8
	Wrist bend (JT5)	85	99	199.8
	Wrist twist (JT6)	45	49.5	154.9
Mass (kg)		870		
Body color		Munsell 10GY9/1 equivalent		
Mounting		Floor		
Environmental conditions	Ambient temperature (°C)	0 - 45		
	Relative humidity (%)	35 - 85 (no dew, nor frost allowed)		
Power requirements (kVA) *2		7.5		
Degree of protection		IP54		
Controller	America	E02		
	Europe			
	Japan & Asia			

*1: Conforms to ISO9283
*2: Depends on the payload and motion patterns

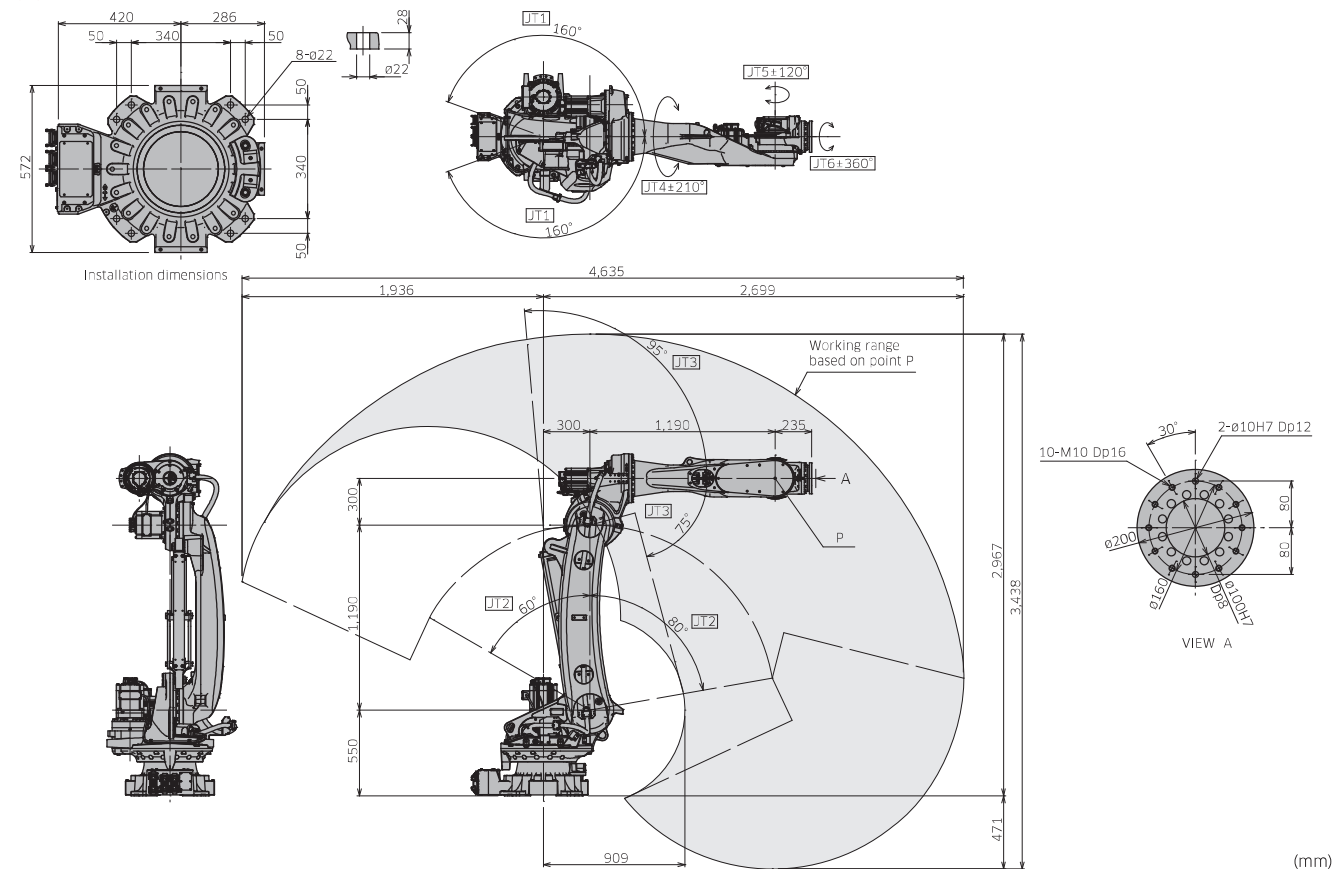
CX110L



CX210L



CX165L



E series

Kawasaki has incorporated more than 50 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.



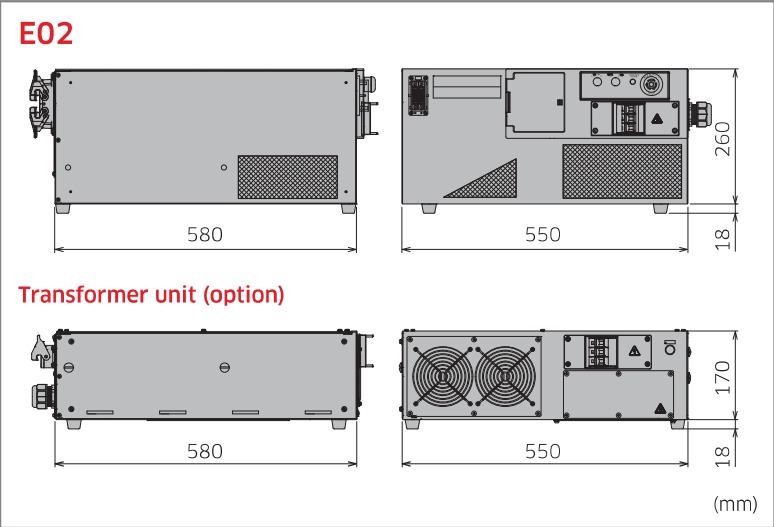
E02

* Option

Teach pendant



External view & dimensions



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 functions are available, including self-diagnostics on hardware and application errors to minimize troubleshooting and reduce MTTR (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 E02 controller for a total of nine controlled axes. Numerous communication fieldbuses 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

		Standard	Option
		E02	
America			
Europe			
Japan & Asia			
Dimensions (mm)		W550 × D580 × H278	Transformer unit: W580 × D580 × H178
Structure		Enclosed structure with indirect cooling system	
Number of controlled axes		7	Max. 9
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 (MB)		8	
General purpose signals	External operation	Motor power off, Hold	
	Input (channels)	32	Max. 96
	Output (channels)	32	Max. 96
Operation panel		E-Stop switch, Teach/repeat switch, Control power light (Cycle start, motor-on, hold/run, and error reset are activated from the teach pendant)	Rapid-feed check mode switch
Cable length	Teach pendant (m)	5	10, 15
	Robot-controller (m)	5	10, 15
Mass (kg)		40	Transformer unit: 45
Power requirements		AC200-220V ±10%, 50/60Hz, 3ø	Transformer unit: AC380-415V ±10% or AC440-480V ±10% 50/60Hz, 3ø
		Class-D earth connection (Earth connection dedicated to robots), Leakage current: Maximum 100mA	
Environmental conditions	Ambient temperature (°C)	0 - 45	
	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, Enable switch	
Auxiliary storage unit		—	USB memory
Interface		USB, Ethernet (100BASE-TX), RS-232C	

System configuration diagram

