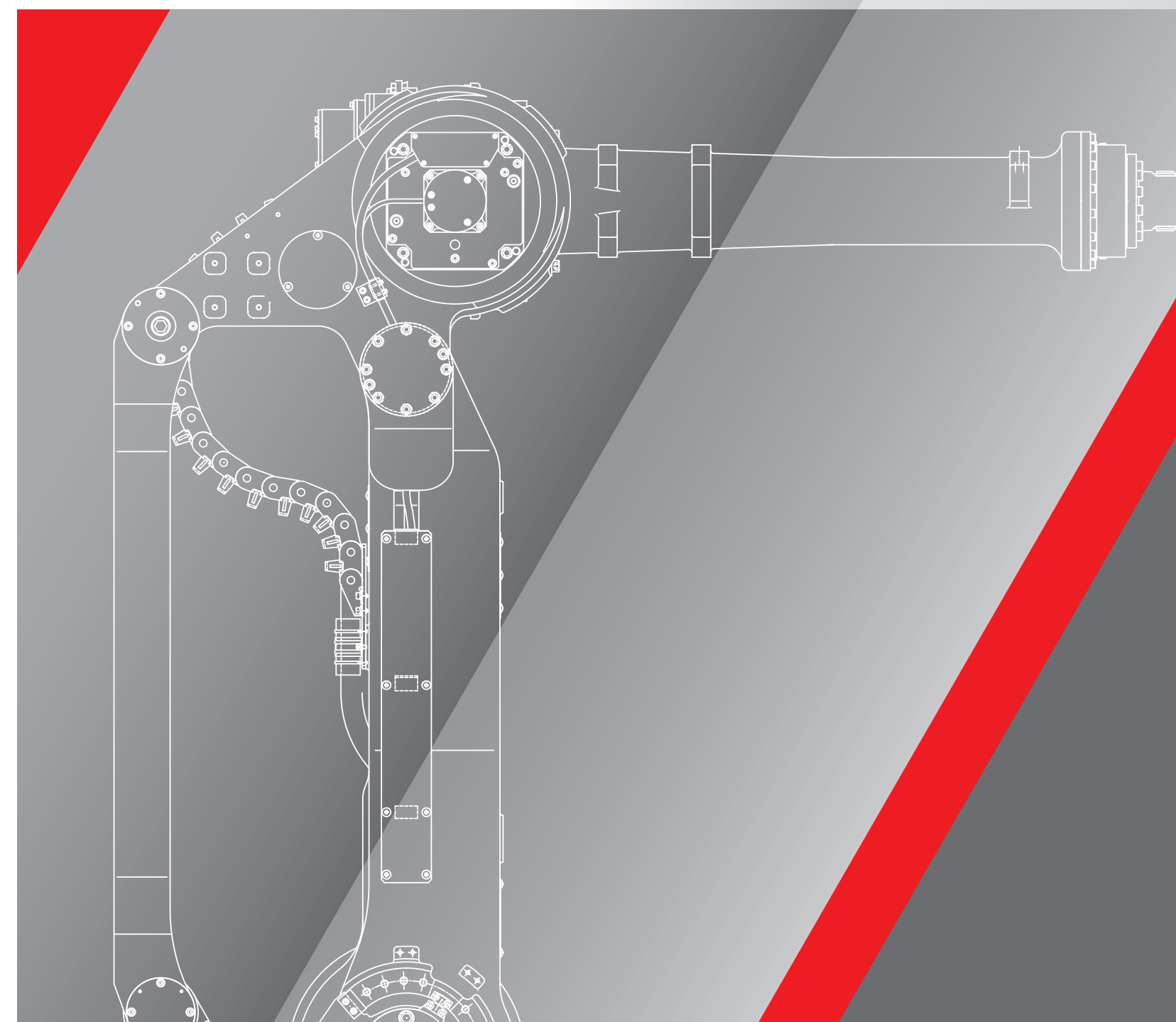




Kawasaki Robot

Z series

Large payload robots - up to 300 kg



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* Materials and specifications are subject to change without notice.

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.

Cat. No. ZS1807 ⑩

The large payload long reach Z series robots can perform a wide range of applications across diverse industries.

The Z series heavy-duty robots are the workhorses of the Kawasaki Robotics product line. The versatile and upgradeable designs are directly responsible for improved production line efficiencies in automotive and general industry applications. The robust low-maintenance Z series robots offer payload capacities from 100 to 300 kg and are available in floor mount (ZX), shelf mount (ZT) and compact (ZH) models to best suit the application.

Features

Cycle time advantage

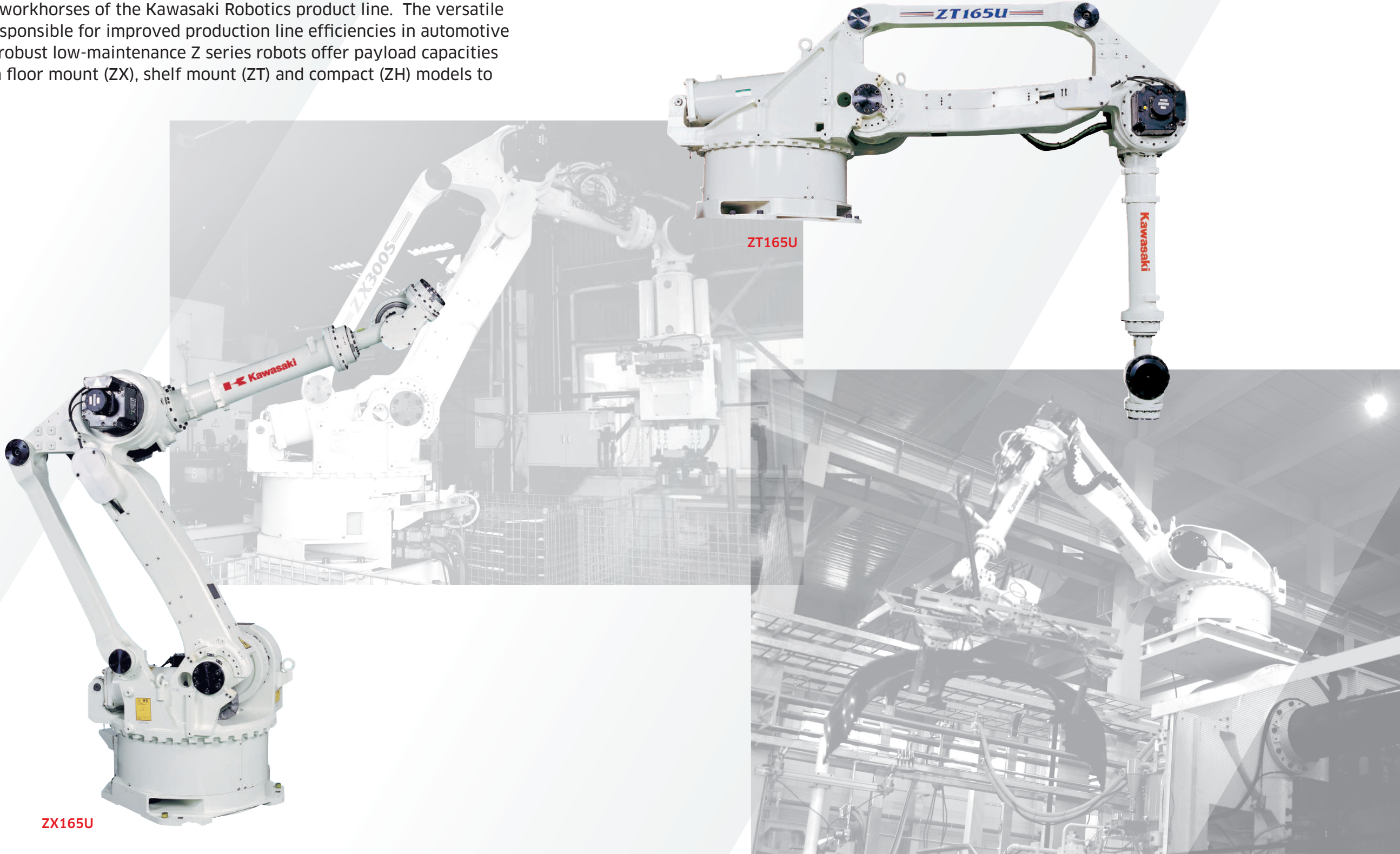
The Z series robots' reduced footprint combined with the E Controller results in improved cycle times.

Wide work envelope

A long-reach arm combined with minimal dead space results in the widest work envelope in its class.

Flexibility

The Z series line is manufactured using modular components and a common software platform. This design allows some models' characteristics to be modified, providing great flexibility to accommodate production and system changes. Both hardware and software alterations can easily be performed in the field.



* Under dusty working environment, oil-sealing wears off rapidly. Under water-sprayed condition, there are some possibilities to cause metal-rust or weaken the water resistance.

Standard specifications

		ZX130U		ZX130L		ZX165U		ZX200S		ZX300S		ZH100U		
Type		Articulated						Articulated						
Degrees of freedom (axes)		6 (Option: 7)						6 (Option: 7)						
Max. payload (kg)		130		130		165		200		300		100		
Max. reach (mm)		2,651		2,951		2,651		2,651		2,501		1,634		
Positional repeatability (mm) *1		±0.3						±0.3						
Work envelope and Max. speed	Axis	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)	
	Arm rotation (JT1)	±180	110	±180	110	±180	110	±180	105	±180	100	±160	140	
	Arm out-in (JT2)	+75 - -60	110	+75 - -60	110	+75 - -60	110	+75 - -60	110	+75 - -60	85	+120 - -60	100	
	Arm up-down (JT3)	+250 - -120	110	+250 - -120	110	+250 - -120	115	+250 - -120	105	+250 - -120	85	+75 - -90	100	
	Wrist swivel (JT4)	±360	140	±360	140	±360	140	±360	120	±360	90	±360	150	
	Wrist bend (JT5)	±130	135	±130	135	±130	155	±120	120	±120	90	±130	150	
	Wrist twist (JT6)	±360	230	±360	230	±360	260	±360	200	±360	150	±360	250	
	Arm traverse (JT7) *2	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	
Moment (N·m) *3	Wrist swivel (JT4)	735		735		911.4		1,274		1,715		874		
	Wrist bend (JT5)	735		735		911.4		1,274		1,715		874		
	Wrist twist (JT6)	421.4		421.4		450.8		686		862		392		
Moment of inertia (kg·m ²) *3	Wrist swivel (JT4)	107.8		51.9		78.4		117.6		166.6		90.0		
	Wrist bend (JT5)	107.8		51.9		78.4		117.6		166.6		90.0		
	Wrist twist (JT6)	45.9		27.4		40.2		63.7		107.8		20.0		
Mass (kg)	1,350		1,400		1,350		1,400		1,400		750			
Mounting	Floor						Floor							
Integrated function	Air piping (12 mm dia. x 2)						Air piping (12 mm dia. x 2)							
Option	Mechanical hard stop JT1/JT2/JT3, End stroke limit switch JT1/JT2/JT3, Special color, Traversing track, Internal wiring for end effector, Double solenoid valve 1/2, Single solenoid valve 1/2, Double sol.1+single sol.1, FRL unit, Internal hoses of cooling water for welding gun, Wiring for solenoid valve for grippers (DC24V)						Mechanical hard stop JT1/JT2/JT3, End stroke limit switch JT1/JT2/JT3, Special color, Traversing track, Internal wiring for end effector, Double solenoid valve 1/2, Single solenoid valve 1/2, Double sol.1+single sol.1, FRL unit, Internal hoses of cooling water for welding gun, Wiring for solenoid valve for grippers (DC24V)						Mechanical hard stop JT1/JT2/JT3, End stroke limit switch JT1/JT2/JT3, Special color, Traversing track, Internal wiring for end effector, Internal hoses of cooling water for welding gun, Wiring for solenoid valve for grippers (DC24V)	
Color	Munsell 10GY9/1 equivalent						Munsell 10GY9/1 equivalent							
Power requirements (kVA) *4	7.5						7.5							
Controller	America & Europe	E02						E02						
	Japan & Asia	E02						E02						

*1: Conforms to ISO9283 *2: Option *3: In case of using the face plate which is supported by proper bolts and pins *4: Depends on the payload and motion patterns

		ZT130U		ZT165U		ZT200S	
Type		Articulated					
Degrees of freedom (axes)		6 (Option: 7)					
Max. payload (kg)		130		165		200	
Max. reach (mm)		3,230					
Positional repeatability (mm) *1		±0.3					
Work envelope and Max. speed	Axis	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)	Motion range (°)	Max. speed (°/s)
	Arm rotation (JT1)	±180	105	±180	105	±180	100
	Arm out-in (JT2)	+60 - -75	105	+60 - -75	105	+60 - -75	100
	Arm up-down (JT3)	+165 - -95	105	+165 - -95	105	+165 - -95	90
	Wrist swivel (JT4)	±360	140	±360	135	±360	120
	Wrist bend (JT5)	±130	135	±130	135	±120	115
	Wrist twist (JT6)	±360	230	±360	210	±360	180
	Arm traverse (JT7) *2	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s
Moment (N·m) *3	Wrist swivel (JT4)	735		911.4		1,274	
	Wrist bend (JT5)	735		911.4		1,274	
	Wrist twist (JT6)	421		450.8		686	
Moment of inertia (kg·m ²) *3	Wrist swivel (JT4)	107.8		78.4		117.6	
	Wrist bend (JT5)	107.8		78.4		117.6	
	Wrist twist (JT6)	45.9		40.2		63.7	
Mass (kg)	1,550		1,550		1,600		
Mounting	Shelf						
Integrated function	Air piping (12 mm dia. x 2)						
Option	Mechanical hard stop JT1/JT2/JT3, End stroke limit switch JT1/JT2/JT3, Special color, Traversing track, Internal wiring for end effector, Double solenoid valve 1/2, Single solenoid valve 1/2, Double sol.1+single sol.1, FRL unit, Internal hoses of cooling water for welding gun, Wiring for solenoid valve for grippers (DC24V)						
Color	Munsell 10GY9/1 equivalent						
Power requirements (kVA) *4	7.5						
Controller	America & Europe	E02					
	Japan & Asia	E02					

*1: Conforms to ISO9283 *2: Option *3: In case of using the face plate which is supported by proper bolts and pins *4: Depends on the payload and motion patterns

E series

The E Controller, delivering unprecedented quality with a compact size, was developed to respond to the requirements of our customers. Kawasaki's past achievements and experience have led to the development of the most technically advanced controller available. This industry-leading design provides improved performance and easy operation that surpasses all expectations.



* Option **E02**

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. * E0X only

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.

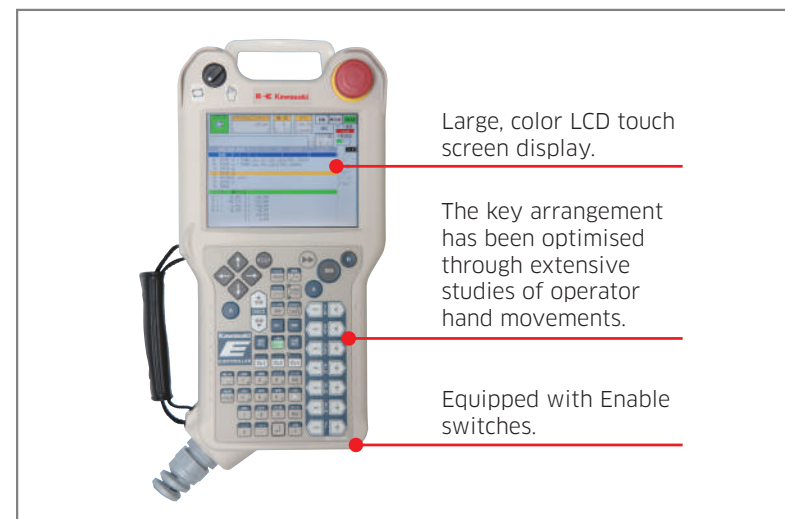
Easy maintenance

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.

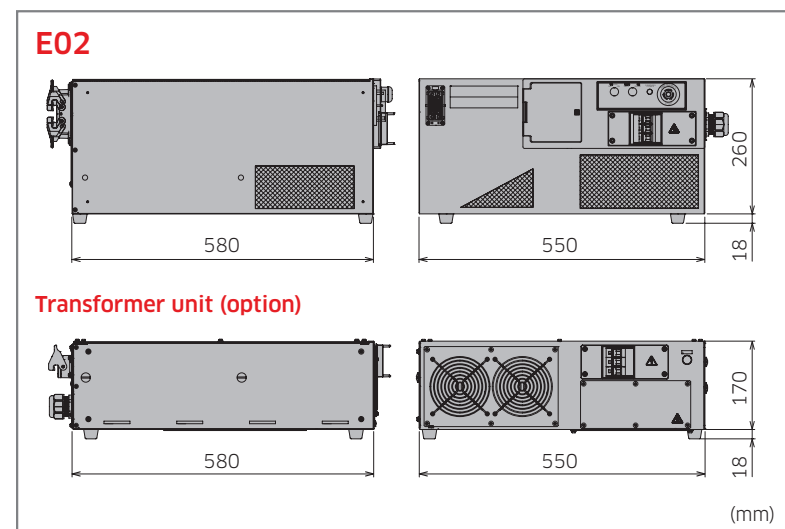
Expandable

Two external axes can be added to the E0X 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.

Teach pendant



External view & dimensions



Specifications

		Standard	Option
America		E02	Option
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		-	
Interface		USB, Ethernet (100BASE-TX), RS-232C	

System configuration diagram

