

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.

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Agent





ISO certified in Akashi Works.

Kawasaki Robot Z series



^{*} Materials and specifications are subject to change without notice.



Wide motion range, long reach and large motion angle of the wrist enable various applications in industrial fields.

Spot welding, material handling, sealing,by producing many different robots to suit various applications, Kawasaki has greatly contributed to automated production lines for automotive and general industries. Kawasaki is introducing the new "Z series" heavy-duty robot, which is developed using Kawaski's advanced technology and extensive experience in robotics.

The Z-series consists of eleven models and is available in floor mounting (ZX), shelf mounting (ZT) and compact (ZH) types.

Features



Improved cycle time

The cycletime has been greatly improved by reduction of the mass and adoption of the E-controller.

Wide work envelope and low power consumption

The Z-series has wide work envelope due to long reach and small dead space. The patented Kawasaki Hybrid Link Configuration allows turning backward with low power consumption. Joint 1 motion range is 360 degrees with mechanical hard stops.

Space saving and easy installation footprint

In addition to its small footprint, integrated air piping, wiring for the valves and forklift pockets are standard for all models. This simplifies robot installation in confined areas.



Resistant configuration-IP65, IP67

IP65 for robot arm and IP67 for wrist portion. The Z-series is able to operate in the severe environment.*

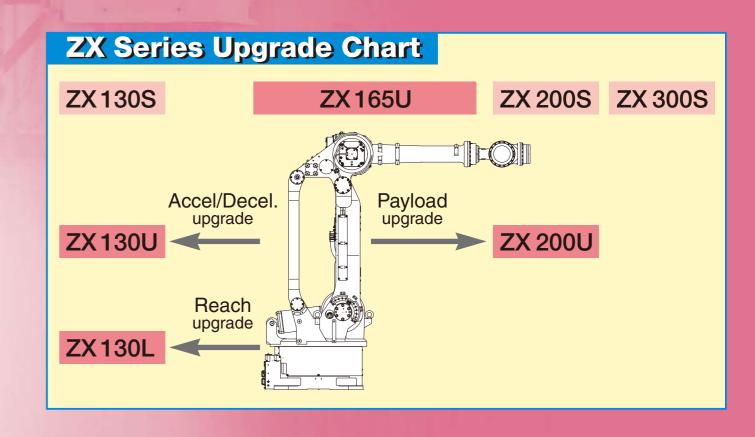


Upgradability

The ZX165U can be upgraded to a faster robot, or higher payload robot by adding simple hardware and software at the user site. The alteration at the

production site is easier and economical. An exact model selection at the design stage is not a must.

⁷X16511 ZH100U



Under water-sprayed condition, there are some possibilities to cause metal-rust or weaken the water resistance.

^{*}Under dusty working environment, oil-sealing wears off rapidly.

ZX Standard Specificatins

JT1:Arm rotation	Туре		ZX130S		ZX130L		ZX165U		
Axis Max. Stroke Max. Speed Stroke Max. Speed Stroke Max. Speed Stroke Max. Speed Stroke Max. Stroke Max. Stroke Max. Speed Stroke Max. Speed Stroke Max. Speed Stroke Max. Stroke	Arm Type		Articulated type						
Axis Work Time	Degrees of Freedom		6 axes (7 axes: option)						
Axis Work T2:Arm out-in		Axis	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	
Axis Work Envelope and Max. Speed JT3:Arm up-down +250~-120 ° 130 °/s +250~-120 ° 110 °/s +250~-120 ° 115 °/s Axis Work Envelope and Max. Speed JT4:Wrist swivel ±360 ° 180 °/s ±360 ° 140 °/s ±360 ° 140 °/s JT4:Wrist swivel ±360 ° 180 °/s ±130 ° 135 °/s ±130 ° 155 °/s JT6:Wrist twist ±360 ° 280 °/s ±360 ° 230 °/s ±360 ° 260 °/s JT7:Arm traverse *1 standard 2,000 mm 1,000 mm/s standard 2,000 mm 1,000 mm/s Position Repeatability *2 ±0.3 mm Max. Payload 130 kg 130 kg 165 kg JT4:Wrist swivel 735 N·m 735 N·m 911.4 N·m JT5:Wrist bend 735 N·m 735 N·m 911.4 N·m JT6:Wrist twist 421.4 N·m 421.4 N·m 450.8 N·m Moment of Inertia JT6:Wrist swivel 51.9 kg·m² 51.9 kg·m² 78.4 kg·m² JT6:Wrist twist 27.4 kg·m² 27.4 kg·m² 40.2 kg·m² Mass 1,350 kg 1,400 kg 1,350 kg Integrated Function Air piping (12 mm dia. x 2)	Axia Work	JT1:Arm rotation	±180 °	130 °/s	±180 °	110 °/s	±180 °	110 °/s	
Envelope and Max. Speed		JT2:Arm out-in	+75~-60°	130 °/s	+75~ - 60 °	110 °/s	+75~-60°	110 °/s	
Max. Speed 140 /s ±300 135 °/s ±130 ° 155 °/s ±360 ° 280 °/s ±360 ° 230 °/s ±360 ° 260 °/s ±360 ° 230 °/s ±360 ° 260 °/s ±360 ° 250 °/s ±360 ° 250 °/s ±360 ° 250 °/s ±360 ° ±360 ° 250 °/s ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 ° ±360 °									

[★]In case of using the face plate which is supported by proper bolts and pins. *1: Option *2: conforms to ISO9283

• ZT Standard Specificatins

Туре		ZT130S		ZT130Y		ZT165U		
Arm Type		Articulated type						
Degrees o	f Freedom	6 axes (7 axes: option)						
	Axis	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	
Axis Work	JT1:Arm rotation	±180 °	130 °/s	±180 °	120 °/s	±180 °	105 °/s	
	JT2:Arm out-in	+60~-75 °	130 °/s	+50~-120 °	110 °/s	+60~-75 °	105 °/s	
Envelope	JT3:Arm up-down	+165~ - 95 °	130 °/s	+150~-65 °	115 °/s	+165~-95°	105 °/s	
and	JT4:Wrist swivel	±360 °	180 °/s	±360 °	160 °/s	±360 °	135 °/s	
Max. Speed	JT5:Wrist bend	±130 °	180 °/s	±130 °	180 °/s	±130 °	135 °/s	
	JT6:Wrist twist	±360 °	280 °/s	±360 °	280 °/s	±360 °	210 °/s	
	JT7:Arm traverse*1	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	
Position Repeatability *2		±0.3 mm						
Max. Payload		130 kg		130 kg		165 kg		
Moment ★	JT4:Wrist swivel	735 N•m		735 N·m		911.4 N·m		
	JT5:Wrist bend	735 N•m		735 N•m		911.4	N•m	
	JT6:Wrist twist	421 N•m		421 N·m		450.8	N•m	
Moment JT4:Wrist swivel		51.9 kg·m²		51.9 kg·m²		78.4 kg·m²		
of Inertia	JT5:Wrist bend	51.9 kg·m²		51.9 kg·m²		78.4 kg·m²		
*	JT6:Wrist twist	27.4 kg·m²		27.4 kg·m²		40.2 kg·m²		
Mass		1,550 kg 1,665 kg 1,550) kg		
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		7.5 kVA						

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ZX Standard Specificatins

ZH Standard Specificatins

T							
Туре		ZX200S ZX300S			ZH100U		
Arm Type		Articulated type				Articulated type	
Degrees of Freedom		6 axes (7 axes: option)			6 axes (7 axes: option)		
	Axis	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed
	JT1:Arm rotation	±180 °	105 °/s	±180 °	100 °/s	±160 °	140 °/s
Axis Work	JT2:Arm out-in	+75~-60°	110 °/s	+75~-60°	85 °/s	+120~-60°	100 °/s
Envelope	JT3:Arm up-down	+250~-120°	105 °/s	+250~-120°	85 °/s	+75~-90°	100 °/s
and	JT4:Wrist swivel	±360 °	120 °/s	±360 °	90 °/s	±360 °	150 °/s
Max. Speed	JT5:Wrist bend	±120°	120 °/s	±120 °	90 °/s	±130 °	150 °/s
	JT6:Wrist twist	±360 °	200 °/s	±360 °	150 °/s	±360 °	250 °/s
	JT7:Arm traverse*1	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s
Position R	epeatability*2	±0.3 mm			±0.3 mm		
Max. Payload		200 kg		300 kg		100 kg	
	JT4:Wrist swivel	1,274 N·m		1,715 N·m		874 N·m	
Moment	JT5:Wrist bend	1,274 N·m		1,715 N·m		874 N•m	
×	JT6:Wrist twist	686 N·m		862 N·m		392	N•m
Moment JT4:Wrist swivel		117.6 kg·m²		166.6 kg·m²		90.0 k	kg•m²
of Inertia	JT5:Wrist bend	117.6 kg·m²		166.6 kg·m²		90.0 l	kg•m²
*	JT6:Wrist twist	63.7 kg·m²		107.8 kg·m²		20.0 kg·m²	
Mass		1,400kg 1,400kg		750 kg			
Mounting			Flo	Floor			
Integrated Function			Air piping (12	_	_		
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, 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		7.5 kVA			7.5 kVA		
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ZT Standard Specificatins

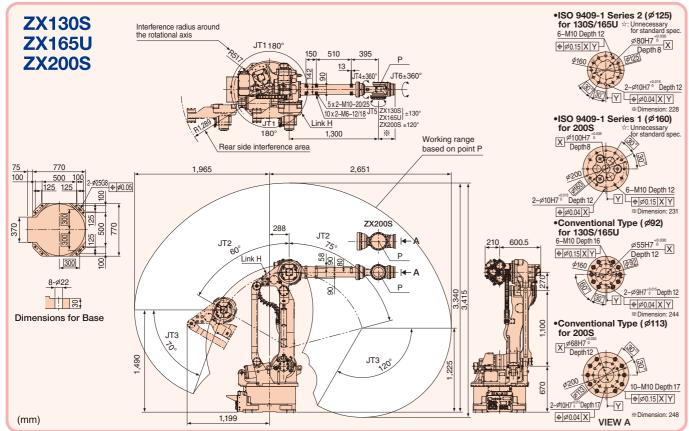
Туре		ZT165X		ZT165Y		ZT200S		
Arm Type		Articulated type						
Degrees of Freedom		6 axes (7 axes: option)						
	Axis	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	Max. Stroke	Max. Speed	
	JT1:Arm rotation	±180 °	120 °/s	±180 °	105 °/s	±180 °	100 °/s	
Axis Work	JT2:Arm out-in	+50~-120°	110 °/s	+50~-120°	105 °/s	+60~-75 °	100 °/s	
Envelope	JT3:Arm up-down	+150~-65°	115 °/s	+150~-65 °	100 °/s	+165~-95°	90 °/s	
and	JT4:Wrist swivel	±360 °	140 °/s	±360 °	140 °/s	±360 °	120 °/s	
Max. Speed	JT5:Wrist bend	±130 °	155 °/s	±130 °	155 °/s	±120 °	115 °/s	
	JT6:Wrist twist	±360 °	260 °/s	±360 °	260 °/s	±360 °	180 °/s	
	JT7:Arm traverse*1	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	standard 2,000 mm	1,000 mm/s	
Position Repeatability *2		±0.3 mm						
Max. Payload		165 kg		165 kg		200 kg		
	JT4:Wrist swivel	911.4 N·m		911.4 N·m		1,274 N·m		
Moment	JT5:Wrist bend	911.4 N·m		911.4 N·m		1,274	N·m	
^	JT6:Wrist twist	450.8 N·m		450.8 N•m		686	N•m	
Moment JT4:Wrist swivel		78.4 kg·m²		78.4 kg·m²		117.6	kg·m²	
of Inertia	JT5:Wrist bend	78.4 kg·m²		78.4 kg·m²		117.6 kg·m²		
*	JT6:Wrist twist	40.2 kg·m²		40.2 kg·m²		63.7 kg·m²		
Mass		1,650) kg	1,66	5 kg	1,60	0 kg	
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		7.5 kVA						

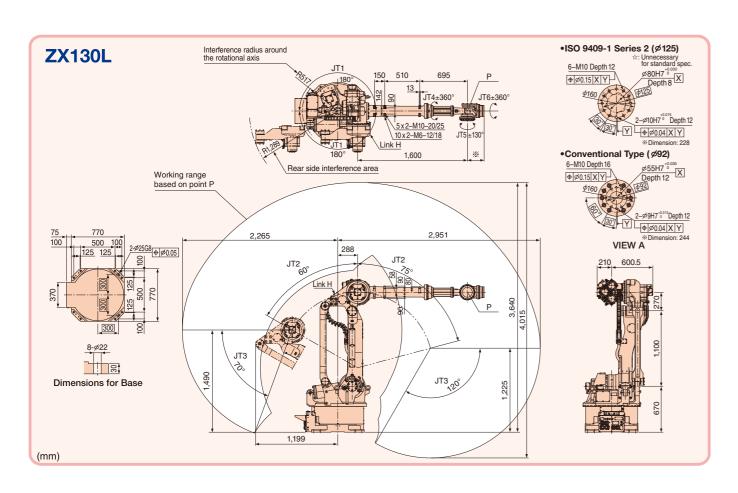
[★] In case of using the face plate which is supported by proper bolts and pins. *1: Option *2: conforms to ISO9283

3

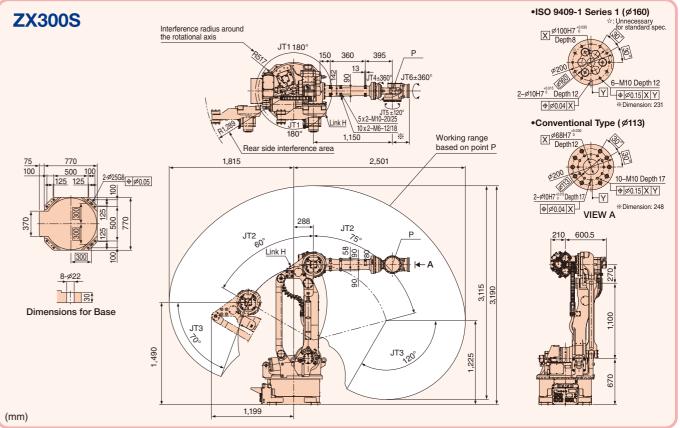
ZX130S/130L/165U/200S/300S

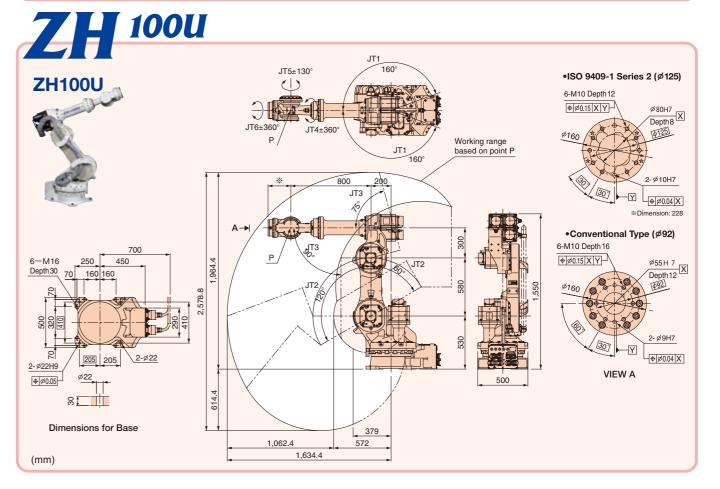
Motion Range & Dimensions







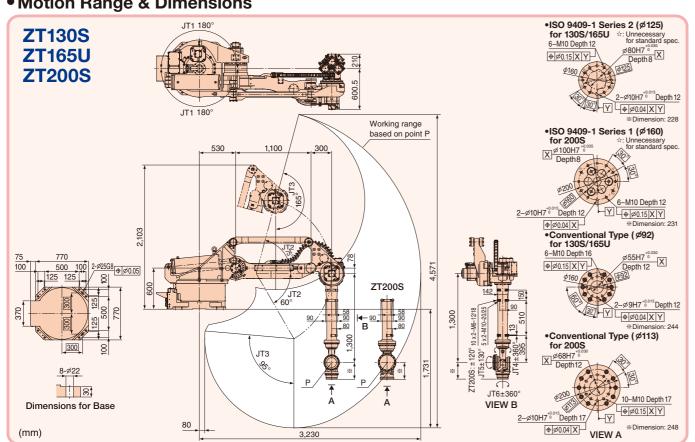




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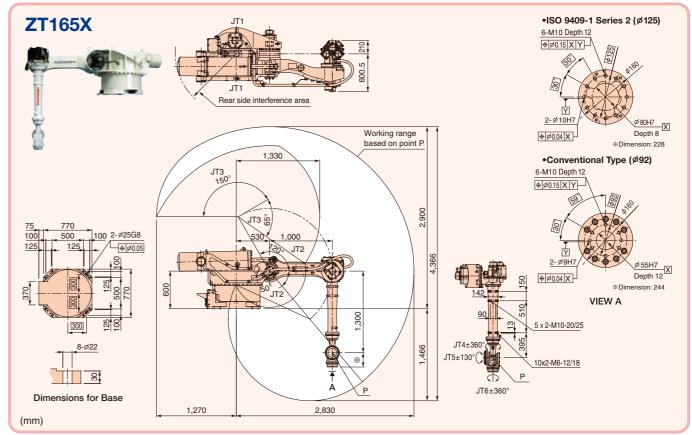
ZT 130S/130Y/165U/165X/165Y/200S

Motion Range & Dimensions



•ISO 9409-1 Series 2 (Ø125) **ZT130Y ZT165Y** 6-M10 Depth 12 Ф|Ø0.15|X|Y|-Working range based on point P Rear side interference area Conventional Type (Ø92) VIEW A 10x2-M6-12/18 Dimensions for Base (mm)

Motion Range & Dimensions

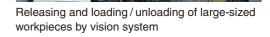




Releasing work from resin molding machine



Hemming process of the car door



CONTROLLER

Controller



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 matured into a more user-friendly design. An operator can switch on the motors and activate the cycle start all from the teach pendant, allowing for a more convenient system control. Two information screens can be displayed simultaneously, providing access to different types of information (for example, positional information and signal information).

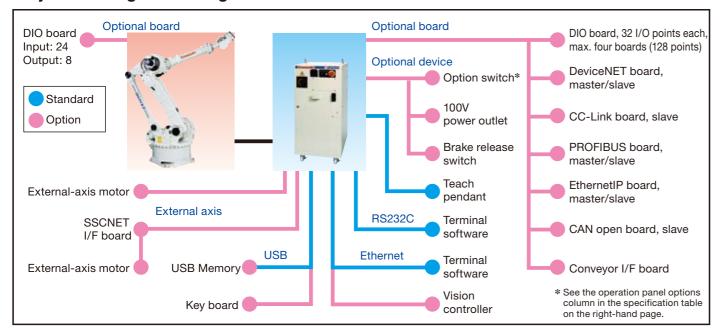
3. An abundance of functions

A large variety of unique functions support a wide range of applications. These functions can be combined and easily configured into a system to suit a particular application. With the Kawasaki "AS Language", which is equipped standard, you have sophisticated robot motion and sequence control.

4. Using the latest technologies

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

System configuration diagram



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, a Web server that allows remote diagnostics, and more.

6. Highly expandable

With an additional amplifier installed the system can accept up to two external axes, and adding an expansion board enables the system to control up to sixteen external axes. The system is compatible with a large number of field buses for controlling peripheral devices. The Kawasaki KLogic software sequencer function, which can be edited on the teach pendant, can be combined with user-customizable interface panels to achieve a highly sophisticated system.

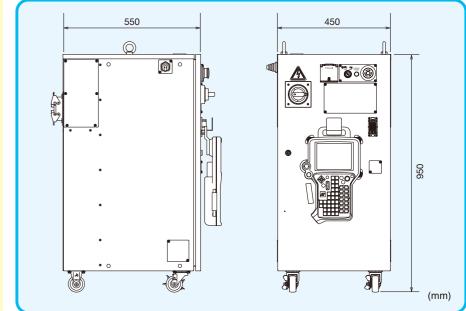
Specifications

		Standard	Option		
Madal		E22 Option			
Model .			I		
Dimensions	<u> </u>	W450×D550×H950 (mm)			
Structure	O I II I A	Self-standing main enclosure	Man 40 (Diagram and a transfer of August 20 Augus 20		
	Controlled Axes	6 axes	Max.16 axes (Please contact us when using 9 Axes or more		
Drive System		Full digital servo system	Final and a size		
Coordinate	•	Joint, Base, Tool	Fixed tool point		
71	otion Control	Joint/Linear, Circular Interpolated motion			
Programmir	<u> </u>	Point to point teaching or language based programming			
Memory Ca	' '	8 MB (Approx. 80,000 steps)			
General	External Operation	Motor power Off, Hold			
Purpose	Input	32 Channels	128 Channels		
Signals	Output	32 Channels	128 Channels		
Operation P	anel	E-Stop switch, teach/repeat switch, control power light	Cycle start switch, motor-on switch, hold/run		
		(Cycle start, motor-on, hold/run, errors, and error reset are	switch, error light, error reset switch		
		activated from the teach pendant.)			
Cable	Teach Pendant	5 m	10 m, 15 m		
Length	Robot-Controller	5 m	10 m, 15 m		
Mass		95 Kg			
Power Requ	uirements	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			

Teach Pendant

External View and Dimensions





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