Kawasaki Robotics

Standard Specifications

F01 Controller
F02 Controller
F03 Controller
F04 Controller

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Kawasaki Heavy Industries, Ltd.
Robot Business Division

Specification number : 90152-0091DED

Controller specifications

1. Model	F01 (A-type/B-type)	F02 (A-type/B-type)	F03 (A-type/B-type)	F04 (A-type/B-type)
(Robot type)	RS 006-020 (excluding 015X) BA 006-013N YF	RS 015X, 025-080 BA 013L BX/BT/MT BXP/MXP360	CP/RD	MX MXP (excluding MXP360)
2. Dimensions	W420 × D530 × H278 mm			
3. Structure	Enclosed structure: Indirect cooling system			
4. Controlled axes	Std. 6 (Max 8) Std. 7 (Max 9)	Std.7 (Max 9)	Std.5 (Max 6)	Std.6 (Max 8)
5. Memory capacity	16MB			
6. I/O signals	External operation sig.: Ext. Emergency Stop, Ext. HOLD signal etc.			
	General-purpose I/O sig.: Input 32, Output 32			
7. Cable length	Robot cable: 5m (Opt.7/10/15/20/25/30/35/40m)			
	Teach pendant cable: 5m (Opt.10/15/20/25/30/35/40/45m)			
8. Mass	20kg	25kg	30kg	25kg
9. Power requirement	AC200V - AC220V ±10%, 50/60Hz, 3 phases AC200V - AC230V ±10%, 50/60Hz, 1 phase (Only some models of F01[*1])			
	Max. 5.6kVA	Max. 7.5kVA	Max. 12kVA	
10. Ground	Less than 100 Ω (robot dedicated ground), Leakage current: max. 100 mA			
11. Installation environment	Ambient temperature: 0 - 45 ℃			
	Relative humidity: 35 - 85 % (non-condensation)			
12. Teach Pendant	Color LCD with touch panel Emergency Stop SW, Teach Lock SW and Enable SW English/Chinese/Japanese Selectable			
13. Operation panel	Emergency Stop SW, Teach/Repeat SW			
14. External interface	Ethernet : 2 port (1000Baset-T/100BASE-TX/10Base-T) USB2.0 : 3 port, RS-232C : 2port			
15. Type of control	Teach mode: Joint, Base, Tool, Fixed Tool (option) operation mode			
	Repeat mode: Joint, Linear, Circular (option) interpolation mode			
16. Teaching method	Easy operation teaching or AS language programming			
17. Color	Munsell: 5Y8.5/1 equivalent			
18. Safety Circuit	Category: 4, Performance Level: e (EN ISO13849-1) [*2]			
19. Arc welding I/F	Arc-welding I/F PC board [*5] (Standard for Arc-welding robot)			

Controller specifications

20. Options				
	External axes control	Additional amplifier and External axes harnesses		
	General purpose I/O[*3] Analog I/O[*4]	In-cabinet:	General purpose I/O PC board (Input 32, Output 32)	
			Analog I/O PC board[*5] (Input 4, Output 4)	
		Remote I/O:	Remote general I/O unit (Input 32, Output 32)	
			Remote analog I/O PC unit (Input 4, Output 4)	
	I/O signal connector	D-SUB 37 pin (male, female) with cover		
	Transformer unit	AC380V-415V 3 phases / AC440V-480V 3 phases by tap selection		
		Option	Air filter (cooling fan air section)	
	Teach Pendant option	Connector for TP less		
	Operation panel option	Fast check mode Switch		
	PC cable (RS-232C)	1.5m, 3m		
	Motor brake release	Manual brake release switch		
	Extended safety functions	A-type[*11] Cubic-S option	Motion area monitoring, Joint monitoring, Speed monitoring, etc. Safety I/O signal	
		B-type[*11] CoreCubic-S option	Motion area monitoring, Joint monitoring, Speed monitoring, etc.	
			Safety I/O signal[*9] (In-cabinet)	Safety I/O board[*5] [*10] (Input 8, Output 8)
	Power regenerative function[*12]	Power regenerative unit and power regenerative amplifier		
	Safety standards[*6]	CE[*7] / UL[*8] / KCs / UKCA[*7]		
	Others	Field BUS (Master[*5], Slave), Software PLC		
		Conveyor Synchronization[*5], Bluetooth, Air filter (cooling fan air section),		
		External operation panel box（5/10/15/20/25/30m）, Switching HUB function,		
		External axis compatible with Mitsubishi motor[*5],		
		Tool tip movement amount output function[*5]		

Consult Kawasaki about maintenance parts and spare parts.

*1 The robot models that support 200V 1 phase are as follows.
RS006L/RS007N/RS007L/RS010N/RS013N/RA006L/RA010N
BA006N/BA006L/BA013N/YF002N
However, the transformer unit (400V 3-phase) described in the options column is needed to comply with the CE/UKCA standards.

*2 Category and Performance level (PL) are determined by the whole system and conditions.
The safety circuit of this controller is available in the system of category: up to 4, PL: up to e.

*3 General purpose I/O have the following maximum limits.

Max. number of General purpose I/O	Input(64)/Output(64)	In-cabinet
Max. number of General purpose I/O	Input(128)/Output(128)	In-cabinet + Remote I/O

*4 The analog I/O have the following maximum limits.
Max. number of analog I/O Input(8)/Output(8)

*5 Up to 3 option slots, including 2 slots that can be used for the PCIe board, be careful when choosing options. Option slots are used as options below.
- Analog I/O
- Field bus (Master) : PCIe board
- Conveyor Synchronization
- Arc welding I/F
- External axis compatible with Mitsubishi motor : PCIe board
- Tool tip movement amount output function : PCIe board
- Safety I/O board

*6 The controller complies with safety standards, but some robot arms do not, so please contact us for details.

*7 Transformer unit is needed.

*8 Manual brake release switch etc. is needed.

*9 The safety I/O have the following maximum limits.
Max. number of safety I/O Input(24)/Output(24)

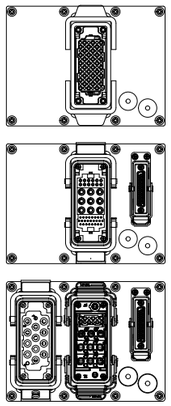
*10 Only B-type controller can be used.

*11 There are two types of F0x controllers: A-type and B-type.
A-type is compatible with "Cubic-S" of safety function as an option.
B-type is compatible with "CoreCubic-S" of safety function as an option.
A-type and B-type controllers can be distinguished only by the "Model" field of the rating plates.
(The underlined parts of the following model examples)
- Model example of A-type controller : 30F02G-**A*****, F02G-**A*****
- Model example of B-type controller : 30F02G-**B*****, F02G-**B*****

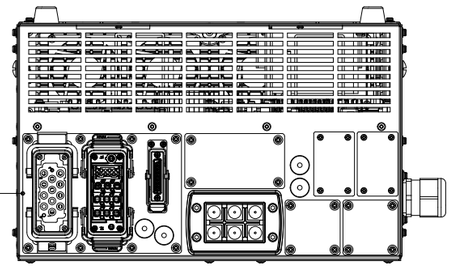
Some robot models are incompatible with the B-type controller, so please contact us for details.

*12 Only F02/F04 controllers are compatible with the optional power regenerative function.
F03 controller is equipped with the power regenerative function as standard.
When the controller supports the optional power regenerative function, the external axis amplifier cannot be added. Be careful when choosing options.

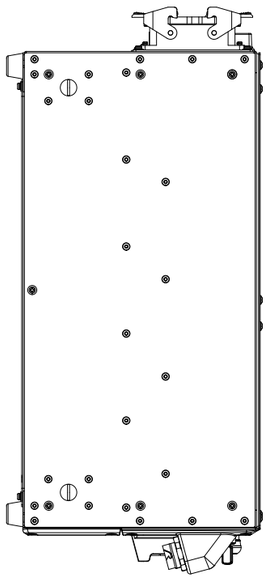
F01／F02／F03／F04 CONTROLLER



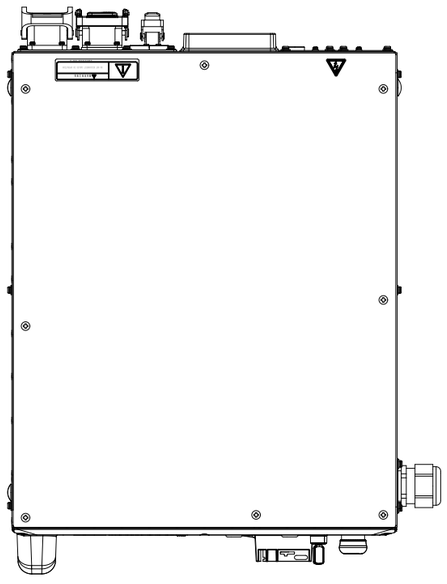
※CONNECTOR LAYOUT



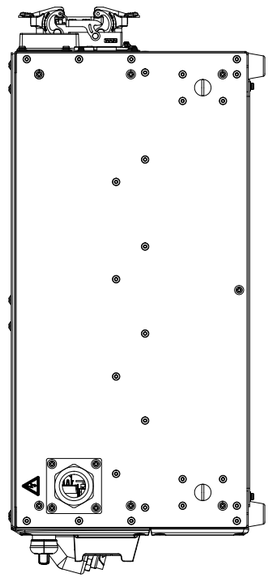
REAR VIEW



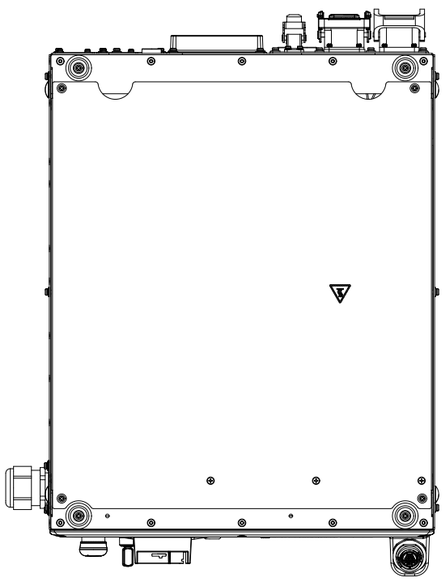
SIDE VIEW



TOP VIEW

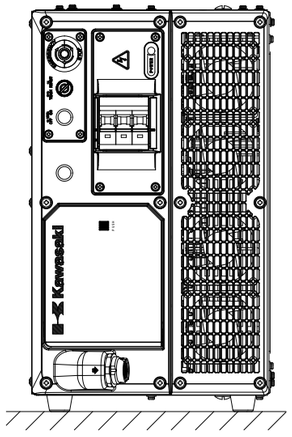


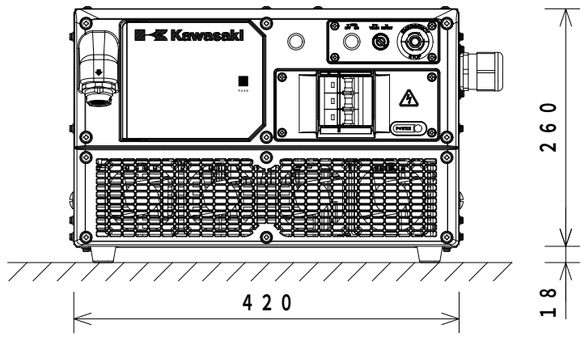
SIDE VIEW



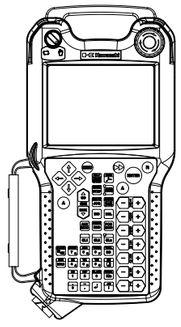
BOTTOM VIEW

Vertical Mount





FRONT VIEW



Teach Pendant