



## Standard Specifications

F01 Controller

F02 Controller

F03 Controller

F04 Controller

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Kawasaki Heavy Industries, Ltd.  
Robot Business Division

Specification number : 90152-0091DEE

## Controller specifications

| 1. Model                     | F01<br>(A-type/B-type)  | F02<br>(A-type/B-type)                                   | F03<br>(A-type/B-type)                     | F04<br>(A-type/B-type)             |
|------------------------------|---|--|--|------------------------------------|
| (Main available robot)       | RS 006-020<br>(excluding 015X)<br>BA 006-013N<br>YF   | RS 015X,<br>025-080<br>BA 013L<br>BX/BT/MT<br>BXP/MXP360 | CP/RD                                      | MX<br>MXP<br>(excluding<br>MXP360) |
| 2. Dimensions                | W420 × D530 × H278 mm   |  |  |                                    |
| 3. Structure                 | Enclosed structure : Indirect cooling system  |  |  |                                    |
| 4. Controlled axes           | Std. 6 (Max 8)<br>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                      | 20k g   | 25k g  | 30k g                                      | 25k g                              |
| 9. Power requirement         | AC200V - AC220V ±10%, 50/60Hz, 3 phases   |  |  |                                    |
|                              | AC200V - AC230V ±10%, 50/60Hz, 1 phase (Only some models of F01 <sup>*1</sup> )                                     |  |  |                                    |
|                              | Max. 5.6k VA  | Max. 7.5kVA  | Max. 12k VA                                |                                    |
| 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<br>Emergency Stop SW, Teach Lock SW and Enable SW<br>English/Chinese/Japanese Selectable |  |  |                                    |
| 13. Operation panel          | Emergency Stop SW, Teach/Repeat SW  |  |  |                                    |
| 14. External interface       | Ethernet:   | 2 ports (1000BASE-T/100BASE-TX/10BASE-T)                 |  |                                    |
|                              | USB2.0:   | 3 ports,   | USB2.0: 1 ports(Teach pendant),            |                                    |
|                              | RS-232C:  | 2 ports  |  |                                    |
| 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) <sup>*2</sup>   |  |  |                                    |
| 19. Arc welding I/F          | Arc-welding I/F PC board <sup>*5</sup> (Standard for Arc-welding robot)   |  |  |                                    |

## Controller specifications

|   |   |  |   |
|---|---|--|---|
| 20. Options   |   |  |   |
| External axes control   | Additional amplifier and External axes harnesses  |  |   |
| General purpose I/O <sup>*3</sup><br>Analog I/O <sup>*4</sup> | In-cabinet:   | General purpose I/O PC board (Input 32, Output 32)                                       |   |
|   |   | Analog I/O PC board <sup>*5</sup> (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 <sup>*11</sup><br>Cubic-S option   | Motion area monitoring, Joint monitoring,<br>Speed monitoring, etc.<br>Safety I/O signal |   |
|   |   | B-type <sup>*11</sup><br>CoreCubic-S option  | Motion area monitoring, Joint monitoring,<br>Speed monitoring, etc. |
|   |   |  | Safety I/O signal <sup>*9</sup><br>(In-cabinet)                     |
|   | Power regenerative<br>function <sup>*12</sup>   | Power regenerative unit and power regenerative amplifier                                 |   |
| Safety standards <sup>*6</sup>                                | CE <sup>*7</sup> / UL <sup>*8</sup> / KCs / UKCA <sup>*7</sup>                            |  |   |
| Others  | Field BUS (Master <sup>*5</sup> , Slave), Software PLC                                    |  |   |
|   | Conveyor Synchronization <sup>*5</sup> , 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 <sup>*5</sup> ,                            |  |   |
|   | Tool tip movement amount output function <sup>*5</sup>                                    |  |   |

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/( Input(64)/Output(64)      In-cabinet

Max. number of General purpose I/( 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\*\*\*

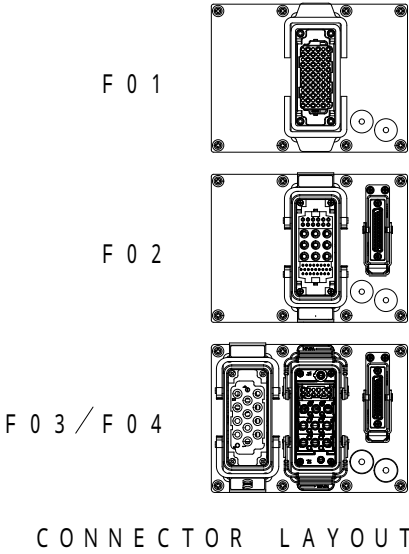
· Model example of B-type controller: 30F02G-B\*\*\*, F02G-B\*\*\*

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

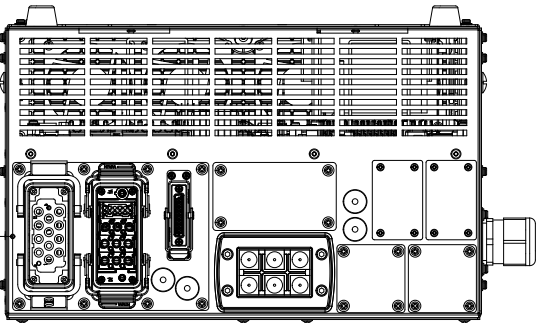
- \*12 Only F02/F04 controllers are compatible with the optional power regenerative function.

F03 controller is equipped with the power regenerative function as standard.

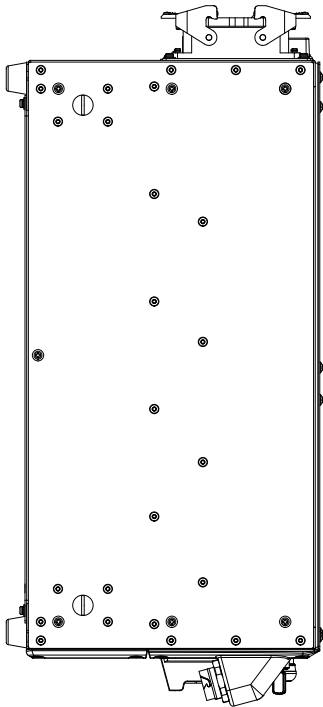
When the controller supports the optional power regenerative function, the external axis amplifier cannot be added. Be careful when choosing options.



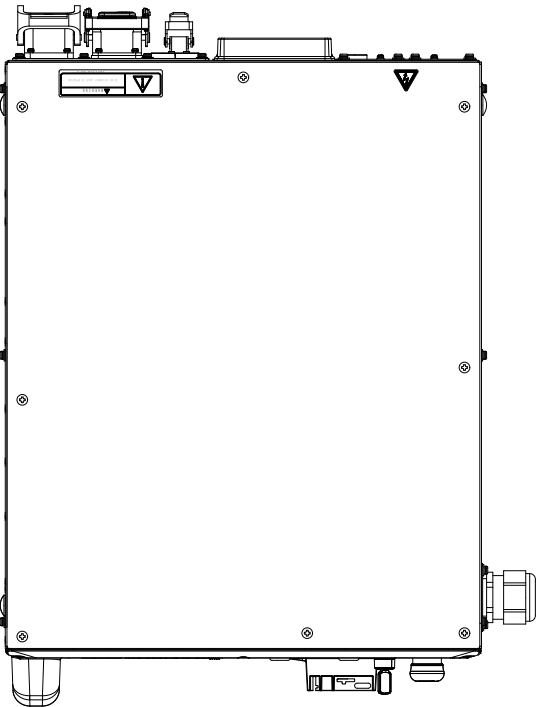
F 0 1 / F 0 2 / F 0 3 / F 0 4   C O N T R O L L E R



R E A R   V I E W

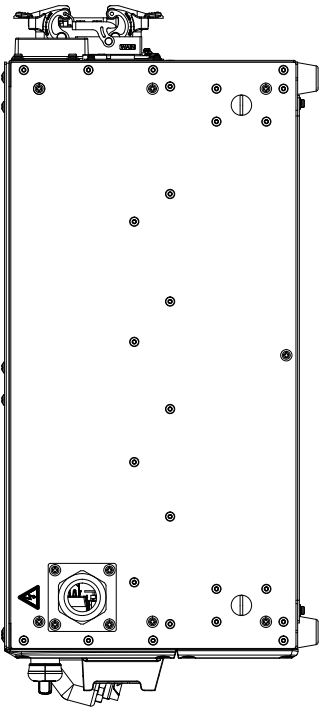


S I D E   V I E W

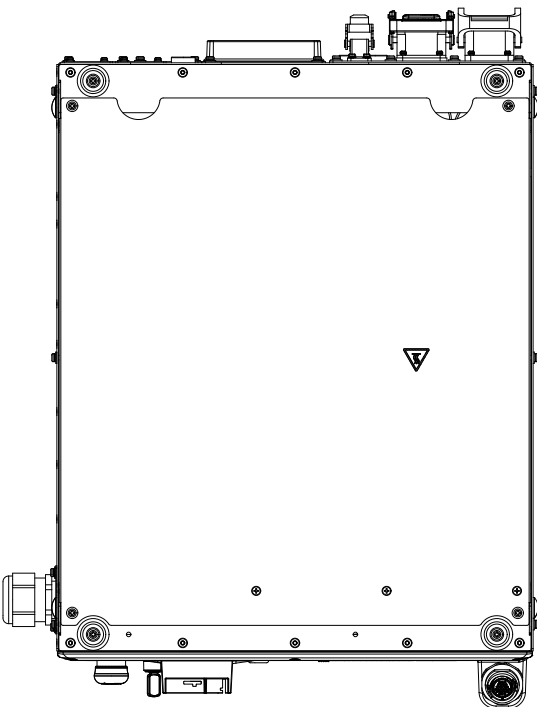


T O P   V I E W

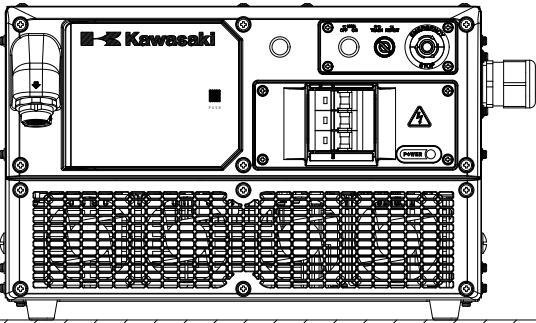
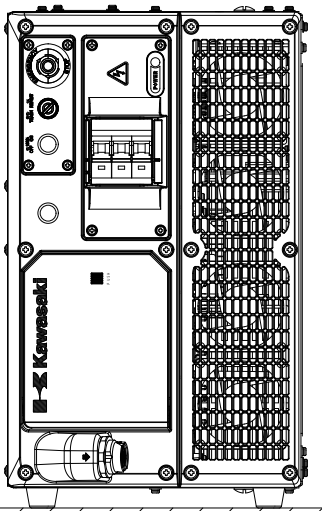
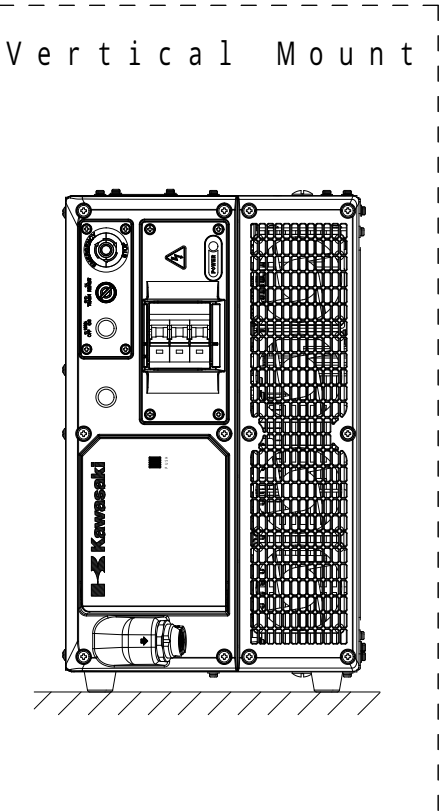
5 3 0



S I D E   V I E W



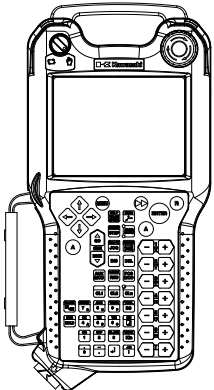
B O T T O M   V I E W



4 2 0

F R O N T   V I E W

2 6 0



T e a c h   P e n d a n t