

Dedicated Single Axis Robot Position Controllers

Compact, Multiple Functionality and High Performance



Dedicated Website: http://download.misumi.jp/mol/fa_soft.html
Useful Selection Software and Instruction Manuals can be downloaded.

See notes on CE Marking. P456

For Stepping Motor



Controller Unit price

| Part Number | I/O Module | Unit Price | | |
|-------------|-------------|------------|------------|------------|
| | | 1 pc. | 2 ~ 3 pcs. | 4 ~ 5 pcs. |
| EXRS-C1 | NPN:N | | | |
| | PNP:P | | | |
| | CC-Link:C | | | |
| | DeviceNet:D | | | |

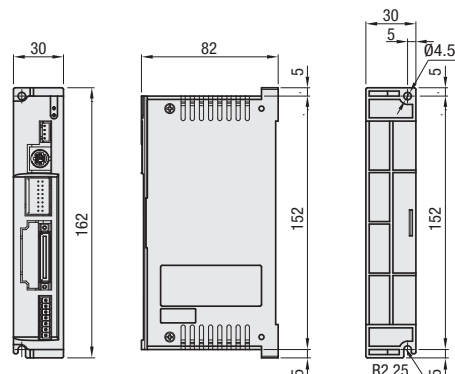
For orders larger than indicated quantity, please request a quotation.



Ordering Example
Part Number - I/O Module
EXRS-C1 - N

Controlled Actuator

| |
|-------------|
| RS 1/2/3 |
| RS 1C/2C/3C |
| RSD 1/2/3 |
| RSDG 1/2/3 |



Notes

- External power source DC24V (3A or more) is to be provided by customers.
- I/O cable is not provided. Select as an optional product.
- An external E-Stop circuit is required for service use.
- No need to separately select a controller as controller is included in the purchase of a complete set of Single Axis Robots.
- When purchasing a controller as a single item, the part number of the applicable single axis robot is required.
- The Support Software is required in order to change controller/robot combinations, or address changes due to CC-Link configuration changes.
- No auxiliary power supply available.

For Servo Motor



Controller Unit price

| Part Number | I/O Module | Unit Price | | |
|---|-------------|------------|------------|------------|
| | | 1 pc. | 2 ~ 3 pcs. | 4 ~ 5 pcs. |
| EXRS-C21A/C22A Absolute Encoders (with Data Storage Battery) | NPN:N | | | |
| | PNP:P | | | |
| | CC-Link:C | | | |
| | DeviceNet:D | | | |
| EXRS-C21B/C22B Incremental Type | NPN:N | | | |
| | PNP:P | | | |
| | CC-Link:C | | | |
| | DeviceNet:D | | | |

For orders larger than indicated quantity, please request a quotation.



Ordering Example
Part Number - I/O Module
EXRS-C21A - N

Controlled Actuator

| |
|---------------|
| RSH 1/2/3/4/5 |
| RSH 1C/2C/3C |
| RSF4 |
| RSB 1/2 |

Notes

- External power source DC24V (3A or more) is to be provided by customers. Required power supplies for brake and I/O communication.
- I/O cable is not provided. Select as an optional product.
- An external E-Stop circuit is required for service use.
- No need to separately select a controller as controller is included in the purchase of a complete set of Single Axis Robots.
- When purchasing a controller as a single item, the part number of the applicable single axis robot is required.
- The Support Software is required in order to change controller/robot combinations, or address changes due to CC-Link configuration changes.
- No auxiliary power supply available.

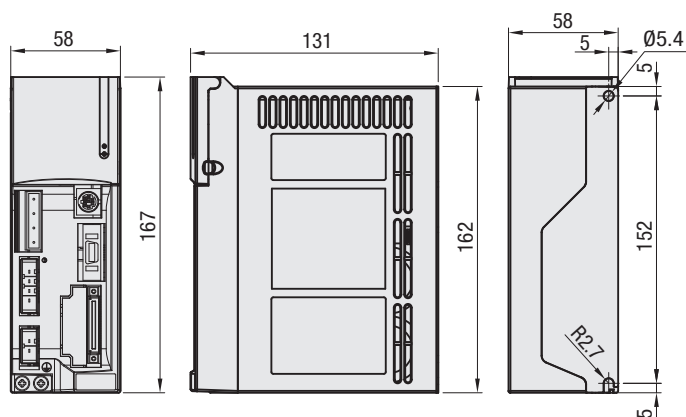


Table of EXT connector signal for EXRS-C21/C22 controller

Connectors attached to controllers. Emergency stop circuit structure and Socket for brake power supply.

| Pin No. | Signal Name | Description |
|---------|-------------|---|
| 1 | +V24 | Mechanical Brake Power Input (DC power source is to be provided by customers) |
| 2 | OV | Emergency Stop Input Internal Power Supply |
| 3 | ES+ | Emergency Stop Input 1 |
| 4 | ES1 | Emergency Stop Input 2 |
| 5 | ES2 | Emergency Stop Ready |
| 6 | ES- | Main Power Supply Ready Output Contacts (DC24V power source is to be provided by customers) |
| 7 | MPRDY1 | |
| 8 | MPRDY2 | |

I/O Module

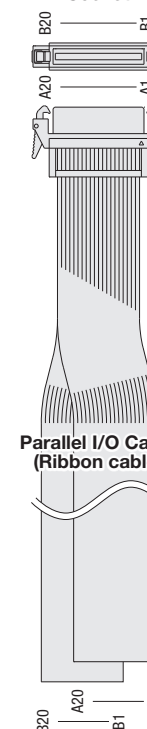
Select from the four types matching to the specifications of PLC.
(Common specifications of EXRS-C1 and EXRS-C2)

| Type | Descriptions |
|--------------------|---|
| NPN (Parallel I/O) | 16 Inputs (External DC24V±10%, 4mA drain/1 point/+Common) 16 Outputs (External DC24V±10%, 50mA/1 point, 0.4A max. / 8 points, Sinking) |
| PNP (Parallel I/O) | 16 Inputs (External DC24V±10%, 4mA /-Common) 16 Outputs (External DC24V±10%, 50mA/1 point, 0.4A max. / 8 points, Sourcing) |
| CC-LINK | CC-Link applicable to Ver1.10, Remote Device Station (1) |
| DeviceNet | DeviceNet Slave 1 Node (PLC settings file is available on MISUMI's website) |

Parallel I/O Control Signal Function Descriptions

| Type | Pin No. | Signal Name | Meaning | Description |
|---------|---------|-------------------------------------|---|---|
| Input | A1&A2 | +COM | I/O Power Supply Input +Common (24V) | External Power Supply (+) Terminal DC24±10% |
| | A3&A4 | NC | Not Connected | Not used. |
| | A5~A12 | PI NO~7 | Point No. Set (Binary) | Specify the point No. of the set target position Specify point No. for current position input (in manual operation mode). |
| | A13 | JOG+ | Jog Operation (+) | Inching/Jog moves in + direction (in manual mode) |
| | A14 | JOG- | Jog Operation (-) | Inching/Jog moves in - direction (in manual mode) |
| | A15 | MANUAL | Manual Mode | Switch to Manual Mode |
| | A16 | ORG | Return to Home | Start Homing |
| | A17 | /LOCK | Interlock | External input is allowed. When set to OFF during movement, deceleration is stopped. |
| | A18 | START | Start Operation | Starts positioning operation towards specified point No. |
| | A19 | RESET | Reset | Reset Alarm Reset Point No. Output Clear remaining travel distance in relative positioning operation |
| A20 | SERVO | Servo ON | Motor ON/OFF | |
| Output | B1~B8 | OUTPUT~7 | Output Point No. (Binary) | Outputs point number to be specified by positioning operation Outputs alarm No. in the event of alarm occurrence (Enable/Disable setting is available) |
| | B9 | OUT0 | Control Output 0 | Arbitrarily allocate from the following depending on the "Parameter settings". Zone Output, Individual Zone Output, Manual Mode Status, Completion of Homing, @Hard Stop, Alarm Output, Proximity Output, In Motion |
| | B10 | OUT1 | Control Output 1 | |
| | B11 | OUT2 | Control Output 2 | |
| | B12 | OUT3 | Control Output 3 | |
| | B13 | BUSY | In Operation | ON in operation |
| | B14 | END | Completion of Operation | Sets the Operation result to ON through Output, upon successful completion. |
| | B15 | /ALM | Alarm | ON in normal status. OFF output in the event of alarm status |
| | B16 | SRV-S | Servo Status | Set to ON at the time of power is supplied to the motor. |
| | B17~B18 | NC | Not Connected | Not used. |
| B19~B20 | -COM | I/O Power Supply Input -Common (0V) | External power supply (-) terminal Inputs to External 0V terminal. | |

Controller side Socket



Parallel I/O Cable (Ribbon cable)

Upstream Controller side cut off cable

Communication Specifications

CC-Link Network Board Specification

| Item | CC-Link Network Specification |
|-----------------------------|--------------------------------------|
| Communication Protocol | CC-Link V1.10 |
| Station | Remote Device Station |
| Number of Stations Occupied | 1 Station |
| Station Number Setting | 1~64 |
| Communication Speed Setting | 156Kbps 625Kbps 2.5Mbps 5Mbps 10Mbps |
| Total Extended Distance | 1200m 900m 400m 160m 100m |
| Monitor LED | RUN, ERR, SD, RD |

DeviceNet Network Board Specification

| Item | DeviceNet Network Specification |
|------------------------------------|---|
| Compatible DeviceNet Specification | Volume 1 Release2.0/Volume 2 Release2.0 |
| Device Type | Generic Device |
| MAC ID Setting | 0~63 |
| Communication Speed Setting | 125kbps 250kbps 500kbps |
| Total Extended Distance | 500m 250m 100m |
| Monitor LED | Module, Network |

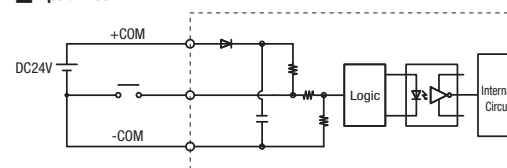
Standard COM1 port communication specifications (RS232C)

| Item | Specifications |
|----------------------|----------------------------|
| Transmission Rate | 38400bps |
| Data Bit Length | 8 bits |
| Stop Bit Length | 1 bit |
| Parity | Odd |
| Flow control | Not provided |
| Communication Method | Full-duplex Communications |

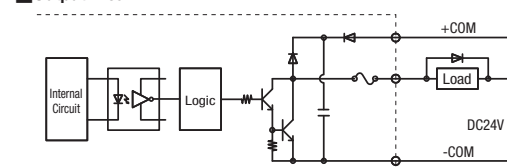
I/O Circuit Diagram

NPN Specifications

Input Area

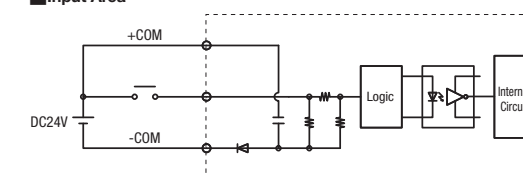


Output Area



PNP Specifications

Input Area



Output Area

