

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor



Position Controller For RCS2 Series

List of models

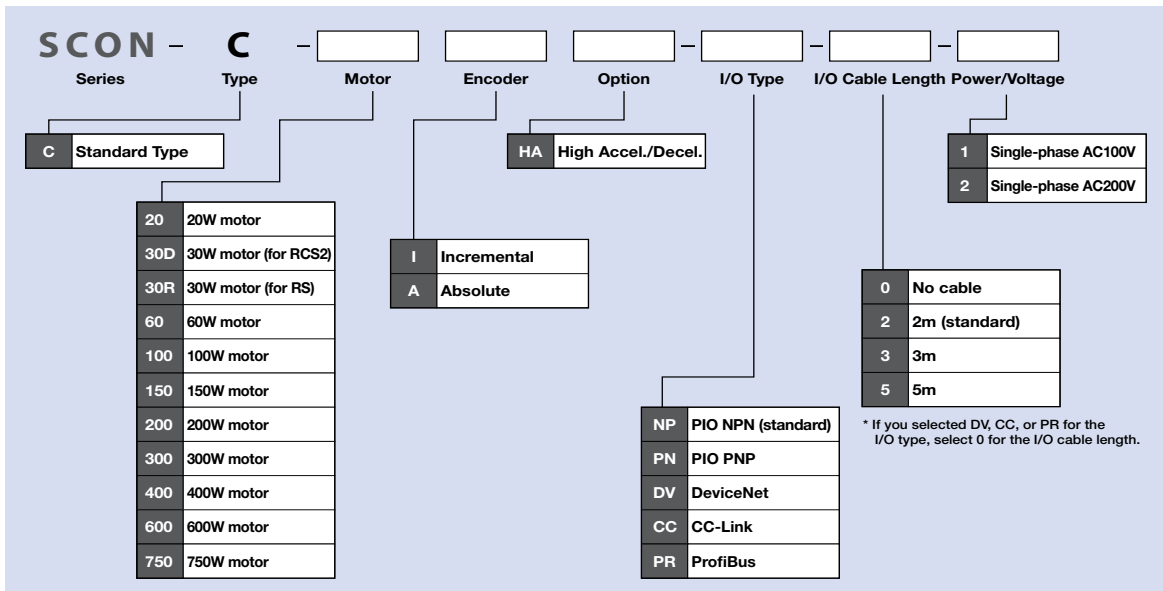
There are 2 types of SCON controllers: standard specifications in which operation is performed via PIO or pulse train input, and network specifications for operation via connection to a field network. Incremental specifications and absolute specifications are available for both types. However, only incremental specified operations are available when operating via the pulse train input.

| Type | C | | | | | | | | |
|--------------------|--------------------------------------------------------|----------|------------------|----------------------------------------|----------------------------------------------|--------------------------------------|----------|---------------------------------------|----------|
| Name | Standard | | | | Network connection specifications (optional) | | | | |
| External View | | | | | | | | | |
| Description | Positioning mode, Teaching mode Solenoid Valve Mode | | Pulse train mode | DeviceNet Connection specifications | | CC-Link Connection specifications | | ProfiBus Connection specifications | |
| Position points | Max. 512 points | | (-) | | | Max. 512 points | | | |
| I/O type symbol | NP/PN | | | DV | | CC | | PR | |
| Compatible encoder | Incremental | Absolute | Incremental | Incremental | Absolute | Incremental | Absolute | Incremental | Absolute |

*Always use a noise filter for power supplies.
(See P548)

(Caution) Note that with the network specifications, neither control via pulse train nor PIO is available.

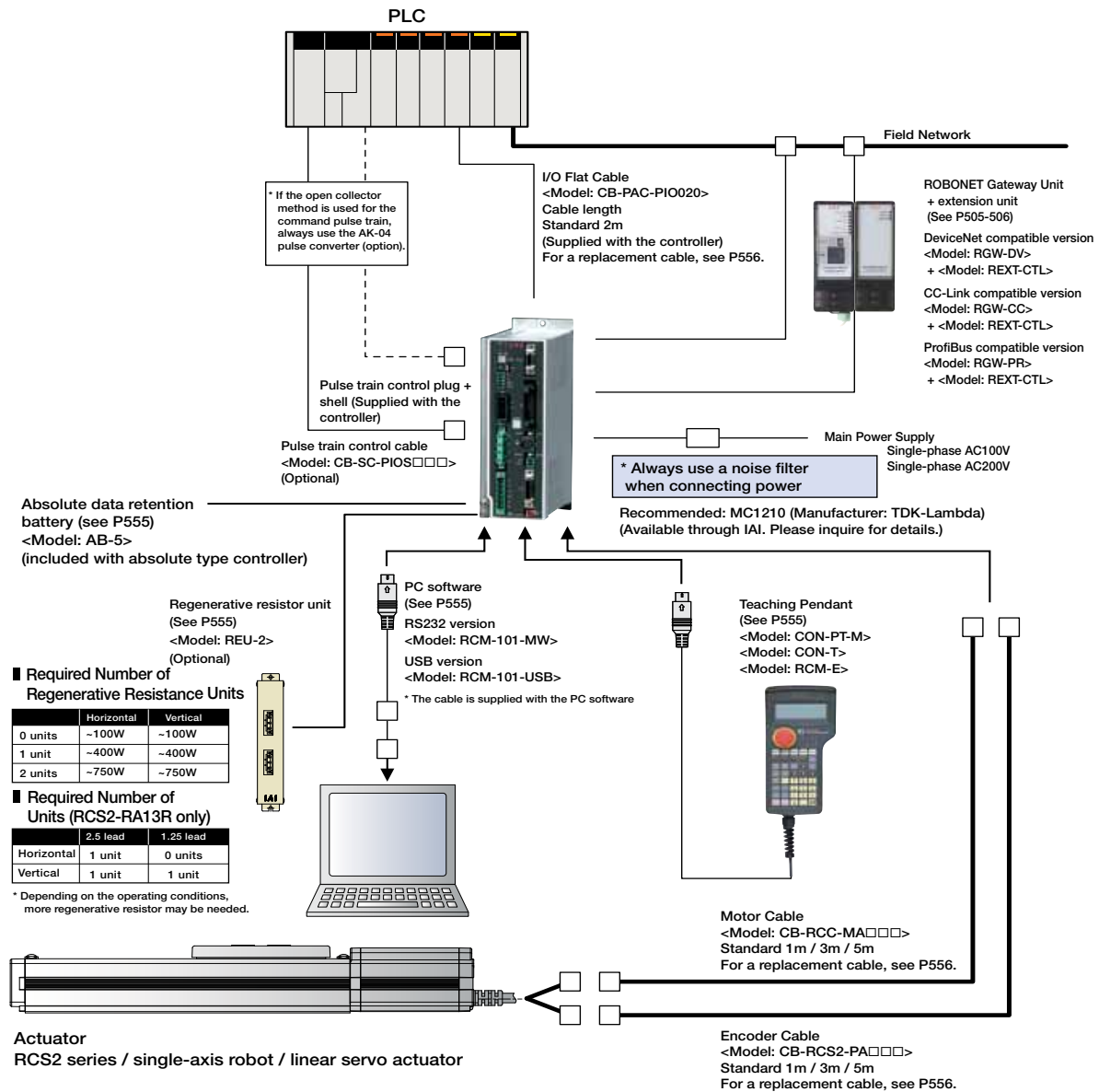
Model



547

SCON

System configuration



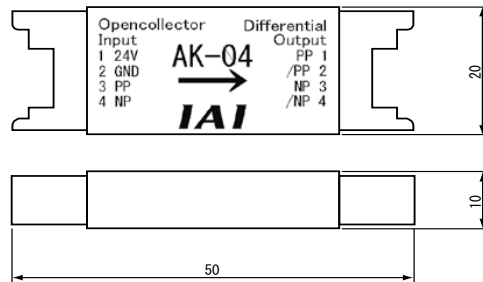
Pulse converter AK-04 (option)

Description: Pulse converter (model: AK-04) + I/O e-CON connector
Use this converter if output pulses from the host controller are of open collector specification. This converter is used to convert the open-collector command output pulses from the host controller to differential pulses. Converting open collector pulses to differential pulses improves noise resistance. Two phases of differential pulses equivalent to those from the line driver 26C31 are output. The e-CON connector is used as an input/output connector to simplify the field wiring.

Basic Specifications

- Input power : DC24V±10% (Max. 50mA)
- Input pulse : Open collector (collector current Max. 12mA)
- Input frequency : 200 kHz or less
- Output pulse : 26C31 equivalent differential output (Max. 10mA)
- External dimensions : See the figure at right (cable connector not included)
- Weight : 10g or less (cable connector not included)
- Accessories : I/O e-CON connector
3M 37104-3122-000FL

(Applicable wire: AWG No. 24 to 26, 0.14 to less than 0.3mm²)
Outer diameter of finished wire 1.0 to 1.2mm)



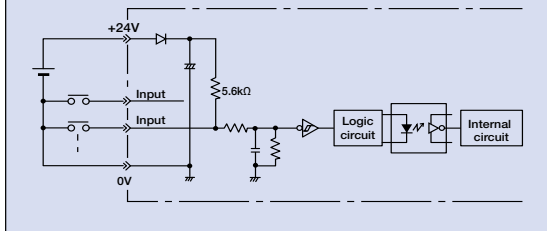
- Slider Type
- Mini
- Standard
- Controllers Integrated
- Pcd Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
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- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

I/O Specifications

Input section External input specifications

| Item | Specifications |
|---------------------|-------------------------------------------------------------------|
| Input voltage | DC24V ±10% |
| Input current | 4mA / 1 point |
| ON/OFF power supply | ON voltage...Min DC18.0V (3.5mA) ON voltage...Max DC6.0V (1mA) |
| Isolation method | Photocoupler |

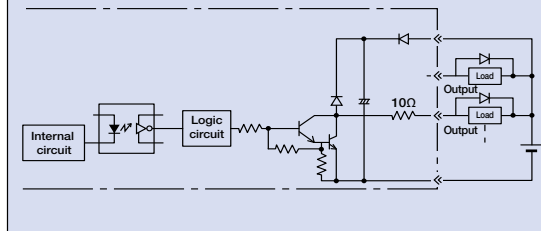
NPN Specifications



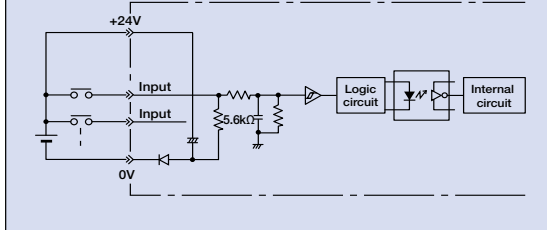
Output section External output specifications

| Item | Specifications |
|-------------------|----------------------------------|
| Load Voltage | DC24V |
| Max. load current | 100mA / 1 point 400mA / 8 points |
| Leak current | Max 0.1mA / 1 point |
| Isolation method | Photocoupler |

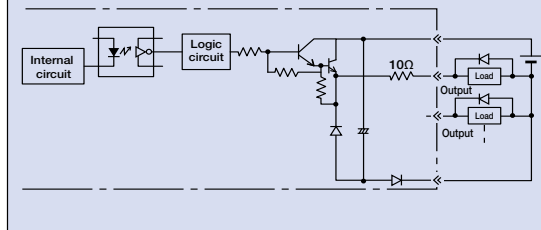
NPN Specifications



PNP Specifications



PNP Specifications



Explanation of I/O Signal Functions

SCON-C is compatible with all of the following control methods.

Positioning is possible with up to 512 points in positioner mode and up to 7 points in solenoid valve mode.

Control Function by Type

| Type | SCON-C | Features |
|---------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Positioner mode | ○ | This is the basic operating mode, in which the user designates position numbers and inputs start signals. |
| Teaching mode | ○ | In this mode, it is possible to move the slide (rod) via external signal, and then register the stop position as position data. |
| Solenoid valve mode | ○ | The actuator can be moved simply by ON/OFF of position signals. This mode supports the same control signals you are already familiar with on solenoid valves of air cylinders. |
| Pulse train mode | ○ | In this mode, you can operate the actuator freely using pulse trains without inputting position data. |
| Network compatible | ○ | If the optional network specifications are selected, direct connection to a field network is possible. |

CAUTION

Note that for network compatible types, PIO and pulse train communication are not available.

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SCON

Explanation of I/O Signal Functions

The table below explains the functions allocated to the controller's I/O signal.

Since the signals that can be used vary depending on the controller type and settings, check the signal table for each controller to confirm the available functions.

■ Signal Function Description

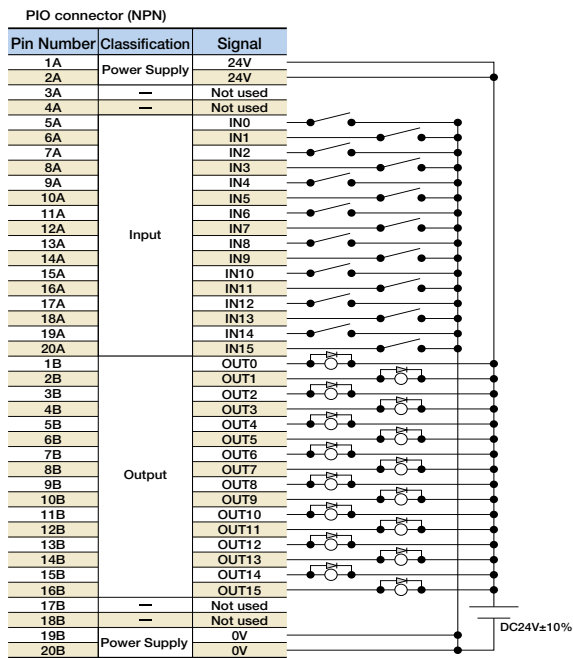
| Classification | Signal abbreviations | Signal | Function description |
|----------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | CSTR | Start signal | Input this signal to cause the actuator to start moving to the position set by the command position number signal. |
| | PC1 to PC256 | Command position number signal | This signal is used to input a target position number (binary input). |
| | BKRL | Brake forced release signal | This signal forcibly releases the brake. |
| | RMOD | Running mode switching signal | Operations mode can be switched when the controller's MODE switch is set to AUTO. (AUTO if this signal is OFF, MANU if the signal is ON) |
| | * STP | Pause signal | Turning this signal OFF causes the moving actuator to decelerate to a stop. The actuator will resume the remaining movement if the signal is turned ON during the pause. |
| | RES | Reset signal | Turning this signal ON resets the alarms that are present. If this signal is turned ON while the actuator is paused (*STP is OFF), the remaining movement can be cancelled. |
| | SON | Servo ON signal | The servo remains on while this signal is ON, or off while the signal is OFF. |
| | HOME | Home return signal | Turning this signal ON preforms home-return operation. |
| | MODE | Teaching mode signal | Turning this signal ON switches the controller to the teaching mode (provided that CSTR, JOG+ and JOG- are all OFF and the actuator is not moving) |
| | JISL | JOG/INCHING switching signal | When the main signal is off, the JOG operation will be conducted for JOG+ and JOG-. When the signal is on, the unit will do the inching operation for JOG+ and JOG-. |
| | JOG+, JOG- | JOG signal | When the JISL signal is OFF and the JOG +/- signal turns ON, the unit will jog in the + (positive) direction when the JOG + turns on and the - (negative) direction when the JOG - turns on. During the JOG operation, the unit slows to a stop when the JOG +/- signal turns off. |
| | PWRT | Teaching signal | In the teaching mode, specify a desired position number and then turn this signal ON for at least 20ms to write the current position to the specified position number. |
| | ST0 to ST6 | Start position command signal | Turning this signal ON in the solenoid valve mode causes the actuator to move to the specified position. (Start signal is not required) |
| | TL | Torque limit selection signal | While this signal is ON, torque is limited by the value set by a parameter. The TLM signal turns on if torque has reached the specified value. |
| | CSTP | Forced Stop Signal | Servo OFF is performed when this signal is ON for more than 10ms. |
| DCLR | Deviation counter clear signal | When this signal is ON, the position deviation counter is cleared continuously. | |
| Output | PEND/INP | In position signal | This signal turns ON when the actuator has entered the positioning band after movement. If the actuator has exceeded the positioning band, PEND does not turn OFF, but INP does. PEND and INP can be swapped using a parameter. |
| | PM1 to PM256 | Positioning complete signal | This signal is used to output the position number achieved at completion of positioning (binary output) |
| | HEND | Home return completion signal | This signal turns ON upon completion of home return. |
| | ZONE1 | Zone signal | Turns ON if the actuator's current position is within the range set by the parameter. |
| | PZONE | Position zone signal | This signal turns ON when the current actuator position has entered the range specified by position data during position movement. PZONE can be used together with ZONE1, but PZONE is valid only during movement to a specified position. |
| | RMDS | Running mode status signal | This outputs the operation mode status. |
| | * ALM | Controller alarm status signal | Turns ON when the controller is in normal condition, and turns OFF when an alarm occurs. |
| | MOVE | Moving signal | Turns ON while the actuator is moving (home return), including when there is push force. |
| | SV | Servo ON status signal | This signal turns ON when servo is ON. |
| | * EMGS | Emergency stop status signal | This signal remains ON while the controller is not in the emergency stop mode, and turns OFF once an emergency stop has been actuated. |
| | * BALM | Absolute battery voltage drop warning signal | With the absolute specifications for the controller, turns OFF when the absolute battery voltage drops. |
| | MODES | Mode status signal | The mode signal input turns it ON when it goes into teaching mode. It turns OFF when it goes into normal mode. |
| | WEND | Writing complete signal | This signal remains OFF after the controller has switched to the teaching mode. It turns ON upon completion of data write using the PWRT signal. If the PWRT signal is turned Off, this signal also turns OFF. |
| | PE0 to PE6 | Current position number signal | This signal turns ON after the controller has completed moving to the target position in the solenoid valve mode. |
| | PWR | System Ready Signal | Turns ON when it starts up normally after turning ON the controller. (Dedicated pulse train type) |
| | TLR | Torque limiting signal | This signal turns ON once the motor torque has reached the specified value in a condition where torque is being limited by the TL signal. (Dedicated pulse train mode) |
| | ALM1 to ALM8 | Alarm Code Output Signal | During a controller alarm, the alarm details are output in code. (Dedicated pulse train mode) |
| LSO to LS2 | Limit switch output signal | Each signal turns ON when the current actuator position has entered the positioning band before or after the target position. If the actuator has already completed home return, these signals are output even before a movement command is issued or while the servo is OFF. | |

(Note) Signals with asterisks (*) are normally ON and OFF during operation.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Pcd Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
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- Linear Servo Type
- Cleanroom Type
- Splash-Proo
- Controllers
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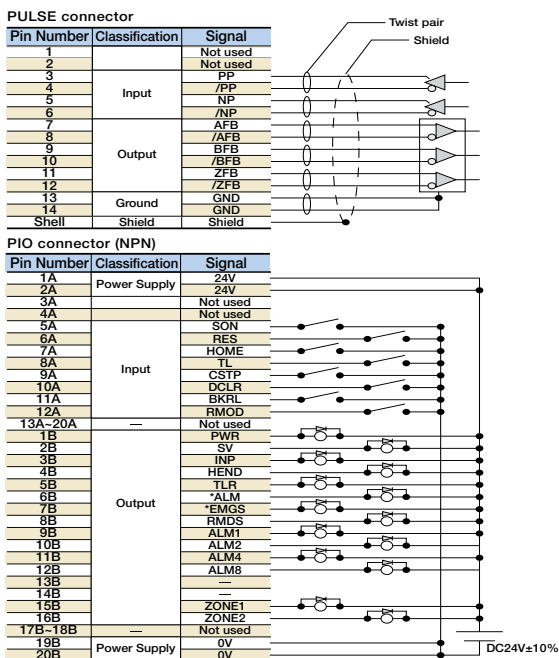
I/O wiring drawing

Positioning mode / teaching mode / solenoid valve mode



* Connect 24V between pins 1A and 2A, and 0V between pins 19B and 20B.

Pulse train mode (differential output)



* The shield on the twisted pair cable connected to the pulse connector must be connected to the shell.
 Also, the cable length must not be longer than 10m.
 * Connect 24V between pins 1A and 2A, and 0V between pins 19B and 20B.

I/O Signal Table *Choose from 7 types of signal allocation.

| Pin Number | Classification | Number of Positions Zone Signal P-zone Signal | Parameter Selections (PIO Patterns) | | | | | | | Pulse Train Mode |
|------------|----------------|-----------------------------------------------------|-------------------------------------|----------------------------|------------------------------|------------------------------|-----------------------------------|-----------------------------------|------------------|------------------|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 0 | |
| | | | Positioning mode 64 points | Teaching Mode 64 points | 256-point Mode 256 points | 512-point Mode 512 points | Solenoid Valve Mode 1 7 points | Solenoid Valve Mode 2 3 points | Pulse Train Mode | |
| 1A | 24V | | | | | | | | P24 | |
| 2A | 24V | | | | | | | | P24 | |
| 3A | — | | | | | | | | NC | |
| 4A | — | | | | | | | | NC | |
| 5A | Input | IN0 | PC1 | PC1 | PC1 | PC1 | ST0 | ST0 | SON | |
| 6A | | IN1 | PC2 | PC2 | PC2 | PC2 | ST1 | ST1 (JOG+) | RES | |
| 7A | | IN2 | PC4 | PC4 | PC4 | PC4 | ST2 | ST2 (-) | HOME | |
| 8A | | IN3 | PC8 | PC8 | PC8 | PC8 | ST3 | — | TL | |
| 9A | | IN4 | PC16 | PC16 | PC16 | PC16 | ST4 | — | CSTP | |
| 10A | | IN5 | PC32 | PC32 | PC32 | PC32 | ST5 | — | DCLR | |
| 11A | | IN6 | — | MODE | PC64 | PC64 | ST6 | — | BKRL | |
| 12A | | IN7 | — | JISL | PC128 | PC128 | — | — | RMOD | |
| 13A | | IN8 | — | JOG+ | — | PC256 | — | — | — | |
| 14A | | IN9 | BKRL | JOG- | BKRL | BKRL | BKRL | BKRL | — | |
| 15A | | IN10 | RMOD | RMOD | RMOD | RMOD | RMOD | RMOD | — | |
| 16A | | IN11 | HOME | HOME | HOME | HOME | HOME | HOME | — | |
| 17A | | IN12 | * STP | * STP | * STP | * STP | * STP | * STP | — | |
| 18A | | IN13 | CSTR | CSTR/PWRT | CSTR | CSTR | — | — | — | |
| 19A | | IN14 | — | — | — | — | — | — | — | |
| 20A | IN15 | RES | RES | RES | RES | RES | RES | — | | |
| 1B | Output | OUT0 | PM1 | PM1 | PM1 | PM1 | PE0 | LSO | PWR | |
| 2B | | OUT1 | PM2 | PM2 | PM2 | PM2 | PE1 | LS1 (TRQS) | SV | |
| 3B | | OUT2 | PM4 | PM4 | PM4 | PM4 | PE2 | LS2 | INP | |
| 4B | | OUT3 | PM8 | PM8 | PM8 | PM8 | PE3 | — | HEND | |
| 5B | | OUT4 | PM16 | PM16 | PM16 | PM16 | PE4 | — | TLR | |
| 6B | | OUT5 | PM32 | PM32 | PM32 | PM32 | PE5 | — | * ALM | |
| 7B | | OUT6 | MOVE | MOVE | PM64 | PM64 | PE6 | — | * EMGS | |
| 8B | | OUT7 | ZONE1 | MODES | PM128 | PM128 | ZONE1 | ZONE1 | RMDS | |
| 9B | | OUT8 | PZONE | PZONE | PZONE | PM256 | PZONE | PZONE | ALM1 | |
| 10B | | OUT9 | RMDS | RMDS | RMDS | RMDS | RMDS | RMDS | ALM2 | |
| 11B | | OUT10 | HEND | HEND | HEND | HEND | HEND | HEND | ALM4 | |
| 12B | | OUT11 | PEND | PEND/WEND | PEND | PEND | — | — | ALM8 | |
| 13B | | OUT12 | SV | SV | SV | SV | SV | SV | — | |
| 14B | | OUT13 | * EMGS | * EMGS | * EMGS | * EMGS | * EMGS | * EMGS | — | |
| 15B | | OUT14 | * ALM | * ALM | * ALM | * ALM | * ALM | * ALM | ZONE1 | |
| 16B | OUT15 | * BALM | * BALM | * BALM | * BALM | * BALM | * BALM | ZONE2 | | |
| 17B | — | — | — | — | — | — | — | — | | |
| 18B | — | — | — | — | — | — | — | — | | |
| 19B | 0V | — | — | — | N | — | — | N | | |
| 20B | 0V | — | — | — | N | — | — | N | | |

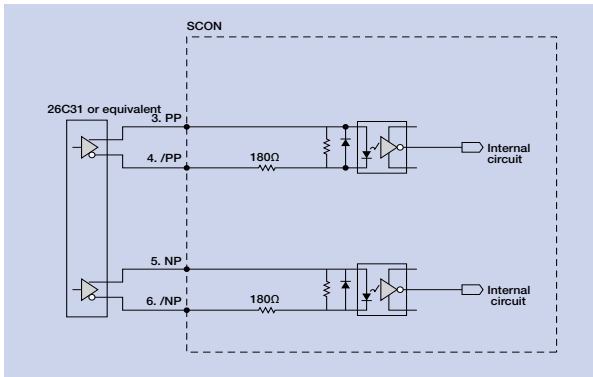
* The names of signals above, the values enclosed in () are functions before homing is performed.
 * The signals with an asterisk are normally ON, and OFF during operation.

551 SCON

Pulse Train Type I/O Specifications (differential line driver specifications)

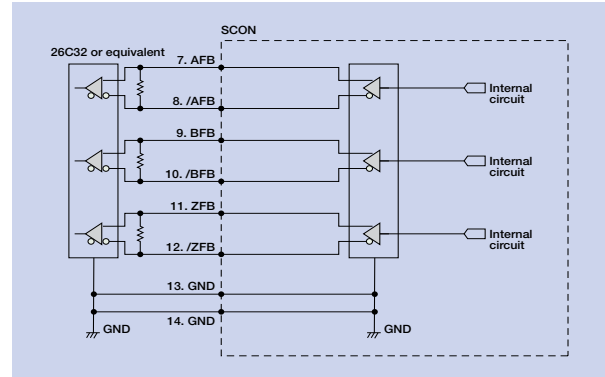
Input Section

Max. No. of : Line-driver interface: 500kpps
 Input Pulses : Open collector interface: 200kpps (AK-04 required)
 Isolation method : Photocoupler

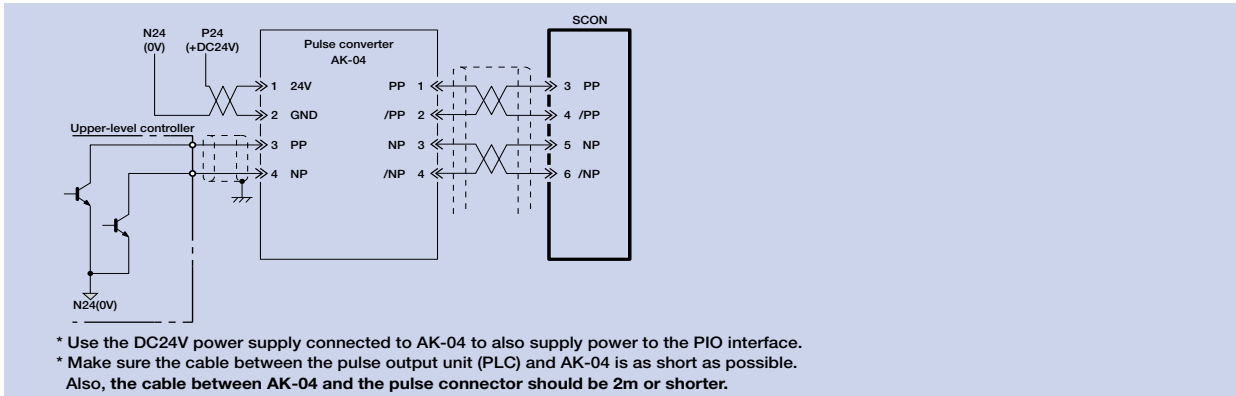


Output Section

Output method : Line-driver output
 Isolation : Not isolated



Pulse Train Type I/O Specifications (open collector specifications)



Command Pulse Input State

| Command Pulse Train Shapes | | Input terminals | Forward | Reverse | |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------|---------|--|
| Negative Logic | Forward pulse train | PP, /PP | | | |
| | Reverse pulse train | NP, /NP | | | |
| | The forward pulse train controls the amount of forward motor rotation; the reverse pulse train controls the same in reverse direction. | | | | |
| | Pulse train | PP, /PP | | | |
| | Sign | NP, /NP | Low | High | |
| The command pulse controls the amount of motor rotation, and the command sign controls the direction of rotation. | | | | | |
| Positive Logic | A/B phase pulse train | PP, /PP NP, /NP | | | |
| | A (frequency-quadrupled) A/B phase pulse with a 90° phase difference is used to control the amount and direction of rotation. | | | | |
| | Forward pulse train | PP, /PP | | | |
| | Reverse pulse train | NP, /NP | | | |
| | Sign | NP, /NP | High | Low | |
| A (frequency-quadrupled) A/B phase pulse with a 90° phase difference is used to control the amount and direction of rotation. | | | | | |
| Positive Logic | Forward pulse train | PP, /PP | | | |
| | A/B phase pulse train | PP, /PP NP, /NP | | | |

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- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

Table of specifications

| Item | Specifications | |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| Motor Capacity | Less than 400W | 400W or more |
| Connected actuator | RCS2 series actuator / single axis robot / linear servo actuator | |
| Number of control axes | 1-axis | |
| Operating method | Positioner type / pulse train type | |
| Positioning Points | 512 points | |
| Backup memory | EEPROM | |
| I/O connector | 40 pin connector | |
| Number of I/O | 16 input points / 16 output points | |
| I/O power | External supply DC24V±10% | |
| Serial Communication | RS485 1ch | |
| Field Network | Device Net, CC-Link, ProfiBus | |
| Peripheral device communication cable | CB-PAC-PIO □□□ | |
| Command pulse train input method | Differential line driver method / open collector method (converted to differential with the pulse converter *1) | |
| Max. input pulse frequency | Differential line driver method: up to 500 kpps / open collector method (using pulse converter): up to 200kpps | |
| Position detection method | Incremental encoder / Absolute encoder | |
| Emergency stop function | Y (integrated relay) | |
| Electromagnetic brake forced release | Brake release switch ON/OFF | |
| Input Voltage | Single-phase AC90V to AC126.5V Single-phase AC180V to AC253V | Single-phase AC180V to AC253V |
| Power Supply Capacity | 20W / 74VA 30W / 94VA 60W / 186VA 100W / 282VA 150W / 376VA 200W / 469VA | 400W / 844VA 600W / 1212VA 750W / 1569VA |
| Dielectric strength voltage | DC500V 100MΩ or more | |
| Vibration resistance | XYZ directions 10 to 57Hz, One side amplitude: 0.035mm (continuous), 0.075mm (intermittent) 58 to 150 Hz 4.9 m/s ² (continuous), 9.8 m/s ² (intermittent) | |
| Ambient operating temperature | 0-40°C | |
| Ambient operating humidity | 10 - 95% (non-condensing) | |
| Ambient operating atmosphere | Without corrosive gases | |
| Protection class | IP20 | |
| Weight | Approximately 800g (plus 25g for the absolute specifications) | Approximately 1.1kg (plus 25g for absolute specifications) |
| External dimension | 58mm(W)×194mm(H)×121mm(D) | 72mm(W)×194mm(H)×121mm(D) |

(Note 1) For the command-pulse input method, use the differential line driver method offering higher noise resistance.
If the open collector method must be used, convert the pulse to differential using the optional pulse converter (AK-04).

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553

SCON

Sold & Serviced By: **ELECTROMATE**

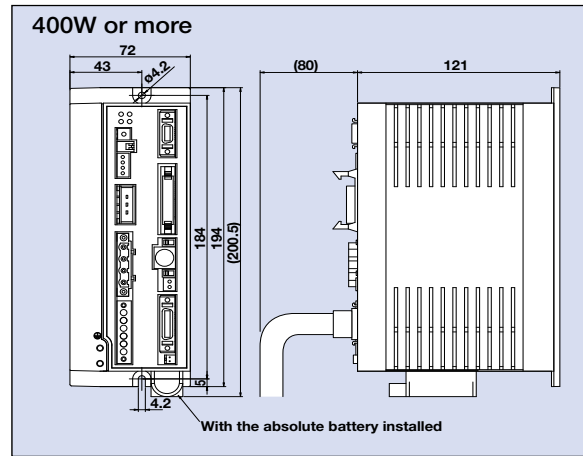
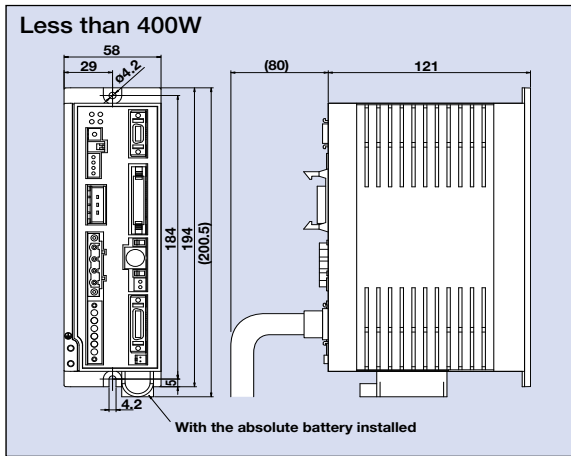
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Toll Free Fax (877) SERV099

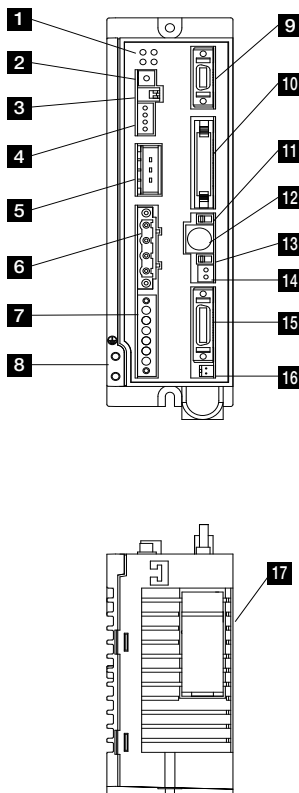
www.electromate.com

sales@electromate.com

External dimensions



Name of Each Part



1 LED display

These LED colors indicate the condition of the controller.

| Name | Color | Explanation |
|------|--------|------------------------------------------------------------------------|
| PWR | Green | Lit when the system is ready (after power is ON, CPU normal functions) |
| SV | Green | Lit when servo is ON |
| ALM | Orange | Lit during an alarm |
| EMG | Red | Lit during an emergency stop |

2 Rotary switch

This is the address setting switch for identifying each controller when they are linked.

3 Piano switch

Controller system switch.

| Name | Explanation |
|------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Operating mode switch OFF: positioner mode ON: pulse train control mode *Enabled at power ON. |
| 2 | Remote update switch (normally set to OFF) OFF: normal operating mode ON: update mode *Enabled when power is ON or during soft reset. |

4 System I/O connector

Connector for the emergency stop switch etc.

5 Regeneration unit connector

Connector for resistance unit that absorbs regeneration current produced when the actuator decelerates to a stop.

6 Motor connector (X-SEL, ECON, RCS compatible)

Actuator motor cable connector.

7 Power supply connector

AC power connector. Divided into the control power input and motor power input.

8 Grounding screw

Protective grounding screw. Always ground this screw.

9 Pulse train control connector

This connector is used during pulse train control mode operations. It is disconnected during operations in positioner mode.

10 PIO connector

Connector for the cable for parallel communications with the PLC and other peripheral devices.

11 Operating mode switch

| Name | Explanation |
|------|-----------------------------|
| MANU | Do not receive PIO commands |
| AUTO | Accept PIO commands |

*The emergency stop switch on the teaching pendant becomes effective when the line is connected, regardless of whether this switch is set to AUTO or MANU. Take note that an emergency stop will be actuated momentarily when the teaching-pendant or SIO communication cable is disconnected. This is a normal phenomenon and does not indicate an error.

12 SIO connector

Connector for the teaching pendant or PC communications cable.

13 Brake release switch

This is the electromagnetic brake forced release switch, integrated with the actuator.

*It is necessary to connect the DC 24V power for the brake drive.

14 Brake power connector

Brake power DC 24V supply connector (only required when the brake equipped actuator is connected)

15 Encoder sensor connector (X-SEL-P/Q compatible)

Encoder sensor cable connector

16 Absolute battery connector

Connector for the absolute data backup battery. (Required only for absolute encoder specifications)

17 Absolute battery holder

Battery holder for installing the absolute data backup battery

- Slider Type
- Mini
- Standard
- Controllers Integrated
- PCd Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

Option

Teaching Pendant

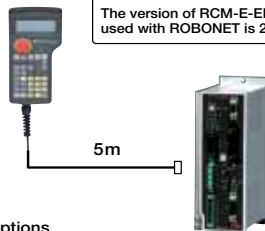
Features This is a teaching device that provides information on functions such as position input, test runs, and monitoring.

Model
CON-PT-M-ENG (Touch panel teaching pendant)
CON-T-ENG (Standard type)
RCM-E-ENG (Simple teaching pendant)

Configuration

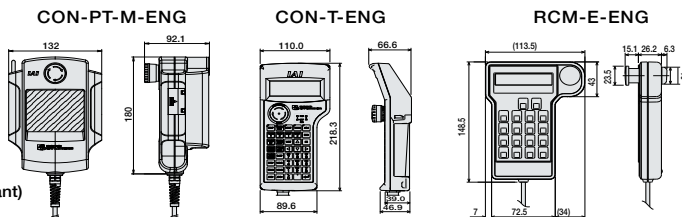
Note:

The version of RCM-E-ENG that can be used with ROBONET is 2.08 or later.



CON-T Options

- Wall-mounting hook Model HK-1
- Strap Model STR-1



Specifications

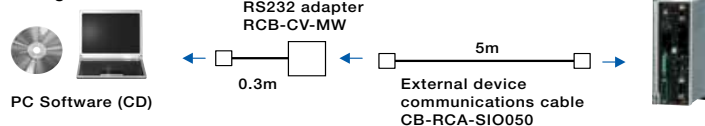
| Item | CON-PT-M-ENG | CON-T-ENG | RCM-E-ENG |
|---------------------------------|-----------------------------------------|--------------------------------|--------------------------------|
| Data input | ○ | ○ | ○ |
| Actuator motion | ○ | ○ | ○ |
| Ambient operating temp/humidity | Temp: 0~40°C; Humidity: 85% RH or below | | |
| Ambient operating atmosphere | No corrosive gases. Especially no dust. | | |
| Protection class | IP40 | IP54 | - |
| Weight | Approx. 750g | Approx. 400g | Approx. 400g |
| Cable length | 5m | | |
| Display | 3-color LED touch panel with backlight | 20 char × 4 lines LCD .display | 16 char. × 2 lines LCD display |

PC Software (Windows Only)

Features A startup support software for inputting positions, performing test runs, and monitoring. With enhancements for adjustment functions, the startup time is shortened.

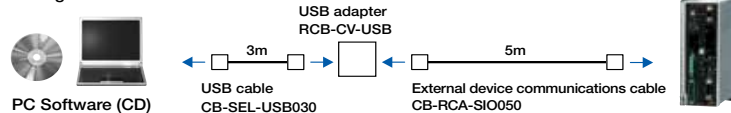
Model **RCM-101-MW** (External device communications cable + RS232 conversion unit)

Configuration



Model **RCM-101-USB** (External device communications cable + USB adapter + USB cable)

Configuration



Regenerative Resistance Unit

Features A unit that returns the regenerative current, generated during the acceleration/deceleration of the motor, into heat. In the tables below, check the total power output of the actuator to see if a regenerative resistor is needed.

Model **REU-2** (for SCON/SSEL)

Specifications

| | |
|-------------------------------------------------|-------------------------|
| Actuator weight | 0.9kg |
| Internal regenerative resistance | 220Ω 80W |
| Actuator-Controller Connection Cable (included) | CB-SC-REU010 (for SSEL) |

Required Number of Units

| | Horizontal | Vertical |
|---------|------------|----------|
| 0 units | ~100W | ~100W |
| 1 unit | ~400W | ~400W |
| 2 units | ~750W | ~750W |

Required Number of Units (RCS2-RA13R only)

| | 2.5 lead | 1.25 lead |
|------------|----------|-----------|
| Horizontal | 1 unit | 0 units |
| Vertical | 1 unit | 1 unit |

* Depending on the operating conditions, more regenerative resistor may be needed.

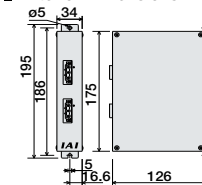
* If two regenerative units are needed, acquire one REU-2 and one REU-1 (See P596).

Battery for retaining absolute data

Features Battery for saving absolute data, when operating an actuator with an absolute encoder.

Model **AB-5**

Exterior Dimensions



555

SCON

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

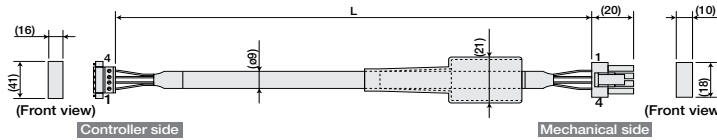
Spare parts

When you need spare parts after purchasing the product, such as when replacing a cable, refer to the list of models below.

Motor cable/Motor robot cable

Model **CB-RCC-MA** / **CB-RCC-MA** -RB

* Enter the cable length (L) into . Compatible to a maximum of 30 meters. Ex.: 080 = 8 m



Min. bend radius $r = 50$ mm or larger (when movable type is used)
* Only the robot cable is to be used in a cable track.

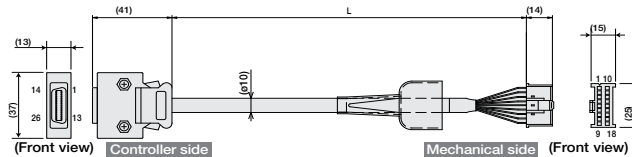
| Wire | Color | Signal | Pin No. | Pin No. | Signal | Color | Wire |
|--------|-------|--------|---------|---------|--------|-------|------------------|
| 0.75sq | Green | PE | 1 | 1 | U | Red | 0.75sq (crimped) |
| | White | U | 2 | 2 | V | White | |
| | White | V | 3 | 3 | W | Black | |
| | Black | W | 4 | 4 | PE | Green | |

Encoder cable/Encoder robot cable

Model **CB-RCS2-PA** / **CB-X3-PA**

* Enter the cable length (L) into . Compatible to a maximum of 30 meters. Ex.: 080 = 8 m

Min. bend radius $r = 50$ mm or larger (when movable type is used)
* Only robot cable is to be used in a cable track.



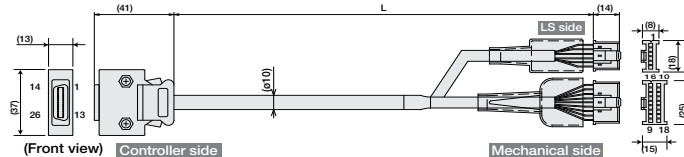
| Wire | Color | Signal | Pin No. | Pin No. | Signal | Color | Wire |
|--------------|-------|--------|---------|---------|--------|-------|------|
| --- | --- | --- | 10 | 10 | --- | --- | --- |
| --- | --- | ES2V | 12 | 12 | --- | --- | --- |
| Orange/White | W | LS | 25 | 25 | --- | --- | --- |
| Brown/White | LS | 26 | --- | --- | --- | --- | --- |
| --- | --- | ES2P | 27 | --- | --- | --- | --- |
| --- | --- | ES2N | 28 | --- | --- | --- | --- |
| --- | --- | RSV | 9 | --- | --- | --- | --- |
| --- | --- | --- | 18 | --- | --- | --- | --- |
| --- | --- | --- | 19 | --- | --- | --- | --- |
| Pink | A+ | 1 | --- | --- | --- | --- | --- |
| Purple | A- | 2 | --- | --- | --- | --- | --- |
| White | B+ | 3 | --- | --- | --- | --- | --- |
| White/Red | B- | 4 | --- | --- | --- | --- | --- |
| Orange/White | Z+ | 5 | --- | --- | --- | --- | --- |
| Green/White | Z- | 6 | --- | --- | --- | --- | --- |
| Blue | SD+ | 7 | --- | --- | --- | --- | --- |
| Black | BAT+ | 14 | --- | --- | --- | --- | --- |
| Yellow | BAT- | 15 | --- | --- | --- | --- | --- |
| Green | VCC | 16 | --- | --- | --- | --- | --- |
| Brown/White | GND | 17 | --- | --- | --- | --- | --- |
| Gray | BK+ | 20 | --- | --- | --- | --- | --- |
| Red | BK- | 21 | --- | --- | --- | --- | --- |
| --- | --- | --- | 22 | --- | --- | --- | --- |
| --- | --- | --- | 23 | --- | --- | --- | --- |

Encoder cable/Encoder robot cable for RCS2-RT6/RT6R/RT7/RA13R

Model **CB-RCS2-PLA** / **CB-X2-PLA**

* Enter the cable length (L) into . Compatible to a maximum of 30 meters. Ex.: 080 = 8 m

Min. bend radius $r = 50$ mm or larger (when movable type is used)
* Only the robot cable is to be used in a cable track.

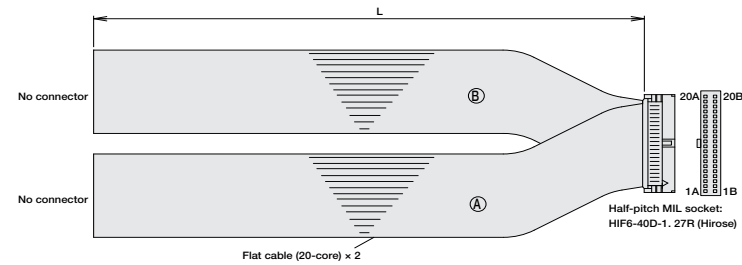


| Wire | Color | Signal | Pin No. | Pin No. | Signal | Color | Wire |
|--------------|-------|--------|---------|---------|--------|-------|------|
| --- | --- | --- | 10 | 10 | --- | --- | --- |
| White/Orange | ES2V | 12 | --- | --- | --- | --- | --- |
| White/Orange | W | 25 | --- | --- | --- | --- | --- |
| White/Black | LS | 26 | --- | --- | --- | --- | --- |
| White/Black | ES2P | 27 | --- | --- | --- | --- | --- |
| Brown/White | LS | 28 | --- | --- | --- | --- | --- |
| Brown/Black | RSV | 9 | --- | --- | --- | --- | --- |
| --- | --- | --- | 18 | --- | --- | --- | --- |
| --- | --- | --- | 19 | --- | --- | --- | --- |
| White/Blue | A+ | 1 | --- | --- | --- | --- | --- |
| White/Blue | A- | 2 | --- | --- | --- | --- | --- |
| White/Red | B+ | 3 | --- | --- | --- | --- | --- |
| White/Black | B- | 4 | --- | --- | --- | --- | --- |
| White/Purple | Z+ | 5 | --- | --- | --- | --- | --- |
| White/Gray | Z- | 6 | --- | --- | --- | --- | --- |
| Orange | SD+ | 7 | --- | --- | --- | --- | --- |
| --- | --- | --- | 8 | --- | --- | --- | --- |
| Purple | BAT+ | 14 | --- | --- | --- | --- | --- |
| Red | VCC | 16 | --- | --- | --- | --- | --- |
| Black | GND | 17 | --- | --- | --- | --- | --- |
| Blue | BK+ | 20 | --- | --- | --- | --- | --- |
| Yellow | BK- | 21 | --- | --- | --- | --- | --- |
| --- | --- | --- | 22 | --- | --- | --- | --- |
| --- | --- | --- | 23 | --- | --- | --- | --- |

I/O Flat Cable

Model **CB-PAC-PIO**

* Enter the cable length (L) into . Compatible to a maximum of 10 meters. Ex.: 080 = 8 m

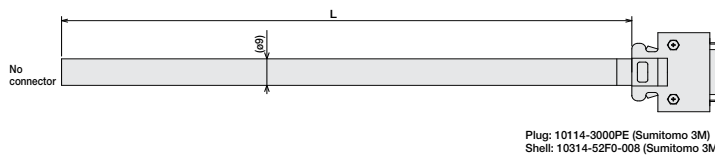


| Pin No. | Signal | Color | Wire | Pin No. | Signal | Color | Wire |
|---------|--------|----------|--------------------------|---------|--------|---------|--------------------------------|
| 1A | 24V | Brown-1 | Flat cable (A) (crimped) | 1B | OUT0 | Brown-3 | Flat cable (B) (crimped) AWG28 |
| 2A | 24V | Red-1 | | | | | |
| 3A | --- | Orange-1 | | | | | |
| 4A | --- | Yellow-1 | | | | | |
| 5A | IN0 | Green-1 | | | | | |
| 6A | IN1 | Blue-1 | | | | | |
| 7A | IN2 | Purple-1 | | | | | |
| 8A | IN3 | Gray-1 | | | | | |
| 9A | IN4 | White-1 | | | | | |
| 10A | IN5 | Black-1 | | | | | |
| 11A | IN6 | Brown-2 | | | | | |
| 12A | IN7 | Red-2 | | | | | |
| 13A | IN8 | Orange-2 | | | | | |
| 14A | IN9 | Yellow-2 | | | | | |
| 15A | IN10 | Green-2 | | | | | |
| 16A | IN11 | Blue-2 | | | | | |
| 17A | IN12 | Purple-2 | | | | | |
| 18A | IN13 | Gray-2 | | | | | |
| 19A | IN14 | White-2 | | | | | |
| 20A | IN15 | Black-2 | | | | | |
| 1B | OUT0 | Brown-3 | | | | | |
| 2B | OUT1 | Red-3 | | | | | |
| 3B | OUT2 | Orange-3 | | | | | |
| 4B | OUT3 | Yellow-3 | | | | | |
| 5B | OUT4 | Green-3 | | | | | |
| 6B | OUT5 | Blue-3 | | | | | |
| 7B | OUT6 | Purple-3 | | | | | |
| 8B | OUT7 | Gray-3 | | | | | |
| 9B | OUT8 | White-3 | | | | | |
| 10B | OUT9 | Black-3 | | | | | |
| 11B | OUT10 | Brown-4 | | | | | |
| 12B | OUT11 | Red-4 | | | | | |
| 13B | OUT12 | Orange-4 | | | | | |
| 14B | OUT13 | Yellow-4 | | | | | |
| 15B | OUT14 | Green-4 | | | | | |
| 16B | OUT15 | Blue-4 | | | | | |
| 17B | --- | Purple-4 | | | | | |
| 18B | --- | Gray-4 | | | | | |
| 19B | OV | White-4 | | | | | |
| 20B | OV | Black-4 | | | | | |

SCON Pulse Train Control Cable

Model **CB-SC-PIOS**

* Enter the cable length (L) into . Compatible to a maximum of 10 meters. Ex.: 080 = 8 m



| Wire | Color | Signal | Pin No. |
|--------------|--------------|----------|---------|
| Black | Black | Not used | 1 |
| White/Black | White/Black | Not used | 2 |
| Red | Red | PP | 3 |
| White/Red | White/Red | PP | 4 |
| Green | Green | NP | 5 |
| White/Green | White/Green | NP | 6 |
| Yellow | Yellow | AFB | 7 |
| White/Yellow | White/Yellow | ZFB | 8 |
| Brown | Brown | BFB | 9 |
| White/Brown | White/Brown | BFB | 10 |
| Blue | Blue | ZFB | 11 |
| White/Blue | White/Blue | ZFB | 12 |
| Gray | Gray | GND | 13 |
| White/Gray | White/Gray | GND | 14 |
| Shield | Shield | --- | --- |

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Fcd Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /FlatType
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor