IAI
Quality and Innovation

EC
ELECYLINDER

ELECYLINDER® EC

Quick Start Guide Fifth Edition

*For detailed handling instructions, please refer to the instruction manual for each ELECYLINDER.

STEP 1

Checking the Necessary Equipment ☑

ELECYLINDER Quantity: 1
Model: EC

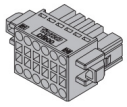
☐

Power & I/O Cable Quantity: 1
Model: CB-EC-PWBIO***-RB

* Select by model ☐

Please prepare either one.

Power & I/O Connector
Quantity: 1
Model: 1-1871940-6



* Select by model ☐

24VDC Power Supply Quantity: 1
Model: PSA-24*

*Commercially available 24V power supply can also be used. ☐

Teaching Pendant Quantity: 1
Model: TB-03-*-*

It's possible to connect TB-02,too.
* Sold separately ☐

Please prepare either one.

PC Teaching Software
Quantity: 1
Model: IA-OS

* Sold separately ☐

* Refer to the instruction manual for the components constructing the EC large slider type.

STEP 2

Installing the ELECYLINDER

Prepare the screws, nuts and tools required for installation.

Caution

- Install with proper len0gth of screws and tightening torque.
- Do not apply external force to the ELECYLINDER body during installation.
- When installing an external guide, please perform the centering adjustment.

STEP 3

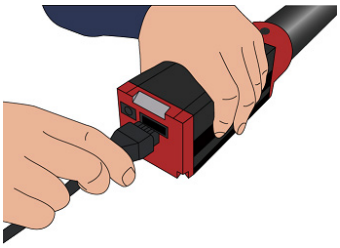
Wiring

Connecting the Cable

Items to Prepare
ELECYLINDER/Power & I/O cable

Connect the power & I/O cable to the ELECYLINDER.

Insert in the connector until it clicks into place.

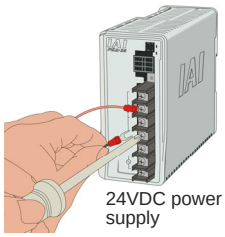


Connecting to 24VDC Power Supply

Items to Prepare
ELECYLINDER/24VDC power supply
(to be prepared by user)

Connect the cable wiring to the 24VDC power supply.

Wire color	Symbol	Function
BK	0V	Ground
RD	24V	Power supply input (24VDC ±10%, 4.2A at peak)
LBL	24V (Control)	* Connect it for TMD2 Type. Control power supply input (24VDC ±10%, 0.3A)



* Wire diameter: KIV 0.75mm^2 (AWG18)

* Refer to the instruction manual for the connectivity of the EC large slider type.

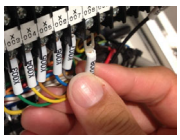
Connecting to PLC

Items to Prepare
ELECYLINDER/PLC (to be prepared by user)

Connect the cable wiring to the PLC.

Power & I/O Cable: Wiring Diagram for Cable Ends

Wire the processed terminal according to the specifications of the PLC.



Cate-gory	Wire color	Signal abbrevi ation	Signal name
Input	OR	ST0	Backward
	YW	ST1	Forward
	GN	RES	Alarm cancel
Output	BL	LS0	Backward movement completed
	PL	LS1	Forward movement completed
	GY	ALM	Alarm

* Wire diameter: KIV 0.12mm^2 (AWG26)

For the specification with brake, when installing a forcible brake release switch, input to brown wiring (signal abbreviation: BKRLS).
Power capacity of 24VDC ±10%/200mA or higher is required.

STEP 4

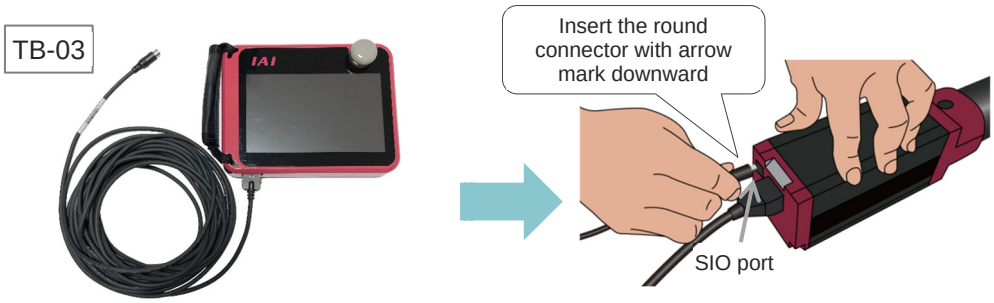
Operation

Operation with the Teaching Pendant

Items to Prepare
ELECYLINDER/Teaching pendant

1. Connect the teaching pendant/TB-03.

   Insert the round connector of TB-03 to the SIO port of the ELECYLINDER.



2. Turn ON the 24VDC power supply, the menu screen will appear.

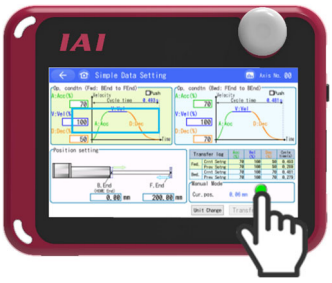
   Touch [Easy Data Setup].

   The screen will switch to the Simple Data Setting window.

3. Performing home return operation.

   Touch the [Homing] button.

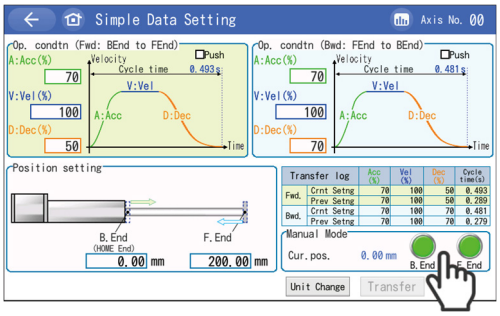
   After home return operation is complete, the [F.End] and [B.End] will be displayed.



4. Moving to the forward/backward ends.

   Touch the [F.End] (forward) or [B.End] (backward).

   The ELECYLINDER will move to the forward or backward end.



STEP 5

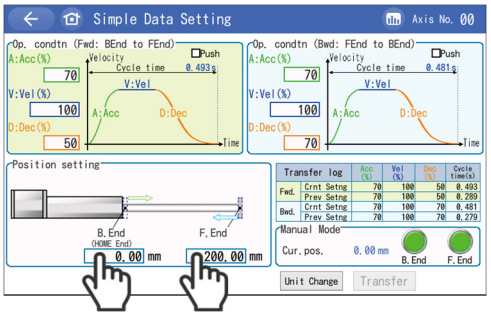
Adjustment

Adjusting the Stop Position

Items to Prepare
ELECYLINDER/Teaching pendant

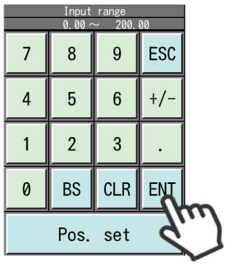
1. Touch the position you want to adjust.

   The numeric keypad screen will appear.



2. After setting the values, touch [ENT].
   After returning to the "Simple Data Settings" screen, touch [Transfer] at the bottom right of the screen.

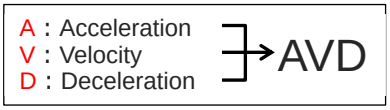
   The adjustment completes!

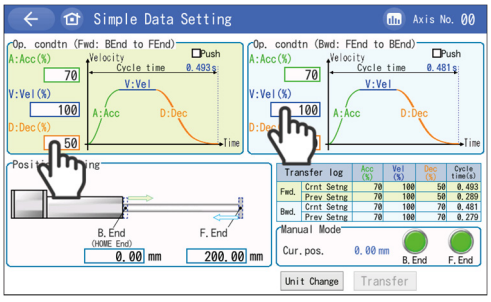


Adjustment of Operating Conditions (AVD)

1. Touch the condition you want to adjust.

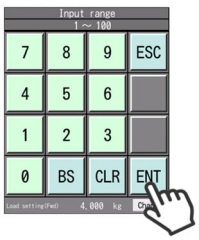
   The numeric keypad screen will appear.





2. After setting the values, touch [ENT].
   After returning to the "Simple Data Settings" screen, touch [Transfer] at the bottom right of the screen.

   The adjustment completes!



STEP 6

Alarm Countermeasures

Alarm List

Alarm group	Name	Content of alarm and typical countermeasures
A	Overload alarm	Rod or slider of ELECYLINDER stopped abnormally while moving to the target position. Make sure that there are no obstructions or obstacles in the movement range.
B	Motor abnormality alarm	Motor abnormality occurred. Replace the motor unit.
C	Controller abnormality alarm	Controller abnormality occurred. Replace the motor unit.
D	Controller-encoder abnormality alarm	An abnormality occurred between the controller and encoder. Turn the power off and then on again. If the unit does not recover even so, replace the motor or controller.
E	Power supply voltage/Power supply capacity error alarm	Controller abnormality occurred. Check the voltage and capacity of the supplied power for any abnormality.
Warning	Maintenance warning	Reached the "maintenance period" set by user. Perform maintenance for ELECYLINDER.

http://www.iai-robot.co.jp/

Control number: ME3765-5A