

Teaching Pendant CON-T/TG/TGS

First Step Guide Seventh Edition

Thank you for purchasing our product.

Make sure to read the Safety Guide and detailed Instruction Manual as well as this First Step Guide to ensure correct use. This Instruction Manual is original.

Warning : Read the instruction manual carefully and follow the instruction manual when handling this equipment. Please download the user's manual from our website. You can download it free of charge. User registration is required for first time users.
 URL: www.iai-robot.co.jp/data_dl/CAD_MANUAL/
 Keep a printout of the introduction manual near the equipment in which this product is installed so that it can be checked at all times, or display it on your computer, tablet terminal, etc. so that you can check it immediately.
 If you need a bound copy of the instruction manual, order it from the nearest sales office listed in the First Step Guide or at the end of the instruction manual. It will be provided for a fee.

- Using or copying all or part of this Instruction Manual without permission is prohibited.
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Product Check

This product is comprised of the following parts if it is of standard configuration.

If you find any fault in the contained model or any missing parts, contact us or our distributor.

1. Parts (The option is excluded.)

No.	Part Name	Model	Reference
1	Main Body	Refer to "How to read the model plate", "How to read the model"	
Accessories			
2	Touch Pen	Built in the Main Body	
3	First Step Guide	ME0262	
4	Safety Guide	M0194	

2. Instruction Manuals related to this product

No.	Name	Manual No.
1	Teaching Pendant CON-T, TG, TGS Instruction Manual	ME0178
2	PCON-CA Controller Instruction Manual	ME0289
3	Instruction Manual for the actuator with integrated ERC2 controller <PIO type>	ME0158
4	Instruction Manual for the actuator with integrated ERC2 controller <SIO type>	ME0159
5	ERC3 Actuator with Integrated Controller Instruction Manual	ME0297
6	PCON-C/CG/CF Controller Instruction Manual	ME0170
7	PCON-CY Controller Instruction Manual	ME0156
8	PCON-SE Controller Instruction Manual	ME0163
9	PCON-PL/PO Controller Instruction Manual	ME0164
10	ACON-C/CG Controller Instruction Manual	ME0176
11	ACON-CY Controller Instruction Manual	ME0167
12	ACON-SE Controller Instruction Manual	ME0171
13	ACON-PL/PO Controller Instruction Manual	ME0166
14	ACON-CA/DCON-CA Controller Instruction Manual	ME0326
15	SCON-C Controller Instruction Manual	ME0161
16	SCON-CA Controller Instruction Manual	ME0243
17	ROBONET Instruction Manual	ME0208
18	RCS Series ROBO Cylinder Controller RCS-C Type Instruction Manual	ME0102
19	RCS Series ROBO Cylinder Controller RCS-E Type Instruction Manual	ME0103
20	E-Con Controller Instruction Manual	ME0122
21	RCP2 Series ROBO Cylinder Controller Instruction Manual	ME0136
22	ERC Actuator with Integrated Controller Instruction Manual	ME0137

3. How to read the model plate

Model	MODEL CON-T	
Serial number	SERIAL No. 900109941 A1	MADE IN JAPAN

4. How to read the model

CON-T-ENG-S		
<Model>		
CON-T	: Standard Type	
CON-TG	: Safety Category 4 Compliance Type	
CON-TGS	: Safety Category 4 Compliance Type	
		<Option 2>
		Unspecified: Main body only
		S : TP adapter, dummy plug, controller connection cable enclosed
		<Option 1>
		Unspecified: Indication in Japanese
		ENG : Indication in English

Support Models

List of Support Models			
Model No.	CON-T Supported/Unsupported	CON-TG/TGS Supported/Unsupported	Support Started Version
RCP	○	×	V1.00
RCS	○	×	V1.00
E-Con	○	×	V1.00
RCP2	○	×	V1.00
ERC	×	×	-
ERC2	*1	*1	V1.00
PCON	○	○	V1.00
ACON	○	○	V1.00
ACON-CA	○	○	V1.20
DCON-CA	○	○	V1.20
SCON-C	○	○	V1.00
SCON-CA	○	○	V1.10
PCON-CA	○	○	V1.13
ERC3 (CON Mode (CN))	○	○	V1.13

*1 For the support for the ERC2, confirm it using the seal attached on the left side (viewed from the rear) of the cover.

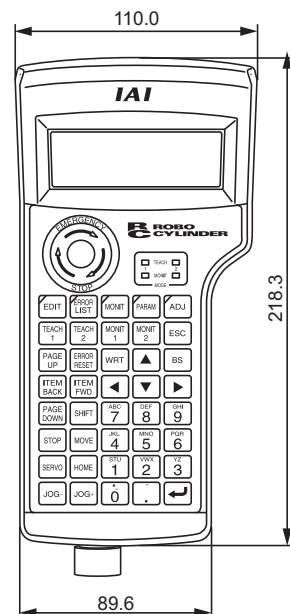
Description on the Seal		
I/O Type	Unsupported	Supported
NP	NP U5 M	NP T1 4904
PN	PN U3 M	PN T1 4904

Controllers can be connected with a relay of SIO convertor to SE type of ERC2.

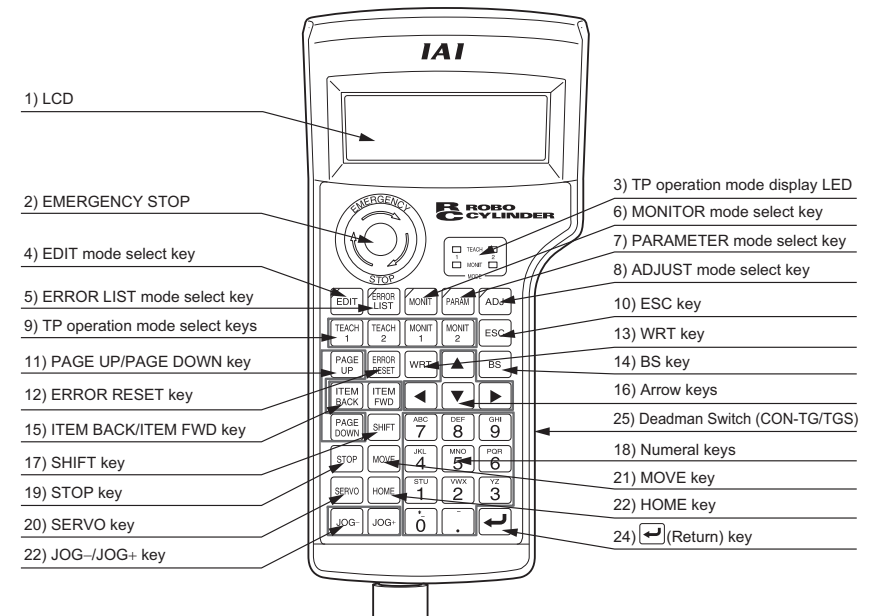
Basic Specifications

Item	Specification
Power Supply Voltage Range	DC24V±10% (Supplied by controller)
Surrounding Air Temperature & Humidity	Temperature : 0 to 40°C Humidity : 85% RH or less *RH relative humidity
Surrounding Environment	Free of corrosive gas, especially, no excessive dust
Weight	400g (Excluding cables)
Cable Length	5m (Standard)

External Dimensions



Operation Panel



- LCD Screen
- EMERGENCY STOP (Emergency Stop Push Button Switch)
This switch is a mushroom-shaped push-lock, turn-reset type switch. This switch connects serially with the controller emergency stop signal line. Once pushed down, this switch will be in an emergency stop status and the power supply to the motor will be cut off. (normally, closed: b contact).
- TP operation mode display LED
 - TEACH1 : The LED is lit in the "Teach 1" mode.
PIO Prh : Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system.
SftyVel Eftc : Keeps the maximum speed at the safety speed set for the parameter regardless of position data.
 - TEACH2 : The LED is lit in the "Teach 2" mode.
PIO Prh : Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system.
SftyVel Non : Enables movement at the speed registered in position data.
 - MONIT1 : The LED is lit in the "Monitor 1" mode.
PIO Per : Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled.
SftyVel Eftc : Keeps the maximum speed at the safety speed set for the parameter regardless of position data when operating with using PLC.
 - MONIT2 : The LED is lit in the "Monitor 2" mode.
PIO Per : Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled.
SftyVel Non : Enables movement at the speed registered in position data when operating with using PLC.

- EDIT mode select key
Moves to the "Edit/Teach" mode. This key is valid when the LED of the EDIT mode select key is lit.
- ERROR LIST mode select key
Moves to the "Error List" mode. This key is valid when the LED of the ERROR LIST mode select key is lit. When alarm occurs at the controller, the LED of the "ERROR LIST" key is flashing.
- MONITOR mode select key
Moves to the "Monitor" mode. This key is valid when the LED of the MONITOR mode select key is lit.
- PARAMETER mode select key
Moves to the "User Parameter" mode. This key is valid when the LED of the PARAMETER mode select key is lit.
- ADJUST mode select key
Moves to the "User Adjustment" mode. This key is valid when the LED of the ADJUST mode select key is lit.
- TP operation mode select keys
Select TEACH1 ("Teach 1" mode), TEACH2 ("Teach 2" mode), MONIT1 ("Monitor 1" mode) or MONIT2 ("Monitor 2" mode).
The mode will move to the TP operation mode selected.
After movement, the LED of the operation mode selected lit.
- ESC key
 - Return to the parent screen display
Although Teaching Pendant operation is composed of several layer nests, using this key will return the user to one upper layer (parent screen).

When you don't understand the operation, retry operation after returning to the upper layer with the "ESC key".

- Input data cancel during data input operation
If you press this key during data input operation, the input data will be canceled.
- Stop switch during movement or continuous movement
Once this switch is pushed down during movement or continuous movement, operation will decelerate and stop immediately.

- 11) PAGE UP/PAGE DOWN key
Changes screens by incrementing or decrementing edit and display item No. (Position No., Error List No., User Parameter No.).
- 12) ERROR RESET key
When an error occurs at any level that allows recovery without software reset, the error reset and message clear can be performed with this key.
- 13) WRT key
Transfers edited data to the controller. (Data will be saved to the memory of the controller.)
Only the data displayed on the LCD will be transferred. (Multiple position No. can't be transferred all together at the same time.)
If writing position data, all data is transferred together.
- 14) BS key
Backspace key. If you press this key during data input, the last input character will be cleared.
- 15) ITEM BACK/ITEM FWD key
Changes items by incrementing or decrementing item No. on the Edit screen, Monitor screen or User Parameter screen.
- 16) Arrow keys
- Edit screen
The cursor will move to each edit item in the screen. The screen will not be changed.
 - Monitor screen, Error List screen
Changes the screen by incrementing or decrementing with the ▲ or ▼ key.
Changes the screen by incrementing or decrementing the axis No. among connection axes with the ◀ or ▶ key.
- 17) SHIFT key
This key is not used since it is for a future function enhancement.
- 18) Numeral keys
These keys are used for numeric input.
- 19) STOP key
Once this key is pushed down during movement or continuous movement, operation will decelerate and stop immediately.
(This key is valid in the Teach/Play mode.)
- 20) SERVO key
Changes the servo ON/OFF of the actuator.
(This key is valid in the Teach/Play mode.)
- 21) MOVE key
Starts the movement or continuous movement of the actuator.
(This key is valid in the Teach/Play mode with the servo ON status.)
- 22) HOME key
Executes homing. (This key is valid in the Teach/Play mode with the servo ON status.)
- 23) JOG-/JOG+ key
- JOG- : Negative direction jog movement
 - JOG+ : Positive direction jog movement
(This key is valid in the Teach/Play mode with the servo ON status.)
- 24)  (Return) key
This key is used for the confirmation of data input or operation.
- 25) Deadman Switch (CON-TG/TGS)
There are three stages for the deadman switch. The ON/OFF in each stage are described as follows.

1st Stage	Switch OFF	The condition where finger is released from the switch, or the force of pressing the switch is very weak.
2nd Stage	Switch ON	Condition where the switch is pressed with appropriate force.
3rd Stage	Switch OFF	Condition where the switch is pressed strongly.

The servo-motor can be turned ON under the switch ON condition.
When the switch is turned OFF, the driving power source is disconnected and the servo-motor is turned OFF.
Even when the switch is turned OFF, the operations in the modes where turning ON the servo-motor is not required are available (such as edit mode)

Positioner Controller Operation Menu					
Operation	Operation Panel Key	Display Window	Window Menu	Window Sub Menu	Operation Window
Edit of position data display	EDIT	Edit/Teach	MDI		Position data display Position Number Data Edit Window
Position data clear			Clear		Position data clear Position Number Data Edit Window
All position data clear			All Clear		All position data clear Position Number Data Edit Window
JOG operation, position reading			Teach/Play	Jog	JOG operation, Position reading JOG Operation Window
Inching operation, position reading				Inching	Inching operation, Position reading Inching Operation Window
Operation test of axis movement Position movement				Movement	Movement with position number indication Operation Window for Movement with Position Number Indication
Operation test of axis movement Position continuous movement				Continuous Movement	Position number indicating continuous movement Position Number Indicating Continuous Movement Operation Window
Alarm content detailed display	ERROR LIST	Error List			Alarm detailed display Alarm List Window
Display of conditions of input and output	MONT	Monitor			Data display of input and output I/O, velocity, etc. Monitor Window
I/O, velocity, etc.					For SCON-CA, ACON-CA, PCON-CA, DCON-CA and ERC3 (CON mode (CN), ERC3 PIO Converter) Maintenance information
Parameter display and edit	PARM	User Parameters			Parameter display and edit Edit Parameter Window
					Home-return operation, axis number setting, software reset, error list clear, parameter initialization to delivery setting Clock setting (for SCON-CA, ACON-CA, PCON-CA, DCON-CA and ERC3 PIO Converter)
Operations such as execution of home-return operation	ADJ	User Adjustment			User Adjustment Window
Select TP Operation Mode (Monitor 1, Monitor 2, Teach 1 and Teach 2)	TEACH1 TEACH2 MONIT1 MONIT2	TP Operation Mode Change			TP operation mode select TP Operation Mode Window

Pulse Train Controller Operation Menu					
Operation	Operation Panel Key	Display Window	Window Menu	Window Sub Menu	Operation Window
JOG operation	EDIT	Jog/Inching	Jog		JOG operation JOG Operation Window
Inching operation			Inching		Inching operation Inching Operation Window
Alarm content detailed display	ERROR LIST	Error List			Alarm detailed display Alarm List Window
Display of conditions of input and output I/O, velocity, etc.	MONT	Monitor			Data display of input and output I/O, velocity, etc. Monitor Window
Parameter display and edit	PARM	User Adjustment			Parameter display and edit Edit Parameter Window
					Home-return operation, axis number setting, software reset, error list clear, parameter initialization to delivery setting
Operations such as execution of home-return operation	ADJ	User Adjustment			User Adjustment Window
Select TP Operation Mode (Monitor 1, Monitor 2, Teach 1 and Teach 2)	TEACH1 TEACH2 MONIT1 MONIT2	TP Operation Mode Change			TP operation mode select TP Operation Mode Window

Troubleshooting

If the connection does not work properly, check the following item.

Hardware Related Error Detected on Teaching Pendant

Code	Error Description	Cause and Treatment
308	Response Timeout Error No response is returned from the controller.	1) A wire breakage is caused in the controller connection cable. Check the wiring for or wire breakage in the connection cable. 2) It is temporary error due to noise. Re-input the power to the controller.



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