Quality and Innovation
Simple Teaching Pendant RCM-E Data Setter RCM-P
First Step Guide Second 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 downloaded the user's manual from our website. You can download it free of change. 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.

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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"	

ME0282

M0194

2. Instruction Manuals related to this product

First Step Guide

Safety Guide

Accessories

No.	Name	Manual No.
1	Simple Teaching Pendant RCM-E Instruction Manual	ME0174
2	ROBO Cylinder Data Setter RCM-P Instruction Manual	ME0175
3	ERC2 Actuator with Integrated Controller Instruction Manual <pio type=""></pio>	ME0158
4	ERC2 Actuator with Integrated Controller Instruction Manual <sio type=""></sio>	ME0159
5	PCON-C/CG/CF Controller Instruction Manual	ME0170
6	PCON-CY Controller Instruction Manual	ME0156
7	PCON-SE Controller Instruction Manual	ME0163
8	PCON-PL/PO Controller Instruction Manual	ME0164
9	ACON-C/CG Controller Instruction Manual	ME0176
10	ACON-CY Controller Instruction Manual	ME0167
11	ACON-SE Controller Instruction Manual	ME0171
12	ACON-PL/PO Controller Instruction Manual	ME0166
13	SCON Controller Instruction Manual	ME0161
14	SCON-CA Controller Instruction Manual	ME0243
15	ROBONET Instruction Manual	ME0208
16	RCS Series ROBO Cylinder Controller RCS-C Type Instruction Manual	ME0102
17	RCS Series ROBO Cylinder Controller RCS-E Type Instruction Manual	ME0103
18	E-Con Controller Instruction Manual	ME0122
19	RCP2 Series ROBO Cylinder Controller Instruction Manual	ME0136
20	ERC Actuator with Integrated Controller Instruction Manual	ME0137

3. How to read the model plate

Model —	MODEL	RCM-E			
Serial number	SERIAL No	. 900109943	A1	MADE IN JAPAN	

4 How to read the model

<Model>

RCM-E-ENG <Option> RCM-E : Simple Teaching Pendant RCM-P : ROBO Cylinder Data Setter

Unspecified: Indication in Japanese ENĠ : Indication in English

Support Models

List of Support Models						
Model No.	Support Started Version					
RCP	V1.00					
RCS	V1.00					
E-Con	V1.30					
RCP2	V1.63					
ERC	V1.63					
ERC2	V2.00					
PCON	V2.00					
SCON	V2.00					
ACON	V2.00					
ROBONET	V2.08					

Basic Specifications

Item	Specification
Surrounding Air Temperature & Humidity	Temperature : 0 to 40°C Humidity : 85% RH or less (non-condensing) *RH relative humidity
Surrounding Environment	There should be no corrosive gas or extremely heavy dust.
Weight	RCM-E : 400g RCM-P : 380g
Cable Length	5m

External Dimensions



RCM-P 86 ₿

23		Ĩ	
	140		



8) 🖵 (Return) key





key

5)

Connection Diagram

Always turn the PORT switch "OFF" first before connecting a controller having this switch. After the connection is established, put the PORT switch back to the "ON" side.

Operation Panel



This switch is connected to the emergency stop signal line on the controller in a series. Pressing this switch will bring to the emergency stop status and shut down the power supply to the motor.

[For the emergency stop signal line and its status, refer to the "Controller Instruction Manual" for the one

To release the emergency stop, rotate this switch in the direction indicated with arrows.

(Note): If multiple controllers are connected using link cables, the EMERGENCY STOP switch is enabled only for the axis of the controller which is connected to the Teaching Pendant. For RCP2-CG (external shutoff relay mount type), ERC and ERC2 series, the EMERGENCY STOP is only available when an emergency stop circuit is constructed externally. Please make sure to narrowly read the Instruction Manual for the connected controller.

A few layers of nest are constructed for the operation of Simple Teaching Pendant. Pressing this key enables you to go back to the one step higher layer (upper level window).

When you don't understand the operation, undo the operation by pressing the ESC key.

By pressing and holding this key for approx. 2.5sec or more, the screen switches to "Begin/End"

window. In this window, it is able to have operations such as to finish the processes of Simple Teaching Pendant and Data Setter and to reconnect the axes.

When an error occurs, a message for this error will appear at the very bottom of the display screen. Use this key to clear the error and to clear this message

Position Table Column: When you push this in an area such as positioning width which allows minus input, the key functions as the "-" (minus), and the rest as "." (point).
 When you input either 0 or -/. in the beginning of the number, within the proper area, the key

This key is used for numerical input.

This is used for data input and operation confirm.

Position Table

[PCON, ACON, SCON, ERC2, ROBONET]

Set the Position Data to operate the actuator.													
1) No.	2) Pos	3) Vel	4) Acc	5) Dcl	6) Push	7) LoTh	8) Range	9) Zone+	9) Zone–	10) Acc/Dcl Mode	11) Incre- mental	12) Cmnd Mode	13) Stop Mode
000	0.00	100.00	0.20	0.20	0	0	0.01	0.00	10.00	0	0	0	0
001	10.00	100.00	0.20	0.20	0	0	0.01	95.00	105.00	0	0	0	0
002													
003													
1) No.			Inc	Indicates position number.									
2) Pos			Se	et the po	sition w	here the	e actuate	or is mo	ved.				
3) Vel			Se	et the ac	tuator s	peed.							
 4) Acc 			Se	et the ac	tuator a	ccelerat	tion.						
5) Dcl			Se	et the ac	tuator d	ecelera	tion.						
6) Pus	h		W	hen the	push &	hold op	eration	is to be	perform	ied, set	the curr	ent limit	value
			(%) excep	t for "0".								
			W	hen "0" i	s set, tł	ne positi	oning o	peration	is perfe	ormed.			
7) LoT	ĥ		In the case of the PCON-CF controller, the load output signal will be output										
			when the command torque exceeds the threshold if it is set.										
8) Rar	nge		Defines the distance before the target position to output the positioning										
			со	mplete :	signal d	uring the	e positic	ning op	eration.				
			Du	uring the	pressir	ng opera	ation, it e	enables	to set t	he dista	nce to p	erform t	he
			pr	pressing operation after reaching the target position.									
9) Zon	e+/-		Defines the zone where the PZONE output signal turns ON.										
10)Acc	/Dcl Mo	de	In the case of the ACON and SCON controllers, one of the										
			acceleration/deceleration patterns can be selected from the trapezoid pattern,										
			S-shape motion or the first-order delay filter.										
11) Incremental			Set to "0" when desired the absolute position command. Set to "1" for the										
/			re	ative po	sition c	omman	d.	•					
12)Cmnd Mode			This is ineffective even if performing a setting. It is set to "0" at delivery.										
,			(V	1.00 or	earlier)		•	5	U			,	
13)Stor	o Mode		Št	andby p	, ower sa	iving ma	ode afte	r positio	ning is	complet	e can be	e selecte	ed from
, ,			Au	ito Serv	o, OFF	or Full-S	Servo Co	ontrol S ¹	vstem. I	Power s	aving m	ode is iı	nvalid if
			it i	s set to	" ∩ "						5		

[RCP, RCS, E-Con, RCP2, ERC]

Set the Position Data to operate the actuator

1)	2)	3)	4)	5)	6)	7)	8)
No.	Pos	Vel	Acc/Dcl	Push	Range	Acc only MAX	Incremental
000	0.00	100.00	0.20	0	0.01	0	0
001	10.00	100.00	0.20	0	0.01	0	0
002							
003							
1) No.		. Indicates po	sition number				
2) Pos		. Set the posi	tion where the	e actuator is n	noved.		
3) Vel		. Set the actu	ator speed.				
4) Acc/Dcl		. Set the actu	ator Accelera	tion/Decelerat	tion.		
5) Push		. When the p	ush & hold op	eration is to b	e performed,	set the curren	t limit value
		(%) except f	or "0".				
6) Range		. Defines the	distance befo	re the target p	position to out	put the position	oning
		complete sig	anal during the	e positioning o	operation.		-
		During the p	ressing opera	ation, it enable	es to set the d	listance to per	form the
		pressing op	eration after r	eaching the ta	arget position.		
7) Acc only	MAX	. Set to "0" to	reflect the se	ttina done in 4	4) Acc/Dcl for	the	
, ,		acceleration	/deceleration	speed.	,		
		Set it to "1"	and the accel	eration speed	automatically	/ becomes the	maximum
		acceleration	speed corres	ponding to the	e load. Decel	eration speed	will follow the
		setting in 4)	Acc/Dcl.				
8) Incremen	ital	. Set to "0" w	nen desired th	ne absolute po	sition comma	and. Set to "1"	for the
-,		relative posi	tion command	d.			

Operation

After the power to the controller is turned on, the display shows as shown below.

Operation is to be performed on the operation panel. [Refer to Operation Panel]

	RCM-E			RCM-P		
Conf	irming connection		Confirmin	ng connect	tion	
IAI	RE ST V. 2.00		IAI RE	Ĕ DU	V. 2.00	
Following screen displayed only for PCON, SCON and	will be ACON, J ERC2.	Following displayed PCON, SC	screen will be only for ACON CON and ERC	P. N, 22.		
T P S I c Se	Op Mode A.00 t (\leftarrow , \rightarrow): Teach 1 ect "TP Operation Mode"		TPOP SIct(M ∘ d e ← , →) : ⁻	A.00 Teach1 on Mode"	
Following screen to displayed when control to multiple axes.		Following displayed to multiple	screen will be when connect axes.			
* Axis	No. 00 (PCON)		* Axis No. 0	0 (PCON)		
Select the control	oller axis No. that the setting is desired.	Select th	Select the controller axis No. that the setting is desired.			
	Ţ	Ţ				
Slct M * Edit	lode/M2 A. 00		Slct Mode/M * Edit/Teach	ле И2 П	A. 00	
Select the pres	mode with using ▲ ▼ keys and s the return key to confirm.	Sel	ect the mode press the	e with using return key	▲ ▼ keys ar to confirm.	ıd
Operation Mode		Operatio	n Mode			
*Edit	Display and Edit function for positioner table	*Edit	Dis po	splay and E sitioner tabl	dit function for le	
*Teach/Play	Jog Operation, Inching Operation	*Monitor	Co	ontroller stat	tus display	
*Monitor	Controller status display	*Error Lis	st Ala	arm content	detailed displa	ay .
*Error List	Alarm content detailed display	^User Pa	irm Se	etting of axis	s zone signal o	utput
range and axis attributes		*I Iser Ad	*I lear Adjust Executing homing and axis numb		umber	
*User Adjust Executing homing and axis number		USCI AU	se	tting of cont	troller series	ander
	setting of controller series	*TP Op M	Node Se	etting the TF	Operation Mo	de
*TP Op Mode	Setting the TP Operation Mode			-	-	
		(Note) An a	actuator oper	ration is not	available with	RCM-P.

[TP Operation Mode]

Stated below explains TP Operation Mode for RCM-E.

For RCM-P, an actuator operation is not available even in Teach 1 or Teach 2.

- Teach 1
- PIO Prh : Enables writing of position data, parameters, etc., in the controller and commands of the actuator movement system
- SftyVel Efct : Keeps the maximum speed at the safety speed set for the parameter regardless of position data.

Teach 2

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.

- Monitor 1
- PIO Per : Enables monitoring only. Writing of position data, parameters, etc., in the controller and commands of the actuator movement system are disabled. SftyVel Efct : The maximum speed is the safety speed set for the parameter regardless of the
- command from the PLC. Monitor 2
- : Enables monitoring only. Writing of position data, parameters, etc., in the controller and PIO Per
- commands of the actuator movement system are disabled. SftyVel Non : It is allowed to move at a speed as commanded from the PLC.

How to Operate (Examples)

Position Data Setting

Example for inputting Position 1: Position 50.00mm, Velocity 100mm/s, Acceleration 0.1G, Deceleration 0.1G (Note) In the chart below explains with the RCM-E operation windows. For RCM-P, the mode selection

	. ,	window is displayed as "*Edit/Te		
Ì	No.	Operation	Screen	Reference
	1	Select "Edit" with using Image: Select "Edit" with	Slct Mode/M2 A. 00 * Edit	
	2	Select "MDI" with using ▲ ▼ keys and press the return key.	Edit A. 00 * MDI	
	3	The display switches to "Position" input window.	MDI No. 000 A. 00 Position A *	"*" is displayed when no data is input.
	4	Forward the position number to "1" by pressing key.	MDI No. 001 A. 00 Position A <u>*</u> Position No. 1	
	5	The display switches to "Position No. 1" input window. Input "50" with the numeral keys and press the return key.	MDI No. 001 A. 00 Position A 5 <u>0</u>	
	6	The display switches to "Vel" input window. Input "100" with the numeral keys and press the return key.	MDI No. 001 A. 00 Vel 10 <u>0</u> mm/s	When the position is newly registered, the values set in the user parameters are automatically input to "Vel", "Acc" and "Dcl".

	.
No.	Operati
	The display switch
7	input window.
'	Input "0.1" with the
	keys and press the
	The display switch
•	input window.
8	Input "0.1" with the
	keys and press the
	Other settings such
	as they are set for th
9	Droop ESC kov t
	FIESS ESC Key I
	DACK TO MODE Setting
10	
10	
) Hole	d down the BEGIN
2) Use	the Arrow keys to s
3) In th	ne case of any conti
1) Ren	nove the Simple Te
(Note) · In the case of F
(14010	Teaching Penda
	readining rende
(Note) · In the case of th
(14016	TD Operation M
	controller. (Rele
	In the case of E
	the gateway uni
	0 ,

the connection does not		
lardware Relat	ed Error De	
Code		
308	Response	
	No respor	
	controller.	

from PLC.

n	Screen	Reference
s to "Acc"	MDI No. 001 A. 00	
numeral return key.	Acc 0. <u>1</u> G	
s to "Dcl"		
numeral return key.	Dcl 0. <u>1</u> G	
s "Push" are initial values. ice to go Window	MDI No. 001 A. 00 Push % <u>0</u> %	
inden.	Slct Mode/M2 A. 00 * Edit	

Disconnecting Process

V/END key for approx. 2.5sec or more.

select "Complete" Screen, and then press the Return key.

roller with a PORT switch, turn the controller PORT switch to OFF.

eaching Pendant connector.

PCON, ACON, SCON, or ERC2, an instantaneous stop will be made when the ant is disconnected. However, this is not an error.

ne PCON, ACON, or ERC2 controller not having the AUTO/MANU switch, set the lode to "Monitor 2" before disconnecting the Teaching Pendant from the er to Instruction Manual)

RC2 or when controller setting is made by connecting the Teaching Pendant to nit or SIO converter ·

• If the Teaching Pendant is disconnected while the setting of "Teach 1" or "Teach 2" remains, I/O will become invalid and control from PLC will become impossible.

• If the Teaching Pendant is disconnected while the setting of "Monitor 1" remains, the maximum speed will become the safety speed set for the parameter regardless of a command

Troubleshooting

work properly, check the following item.

etected on RCM-E/RCM-P Error Description

Timeout Error

nse is returned from the

Cause and Treatment

- 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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