



Easy Line

DESKTOP ROBOTS: MULTIPLE APPLICATION SOLUTIONS FOR MANUFACTURING

- Highly rigid structure
- Smooth movement
- Flexible interface
- Clear and wide view teaching pendant screen
- Simple teaching
- Customizing functions
- Clean room specifications



HIGH PRECISION

High Rigid Structure

A solid aluminium alloy die cast is employed on the base and an aluminium alloy extrusion with a high rigid section is employed on the column.

Labyrinth Mechanism

A special labyrinth mechanism underneath the work table prevents foreign objects (e.g. screws, liquid or dust).

Smooth Movement

Smooth movement is attained with the micro-step control system.

Flexible Interface

RS-232C port for PC connection - RS-422 port for teaching pendant I/O (Output 16, Input 16)

USER FRIENDLY

Clear Wide Screen

Wide and easily viewable teaching pendant screen.
Language: English/German/Japanese, etc.
Measurement: mm / inch.

Simple Teaching

Using the eR C-Points software, users can teach data easily. It also has commands to operate particular jobs. Users can create their own original software as well.

Enhanced Memory Capacity

Up to 255 programs (2,5 times that of the existing model) and 30.000 points (increased 5-fold) can be stored as teaching data.

Simple Sequencer

The robot has a built-in simple sequencer which functions independently (It's not necessary to add more hardware in the case of a simple PLC connection).

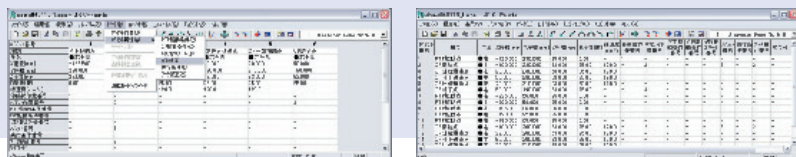


PC software "eR C-Points"

The eR C-Points is an enhanced version of the PC software for desktop robots, eR Points. Tried and tested **simple programming methods for various applications remain**. Furthermore, **additional and enhanced compile function** (robot language) and **customizing functions are available**. The main screen is the plural point data setting screen. You can create a program simply by entering necessary items, such as **point type, work position, line speed, pallet number and work adjustment numbers**.

You can select the **horizontal display** or **vertical display** for point alignments. Coordinates data edited by **spreadsheets** such as Microsoft Excell can be downloaded easily by using the **Copy & Paste function**. You can also convert drawings into coordinate values and download them onto a PC using **CAD data (DXF file)**.

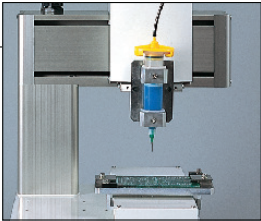
You can enter and edit **point job** easily by selecting a desired command from the **job command list**. Using the compile function, you can also read the point job data from **text files**. As well as **local variables, global variables and keep variables**. You can use **setting variables** to set values as teaching parameters. As one of the robotic features, various **special commands**, such as 'WaitCondTime' command to wait for an input signal (timeouts are available until receiving the input signal), are available.



Teaching Pendant (optional)

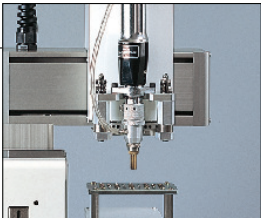
ROBOT APPLICATIONS

A broad interface makes it easy to use many applications



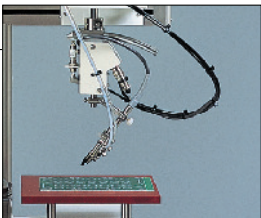
DISPENSING

- Simultaneous control of X,Y,Z and R axes.
- Adhesion, potting, sealing, use with various materials
- Instantaneous adhesive, silicon, epoxy resin, flux for soldering



SCREW FASTENING

- KX servo driver (high precision torque control)
Used for applications requiring precise tightening input exact conditions for torque, speed, degree, rotational direction and time.
- Electric Driver
Used for standard applications requiring mechanical torque adjustment it performs loose-tightening tolerance checking and failure alert.



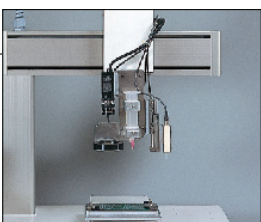
SOLDERING

- Simultaneous control of X,Y,Z and R axes.
- Point, line or arc soldering.
- Quick change soldering tip.
- Ideal for circuit boards, lead wires, QFP, piezoelectric parts



BOARD CUTTING

- PC board cutting without stress and cracks is achieved.
- A twin-head router is also available



CCD CAMERA & HEIGHT SENSOR

- The CCD camera and height sensor integrate to supply high-speed precise inspection and accurate detection for pick & place, dispensing, and soldering applications.
- Provides easy teaching and automatic transfer function for off-positioned work pieces on the fixture.

Distributed by:

	eR2203N - eR2204N		eR230N - eR2304N		eR2403N - eR2404N		eR2503N - eR2504N	
	3	4	3	4	3	4	3	4
RANGE OF OPERATION								
X,Y axis	200mm x 200mm		300mm x 320mm		400mm x 400mm		510mm x 510mm	
Z axis	50mm		100mm		150mm		150mm	
R axis	---	±360°	---	±360°	---	±360°	---	±360°
PORTABLE WEIGHT *2								
Work	7 kg		11 kg		11 kg		11 kg	
Tool	3.5 kg		6 kg		6 kg		6 kg	
SPEED								
PTP (X,Y) *4	500mm/sec		800mm/sec		800mm/sec		800mm/sec	
	5~700mm/sec		8~800mm/sec		8~800mm/sec		8~800mm/sec	
PTP (Z) *4	250mm/sec		320mm/sec		320mm/sec		320mm/sec	
	2.5~250mm/sec		3.2~320mm/sec		3.2~320mm/sec		3.2~320mm/sec	
PTP (R) *4	---	600°/sec	---	800°/sec	---	800°/sec	---	800°/sec
	---	6~600°/sec	---	8~800°/sec	---	8~800°/sec	---	8~800°/sec
CP (X,Y,Z) *3, *4	500mm/sec		800mm/sec		800mm/sec		800mm/sec	
	0.1~500mm/sec		0.1~800mm/sec		0.1~800mm/sec		0.1~800mm/sec	
ACCEPTABLE MOMENT OF INERTIA								
	---	65kg · cm ²	---	90kg · cm ²	---	90kg · cm ²	---	90kg · cm ²
REPEATABILITY - ACCURACY								
X,Y axis	±0.01mm		±0.01mm		±0.01mm		±0.01mm	
Z axis	±0.01mm		±0.01mm		±0.01mm		±0.01mm	
R axis	---	±0.02°	---	±0.02°	---	±0.02°	---	±0.02°
DIMENSIONS								
WxDxH	320 x 380 x 540 mm		560 x 530 x 650 mm		590 x 630 x 800 mm		880 x 730 x 800 mm	
WEIGHT								
	18 kg		35 kg		42 kg		43 kg	

GENERAL TECH INFO FOR ALL MODELS

Power source	AC90~132V / AC180~250V (single phase)
Consumption current	200VA
Working ambient temperature	0 ~ 40°
Relative humidity	20 ~ 95° (no condensation)
Teaching method	Remote Teaching (JOG), Manual Data Input (MID)
Teaching System	eR C-Points: Simple or broad-use teaching systems <i>Simple:</i> Easy teaching just by registering position and parameter <i>Broad-use:</i> User oriented programmingsuch as I/O control, teaching by point job
Teaching pattern	Programming by teaching pendant / Off line teaching using a PC
Program capacity	255 programs
Data memory capacity	Maximum 30.000 point *5
Drive method	5-phase stepping motor
Control method	PTP and CP
Interpolation function	3 dimensions line and Arc interpolation
External interface	RS232C 1ch (for PC) , 2ch (for External Device-optional) / RS422 1ch (for Teaching Pendant only)
External input/output	IN : 16, OUT : 16 (IN : 24, OUT : 24 Optional)
PLC FUNCTION	100 programs, 1000 steps / 1 program

*1 Also available with 2 axes
*2 max. portable weight for 2 axes models is 6.5 kg for the tool and 7 kg for the workpiece for the eR2202N 10 kg for the tool and 11 kg for the workpiece for the eR2302N, eR2402N and eR2502N
*3 Restricted by drive condition
*4 Speed range
*5 Point data shares memory with additional point data, point job and sequence data. If this data is increased, the max. memory available is reduced