**ERC3-RA4C**

- **Series**: ERC3
- **Type**: RA4C
- **I/O type**: 42P
- **Motor type**: Pulse motor, size 42C
- **Encoder type**: Incremental specification
- **Controller type**: SE: SIO type
- **Cable symbol**: \( \text{List} \)
- **Standard price**: \( \text{List} \)
- **Controller type**: SE: SIO type
- **Cable symbol**: \( \text{List} \)
- **Standard price**: \( \text{List} \)

---

**Actuator Specifications (High-output Setting Enabled)**

**Leads and Payloads**

<table>
<thead>
<tr>
<th>Model number</th>
<th>Lead (mm)</th>
<th>Maximum payload (kg)</th>
<th>Maximum push force (N)</th>
<th>Stroke (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERC3-RA4C-42P-20-1</td>
<td>10</td>
<td>6</td>
<td>1.5</td>
<td>56</td>
</tr>
<tr>
<td>ERC3-RA4C-42P-12-1</td>
<td>12</td>
<td>25</td>
<td>4.5</td>
<td>93</td>
</tr>
<tr>
<td>ERC3-RA4C-42P-6-1</td>
<td>4</td>
<td>40</td>
<td>12</td>
<td>185</td>
</tr>
</tbody>
</table>

**Legend**

- [ ] Stroke
- [ ] I/O type
- [ ] Cable length
- [ ] Option

---

**Stroke and Maximum Speed**

<table>
<thead>
<tr>
<th>Stroke (mm)</th>
<th>Standard price</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>—</td>
</tr>
<tr>
<td>150</td>
<td>—</td>
</tr>
<tr>
<td>250</td>
<td>—</td>
</tr>
<tr>
<td>300</td>
<td>—</td>
</tr>
</tbody>
</table>

**Options**

- **Brake**: Option code
- **Non-motor side specification**: Option code
- **Simple absolute specification**: Option code
- **Flange**: Option code
- **Foot bracket**: Option code

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**Notes on selection**

If the high-output setting is enabled (factory default), the duty must be limited. (Refer to P. 16.) If the high-output setting is disabled, the payload and maximum speed become lower, but the actuator can be used at a duty of 100%. Refer to the operation manual for information on how to change the high-output setting. Refer to P. 26 for the payload at each speed/acceleration when the high-output setting is enabled. For other cautionary items, refer to "Explanations of/Cautionary Notes on Items Specified in Catalog (P. 15)."

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**Correlation diagrams of Speed and Payload**

With the ERC3 series, due to the characteristics of the pulse motor, payload decreases as the speed increases. Use the chart below to confirm that the desired speed and payload requirements are met.

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**Cable length**

- **Type**: 'P' (1m)
- **Cable symbol**: \( \text{List} \)
- **Standard price**: \( \text{List} \)
- **Factory default**: \( \text{List} \)
- **Special length**: \( \text{List} \)

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*Refer to P. 14 for the description of items constituting the model number.

*For other cautionary items, refer to "Explanations of/Cautionary Notes on Items Specified in Catalog (P. 15)."

*If the simple absolute specification is selected, the separately sold PIO converter of simple absolute specification (with battery) is required.
External view of the brake specification

* The overall length of the brake specification is 4.5 mm longer than the standard specification and its mass is 0.4 kg heavier.

Dimensions and Mass by Stroke

<table>
<thead>
<tr>
<th>Stroke</th>
<th>50</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>286</td>
<td>316</td>
<td>346</td>
<td>392</td>
<td>436</td>
<td>486</td>
</tr>
<tr>
<td>F</td>
<td>142</td>
<td>152</td>
<td>162</td>
<td>172</td>
<td>182</td>
<td>192</td>
</tr>
<tr>
<td>Mass (kg)</td>
<td>1.4</td>
<td>1.7</td>
<td>2.0</td>
<td>2.3</td>
<td>2.6</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Controllers (Built into the Actuator)

PIO type

**PIO type (NPN specification)**

- ERC3-RA4C-I-42P-□□-NP□□
  - Simple control type accommodating up to 16 positioning points
  - Input power: 16

**PIO type (PNP specification)**

- ERC3-RA4C-I-42P-□□-PN□□
  - PNP I/O type
  - Input power: 16
  - High-output setting enabled: 3.5A rated 4.2A max.
  - Pulse train input type supporting the NPN specification

**SIO type**  

- ERC3-RA4C-I-42P-□□-SE□□
  - High-function type accommodating up to 512 positioning points (PIO converter is used)
  - DC24V

**Pulse-train type (NPN specification)**

- ERC3-RA4C-I-42P-□□-PLN□□
  - Pulse-train input type supporting the NPN specification

**Pulse-train type (PNP specification)**

- ERC3-RA4C-I-42P-□□-PLP□□
  - Pulse-train input type supporting the PNP specification

*1 Connect the power & I/O cable. Refer to P.36 for details on this cable.
SE: Stroke End
ME: Mechanical End
*2 The slider moves to the ME during home return, so pay attention to possible contact with surrounding structures.
*3 The orientation of the bolt will vary depending on the product.

* If the non-motor side (NM) specification is selected, the dimension on the motor side (the distance to the home from ME) and that on the front side are flipped.

Drive system: Ball screw ø10 mm, rolled C10
Positioning repeatability (*1): ± 0.02 mm (± 0.03 mm)
Lost motion: 0.1 mm or less (0.2 mm or less)
Rod diameter: ø25 mm
Rod non-rotation preciseness: ±1.5 degrees
Ambient operating temperature: 0 to 40˚C
Humidity: 85% RH or less (Non-condensing)

(*1) The specification in [ ] applies when the lead is 20 mm.