easyE-line

linear in-line actuators
### Features:

- **Stroke length:** 50, 100, 150, 200, 250, 300, 350, 400, 500 and 750mm
- **Cable:**
  - easyE-35: 1m, 2X0.65mm² (AWG19), Ø = 4.8mm, black, Molex Mini-Fit Jr. 6 pin
  - easyE-50: 1m, 2X1.3mm² (AWG16), Ø=6.4mm, black, Molex Mini-Fit Jr. 6 pin
  - easyE-60: 1m, 2X1.3mm² (AWG16), Ø=6.4mm, black, Molex Mini-Fit Jr. 6 pin
- **Bending radius:** 6x cable diameter
- **Materials:** Motor and actuator tube are powder coated steel or stainless steel
  - Piston rod is aluminum (easyE-35) or stainless steel (easyE-50 and easyE-60)
  - Front and rear brackets are PA or Aluminium
- **Protection class:** IP66 (standard), IP68, IP69K, ATEX
- **Max. static load/ Self locking force:**
  - easyE-35: PA brackets: 2000N Alu/AISI: 5400N
  - easyE-50: PA brackets: 4700N Alu/AISI: 16800N
  - easyE-60: Alu/AISI: 16800N
  - Depending on stroke length for push-applications
- **Temperature:** -5°C to +70°C
- **Duty cycle:** Max. 10% or 2 minutes in use followed by 18 minutes rest

### Please Note:

- Power supply without over-current protection can cause serious damage to the actuator at mechanical end-stop or when actuator is overloaded in another way
- Effective stroke is reduced by up to 3mm
- Radial forces might have an adverse affect on the performance or lead to damage of the actuator
- Keep piston tube clean
- Longer cable lengths may cause voltage drop which affects the performance of the actuator
- For medical applications maximum ambient temperature is 48°C
- Function of the actuator is subject to the settings of the control box
- The dust and water sealing of IP68/IP69K actuators might affect their performance
- All specifications are for 25 °C ambient – low temperature might affect performance

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**Please note the important advices at www.bansbach.de/easyE-line**
### Recommended mounting methods:

- Do not clamp actuators on tubing
- Always keep both brackets mounted in the same orientation and ensure to flush mount actuator
- Brackets must always be able to rotate on axels in mountings

### Table: Specifications

<table>
<thead>
<tr>
<th></th>
<th>EL</th>
<th>ØZ1</th>
<th>ØZ2</th>
<th>ØKS</th>
<th>Clevis lead</th>
<th>Hall rear</th>
<th>UL/EN60.601</th>
<th>IP68/IP69K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>easyE-35</strong>&lt;br&gt; Gear ratio: C, D, E, F&lt;br&gt;Gear ratio: G, H</td>
<td>stroke+160*&lt;br&gt;stroke+170*</td>
<td>35</td>
<td>20</td>
<td>20</td>
<td>+10</td>
<td>+10</td>
<td>+10</td>
<td>+11</td>
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<tr>
<td><strong>easyE-50</strong>&lt;br&gt; Gear ratio: C, D, E, F&lt;br&gt;Gear ratio: G, H</td>
<td>stroke+240&lt;br&gt;stroke+255</td>
<td>50</td>
<td>40</td>
<td>30</td>
<td>-</td>
<td>+15</td>
<td>+15</td>
<td>+14</td>
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<tr>
<td><strong>easyE-60</strong>&lt;br&gt; Gear ratio: all ratios</td>
<td>stroke+358</td>
<td>60</td>
<td>50</td>
<td>35</td>
<td>-</td>
<td>+15</td>
<td>+15</td>
<td>+25</td>
</tr>
</tbody>
</table>

*If stroke >500mm: stroke+167, if stroke >700mm: stroke+212*
Choose your actuator:

1. Model:
   - easyE-35
   - easyE-50
   - easyE-60

2. Stroke length:
   - 50, 100, 150, 200, 250, 300, 350, 400, 500 and 750mm (others on request)

3. Gear ratio:
   - C, D, E, F, G, H (speed and load see table)

4. Voltage:
   - 12V DC (only easyE-35 and easyE-50)
   - 24V DC
   - 24V EN/UL 60.601

5. Temperature:
   - standard (-5°C - +70°C)
   - low (-40°C - +70°C)
   - high (-5°C - +90°C)

6. Cable length:
   - 1m - 9m (others on request)

7. Connector:
   - no connector
   - Molex minifit

8. Material:
   - Standard steel
   - AISI 316

9. Protection class:
   - IP66 (standard)
   - IP68
   - IP69K
   - ATEX zone 22, group II 3D compliant

9. Certification (only easyE-35 and easyE-50):
   - EN/UL/CSA 60.601 (only 24 V DC)

10. Hall sensor:
    - no (standard)
    - yes (cable will change)

11. Low noise:
    - no (standard)
    - yes (no stainless steel)

12. Color:
    - Black (standard)
      - Available in all RAL colors

13. Connecting parts
### Connecting parts „motor side“:

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø1</th>
<th>L5</th>
<th>SW</th>
<th>A</th>
<th>Material</th>
<th>Max static load</th>
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<tbody>
<tr>
<td>A1M</td>
<td>10</td>
<td>17.5</td>
<td>28</td>
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<td>Polyamid (PA)</td>
<td>5400 N</td>
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<tr>
<td>B1M</td>
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<td>17.5</td>
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<td>2000 N</td>
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### easyE-60

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#### with spherical bearings

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PA-connecting parts are not available for gear ratio G and H.
### Controllers:

#### EEL-S1
- For 1-3 actuators

**FEATURES:**
- Plug and play solution
- Handset or external switches
- for easyE-35 and easyE-50

**TECHNICAL DETAILS:**
- Supply: 230 V

#### EEL-S2-1
- For 1 actuator

**FEATURES:**
- Adjustable start and stop ramp
- Adjustable current limit
- Continuous-mode, impulse-mode
- Easy interfacing to PLC etc.
- DIN-rail fittable
- Hall sensors not supported

**TECHNICAL DETAILS:**
- Supply: 12 or 24 VDC
- Over voltage protection: 40 V
- Idle current: Approx. 15 mA
- Driving current: 10 A continuous, 16 A with duty cycle 50%, Max 16 A on duty 2 min

#### EEL-S2-3
- For 2 actuators

**FEATURES:**
- Precise position control from analog voltage input
- Adjustable start and stop ramp
- Settable current limit
- High momentary load capacity
- DIN-rail base fittable
- “Position reached” signal
- Hall sensors necessary

**TECHNICAL DETAILS:**
- Supply voltage: 12 or 24 VDC
- Motor current: 2x10A cont. 2x20A, 25% duty
- Current limit: 1-20A
- Pulse input freq.: Max 1kHz
- Pulse inputs pull-up/down: 10kΩ
- Control inputs: 0-1V=OFF; 4-30V=ON

#### EEL-S3
- For 1 actuator

**FEATURES:**
- Battery powered for mobile use
- 24VDC NiMh or Li-Ion battery
- Customized colors and foil design
- Wired handset

**EEL-S3:**
- 1 actuator
- up- and down function

**TECHNICAL DETAILS:**
- Supply: 24VDC NiMH or Li-Ion battery
- Idle current: < 5mA
- Current limit: 8A/ch max. total 12A
- Ramps 0-3 sec
- Connector type Molex Mini-Fit 6 pin

#### EEL-S4
- For 1-4 actuators

**FEATURES:**
- Adjustable current limit in and out
- Adjustable calibration speed and current
- Adjustable virtual min/max-position
- Individual or synchronous operation for drive 1-4 actuators

### TECHNICAL DETAILS:
- Supply: 24VDC NiMH or Li-Ion battery
- Idle current: < 5mA
- Current limit: 8A/ch max. total 12A
- Ramps 0-3 sec
- Connector type Molex Mini-Fit 6 pin

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The flyer is subject to technical alterations and printing mistakes.