PA-09
Data Sheet

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Speed/Current vs Load 4
Connectors & Feedback 5
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## Specifications

<table>
<thead>
<tr>
<th>Load (LBS)</th>
<th>No Load Current (A)</th>
<th>Full Load Current (A)</th>
<th>Speed (inch/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12VDC</td>
<td>24VDC</td>
<td>36VDC</td>
</tr>
<tr>
<td>Dynamic</td>
<td>Static</td>
<td></td>
<td></td>
</tr>
<tr>
<td>225</td>
<td>225</td>
<td>1.5</td>
<td>0.6</td>
</tr>
<tr>
<td>330</td>
<td>330</td>
<td>1.5</td>
<td>0.6</td>
</tr>
<tr>
<td>450</td>
<td>450</td>
<td>1.2</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Input Voltage**
- 12VDC

**Stroke**
- 1" to 40"

**Feedback**
- Hall Effect, Limit Switch Feedback, and Potentiometer (See Page 5)

**Duty Cycle**
- 25% (5 minutes on, 15 minutes off)

**Weather Protection**
- IP66

**Overload Protection**
- NA

**Operational Temperature**
- -25°C to 65°C (-13°F to 149°F)

**Operating Noise**
- <45 dBA

**Limit Switch**
- Built-In (Non-Adjustable)

**Cable Length**
- 40"

**Connector**
- Molex Mini-Fit Jr 2-Pin

**Front Mounting Hole Size**
- 0.32"

**Rear Mounting Hole Size**
- 0.32"

**Actuator Type**
- Mini, Industrial

**Motor Type**
- Brushed DC Motor

**Screw Type**
- ACME

**Stroke Rod Material**
- Stainless Steel

**Housing Material**
- Aluminum Alloy 6062

**Gear Material**
- Polyformaldehyde

**Compatible Mounting Brackets**
- BRK-09, BRK-10

**Warranty**
- 18 Months
Dimensions

(Dimensions in inches)

For Potentiometer Units - Stroke Length up to 8"
A = Stroke Length + 5.50"  
B = Stroke Length x 2 + 5.50"

For Stroke Length 24" to 30"
A = Stroke Length + 6.50"  
B = Stroke Length x 2 + 6.50"

For Stroke Length greater than 30"
A = Stroke Length + 7.87"  
B = Stroke Length x 2 + 7.87"

For Stroke Length less than 12"
A = Stroke Length + 4.53"  
B = Stroke Length x 2 + 4.53"

For Stroke Length of 12" to less than 24"
A = Stroke Length + 5.71"  
B = Stroke Length x 2 + 5.71"

Hole to Hole

<table>
<thead>
<tr>
<th>Stroke</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>22</th>
<th>24</th>
<th>30</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>6.53</td>
<td>8.53</td>
<td>10.53</td>
<td>12.53</td>
<td>16.53</td>
<td>20.53</td>
<td>22.53</td>
<td>24.53</td>
<td>29.71</td>
<td>33.71</td>
<td>37.71</td>
<td>41.71</td>
<td>45.71</td>
<td>49.71</td>
<td>54.50</td>
<td>66.50</td>
<td>88.87</td>
</tr>
</tbody>
</table>

For Stroke Length of 12" to less than 24"
A = Stroke Length + 5.71"  
B = Stroke Length x 2 + 5.71"
Connectors & Feedback

2-Pin Connector (Standard)

<table>
<thead>
<tr>
<th>Motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>M-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Part Name</th>
<th>Part Number</th>
<th>Mating Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Molex Mini Fit Jr 2-Pin Receptacle</td>
<td>39-01-2025</td>
<td>39-01-2029/39-01-2026</td>
</tr>
</tbody>
</table>

6-Pin Hall Effect Connector

*For Stroke Length up to 40"

<table>
<thead>
<tr>
<th>Motor</th>
<th>Hall Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>M+ (Extend)</td>
<td>M- (Retract)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Part Name</th>
<th>Part Number</th>
<th>Mating Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Molex Mini Fit Jr 6-Pin Receptacle</td>
<td>39-01-2065</td>
<td>39-01-2069/39-01-2066</td>
</tr>
</tbody>
</table>

Output Signal Extending
- Hall Effect 1 Signal
- Hall Effect 2 Signal

Output Signal Retracting
- Hall Effect 1 Signal
- Hall Effect 2 Signal

<table>
<thead>
<tr>
<th>Force</th>
<th>Resolution (pulses/inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>160</td>
</tr>
<tr>
<td>330</td>
<td>650</td>
</tr>
<tr>
<td>450</td>
<td>433</td>
</tr>
</tbody>
</table>

Potentiometer Specifications

*For Stroke Length up to 8"

<table>
<thead>
<tr>
<th>Resistance*</th>
<th>Number of Turns</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10kΩ</td>
<td>10</td>
<td>+/- 5%</td>
</tr>
</tbody>
</table>

*Actual resistance value may vary within the 0-10kΩ range based on stroke length
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Shaft Encloser</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Shaft Enclosure Top Cap</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Top Cap Screw</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Shaft Encloser Bottom Gasket</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Shaft Top with Mounting Hole</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Shaft</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Shaft Base with Limit Switches Arm</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Actuator Base</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Actuator Base Gasket</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Shaft Bearing</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Shaft Bearing Holder</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Shaft Gear Cap Pin</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Shaft Gear Cap</td>
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</tr>
<tr>
<td>14</td>
<td>Shaft Gear</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Bottom Shaft Bearing</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Base Cover with Mounting Hole</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Base Cover Screw Gasket</td>
<td>5</td>
</tr>
<tr>
<td>18</td>
<td>Base Cover Screw</td>
<td>5</td>
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<tr>
<td>19</td>
<td>Power Cable</td>
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<tr>
<td>20</td>
<td>Gear Washer</td>
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</tr>
<tr>
<td>21</td>
<td>Gear</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>Shaft Bearing Holder Screw</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>Motor Base Screw</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>Electric Motor Snap Ring</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>Electric Motor Base</td>
<td>1</td>
</tr>
<tr>
<td>26</td>
<td>Electric Motor Bearing</td>
<td>1</td>
</tr>
<tr>
<td>27</td>
<td>Brush Holder PCB</td>
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</tr>
<tr>
<td>28</td>
<td>Brush Holder Screw</td>
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</tr>
<tr>
<td>29</td>
<td>Electric Motor Brush Spring</td>
<td>2</td>
</tr>
<tr>
<td>30</td>
<td>Electric Motor Brush</td>
<td>2</td>
</tr>
<tr>
<td>31</td>
<td>Electric Motor Rotor</td>
<td>1</td>
</tr>
<tr>
<td>32</td>
<td>Motor Enclosure Bottom Gasket</td>
<td>1</td>
</tr>
<tr>
<td>33</td>
<td>Electric Motor Encloser with Stator</td>
<td>1</td>
</tr>
<tr>
<td>34</td>
<td>Motor Enclosure Top Gasket</td>
<td>1</td>
</tr>
<tr>
<td>35</td>
<td>Electric Motor Top Bearing Holder</td>
<td>1</td>
</tr>
<tr>
<td>36</td>
<td>Electric Motor Top Bearing</td>
<td>1</td>
</tr>
<tr>
<td>37</td>
<td>Electric Motor Top Cap</td>
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</tr>
<tr>
<td>38</td>
<td>Motor Enclosure Screw</td>
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<tr>
<td>39</td>
<td>Shaft Drive End Support Screw</td>
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</tr>
<tr>
<td>40</td>
<td>Shaft Drive End Support</td>
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<tr>
<td>41</td>
<td>Treaded Shaft Drive / Lead Screw</td>
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</tr>
<tr>
<td>42</td>
<td>Limit Switch</td>
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<tr>
<td>43</td>
<td>Limit Switches Base</td>
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</tr>
<tr>
<td>44</td>
<td>Diode</td>
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</tbody>
</table>