# Actuator
# ID10G

ID10G has similar appearance and waterproof performance as ID10. It adopts ACME lead screw design to achieve a maximum push-pull force of 9,000N and high speed, which is a good value actuator. For applications in various industrial fields, agriculture and construction machinery, ID10G is a very competitive and good choice when high speed and high load capability are required.

## Features and Options

**Main applications:** Industrial, Agriculture, Construction

**Standard features:**

- Input voltage: 12 / 24V DC
- Max. rated load: 9,000N
- Max. static load: 18,000N
- Max. speed at no load: 14mm/sec (typical value)
- Stroke: 102 / 153 / 203 / 254 / 305 / 457 / 610mm
- IP level: IP65
- Overload protection by clutch
- Spindle type: ACME
- Extension tube material: Iron
- Color: Black
- Power and signal cord length: 250mm (with tinned wires)
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: -25°C ~ +65°C

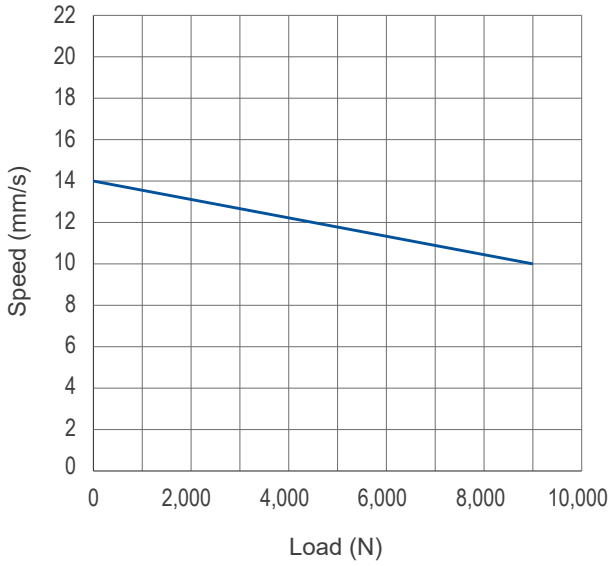
**Options:**

- Positioning signal feedback with Hall effect sensor x 1
- Analog and absolute positioning feedback with Potentiometer (POT)
- Limit switches

## Performance Data

| Model No. | Push / Pull Max. (N) | * Typical speed (mm/s) | | * Typical current (A) | | | |
|---|---|---|---|---|---|---|---|
| | | No load | Full load | No load | | Full load | |
| | | | | 12V | 24V | 12V | 24V |
| ID10G | 9,000 | 14 | 10 | 1.6 | 0.8 | 22 | 11 |

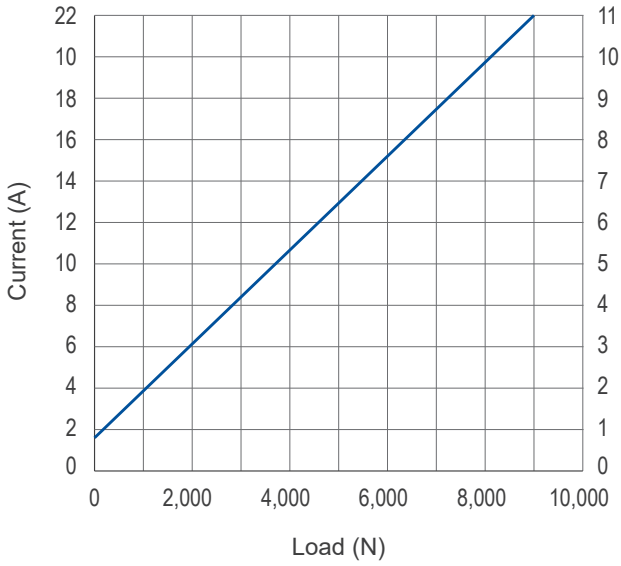
**Speed vs. Load**




12V DC

**Current vs. Load**

24V DC




**Remarks:**

* The typical speed or typical current means the average value neither upper limit nor lower limit.
  The performance curves are made with typical values.

## Dimensions

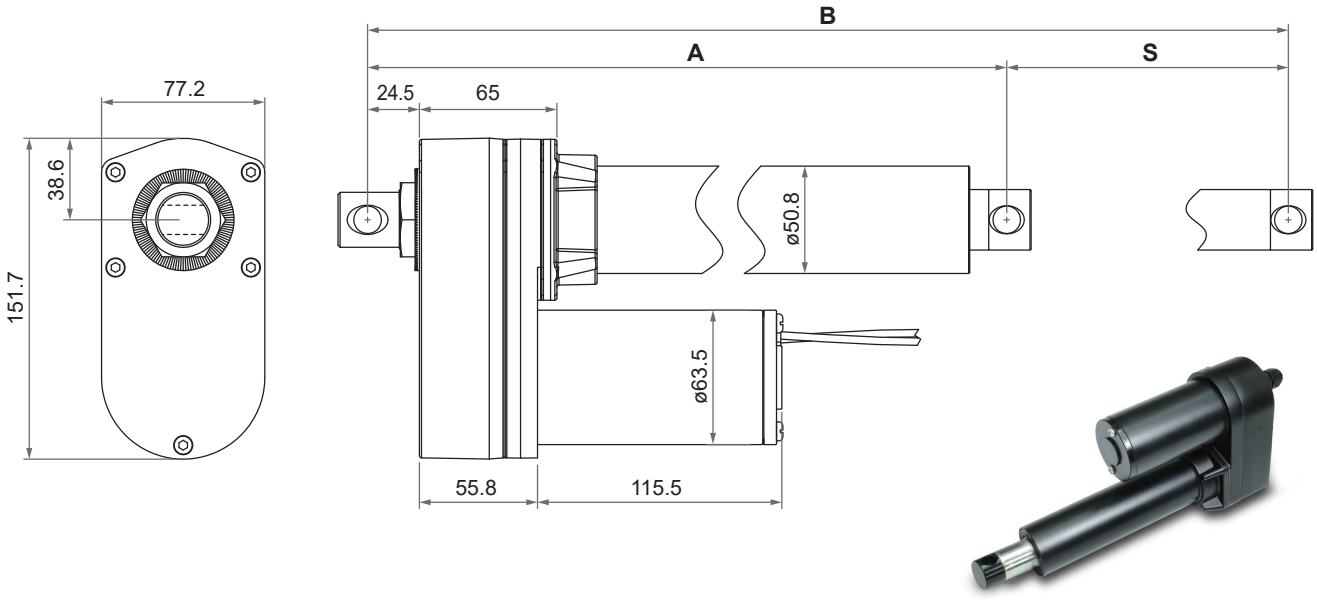
- **Extended length (B)** = Retracted length (A) + Stroke (S)
- **Retracted length (A)**

| Option | Stroke (S) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 102 (4”) | 153 (6”) | 203 (8”) | 254 (10”) | 305 (12”) | 457 (18”) | 610 (24”) |
| **Basic** | 302 | 353 | 404 | 455 | 506 | 735 | 888 |
| **With positioning feedback** | 342 | 393 | 444 | 495 | 546 | 775 | 928 |
| **With limit switches** | 399 | 450 | 501 | 552 | 680 | 832 | 985 |

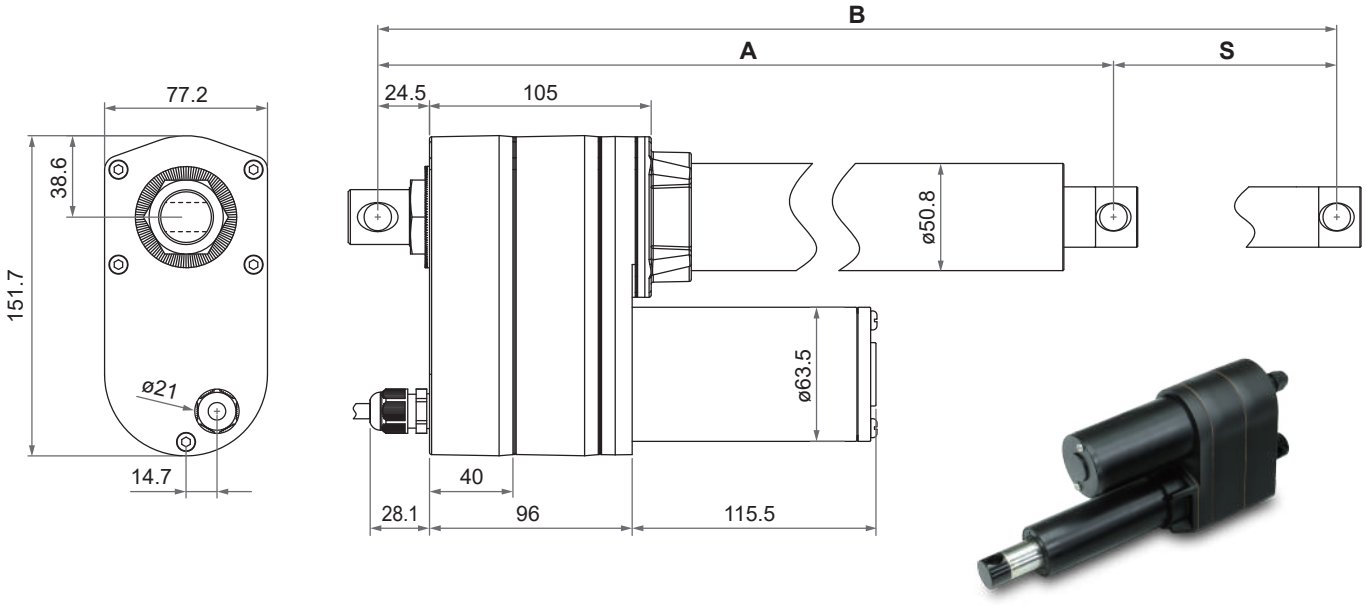
(tolerances: ±5mm)

- **Drawing**

  - Basic (without limit switch nor positioning feedback)



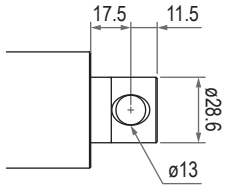

  - With limit switches or positioning feedback



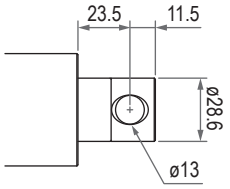

Unit: mm

● **Front connector**

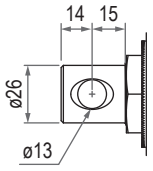
- Basic (without limit switch nor positioning feedback)



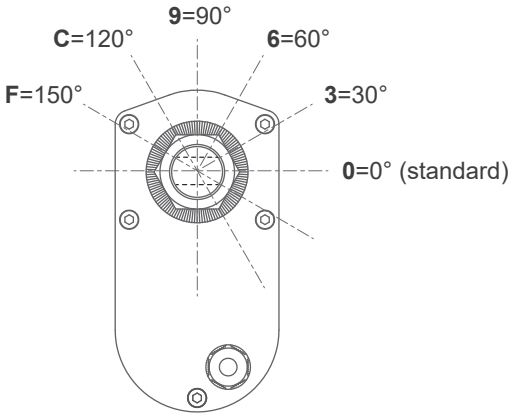

- With limit switches or positioning feedback

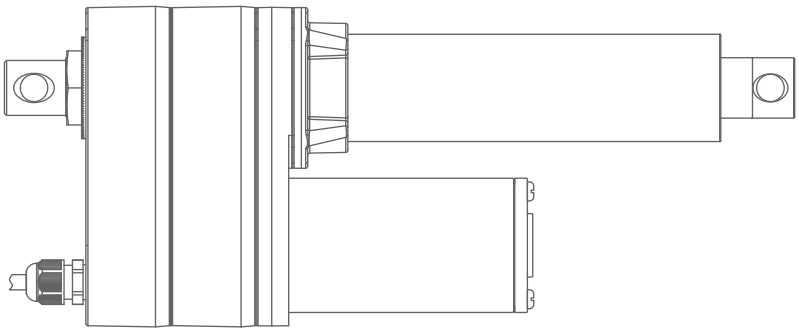



● **Rear connector**




● **Pivot orientation of rear connector**



**Note:** As an example in 0° pivot of rear connector.

Unit: mm

## Compatibility

| Product | Model | ID10G spec |
|---|---|---|
| **Control box** | CI10 | • 24V motor<br>• With limit switches option<br>• Without positioning feedback |
| | CIS1 | • 24V motor<br>• With single Hall effect sensor for positioning |
| | CIS2 | • 12V motor<br>• With single Hall effect sensor for positioning |
| | CIS3 | • 24V motor<br>• With potentiometer for positioning |
| | CI72 | • Standard |
| **Accessory** | MB30 Mounting bracket | • Standard, mounting hole ø13mm. |

ID10G in-position control needs to cooperate with the limit switch option or set an external limit switch. If you choose positioning signal feedback with single Hall effect sensor, it is recommended that the actuator can be used with a controller such as CI72 to provide software stroke limit. ID10G can not use clutch overload protection as an in-position control, otherwise it will seriously reduce the service life of the actuator.

## Wiring

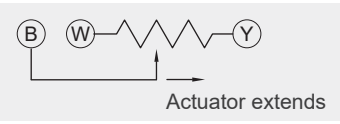
### ● Basic (without limit switch nor positioning feedback)

| | Wire color | Definitions | Descriptions |
|---|---|---|---|
| **Power wires** | Red<br>Black | DC Power | Connect red wire to “Vdc -” & black wire to “Vdc +” of DC power to extend the actuator. Switch the polarity of DC input to retract it. |

### ● With limit switches (without positioning feedback)

| | Wire color | Definitions | Descriptions |
|---|---|---|---|
| **Power wires** | Red<br>Black | DC Power | Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it. |

### ● With potentiometer (POT) absolute positioning feedback

<table>
<tr><th></th><th>Wire color</th><th>Definitions</th><th>Descriptions</th></tr>
<tr><td>Power wires</td><td>Red<br>Black</td><td>DC Power</td><td>Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.</td></tr>
<tr><td rowspan="3">Signal wires</td><td>Yellow</td><td>Vin</td><td>Input voltage 70V max.</td></tr>
<tr><td>Blue</td><td>POT output</td><td>Potentiometer specification:<br>- Potentiometer 10K ohm, 10 turns.<br>- Total resistance tolerance ±5%<br>Output voltage: Between 0 ~ Vin<br><br>The potentiometer resistance according to different strokes are as follows:
<table>
<tr><th>Stroke (mm)</th><th>Resistance (tolerance: ±0.3KΩ)</th></tr>
<tr><td>102 (4”)</td><td>0.3 ~ 5.2K</td></tr>
<tr><td>153 (6”)</td><td>0.3 ~ 5.5K</td></tr>
<tr><td>203 (8”)</td><td>0.3 ~ 5.9K</td></tr>
<tr><td>254 (10”)</td><td>0.3 ~ 7.3K</td></tr>
<tr><td>305 (12”)</td><td>0.3 ~ 5.6K</td></tr>
<tr><td>457 (18”)</td><td>0.3 ~ 6.0K</td></tr>
<tr><td>610 (24”)</td><td>0.3 ~ 6.4K</td></tr>
</table>
The resistance between blue and white wires increases when the actuator extends, and decreases when it retracts.<br> 
</td></tr>
<tr><td>White</td><td>GND</td><td></td></tr>
</table>

● **With single Hall effect sensor positioning feedback**

| | Wire color | Definitions | Descriptions |
|---|---|---|---|
| **Power wires** | Red | DC Power | Connect red wire to “Vdc +” & black wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it. |
| | Black | | |
| **Signal wires** | Yellow | Vin | Voltage input range (Vin): 3.5 ~ 20V |
| | Blue | Hall output | High= Input - 1.2V (±0.6V)<br>Low= GND<br>Hall signal data:<br>  <br>Hall effect sensor resolution: 0.5 pulse/mm |
| | White | GND | |

## Ordering Key

| ID10G- | 12 | - G8A | - 40 | - 102 | 0 | 0 | 0 | P | L | 5 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | |
|---|---|
| **Input voltage** | **12**: 12V DC<br>**24**: 24V DC |
| **Motor and spindle type** | **G8A**: 4500rpm / 8mm pitch / ACME |
| **Gear ratio** | **40**: 40:1 |
| **Stroke** | **102**: 102mm (4”)<br>**153**: 153mm (6”)<br>**203**: 203mm (8”)<br>**254**: 254mm (10”)<br>**305**: 305mm (12”)<br>**457**: 457mm (18”)<br>**610**: 610mm (24”) |
| **Front connector** | **0**: Standard |
| **Rear connector** | **0**: Standard |
| **Pivot orientation of rear connector**<br>*(Refer to Page 4)* | **0**: 0° (standard)<br>**3**: 30°<br>**6**: 60°<br>**9**: 90°<br>**C**: 120°<br>**F**: 150° |
| **Positioning feedback** | **0**: Basic, without positioning feedback.<br>**P**: Potentiometer (POT)<br>**H**: Hall effect sensor x 1 |
| **Limit switches** | **0**: Basic, without limit switches.<br>**L**: Limit switches |
| **IP level** | **5**: IP65 |
| **Reserved** | **0** |