

# Actuator ID10

ID10 features its heavy load capability and high speed design, which is suitable for various industrial applications requiring quick movement, such as agricultural and construction machine. The adjustable limit cam is equipped for users to fine-tune the stroke based on their needs. Ball Screw or ACME spindle is available for users to choose.



## Feature

---

- Main applications: Industrial
- Input voltage: 24V DC / 12V DC
- Max. rated load: 3,500N (ACME) / 7,000N (Ball Screw)
- Max. static load: 4,500N (ACME) / 13,600N (Ball Screw)
- Max. speed: 67.1 mm/sec @ no load
- Stroke: 102 ~ 610 mm
- IP Protection level: IP54
- Overload protection by clutch
- Extension tube material: Iron (ACME) or stainless steel (Ball Screw)
- Color: Black
- Power cord length: 250 mm (with tinned wires)
- Duty cycle: 25%, max. 2 min. continuous operation in 8 min.
- Ambient operation temperature: -25°C ~ +65°C
- Certified: CE marking, EMC Directive 2014/30/EU

## Option

---

- Positioning signal feedback with Hall effect sensor x 1
- Analog positioning feedback with Potentiometer (POT)
- Adjustable limit switches (not applicable to IP65 option, refer to User Guide)
- IP65 Protection level
- Manual drive connector (MD, can be driven by hand with a 8 mm hex bit screwdriver or electric screwdriver)
- Thermal protection

## Compatibility

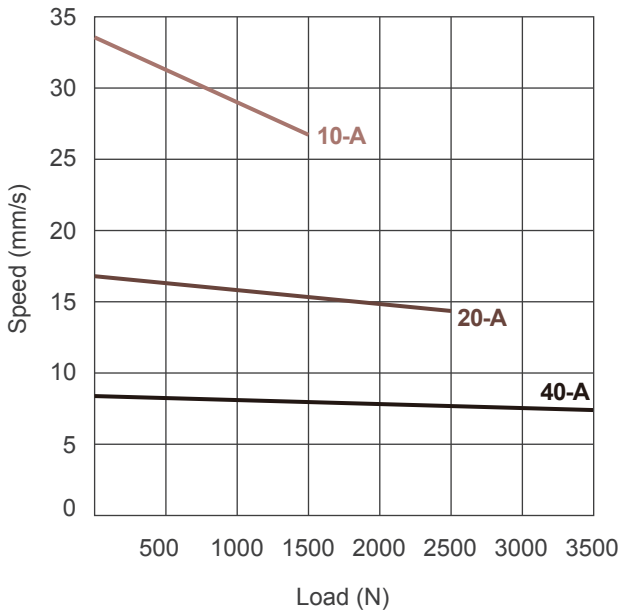
---

| Product     | Model | ID10 spec  |
|-------------|-------|--|
| Control box | C110  | - 24V motor<br>- Without positioning sensor feedback |
|             | CIS3  | - 24V motor<br>- With potentiometer                  |

# Performance Data

| Model No.        | Spindle type | Gear ratio | Push / Pull Max. (N) | Typical Speed (mm/s) |           | Typical Current (A) |     |           |      |
|------------------|--------------|------------|----------------------|----------------------|-----------|---------------------|-----|-----------|------|
|                  |              |            |                      | No load              | Full load | No load             |     | Full load |      |
|                  |              |            |                      |                      |           | 12V                 | 24V | 12V       | 24V  |
| ID10-XX-10-A-XXX | ACME         | 10:1       | 1500                 | 33.5                 | 26.7      | 2.4                 | 1.2 | 17.6      | 8.8  |
| ID10-XX-20-A-XXX | ACME         | 20:1       | 2500                 | 16.8                 | 14.3      | 2.4                 | 1.2 | 13.2      | 6.6  |
| ID10-XX-40-A-XXX | ACME         | 40:1       | 3500                 | 8.4                  | 7.4       | 2.4                 | 1.2 | 11.0      | 5.5  |
| ID10-XX-05-B-XXX | Ball Screw   | 5:1        | 2500                 | 67.1                 | 47.2      | 2.4                 | 1.2 | 26.4      | 13.2 |
| ID10-XX-10-B-XXX | Ball Screw   | 10:1       | 3500                 | 33.5                 | 26.7      | 2.4                 | 1.2 | 17.6      | 8.8  |
| ID10-XX-20-B-XXX | Ball Screw   | 20:1       | 4500                 | 16.8                 | 14.3      | 2.4                 | 1.2 | 13.2      | 6.6  |
| ID10-XX-30-B-XXX | Ball Screw   | 30:1       | 6000                 | 11.2                 | 9.8       | 2.4                 | 1.2 | 12.1      | 6.1  |
| ID10-XX-40-B-XXX | Ball Screw   | 40:1       | 7000                 | 8.4                  | 7.4       | 2.4                 | 1.2 | 11.0      | 5.5  |

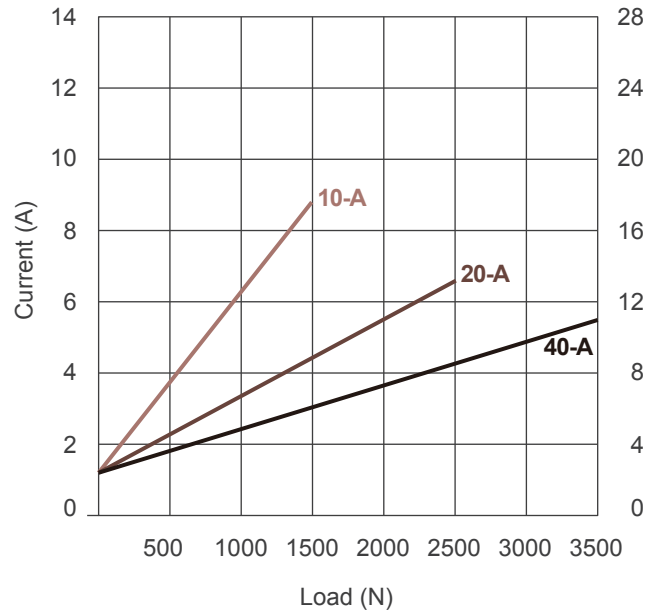
Speed vs. Load



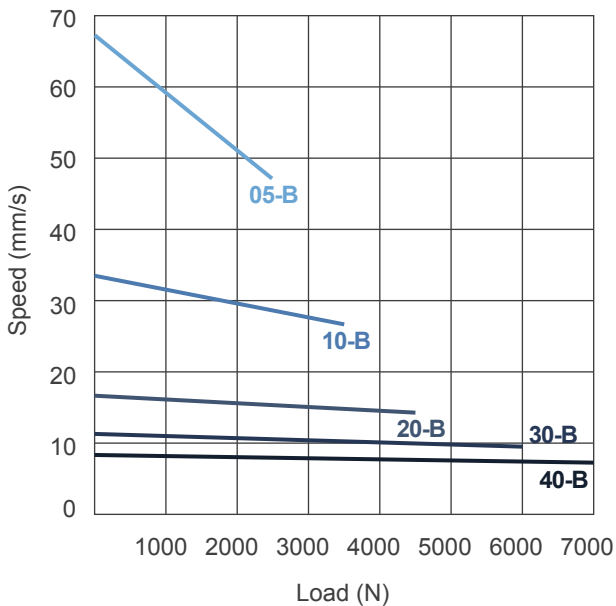
24V DC

Current vs. Load

12V DC



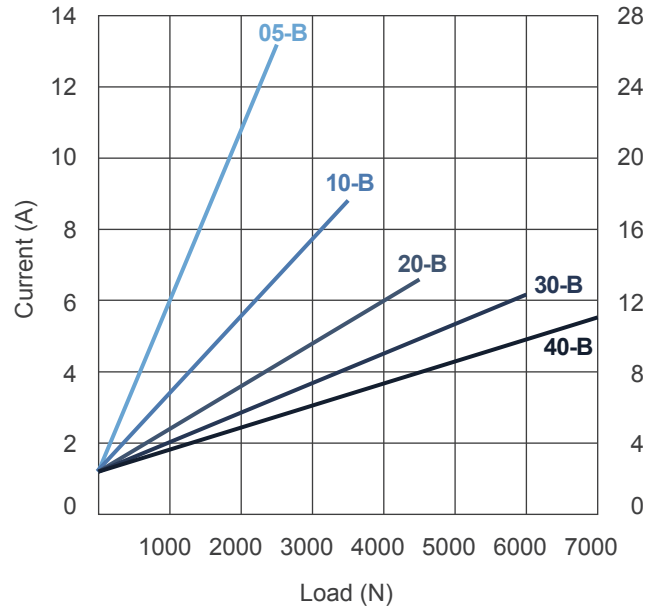
Speed vs. Load



24V DC

Current vs. Load

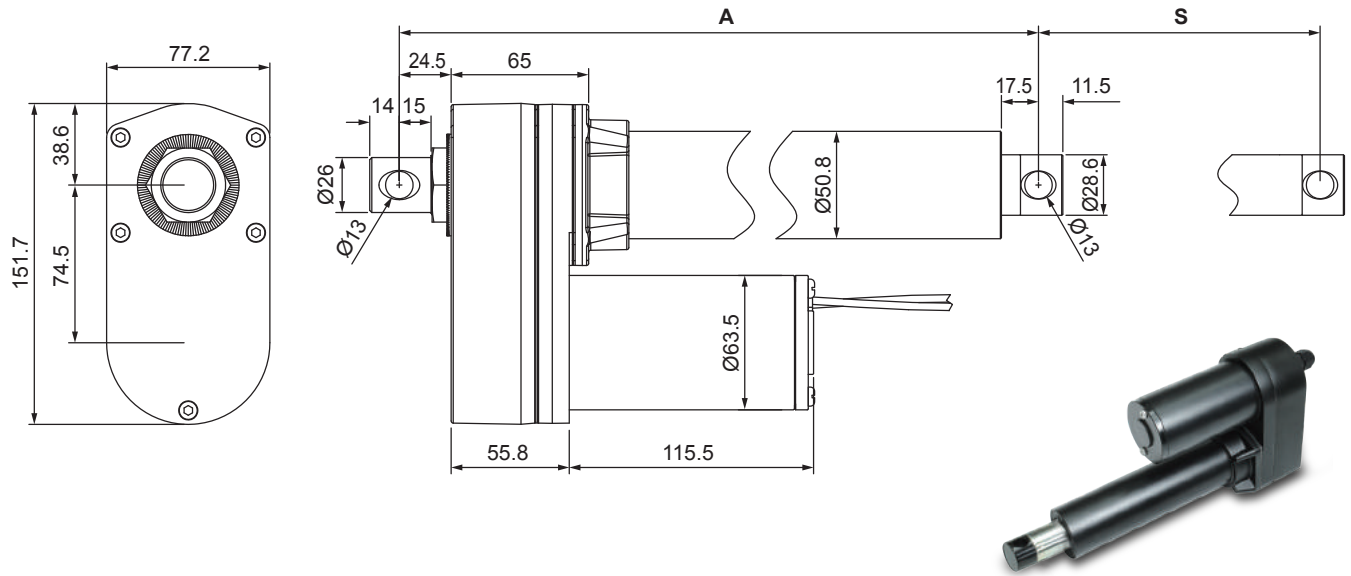
12V DC



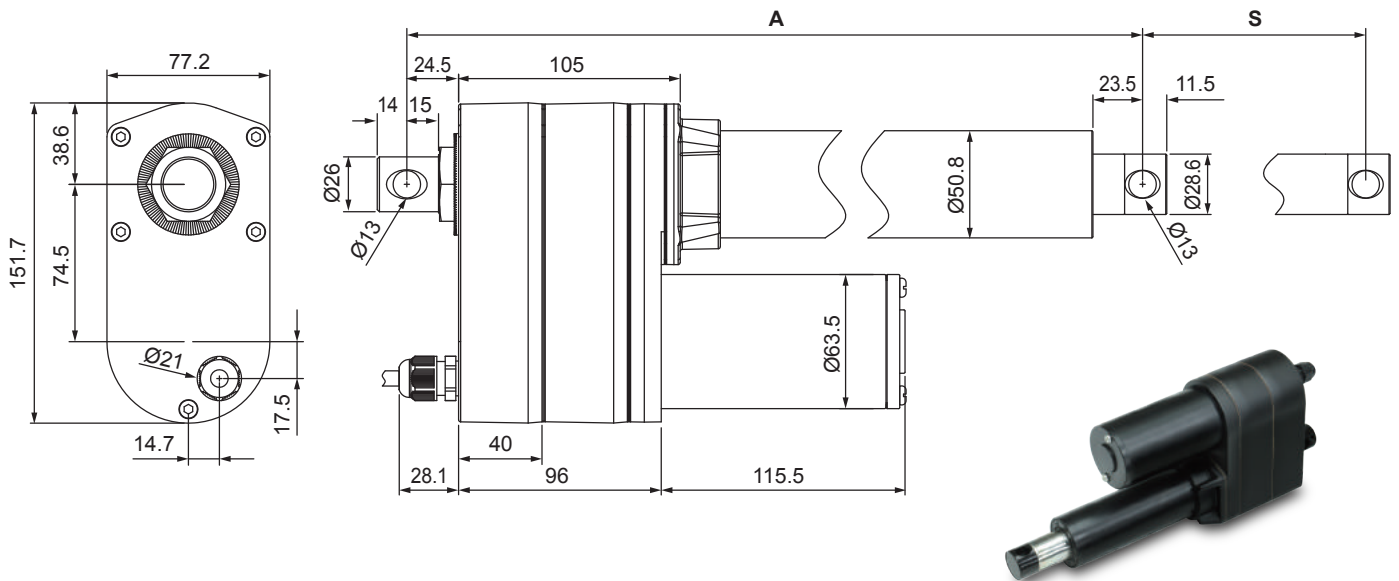
## Dimensions

### ID10 ACME

#### - Standard (without Limit switch nor Potentiometer)



#### - With Potentiometer (POT) or Limit switches (LT)



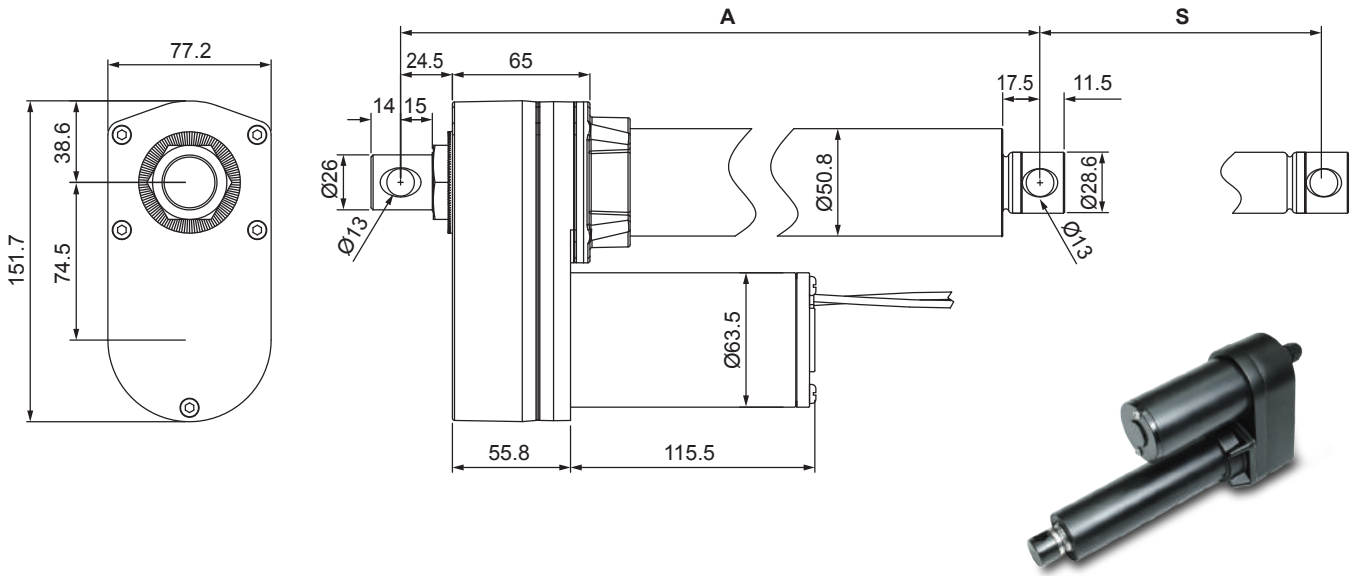
### Installation Dimension

|                          |          | Stroke (S)  |             |             |              |              |              |              |
|--------------------------|----------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
|                          |          | 102<br>(4") | 153<br>(6") | 203<br>(8") | 254<br>(10") | 305<br>(12") | 457<br>(18") | 610<br>(24") |
| Retracted<br>length (A)* | Standard | 262         | 313         | 364         | 414          | 465          | 668          | 821          |
|                          | POT      | 302         | 353         | 404         | 454          | 505          | 708          | 861          |
|                          | LT       | 359         | 410         | 460         | 511          | 613          | 765          | 918          |

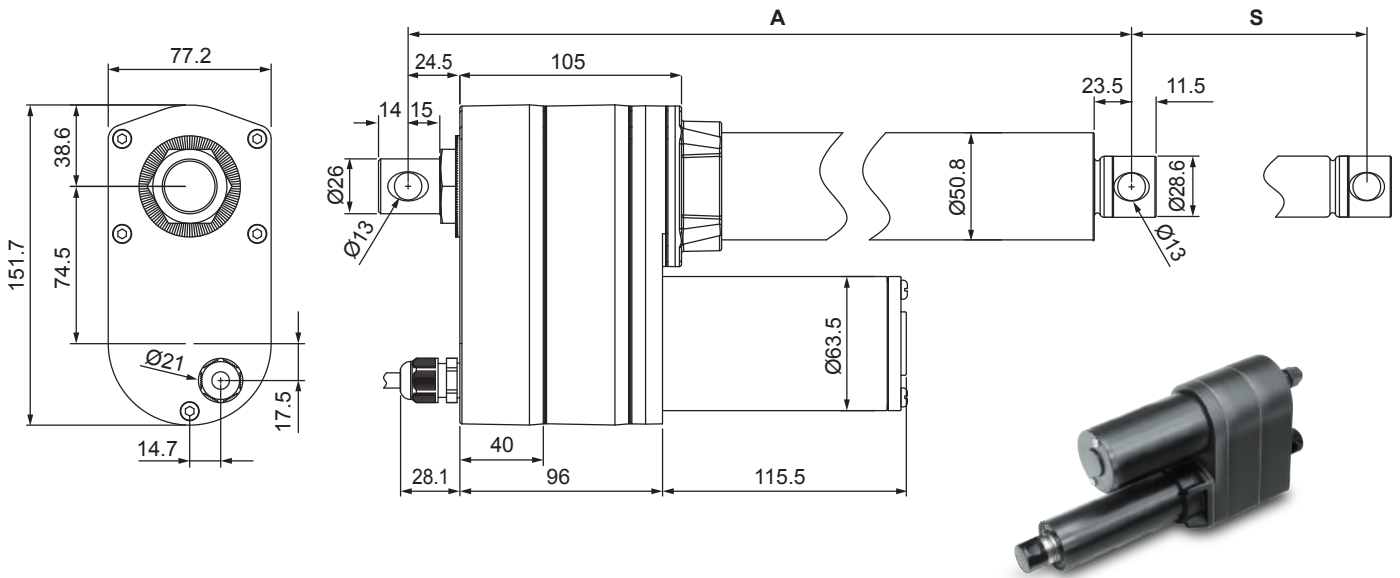
(Tolerance: ±5mm)

## ID10 Ball Screw

### - Standard (without Limit switch nor Potentiometer)



### - With Potentiometer (POT) or Limit switches (LT)

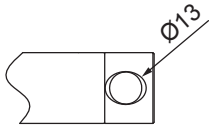


## Installation Dimension

|                          |          | Stroke (S)  |             |             |              |              |              |              |
|--------------------------|----------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
|                          |          | 102<br>(4") | 153<br>(6") | 203<br>(8") | 254<br>(10") | 305<br>(12") | 457<br>(18") | 610<br>(24") |
| Retracted<br>length (A)* | Standard | 302         | 353         | 404         | 455          | 506          | 735          | 888          |
|                          | POT      | 342         | 393         | 444         | 495          | 546          | 775          | 982          |
|                          | LT       | 399         | 450         | 501         | 552          | 680          | 832          | 985          |

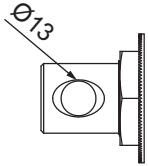
(Tolerance: ±5mm)

## Front connector



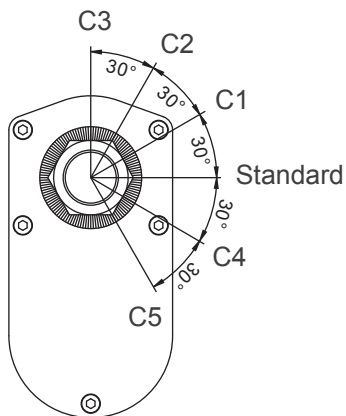
Solid type, steel

## Rear connector



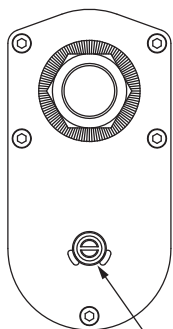
Solid type, steel

## Pivot orientation of rear connector



## Manual drive connector (MD)

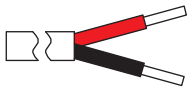
- Compatible with IP54 and Gear ratio 5:1 ~ 10:1 or 20:1
- Not applicable to IP65, limit switches, nor potentiometer options.
- Please refer to "ID10 User Guide" for operation steps.



User needs 8 mm hex bit screwdriver  
(or electric screwdriver) to drive the motor

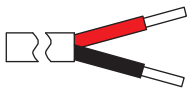
# Wiring

## Standard



| Gear ratio      | Power |       |
|-----------------|-------|-------|
|                 | Red   | Black |
| 5:1, 10:1, 20:1 | M+    | M-    |
| 30:1, 40:1      | M-    | M+    |

## With limit switches



| Power |       |
|-------|-------|
| Red   | Black |
| M+    | M-    |

## With Hall effect sensor x 1

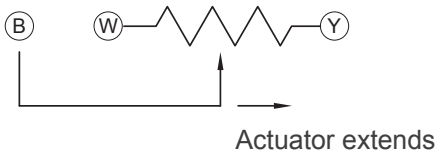
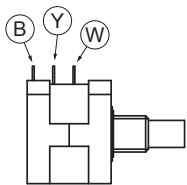
- Resolution, 20ppi, 1.27mm/pulse (0.787 pulses/mm)



| Power |       | Signal |        |      |
|-------|-------|--------|--------|------|
| Red   | Black | White  | Yellow | Blue |
| M+    | M-    | VCC    | Data   | GND  |

## With potentiometer (POT)

The resistance between blue and white wires increased when the actuator extends, and decreased when it retracts.



| Power |       | Signal |        |      |
|-------|-------|--------|--------|------|
| Red   | Black | White  | Yellow | Blue |
| M+    | M-    | GND    | VCC    | Data |

| Stroke (mm) | Resistance (tolerance: $\pm 0.3K\Omega$ ) |
|-------------|---|
| 102         | 0.3 ~ 8.1K                                |
| 153         | 0.3 ~ 8.7K                                |
| 203         | 0.3 ~ 9.2K                                |
| 254         | 0.3 ~ 7.4K                                |
| 305         | 0.3 ~ 8.8K                                |
| 457         | 0.3 ~ 9.4K                                |
| 610         | 0.3 ~ 9.8K                                |

### Remarks:

Connect Red (M+) to '+' & Black (M-) to '-' of DC power, the actuator will extend.

## Ordering Key

**ID10 - 24 - 20 - A - 102 - POT - LT**

|   |  |
|---|--|
| <b>Input voltage</b>                          | <b>12:</b> 12V DC<br><b>24:</b> 24V DC   |
| <b>Gear ratio</b>                             | <b>05:</b> 5:1 (Ball Screw only)<br><b>10:</b> 10:1<br><b>20:</b> 20:1<br><b>30:</b> 30:1 (Ball Screw only)<br><b>40:</b> 40:1   |
| <b>Spindle type</b>                           | <b>A:</b> ACME<br><b>B:</b> Ball screw   |
| <b>Stroke</b>                                 | <b>102:</b> 102 mm<br><b>153:</b> 153 mm<br><b>203:</b> 203 mm<br><b>254:</b> 254 mm<br><b>305:</b> 305 mm<br><b>457:</b> 457 mm<br><b>610:</b> 610 mm   |
| <b>Positioning feedback</b><br>(alternative)  | <b>POT:</b> Potentiometer<br><b>HS:</b> Hall effect sensor x 1 (option LT is recommended)  |
| <b>Option</b><br>(multiple choice is allowed) | <b>LT:</b> Adjustable limit switches<br><b>IP65:</b> IP65 (not compatible with LT and MD)<br><b>MD:</b> Manual drive connector (alternative condition please refer to page 6)<br><b>TP:</b> Thermal protection (not compatible with 12V DC / gear ratio 5:1) |
| <b>Pivot orientation of Rear connector</b>    | <b>Blank:</b> 0° (standard)<br><b>C1:</b> 30° counter-clockwise<br><b>C2:</b> 60° counter-clockwise<br><b>C3:</b> 90° counter-clockwise<br><b>C4:</b> 30° clockwise<br><b>C5:</b> 60° clockwise<br>(Please refer to page 6)                                  |



More information about usage is provided in ID10 User Guide, which can be downloaded from Moteck website.

### Terms of Use

The user is responsible for application suitability of Moteck products. As ongoing improvement process continues, products listed on the Moteck website are subject to change without prior notice. Moteck reserves the right to terminate the sales or remove any product displayed on the website, or listed in its catalogues.