Actuator
AMK35

AMK35 is an intelligent actuator with PCBA control board inside. Its robust mechanical design can provide up to 10,000N thrust, and meets IP69K waterproof protection. The built-in control circuit board has the protection function of monitoring current and voltage, and there are various control options to suit the user's system. AMK35 is truly a favorable choice for applications such as agriculture, construction and industrial automation.

Features

- Main applications: Agriculture, Construction and Industrial Automation.
- Input voltage: 12V DC / 24V DC
- Max. load: 10,000N (Push/Pull)
- Max. static load: 18,000N (Push)
- Speed at no load: 40mm/sec (typical value)
- Speed at full load: 8mm/sec (typical value @10,000N loaded)
- Stroke: 100 ~ 1,000mm (the max. stroke is depending on load, refer to Dimensions)
- Manual drive capable by an hexagon socket wrench
- Stainless steel extension tube
- IP level: IP66 (dynamic) and IP67/IP69K (static)
- Built-in stroke limit switches
- Various control options to suit the user’s system
- Operating voltage and current monitoring and protection
- Soft start / stop
- Duty cycle: 15 ~ 25%. Refer to Performance Data
- Operating ambient temperature: -40°C ~ +80°C (full performance +5°C ~+40°C)

Options

Control options

- S0L Control options: Signal control + End of stroke signal output
  The S0L uses low current signal to control the actuator move or stop without switching the polarity of the input DC power, and there is an arrival signal output when it reaches the end of stroke (EoS).

- SPL Control options: Signal control + Potentiometer + End of stroke signal output
  In addition to having all the same features as S0L, the SPL option also provides a potentiometer output, allowing the user's control equipment to know the absolute position of the actuator at any time.

- SHL Control options: Signal control + Dual Hall effect sensors + End of stroke signal output
  The SHL has the same control platform and EoS arrival output as SPL, but use dual Hall effect sensors for positioning signal output.

- J00 Control options: SAE J1939 CAN Bus protocol
  The J00 can be used for full stroke positioning and speed control. It is a CAN Bus control method and adopts the communication protocol standard of SAE J1939. In addition to the complete position control, it provides current, speed... and other status information feedback through the CAN Bus platform.

Control options overview

	S0L	SPL	SHL	J00
Control platform	Low current signal	Low current signal	Low current signal	J1939 CAN Bus
H-bridge (1)	√	√	√	√
Potentiometer output (2)	-	√	-	-
Hall signal output (3)	-	-	√	-
EoS signal output (4)	√	√	√	-
Soft start/stop	√	√	√	√
Over current protection	√	√	√	√
Over voltage protection	√	√	√	√
Temperature monitoring (5)	√	√	√	√
Status feedback	-	-	-	√
Current feedback	-	-	-	√
Position feedback	-	-	-	√
Speed/ramp feedback	-	-	-	√
Error code feedback	-	-	-	√

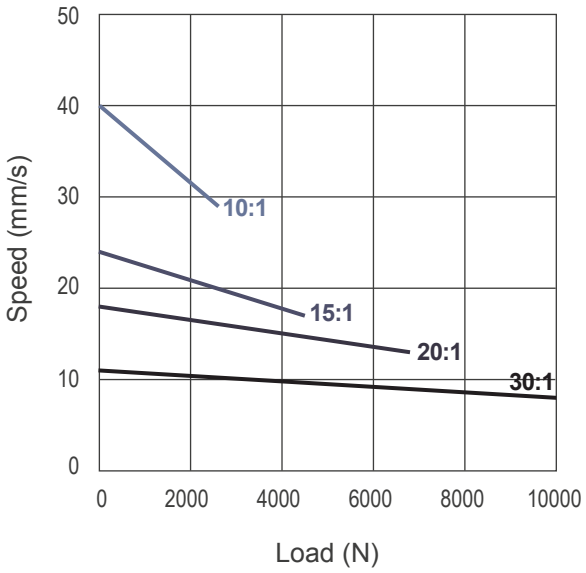
Remarks:

(1) Polarity of input DC power is fixed and should not be switched.
(2) A wire connection of voltage input (Vin) is required. The recommended voltage is the same as motor power V+, maximum 32V DC.
(3) Output voltage of Hall signal = 11.4V DC max.
(4) End of stroke signal output is not potential free. An external 5V~24V power supply and pull-up resistor are required to drive other devices.
(5) Automatically compensate the current limit at low temperatures to ensure normal operation without nuisance tripping.

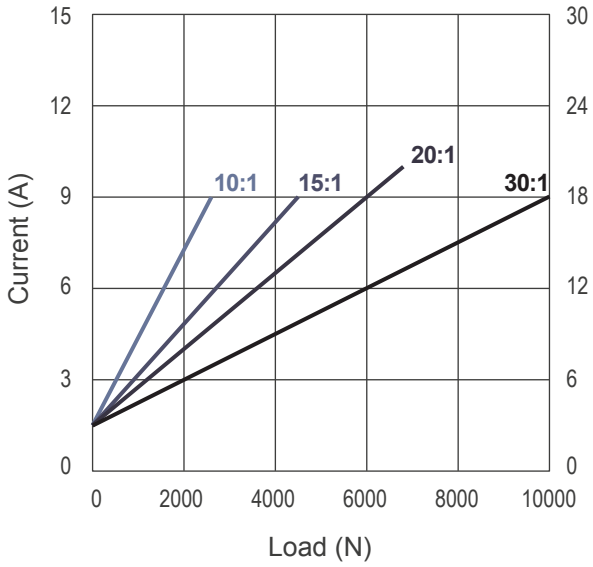
Performance Data

Gear ratio	Push / Pull Max. (N)	*Typical Speed (mm/s)		*Typical Current (A)				Duty Cycle
		No load	Full load	No load		Full load		
				24V	12V	24V	12V	
10:1	2,600	40	29	1.5	3.0	9	18	25%
15:1	4,500	24	17	1.5	3.0	9	18	25%
20:1	6,800	18	13	1.5	3.0	10	20	25%
30:1	10,000	11	8	1.5	3.0	9	18	15%

Speed vs. Load 24V DC



Current vs. Load 12V DC



*** Remarks:**

1. The typical speed or typical current refers to an average value that is neither the upper limit nor the lower limit. The performance curves are made with typical values.
2. Stand-by current <20mA (12/24V DC)

Dimensions

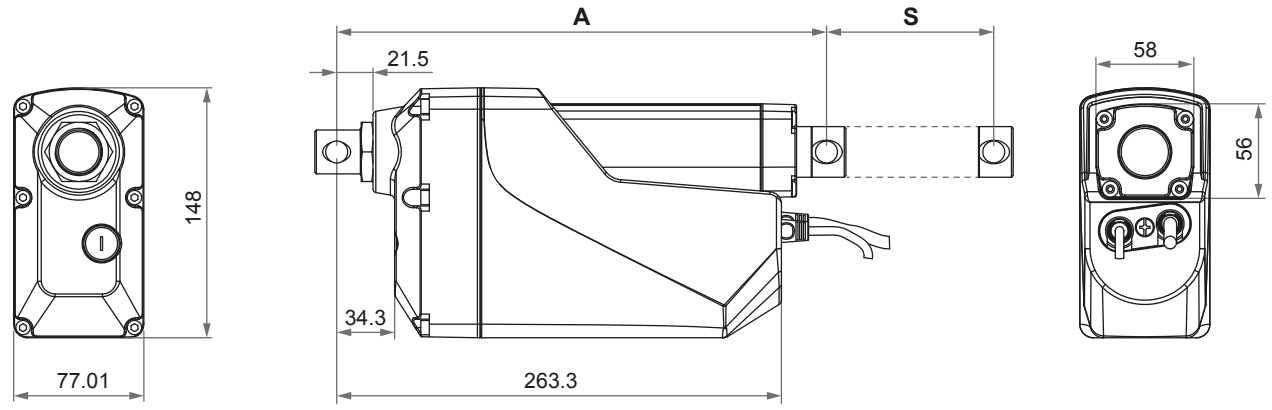
- **Installation dimension (A)**

Gear type	Solid connector	Slot connector	*Available stroke (S)	Max. load
10	A≧S+190mm	A≧S+199mm	100~1000mm	≦2,600N
15			100~800mm	≦4,500N
20			100~600mm	≦6,800N
30	A≧S+220mm	A≧S+229mm	100~500mm	≦10,000N

(tolerance: ±4mm)

* **Remarks:** One step in every 50mm

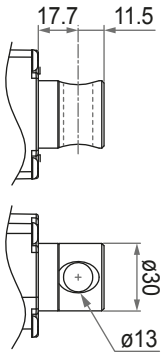
- **Drawing**



Note: Front and rear connectors shown in standard 0°

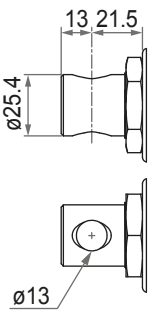
Unit: mm

- **Front connector**



3: Solid type, hole ø13

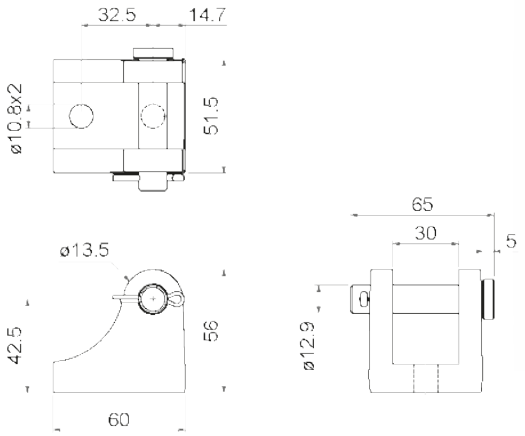
- **Rear connector**



3: Solid type, hole ø13

- **MB30**

Dimension:



Unit: mm

Ordering Key

AMK35 - 24 G - 30 B - XXXX - J00 - 1 1 0 0 0 0

Input voltage	**12** : 12V DC **24** : 24V DC
Motor code	**G** : 4500rpm
Gear type	**10** : 10:1 **15** : 15:1 **20** : 20:1 **30** : 30:1
Spindle type	**B** : Ball Screw
Stroke	**XXXX** : 0100~1000mm (one step in every 50mm)
Control options	**S0L** : Signal control + EoS **SPL** : Signal control + Potentiometer + EoS **SHL** : Signal control + Dual Hall effect sensors + EoS **J00** : J1939 CAN Bus
Front connector	**3** : Solid, hole ø13mm
Rear connector	**3** : Solid, hole ø13mm
Connector orientation	**0** : 0° (standard) **9** : 90° *(Front and rear connectors shown in standard 0°)*
Reserved	**0** : Reserved
Reserved	**0** : Reserved
Cable length	**1** : 1500mm

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