

Product Data Sheet

GF44 is an Intelligent Heavy-Duty actuator with a control board inside. Its robust mechanical design provides up to 10,000N thrust and is IP66/67/69K ingress protection rated. A variety of performance and control options are available to suit the user's application. GF44 is ideal for applications such as agriculture, construction, and industrial automation.



Standard Features

- Various control options to suit the user's application
- Spindle type: Ball screw
- Input voltage: 12V DC / 24V DC
- Max. load: 10,000N (Push/Pull)
- Max. static load: 18,000N (Push)
- Speed at no load: 66mm/sec (Typical value of gear ratio 5:1)
- Stroke: 100 ~ 1,000mm (The max. stroke is depending on load, refer to Dimensions)
- Manual drive capable, with hex wrench or tool
- Stainless steel extension tube
- IP level: IP66 (Dynamic) and IP67/IP69K (Static)
- Built-in stroke limit switches
- Duty cycle: 15 ~ 25%. Refer to Performance Data
- Operating ambient temperature: -40°C ~ +80°C (Full performance +5°C ~+40°C)
- Certified: CE Marking, EMC Directive 2014/30/EU

Control Options and Functions

● **Dxx options (Traditional DC control)**

Swap the polarity of the input power to control the direction of actuator movement.
Has self-braking ability at both ends of full stroke.

	D00	D0L	DPL	DHL	D+L
Potentiometer output ⁽¹⁾	-	-	✓	-	-
Hall signal output ⁽²⁾	-	-	-	✓	✓
EoS signal output ⁽³⁾	-	✓	✓	✓	✓
Over current protection ⁽⁵⁾	✓	✓	✓	✓	✓

● **Signal controls**

Equipped with an H-bridge circuit to control the extension and retraction of the actuator.
Has self-braking ability throughout the entire stroke.

	S0L	SPL	SHL	J00
Control platform	Low current signal	Low current signal	Low current signal	J1939 CAN Bus
H-bridge ⁽⁴⁾	✓	✓	✓	✓
Potentiometer output ⁽¹⁾	-	✓	-	-
Hall signal output ⁽²⁾	-	-	✓	-
EoS signal output ⁽³⁾	✓	✓	✓	-
Soft start/stop	✓	✓	✓	✓
Over current protection ⁽⁵⁾	✓	✓	✓	✓
Voltage protection ⁽⁶⁾	✓	✓	✓	✓
Temperature monitoring ⁽⁷⁾	✓	✓	✓	✓
Action status feedback	-	-	-	✓
Current feedback	-	-	-	✓
Position feedback	-	-	-	✓
Speed/ramp feedback	-	-	-	✓
Error code feedback	-	-	-	✓

Remarks:

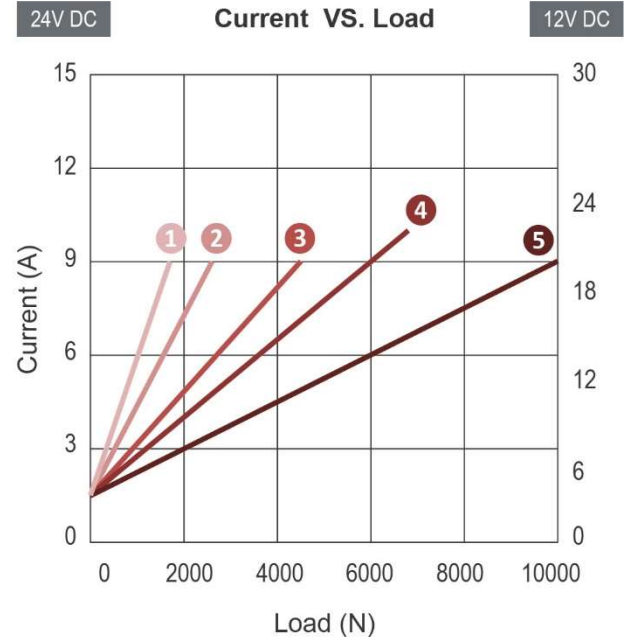
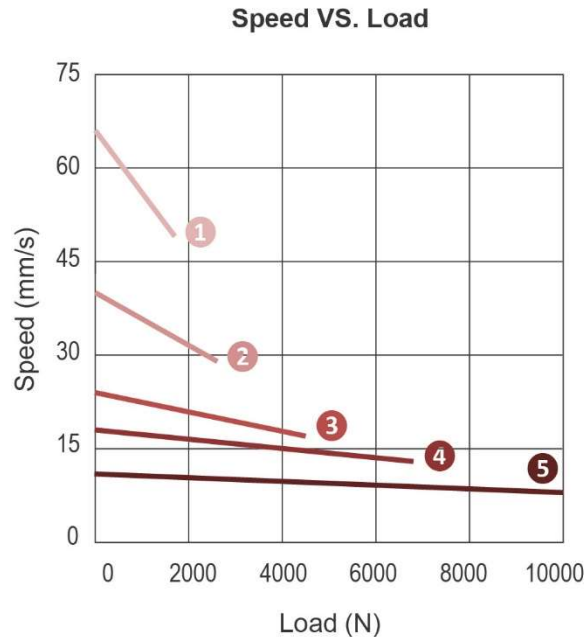
- (1) A wire connection of voltage input (Vin) is required. The recommended voltage is 5~32V DC.
- (2) The Hall feedback circuit of DHL and SHL options is NPN type; the Hall feedback circuit of D+L option is PNP type.
- (3) End of stroke signal output is not potential free. An external 5~24V power and pull-up resistor are required. (10K ohm resistor is recommended)
- (4) The polarity of input DC power for the signal control options must be fixed and cannot be switched.

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- (5) Over current protection: 25A @12V DC; 12.5A @24V DC, actuator will be stopped automatically. Over current protection is only applicable in emergency situations. It should not be used for the normal routine stopping needs of the actuator, as this may damage the actuator.
- (6) Voltage protection: The allowable input voltage is 9~16V @12V DC; 18~32V @24V DC, if it exceeds the range, actuator will be stopped automatically.
- (7) When it is detected that the temperature is lower than 0°C, the overcurrent protection setting value will be automatically increased by 30%, which will reduce the overcurrent protection caused by low temperature.

Performance Data

No.	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	
①	5:1	1700	66	49	1.5	3.0	9.0	18.0	25%
②	10:1	2600	40	29	1.5	3.0	9.0	18.0	25%
③	15:1	4500	24	17	1.5	3.0	9.0	18.0	25%
④	20:1	6800	18	13	1.5	3.0	10.0	20.0	25%
⑤	30:1	10000	11	8	1.5	3.0	9.0	18.0	15%



*** Remarks :**

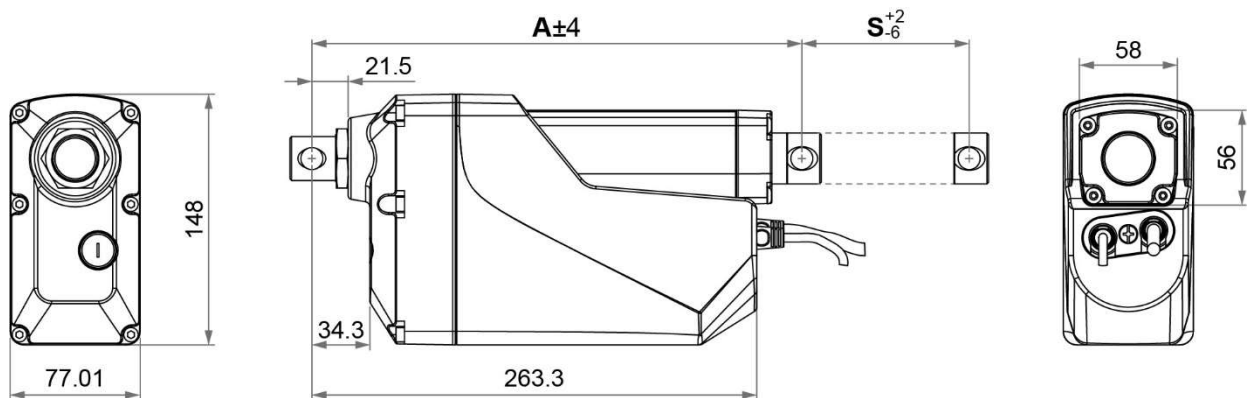
1. The typical speed or typical current refers to an average value measured with a stable power supply and an ambient temperature of 20~25°C that is neither the upper limit nor the lower limit. The performance curves are made with typical values.
2. The signal control options "S0L, SPL, SHL, J00" have stand-by current <20mA (12/24V DC).

Dimensions

- Installation dimension (A)

Gear Ratio	Solid connector	Slot connector	Available stroke (S) *	Max. load
5:1	$A \geq S+190 (\pm 4\text{mm})$	$A \geq S+199 (\pm 4\text{mm})$	100~1000 (+2/-6mm)	$\leq 1,700\text{N}$
10:1				$\leq 2,600\text{N}$
15:1			100~800 (+2/-6mm)	$\leq 4,500\text{N}$
20:1			100~600 (+2/-6mm)	$\leq 6,800\text{N}$
30:1	$A \geq S+220 (\pm 4\text{mm})$	$A \geq S+229 (\pm 4\text{mm})$	100~500 (+2/-6mm)	$\leq 10,000\text{N}$

* Remarks: Available in increments of 50mm



Unit: mm

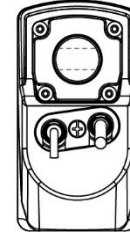
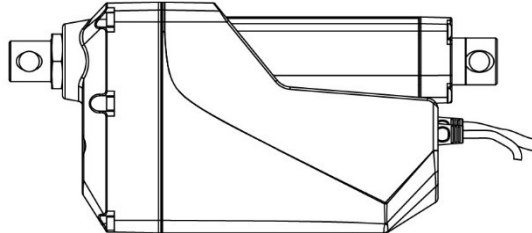
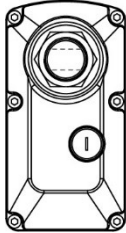
• Front connector type

<p>1 : Metal solid, hole \varnothing12.2mm 3 : Metal solid, hole \varnothing13mm</p>	<p>2 : Metal slot, hole \varnothing12.2mm 4 : Metal slot, hole \varnothing13mm</p>	<p>6 : SUS304 slot, hole \varnothing12.2mm 8 : SUS304 slot, hole \varnothing13mm</p>

• Rear connector type

<p>1 : Metal solid, hole \varnothing12.2mm 3 : Metal solid, hole \varnothing13mm</p>	<p>2 : Metal slot, hole \varnothing12.2mm 4 : Metal slot, hole \varnothing13mm</p>	<p>6 : SUS304 slot, hole \varnothing12.2mm 8 : SUS304 slot, hole \varnothing13mm</p>

• **Connector orientation**




Note: Front and rear connectors shown in standard 0°

Ordering Options

Input voltage	12V DC	24V DC	
Gear ratio	5:1 10:1 15:1	20:1 30:1	
Stroke	0100~1000mm (Available in increments of 50mm)		
Control options	D00 : DC control, without positioning feedback. D0L : DC control+EoS DPL : DC control+Potentiometer+EoS DHL : DC control+Dual Hall effect sensors (NPN)+EoS D+L : DC control+Dual Hall effect sensors (PNP)+EoS S0L : Low current signal control+EoS SPL : Low current signal control+Potentiometer+EoS SHL : Low current signal control+Dual Hall effect sensors (NPN)+EoS J00 : J1939 CAN Bus		
Front connector type (Refer to Page 6)	1, 2, 3, 4, 6, 8		
Rear connector type (Refer to Page 6)	1, 2, 3, 4, 6, 8		
Connector orientation (Refer to Page 6)	0° (Standard)	90°	
	(Front and rear connectors shown in standard 0°)		
Cable length *	500mm straight	1500mm straight	3000mm straight

*** Remarks:**

Only option D00 has one power cable, the power/signal cables of other options are divided into two wires, equal in length, with the bare wires at both ends are tinned.

 For more information about installation and use, please refer to the GF44 User Manual.

Certifications

The GF44 actuator is compliant with the following regulations, in terms of the essential conformity requirements of EMC Directive of 2014/30/EU.

Emission	Immunity
EN IEC 61000-6-3:2021	EN IEC 61000-6-1:2019

Terms of Use

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