GeMinG
Linear Drive

HTA21

Series
Actuator



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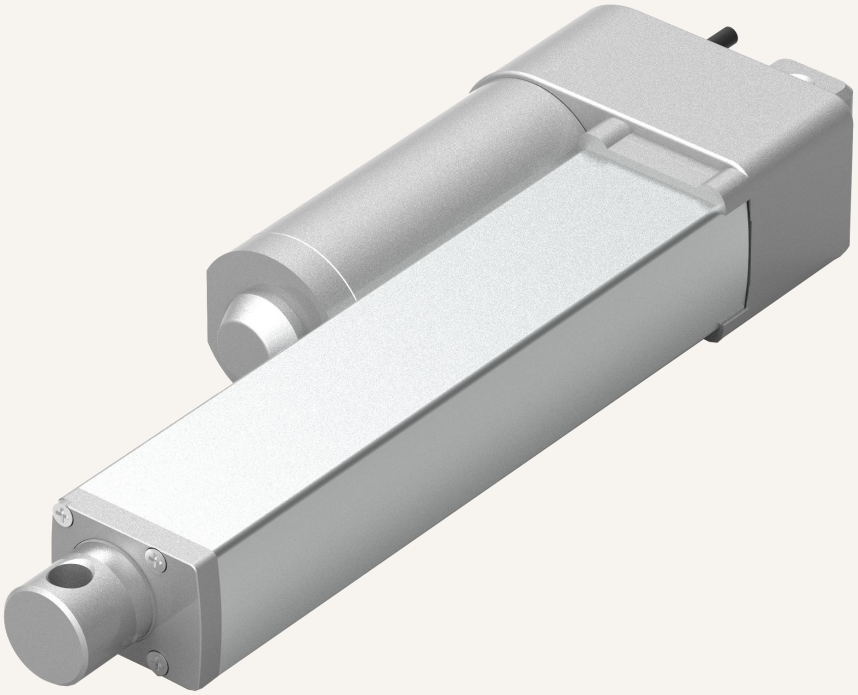


Product categories

1. Furniture applications
2. Medical applications
3. Industrial applications
4. Automotive applications
5. Security applications

Download 3D model

HTA21 is one of the most distinctive electric actuator products developed by GeMinG. It is suitable for furniture and work environments, such as TV lifting and home care bed height adjustment. One of the features of HTA21 is that it uses a three-section telescopic function to provide stable movement and is compatible with the smallest installation size and longer stroke options.

Functional Overview

Operating voltage:	12V DC or 24V DC or 36V or 48V DC
Maximum thrust:	4,000N (thrust only)
Speed at full load:	5.mm / s (load 4,000N)
Minimum installation size:	Stroke + 125mm
Dynamic lateral torque:	30Nm
Static lateral torque:	50Nm
Color:	Ivory or black
Voice:	55DB
Safety certification:	Comply with ISO9001-2008,
Operating temperature range:	-25 ° C ~ + 70 ° C
Full performance temperature range:	+5 ° C ~ + 45 ° C
Protection level:	IP65
Screw selection:	Trapezoidal screw
Other options:	Hall sensor, active signal, passive signal
Control options:	Synchronous control (synchronous error-free),
CE and RoHS compliant, compact size	independent control, CAN bus
Suitable for small space applications	High-strength metal zinc alloy gearbox and housing,
	Built-in limit switch (but not adjustable)

GeMinG Linear Drive

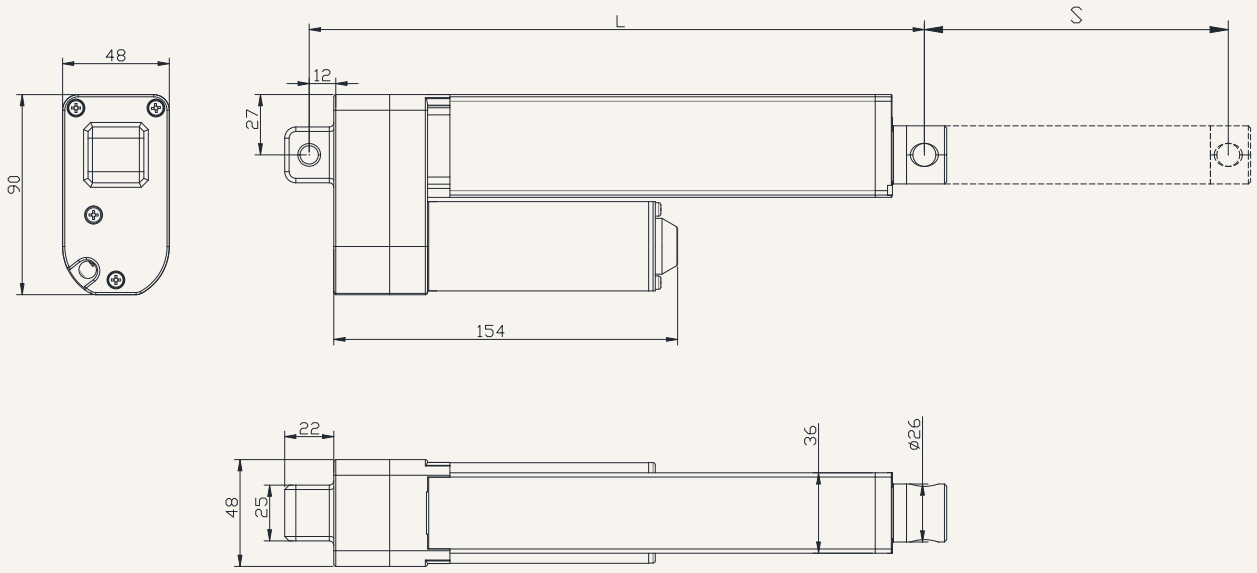
Smart Drive



Version:Gem00373/10/2025HTA21-No.3

Drawings

Standard size
MM



S: Stroke

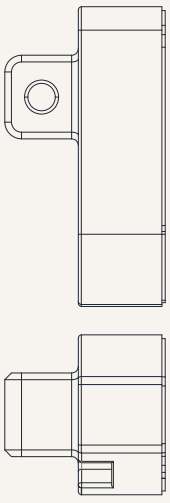
L: Retracted length

L= Stroke +125mm

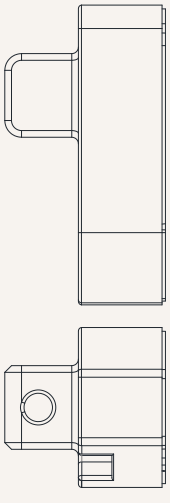
Stroke greater than 1000MM, installation size L= Stroke +140MM

tallation angle (counterclockwise)

0 =0 Degrees



9 =90 Degrees



load and speed

Code	Rated load Thrust N	Pull N	Self-locking force static conditions static N	Rated load current A	Output speed no load 24V DC mm/s	Rated load 24V DC mm/s
Motor voltage (24V DC)						
A	4,000	4,000	4,000	5.1	7.2	5.8
B	2,200	2,200	3,000	5.1	15	12
C	1,500	1,500	000	5.1	22	18
D	1,100	1,100	1,100	5.1	28	23
E	750	750	750	5.1	43	35

Notes

1. The speed and current on the left are the data of extension under thrust.

2. When the motor is 12V, the speed is about the same, and the current is about 2 times higher.

3. The current & speed in the table are the average test values of the extension direction under thrust application.

4. The current & speed in the table and the curve are the average test values of the control box (GeMinG), and there is an error of about 10% depending on the model of the control box.

(The voltage is about 29V DC when unloaded, and it drops to about 24V DC when the rated load is reached)

5. Standard stroke: minimum value ≥ 20mm, please refer to the table below for the maximum values of load and stroke.

Stroke: minimum value ≥ 20mm, please refer to the table below for the maximum value of load and stroke

load (N)	Maximum stroke (mm)
2,000	50-200
1,200	201-300
1,000	301-400
800	401-600
600	601-900

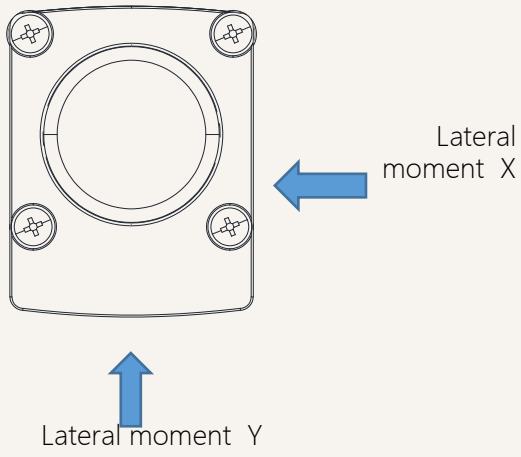
Remark:

Lateral moment Y direction = X*0.8

Static lateral moment = dynamic*2

Dynamic lateral moment (Nm)-X direction

stroke	S+125	S+140
100-200	40	70
300-500	35	50
500-700	30	40
700-900	20	30



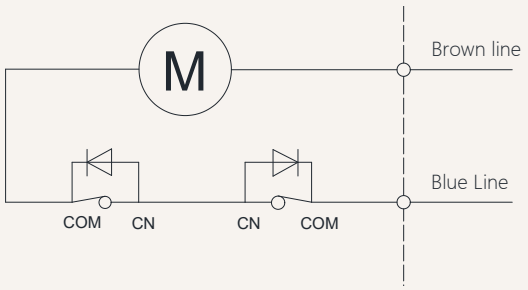
Stroke installation size reference chart

HTA21 Series	stroke ± 2 (mm)				Install ± 2 (mm)				
strokeMM	50	100	150	200	250	300	350	400	450
Install MM	175	225	275	325	375	425	475	525	575
weight KG	1,2	1.4	1.6	1.8	2.1	2.3	2.5	2.7	3.2

Actuator wiring diagram

No signal feedback wiring diagram

Code：N



Wiring Instructions:

1】Brown lead: motor positive +

2】Blue lead: motor negative pole -

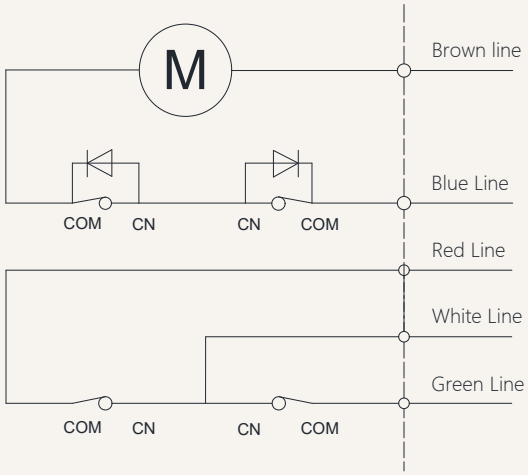
3】When the push rod is extended: the brown wire is positive +, the blue wire is negative -

4】When the push rod is retracted: the blue line is positive +, the brown line is negative -

Actuator wiring diagram Built-in control module

Built-in controller wiring diagram

Code：NY



Wiring Instructions:

1】Brown lead: motor positive +

2】Blue lead: motor negative pole -

3】When the push rod is extended: white line + red line

4】When the push rod retracts: white line + green line

5】White line: control output common line.

6】White and red lines: stretch out,

7】White and green lines: retract,

8】Wireless remote control, use wired control simultaneously.

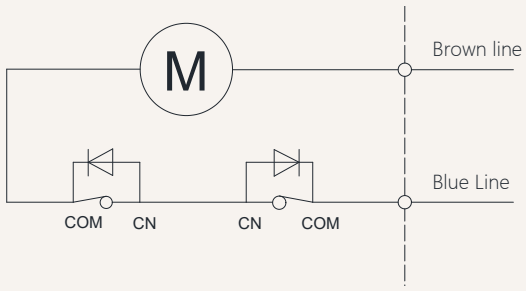
Other signal descriptions

Feedback signal	Description	Function
Active endpoint feedback signal	Voltage with this model	When the push rod reaches the end point, a signal will be fed back. This signal will always exist and will disappear during the operation of the push rod.,
Passive endpoint feedback signal	No voltage	When the push rod reaches the end point, it will feedback a signal. This signal always exists when the input power is not turned off. When the input power is turned off, the signal disappears. The signal will also disappear during the operation.
Note: For other needs, please contact the GeMinG team		

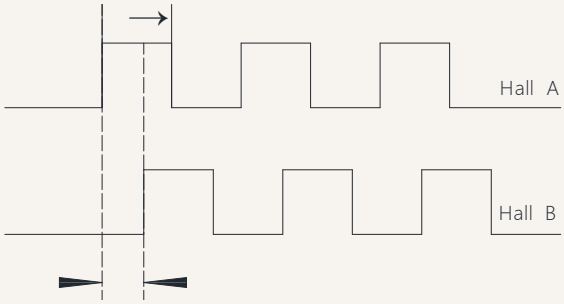
Signal feedback Hall sensor

Hall signal motor circuit diagram

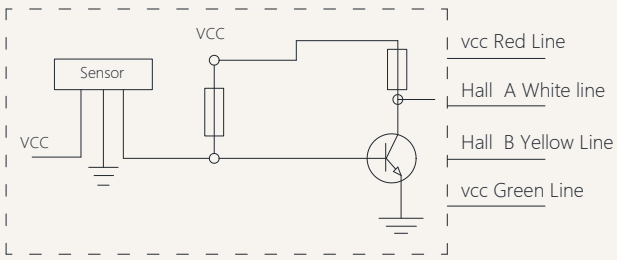
Code: H



Hall signal output waveform diagram



Schematic diagram of the internal circuit of the Hall signal



Wiring Instructions:

1】Brown lead: positive pole of motor +
2】Blue lead: negative pole of motor -
3】Red lead: VCC 5V voltage input +
4】Green lead: GND 5V voltage input -
5】White lead: Hall signal output A
6】Yellow lead: Hall signal output B

Notes:

1) Support dual-channel/single-channel Hall encoder
2) Current-consuming digital output
3) High-speed response frequency from: 0 KHz-100 KHz
4) Applicable temperature range:-40 ℃~+125 ℃

Characteristics	Symbol	Test conditions	MI	RE	M	Unit
Supply voltage	Vcc	----	3.5	---	24	V
Output saturation voltage	Vce/sat	Vcc=14V ; Ic=20mA	---	300	700	MV
Output leakage current	1 cex	Vce=14V ; Vcc=14V	---	<0	10	UA
Input voltage	1 ce	Vcc=20V ; Output open	---	1	10	M
Output fall time	R	Vcc=14V ; RL=820Ω ; CL=20pF	---	0.3	1.5	US

HTA21 Model Description Selection Code Table

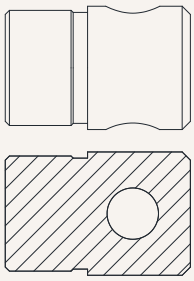
HTA21	-	24	A	***	***	-	O1	O1	0	1	T	A	N	07
①		②	③	④	⑤		⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬

①	Product number	HTA21			
②	Voltage	12=12V DC	24=24V DC	36 = 36V DC	48 = 48V DC
③	Load(n)@Speed (mm/s)	See page 06			
④	Stroke(mm)	See page 06			
⑤	Installation size(mm)	Note: Before selecting a size, please refer to the valid data sheet! See page 05			
⑥	Upper type	O1 = Regular type. Aperture 8.5mm		O2 = Conventional type. Aperture 10.5mm	
		U1 = slot width 8mm, hole diameter 8.5mm		U2 = slot width 8mm, hole diameter 10.5mm	
		M1 = M16 internal thread, depth 20 mm		M2 = M18 internal thread, depth 20 mm	
		T1 = M16 external thread, length 20mm		T2 = M18 external thread, length 20mm	
		L1 = 15mm width, 8.5mm aperture		L2 = 15mm width, 10.5mm aperture	
		G1 = Spherical plain bearing, bore 10mm		KZ = Customization	
⑦	lower type	O1 = Regular type, hole diameter 8.5mm		O2 = Regular type, hole diameter 10.5mm	
		P1 = T-type, four mounting holes 8.5 mm		KZ = Customized	
⑧	Installation angle (counterclockwise)	0 =0˚, Degree		9 =90˚, Degree	
⑨	Please refer to the outlet type	12 = 2-core bare wire		25 = 7-core bare wire	
		4 = Four-pin straight plug		6 = Six-pin straight plug	
		7 = Waterproof plug		K = Customized	
⑩	Lead screw options	T = Trapezoidal screw (default preferred)		G=Ball screw	
⑪	Control method	A = No Control	C = ***	Y =***	N=***
		T = Synchronous control	K= Customization		
⑫	Signal output options	N = No signal	H =Hall signal	D=***	U=Active signal
		W=Passive signal	AN=***		
⑬	Cable length	07 = length 0.7 M	10 = length 1.0 M	15 =length 1.5 M	20= length 2.0 M
		30 = length 3.0 M	40 =length 4.0M	50 =length 5.0 M	60= length 6.0M
		70 = length 7.0 M	70 =length 8.0 M	90 =length 9.0 M	00 =Customization

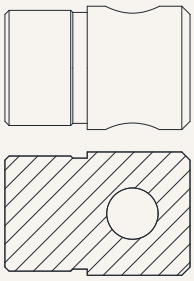
HTA21 Attachment Description Selection Code Table

Upper end form (extended):

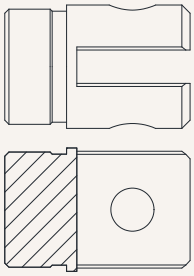
O1=Ordinary type, hole diameter 8.5mm



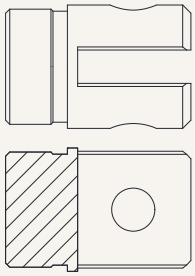
O2=Ordinary type, hole diameter 10.5mm



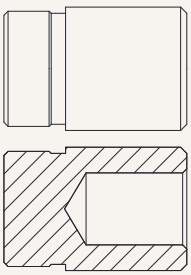
U1 = groove width 8.1mm, hole diameter 8.5mm



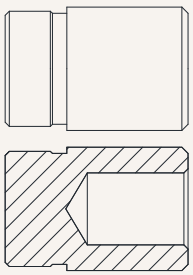
U2 = groove width 8.1mm, hole diameter 10.5mm



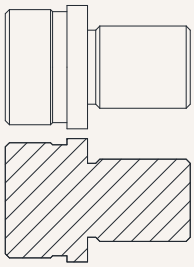
M1 = Type M, M16 thread, depth 20 mm



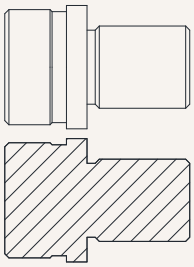
M2 = Type M, M18 thread, depth 20 mm



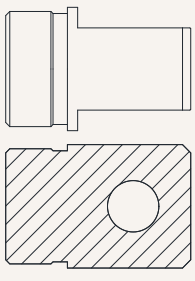
T1 = T-type, M16 thread, length 20mm



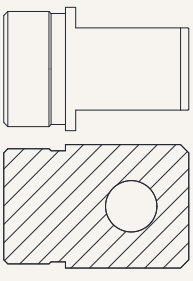
T2 = T-type, M18 thread, length 20mm



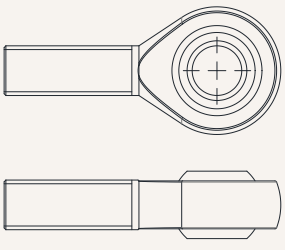
L1 = L shape, width 15mm, aperture 8.5mm



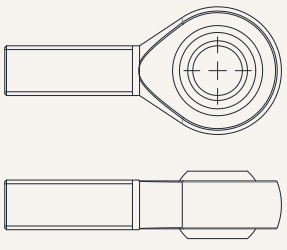
L2 =L shape, width 15mm, aperture 10.5mm



G1 = Spherical bearing, bore 10mm, model GS10



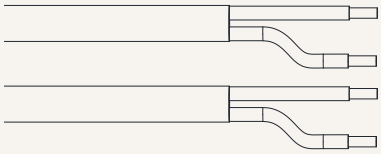
G1 = Spherical bearing, bore 12mm, model GS12



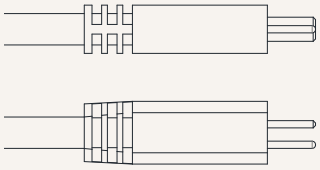
KZ = Customized

Power Cord Plug Type Code Table

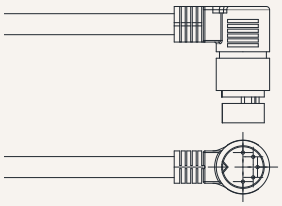
1 = Dare wire



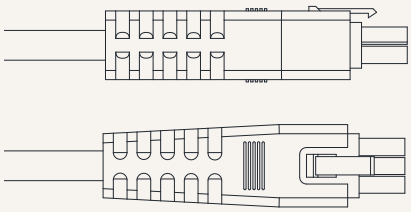
2 = O1 Straight plug



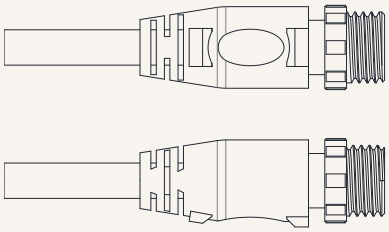
3 = 4-pin angled plug



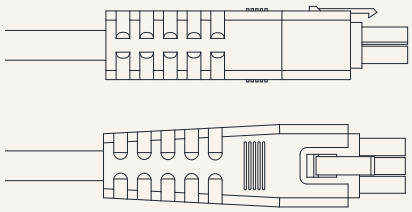
4 = 4-pin straight plug



8 = Waterproof plug



9 = 6-pin straight plug



0 = Customized

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