YABEi
MOTIONS DRIVE
GeMinG Group

HTW10

Series
Actuator

GeMing Driven Technology Co.,Ltd
YaBei Electrical Technology Co,Ltd
www.gemingtech.com

HTW10A

Series

Linear Actuators

Product Category

1、 Industrial application

2、Military application

3、Agricultural machinery

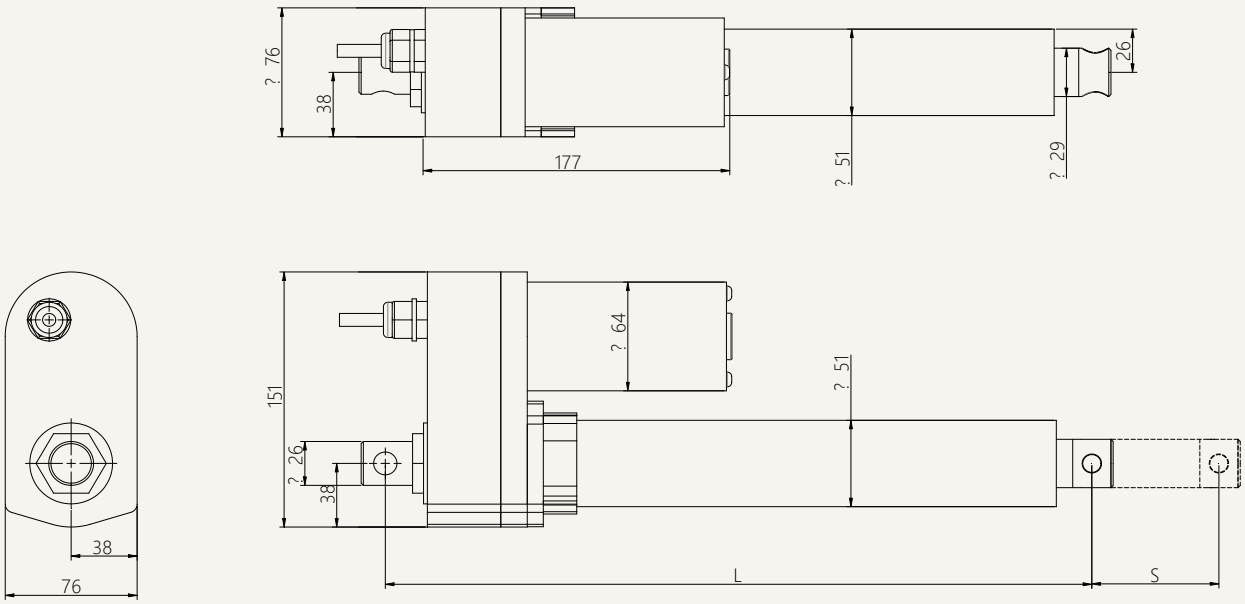
HTW10 industrial electric actuator is a very powerful actuator designed for agricultural machinery, construction machinery, industrial machinery and other applications. Configuration standard W10 electric actuator. The protection level reaches IP65, which is very satisfactory for agricultural machinery, construction machinery, and industrial machinery factories. The applicable industries include construction machinery, ventilation system equipment, etc.

Functional Overview

Voltage:	12V, 24V, 36V, 48V DC
Motor options:	DC motor,
Maximum thrust (pull force):	7,000N / 7,000N
Slowest speed under load:	5.0mm/s (load 7,000N)
Maximum speed under load:	35 mm/s (load 2,000N)
Minimum installation size:	Stroke + 200mm
Dynamic lateral moment:	500Nm
Static lateral moment:	800Nm
color:	black
Voice:	60~72 DB
Adaptable temperature range:	-45°C ~ +75°C
Protection level:	IP65
Screw selection:	trapezoidal screw
Switch type:	Built-in clutch
Signal options:	
safety certificate:	Comply with ISO9001-2008, CE and RoHS regulations,

Drawings

Standard size
MM



S: Stroke

L: Retracted length

L= Stroke +200mm

Greater than 800MM stroke, installation dimensions L= Stroke +250MM

Installation angle (counterclockwise):

0 =0 Degrees 9 =90 Degrees G=Adjust at will

HTW10B

Series

Linear Actuators

Product Category

1、 Industrial application

2、Military application

3、Agricultural machinery

HTW10 industrial electric actuator is a very powerful actuator designed for agricultural machinery, construction machinery, industrial machinery and other applications. Configuration standard W10 electric actuator. The protection level reaches IP65, which is very satisfactory for agricultural machinery, construction machinery, and industrial machinery factories. The applicable industries include construction machinery, ventilation system equipment, etc.

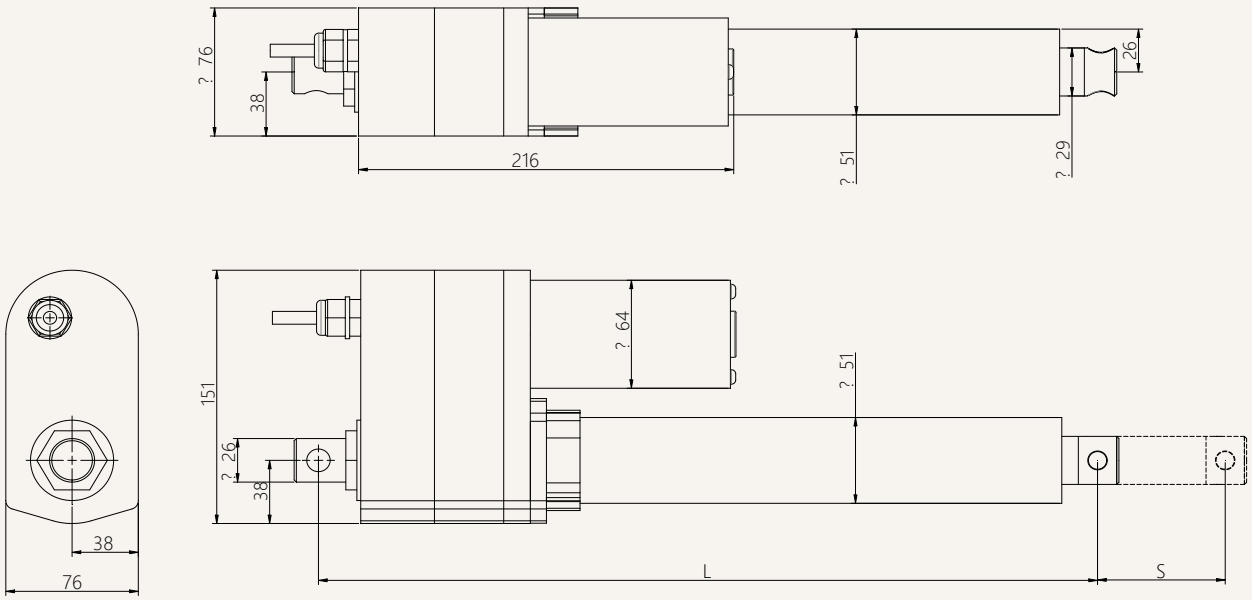
Functional Overview

Voltage:	12V, 24V, 36V, 48V DC
Motor options:	DC motor,
Maximum thrust (pull force):	7,000N / 7,000N
Slowest speed under load:	5.0mm/s (load 7,000N)
Maximum speed under load:	35 mm/s (load 2,000N)
Minimum installation size:	Stroke + 250mm
Dynamic lateral moment:	500Nm
Static lateral moment:	800Nm
color:	Silver gray, black
Voice:	60~72 DB
Adaptable temperature range:	-45°C ~ +75°C
Protection level:	IP65
Screw selection:	I ball screw, trapezoidal screw
Switch type:	Built-in limit switch
Signal options:	Potentiometer, Hall sensor, in-position signal
safety certificate:	Comply with ISO9001-2008, CE and RoHS regulations,

High-strength metal zinc alloy gearbox and housing,

Drawings

Standard size
MM



S: Stroke

L: Retracted length

L= Stroke +250mm

Greater than 800MM stroke, installation dimensions L= Stroke +300MM

Installation angle (counterclockwise):

0 =0 Degrees 9 =90 Degrees G=Adjust at will

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	7,000	7,000	9,000	14.3	5.5	4.0
B	6,000	6,000	6,000	14.3	8.5	7.0
C	5,000	5,000	5,000	14.3	11.0	9.5
D	4,000	4,000	4,000	14.3	17	14
E	3,000	3,000	3,000	14.3	22	18
F	2,000	2,000	2,000	14.3	35	29

Remark

1. The speed and current on the upper side are the materials that extend when pushed.

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

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

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

(The voltage is about 29V DC at no load, and drops to about 24V DC at rated load)

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

load (N)	Maximum stroke (mm)
16,000	50-200
15,000	201-300
12,000	301-400
7,000	401-600
6,000	601-900

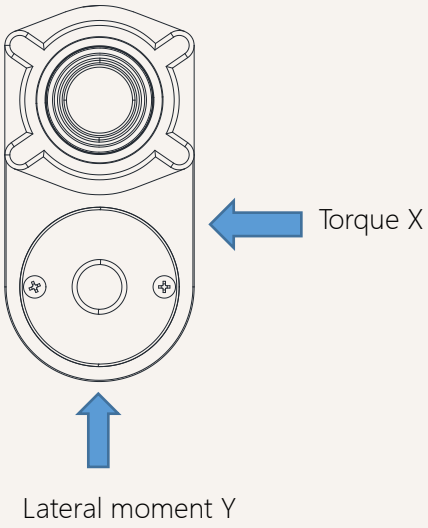
Remark:

Lateral moment Y direction = X*0.8

Static lateral moment = dynamic*2

Dynamic lateral moment (Nm)-X direction

stroke	S+250	S+300
100-200	200	300
300-500	150	250
500-700	100	200
700-900	80	100



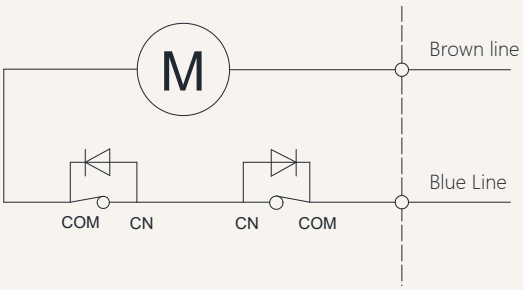
Stroke installation size reference chart

HTW10B Series	stroke ± 2 (mm)				Install ± 2 (mm)				
strokeMM	100	150	200	250	300	350	400	450	500
Install MM	350	400	450	500	550	600	650	700	750
weight KG	5.5	5.8	6.1	6.4	7.7	8.1	8.5	9.9	10.5

Actuator wiring diagram

No signal feedback wiring diagram

Code: N



Wiring Instructions:

1】Brown lead: motor positive +

2】Blue lead: motor negative pole -

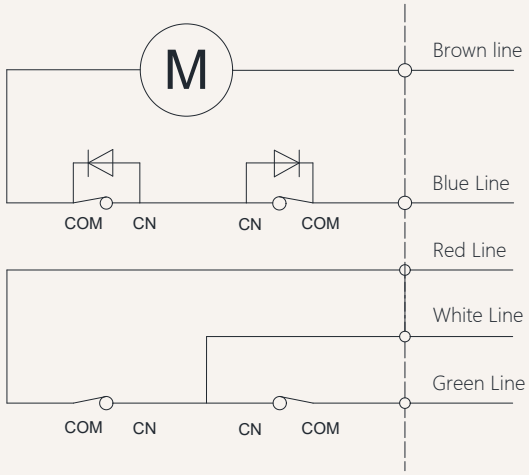
3】When the push rod is extended: the brown wire is positive +, the blue wire is negative -

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

Signal feedback An electrical signal & No electrical signal

Passive or active endpoint signal wiring diagram

Code: N passive signal, Code: Y active signal



Wiring Instructions:

1】Brown lead: positive pole of motor +

2】Blue lead: negative pole of motor -

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

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

5】White wire: signal output common line.

6】White and red wire: extension end signal,

7】White and green wire: retraction end signal,

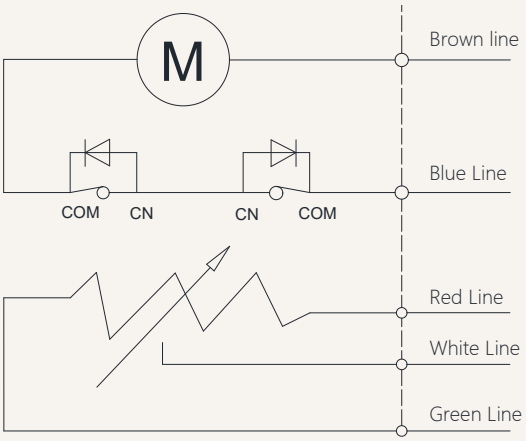
Other signal descriptions

Feedback signal	Description	Function
An electrical signal 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.,
No electrical signal 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 Potentiometer

Potentiometer wiring diagram

Code：K



Wiring Instructions:

1】Brown lead: positive pole of motor +
2】Blue lead: negative pole of motor -
3】When the push rod is extended: brown wire positive pole +, blue wire negative pole -
4】When the push rod is retracted: blue wire positive pole +, brown wire negative pole -
5】White and yellow leads: variable resistance signal output.
6】When the push rod is extended: red and white leads-resistance value gradually increases,
---------red and yellow leads-resistance value gradually decreases.
7】When the push rod is retracted: red and white leads-resistance value gradually decreases,
---------red and yellow leads-resistance value gradually increases.

Potentiometer Configuration Form

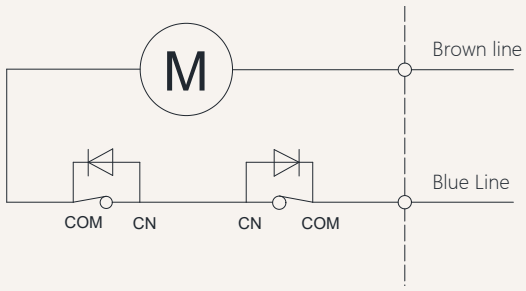
Transmission Code (See page 5)	Limit travel range	Resistance range unit（KΩ）	
A,C,E,G	50-350MM	50-200Stroke range5.0	50-300Stroke range7.5
B,D,F	50-550MM	50-200Stroke range3.17	50-400Stroke range6.35

Note: Potentiometer resistance is 10KΩ, actual output resistance depends on specific stroke

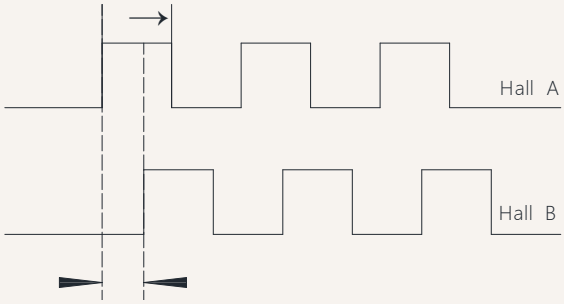
Signal feedback Hall sensor

Hall signal motor circuit diagram

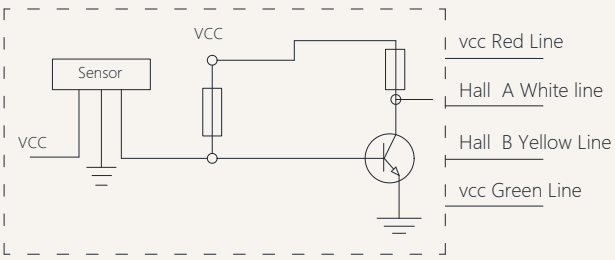
Code：H



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

HTW10 Model Description Selection Code Table

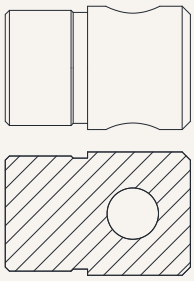
HTW10	-	24	A	***	***	-	O1	O1	0	1	T	A	N	07
①		②	③	④	⑤		⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬

①	Product number	HTW10A = Clutch switch		HTW10B = Electronic switch	
②	Voltage	24=24V DC	36=36V DC	48=48V DC	12= 12V 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 See page 13	O1 =Ordinary type, hole diameter12.5mm		O2 = Ordinary type, hole diameter 13.5mm	
		U1 = Groove width 10.5mm, hole diameter 12.5mm		U2 = Groove width 10.5mm, hole diameter 13.5mm	
		M1 = Type M, M18 thread, depth 20 mm		M2 = MType M, M20 thread, depth20 mm	
		T1 = T-type, M18 thread, length 20mm		T2 = T-type, M20 thread, length 20mm	
		L1 =L shape, width 20mm, aperture 12.5mm		L2 = L shape, width 20mm, aperture 13.5mm	
		G1 = Spherical bearing, bore 14mm, model GS14		G2 = Spherical bearing, bore 16mm, modelGS16	
⑦	lower type See page 14	O1 =Ordinary type, hole diameter12.5mm		O2 = Ordinary type, hole diameter 13.5mm	
		U1 = Groove width 10.5mm, hole diameter 12.5mm		U2 = Groove width 10.5mm, hole diameter 13.5mm	
		M1 = Type M, M18 thread, depth 20 mm		M2 = MType M, M20 thread, depth20 mm	
		T1 = T-type, M18 thread, length 20mm		T2 = T-type, M20 thread, length 20mm	
		L1 =L shape, width 20mm, aperture 12.5mm		L2 = L shape, width 20mm, aperture 13.5mm	
		G1 = Spherical bearing, bore 14mm, model GS14		KZ = Customized	
⑧	Installation angle (counterclockwise)	0 =0°, Degree		9 =90°, Degree	
⑨	Please refer to the outlet type	1 = 1 2-core bare wire	5 = 1 5-core bare wire	6 = 1 6-core bare wire	
		7 = 1 2-core, 1 5-core bare wire	2 = OI plug	3 = 4-pin angled plug	
		4 = 4-pin straight plug	9 = 6-pin straight plug	8 = Waterproof plug	
		0 = Customized			
⑩	Lead screw options	G=Ball screw (default preferred)		T = Trapezoidal screw	
⑪	Control method	A = No control	C = ***	Y = ***	N= ***
		T = ***	D = Customized		
⑫	Signal output options	N = None	H = Hall sensor	D = Potentiometer signal	U=active signal
		W=passive signal	AN = ***		
⑬	Cable length	07 =Cable length 0.7 M	10 = Cable length 1.0 M	15 =Cable length 1.5 M	20= Cable length 2.0 M
		30 =Cable length 3.0 M	40 =Cable length 4.0M	50 =Cable length 5.0 M	60= Cable length 6.0M
		70 =Cable length 7.0 M	70 =Cable length 8.0 M	90 =Cable length 9.0 M	00 =Customization

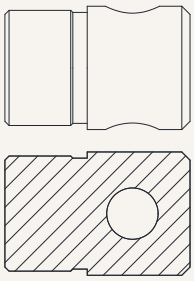
HTW10 Attachment Description Selection Code Table

Upper end form (extended):

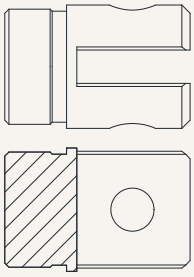
O1=Ordinary type, hole diameter 12.5mm



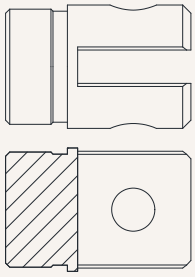
O2=Ordinary type, hole diameter 13.5mm



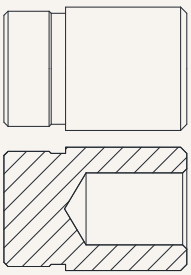
U1 = groove width 10.1mm, hole diameter 12.5mm



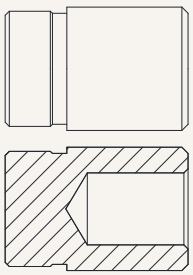
U2 = groove width 10.1mm, hole diameter 13.5mm



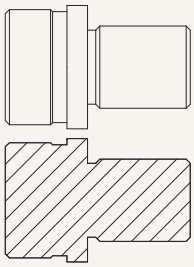
M1 = Type M, M18 thread, depth 20 mm



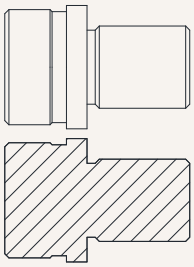
M2 = Type M, M20 thread, depth 20 mm



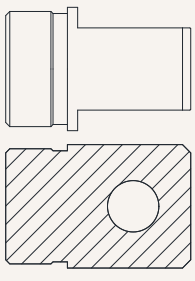
T1 = T-type, M18 thread, length 20mm



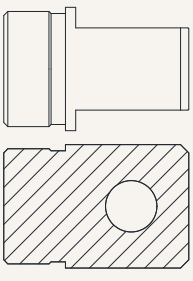
T2 = T-type, M20 thread, length 20mm



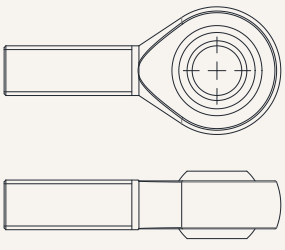
L1 = L shape, width 20mm, aperture 12.5mm



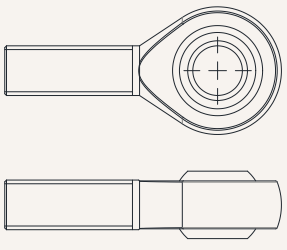
L2 =L shape, width 20mm, aperture 13.5mm



G1 = Spherical bearing, bore 14mm, model GS14



G1 = Spherical bearing, bore 16mm, model GS16

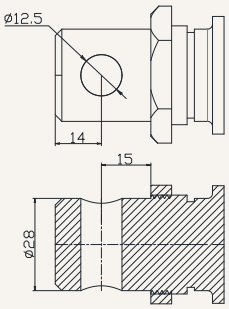


KZ = Customized

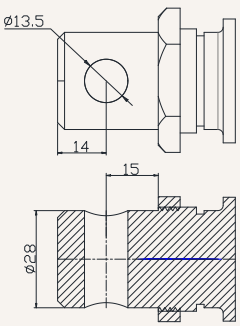
HTW10 Attachment Description Selection Code Table

Lower form (tail):

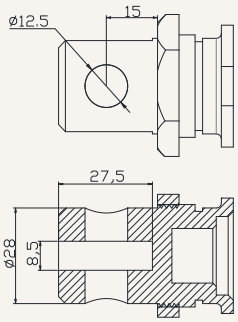
O1=Ordinary type, hole diameter 12.5mm



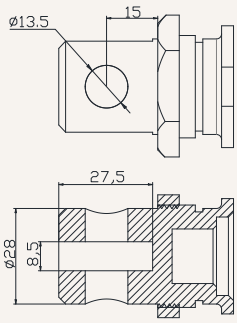
O2=Ordinary type, hole diameter 13.5mm



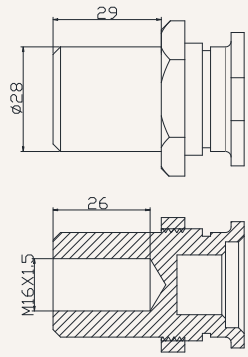
U1 = groove width 10.1mm, hole diameter 12.5mm



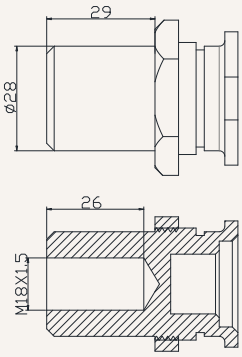
U2 = groove width 10.1mm, hole diameter 13.5mm



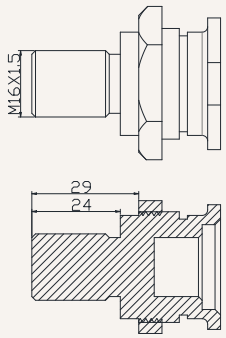
M1 = Type M, M18 thread, depth 20 mm



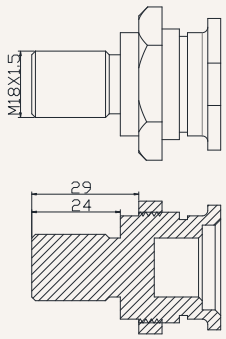
M2 = Type M, M20 thread, depth 20 mm



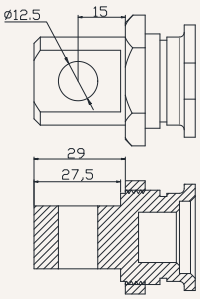
T1 = T-type, M18 thread, length 20mm



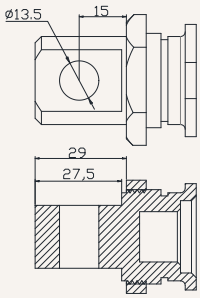
T2 = T-type, M20 thread, length 20mm



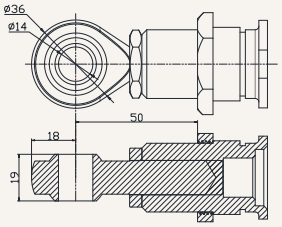
L1 = L shape, width 20mm, aperture 12.5mm



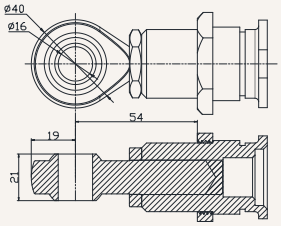
L2 =L shape, width 20mm, aperture 13.5mm



G1 = Spherical bearing, bore 14mm, model GS14



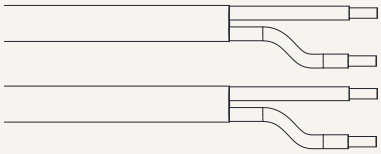
G1 = Spherical bearing, bore 16mm, model GS16



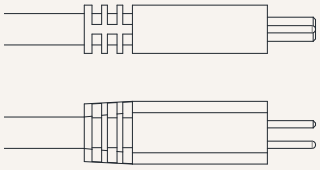
KZ = Customized

Power Cord Plug Type Code Table

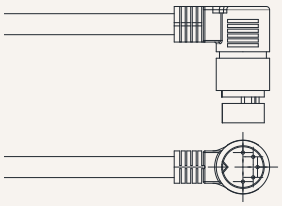
1 = Dare wire



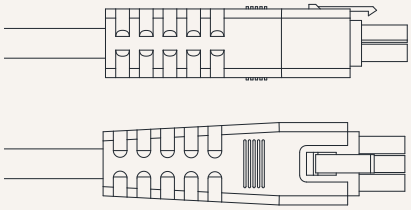
2 = O1 Straight plug



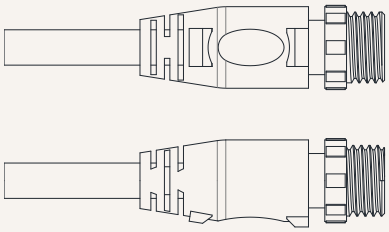
3 = 4-pin angled plug



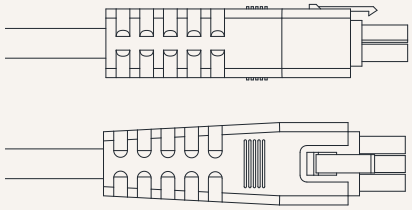
4 = 4-pin straight plug



8 = Waterproof plug



9 = 6-pin straight plug



0 = Customized

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