

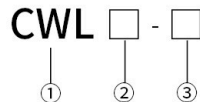


特点 Features

- 双回路型限位开关
- 具有高机械强度的一体铸造铝合金外壳
- 具耐油、防水和防压结构
- 引动器种类多, 方便使用
- 内藏接点座有双簧片设计, 机械寿命长
- Double-circuit type of limit switch
- High mechanical strength, mainly consists of aluminum cast
- Water-proof and oil-proof construction
- Various actuators for different applications
- Built-in contact box with double spring mechanism, longer mechanical life



选型说明 Model Designation



序号 No	项目 Item	代号 Code	说明 Description
①	产品系列 Product series	CWL	设计代号 Design code
②	头部结构 Head structure	D	顶部柱塞型 Top plunger type
		D1	竖轮柱塞型 Vertical wheel plunger type
		D2	横轮柱塞型 Cross wheel plunger type
		D3	顶部球式柱塞型 Top ball plunger type
		CA2-2	滚轮摆杆型 Roller rocker type
		CA2-2G	塑胶滚轮摆杆型 Plastic roller swing rod type
		CL	可调棒式摆杆型 Adjustable rod swing rod type
		CA12-2-Q	可调摆杆滚轮型 Adjustable swing rod roller type
		CA12-2-QG	可调摆杆塑胶滚轮型 Adjustable swing rod plastic roller type
		CA12-2-QD	可调摆杆橡胶滚轮型 Adjustable swing rod rubber roller type
		CA32-41	叉式摆杆锁定型 (两侧塑胶滚轮) Fork type swing rod locking type (plastic rollers on both sides)
		CA32-41M	叉式摆杆锁定型 (两侧金属滚轮) Fork type swing rod locking type (metal rollers on both sides)
		CA32-42	叉式摆杆锁定型 (单侧塑胶滚轮) Fork type swing rod locking type (single side plastic roller)
		CA32-42M	叉式摆杆锁定型 (单侧金属滚轮) Fork type swing rod locking type (single side metal roller)
		NJ	盘簧型 Coil spring type
		NJ-30	金属棒盘簧型 Metal rod coil spring type
		NJ-2	塑料杆盘簧型 Plastic rod coil spring type
		NJ-S2	触须型 Tentacle type
③	导管尺寸 Catheter size	无 None	M20(1 导管型) M20 (1 catheter type)
		P	PG13.5(1 导管型) PG13.5 (1 catheter type)

特性 Characteristics

操作速度 Operation speed	1mm 至 1m/s(CWLCA2-2 型) 1mm/s-1m/s (CWLCA2-2)
动作频率 Operating frequency	电气:30次/分 Electical: 30 operations/min
接触电阻 Contact resistance	25mΩ 以下 (初期) 25mΩmax. (initial value)
绝缘电阻 Insulation resistance	100MΩ 以上 (在 500VDC 以下) 100MΩ min. (at 500VDC)
最小使用负载 Minimum working load	DC24V 10mA 以上 Min DC24V 10mA
额定绝缘电压UI Rated insulation voltage	380V
额定冲击耐受电压Uimp Rated impulse withstand voltage	4kV
约定自由空气发热电流Ith Convention free air heating current	10A
电介强度 Dielectric strength	非连续端子间1000VAC, 50/60Hz持续1分钟 1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity
	载电流与无载电流零件间1500VAC, 50/60Hz持续1分钟 1500VAC, 50/60 HZ for 1 minute between current-carrying and non-current-carrying metal parts
	1500VAC, 50/60Hz for 1 minute between each terminal and ground
振动 Vibration	10至55Hz, 1.5mm双振幅 10-55Hz,1.5mm double amplitude
冲击 Shock	机械耐久 :1,000m/Sec ² (约 100G [°] S) 误动作耐久 :300m/Sec ² (约 30G [°] S)*1 Mechanical durable: 1, 000m/Sec ² (about 100G [°] S) Malfunction: 300m/Sec ² (about 30G [°] S)*1
周围温度 Ambient temperature	使用时 : -20~+80°C (没有结冰) Using: -20~+80°C (With no icing)
湿度 Humidity	95%RH 以下 <95% RH
电气寿命 Electrical life	500000次以上 (250V/6A 阻性负载时) More than 500,000 times (250V/6A resistive load)
保护构造 Protection level	IP66

*1: 弹簧型除外
*1: Except spring type

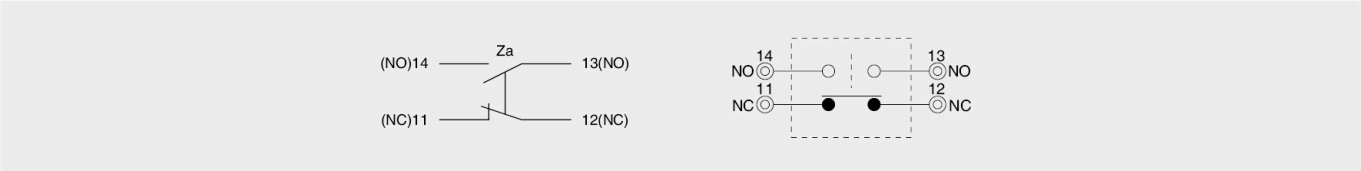
额定值 Ratings

型号 Model	额定电压 Rated Voltage	非电感性负载 Noninductive Load (A)				电感性负载 Inductive Load (A)			
		电阻性负载 Resistance Load		灯泡负载 Lamp Load		电感性负载 Inductive Load		马达负载 Motor Load	
		NC	NO	NC	NO	NC	NO	NC	NO
CWL 系列 CWL Series	125VAC	10		3	1.5	10		5	2
	250VAC	5		2	1	5		3	1
	12VDC	10		6	3	10		6	
	24VDC	6		4	3	6		4	
	125VDC	0.8		0.2	0.2	0.8		0.2	
	250VDC	0.4		0.1	0.1	0.4		0.1	
浪涌电流 Surge current		NC		Max 24A					
		NO		Max 12A					

- 注意事项:
- 左侧提到的数值代表稳定电流。
 - 感性负载是指在交流条件下功率因数为0.4, 或在直流条件下时间常数低于7ms的负载。
 - 灯负载指的是有10倍浪涌电流的负载。
 - 电动机负载是指负载有6倍浪涌电流的情况。

- NOTES:
- The figures mentioned initially denote the consistent current levels.
 - The term 'inductive load' applies to loads where the power factor is 0.4 in AC conditions or when the time constant is less than 7ms for DC.
 - Lamp load' is used to describe loads that experience surge currents up to 10 times their normal rate.
 - Motor load' indicates loads that undergo up to 6 times their regular surge current.

接点型式 Contact Form



国际认证规格 International Certification Specifications

认证规格 Certification specifications	规格 Specifications	文件No. Document
CCC	GB/T 14048.5	请咨询昌得代表处 Please consult the CNTD Representative Office
TUV	EN 60947-5-1	
CE		

安全规格认证额定值 Safety Specification Certification Rating

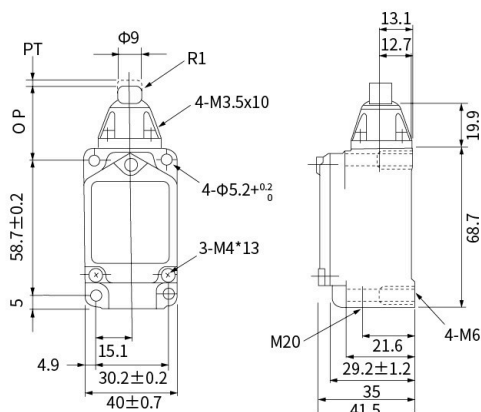
CCC(GB/T 14048.5)、TUV(EN 60947-5-1)

类型与额定值 Type and Rating
AC-15 6A/250V DC-13 0.3A/220V

外观和尺寸 Appearance and Dimension

CWLD

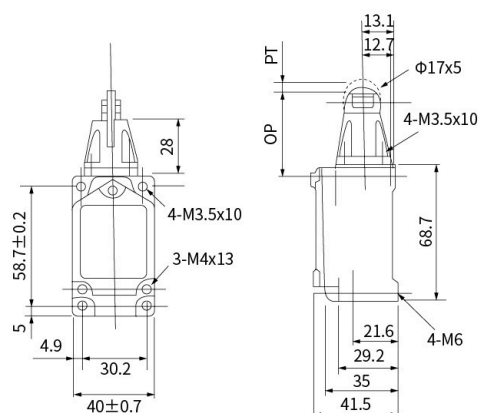
顶部柱塞型
Top plunger type



动作特性 Operating Characteristics	CWLD
动作力 OF (最大Max.)	26.6N
释放力 RF (最小Min.)	8.9N
预行程 PT	1.7mm
过行程 OT (最小Min.)	6.4mm
运动差异 MD (最大Max.)	1mm
动作位置 OP	34±0.8mm

CWLD1

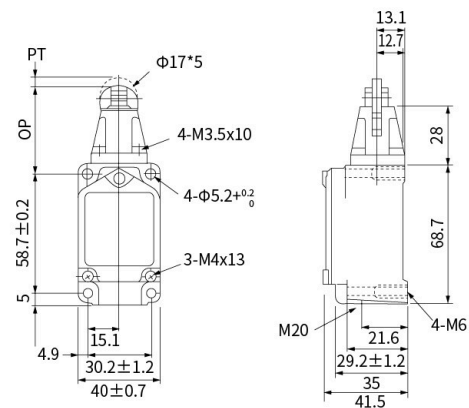
竖轮柱塞型
Vertical wheel plunger type



动作特性 Operating Characteristics	CWLD1
动作力 OF (最大Max.)	26.6N
释放力 RF (最小Min.)	8.9N
预行程 PT	1.7mm
过行程 OT (最小Min.)	5.6mm
运动差异 MD (最大Max.)	1mm
动作位置 OP	44±0.8mm

CWLD2

横轮柱塞型
Cross wheel plunger type

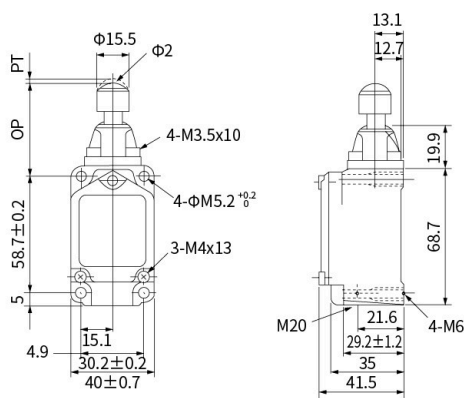


动作特性 Operating Characteristics	CWLD2
动作力 OF (最大Max.)	26.6N
释放力 RF (最小Min.)	8.9N
预行程 PT	1.7mm
过行程 OT (最小Min.)	5.6mm
运动差异 MD (最大Max.)	1mm
动作位置 OP	44±0.8mm

外观和尺寸 Appearance and Dimension

CWLD3

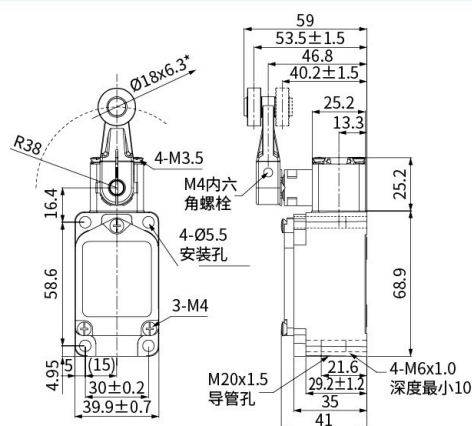
顶部球式柱塞型
Top ball plunger type



动作特性	CWLD3
Operating Characteristics	
动作力 OF (最大Max.)	26.6N
释放力 RF (最小Min.)	8.9N
预行程 PT	1.7mm
过行程 OT (最小Min.)	4mm
运动差异 MD (最大Max.)	1mm
动作位置 OP	44.5±0.8mm

CWLCA2-2

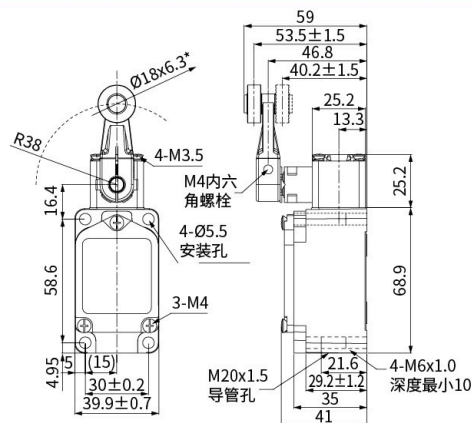
滚轮摆杆型
Roller rocker type



动作特性	CWLCA2-2
Operating Characteristics	
动作力 OF (最大Max.)	13.3N
释放力 RF (最小Min.)	2.2N
预行程 PT	15°±5°
过行程 OT (最小Min.)	70°
运动差异 MD (最大Max.)	12°

CWLCA2-2G

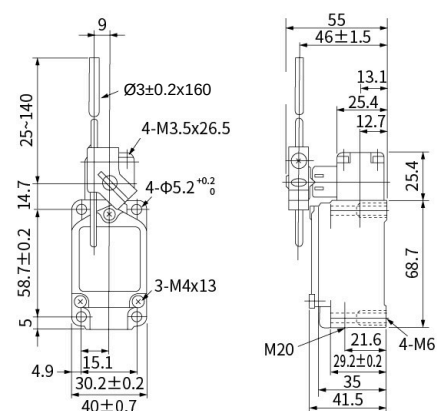
塑胶滚轮摆杆型
Plastic roller swing rod type



动作特性	CWLCA2-2G
Operating Characteristics	
动作力 OF (最大Max.)	13.3N
释放力 RF (最小Min.)	2.2N
预行程 PT	15°±5°
过行程 OT (最小Min.)	70°
运动差异 MD (最大Max.)	12°

CWLCL

可调棒式摆杆型
Adjustable rod swing rod type

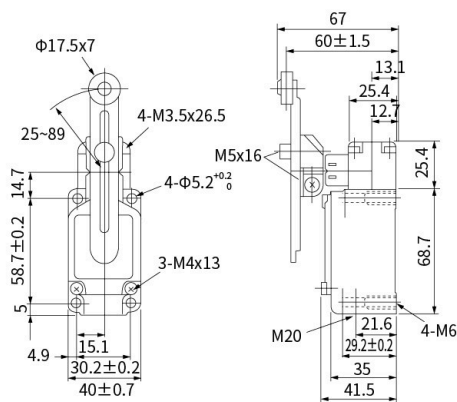


动作特性	CWLCL
Operating Characteristics	
动作力 OF (最大Max.)	1.4N
释放力 RF (最小Min.)	0.27N
预行程 PT	15°±5°
过行程 OT (最小Min.)	70°
运动差异 MD (最大Max.)	12°

外观和尺寸 Appearance and Dimension

CWLCA12-2-Q

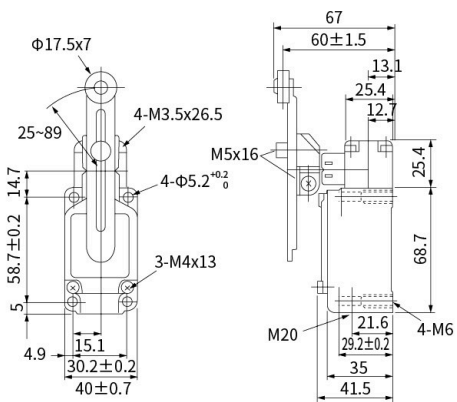
可调摆杆滚轮型
Adjustable swing
rod roller type



动作特性 Operating Characteristics	CWLCA12-2-Q
动作力 OF (最大Max.)	13.3N
释放力 RF (最小Min.)	2.2N
预行程 PT	15° ± 5°
过行程 OT (最小Min.)	70°
运动差异 MD (最大Max.)	12°

CWLCA12-2-QG

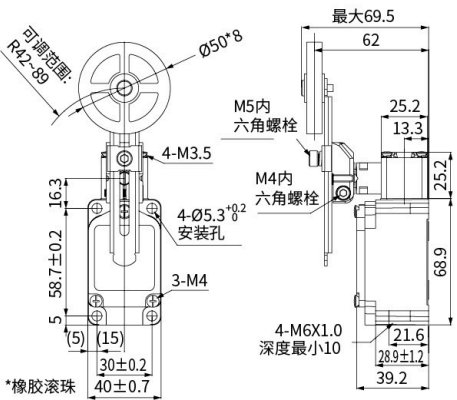
可调摆杆滚轮型
Adjustable swing
rod roller type



动作特性 Operating Characteristics	CWLCA12-2-QG
动作力 OF (最大Max.)	13.3N
释放力 RF (最小Min.)	2.2N
预行程 PT	15° ± 5°
过行程 OT (最小Min.)	70°
运动差异 MD (最大Max.)	12°

CWLCA12-2-QD

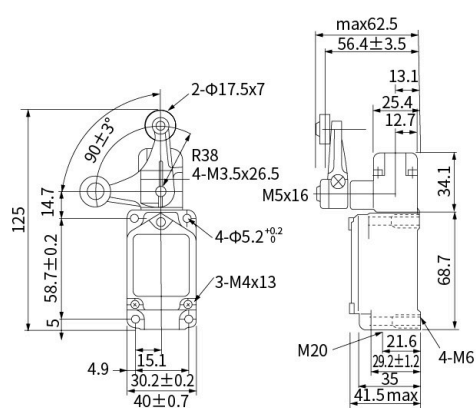
可调摆杆橡胶
滚轮型
Adjustable
swing rod
rubber
roller type



动作特性 Operating Characteristics	CWLCA12-2-QD
动作力 OF (最大Max.)	13.3N
释放力 RF (最小Min.)	2.2N
预行程 PT	15° ± 5°
过行程 OT (最小Min.)	70°
运动差异 MD (最大Max.)	12°

CWLCA32-41

叉式摆杆锁定型
(两侧塑胶滚轮)
Fork type swing
rod locking type
(plastic rollers on
both sides)

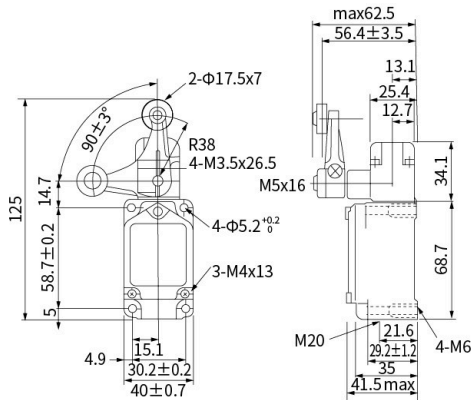


动作特性 Operating Characteristics	CWLCA32-41
摆杆反转力 (最大Max.)	11.8N
摆杆反转预行程	50° ± 5°
预行程 PT (最大Max.)	55°
过行程 OT (最小Min.)	35°

外观和尺寸 Appearance and Dimension

CWLCA32-41M

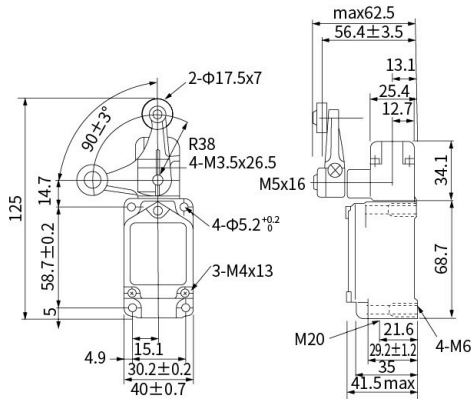
叉式摆杆锁定型
(两侧金属滚轮)
Fork type swing rod
locking type (metal
rollers on both
sides)



动作特性	CWLCA32-41M
Operating Characteristics	
摆杆反转力 (最大Max.)	11.8N
摆杆反转预行程	50°±5°
预行程 PT (最大Max.)	55°
过行程 OT (最小Min.)	35°

CWLCA32-42

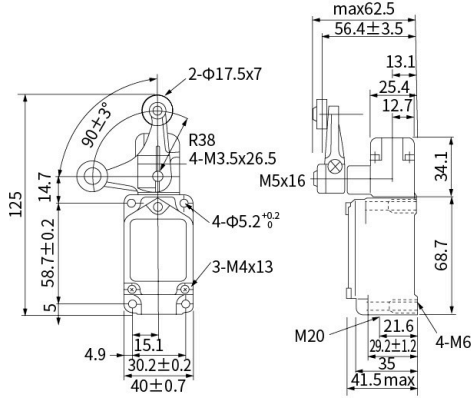
叉式摆杆锁定型
(单侧塑胶滚轮)
Fork type swing rod
locking type (single
side plastic roller)



动作特性	CWLCA32-42
Operating Characteristics	
摆杆反转力 (最大Max.)	11.8N
摆杆反转预行程	50°±5°
预行程 PT (最大Max.)	55°
过行程 OT (最小Min.)	35°

CWLCA32-42M

叉式摆杆锁定型
(单侧金属滚轮)
Fork type swing rod
locking type (single
side metal roller)

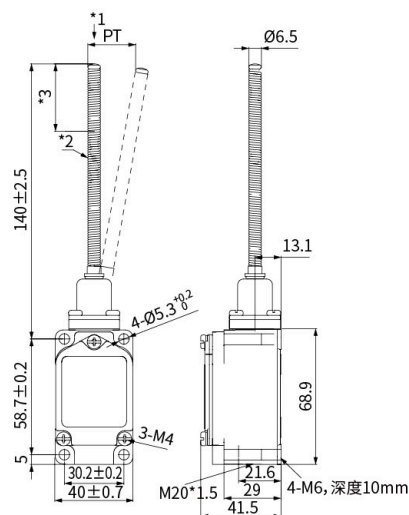


动作特性	CWLCA32-42M
Operating Characteristics	
摆杆反转力 (最大Max.)	11.8N
摆杆反转预行程	50°±5°
预行程 PT (最大Max.)	55°
过行程 OT (最小Min.)	35°

外观和尺寸 Appearance and Dimension

CWLNJ

盘簧型
Coil spring type

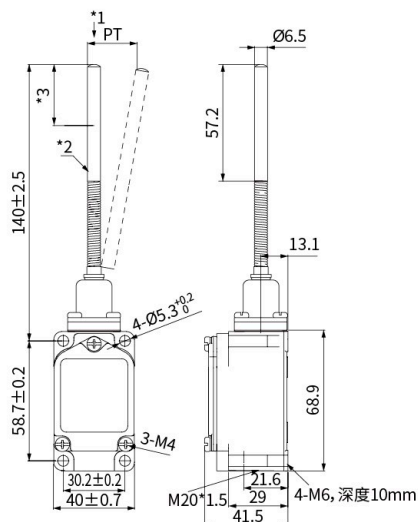


动作特性 Operating Characteristics	CWLNJ
动作力OF(最大Max.)	1.47N
预行程 PT	25 ± 5 mm

*1. 除了轴芯方向 (↓), 钢丝可在任意方向运动;
*2. 不锈钢钢丝盘簧;
*3. 操作体的使用范围为从弹簧前端到弹簧全长的 1/3 以内。
1. Bend laterally in any direction;
do not push along the actuator axis.
*2. Stainless steel wire coil spring;
*3. The operating body is used from the front end of the spring to less than 1/3 of the total length of the spring.

CWLNJ-30

金属杆盘簧型
Metal rod coil spring type

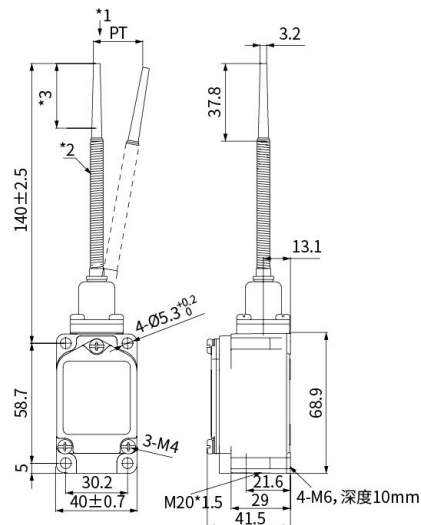


动作特性 Operating Characteristics	CWLNJ-30
动作力OF(最大Max.)	1.47N
预行程 PT	25 ± 5 mm

*1. 除了轴芯方向 (↓), 钢丝可在任意方向运动;
*2. 不锈钢钢丝盘簧;
*3. 操作体的使用范围为从弹簧前端到弹簧全长的 1/3 以内。
1. Bend laterally in any direction;
do not push along the actuator axis.
*2. Stainless steel wire coil spring;
*3. The operating body is used from the front end of the spring to less than 1/3 of the total length of the spring.

CWLNJ-2

塑料杆盘簧型
Plastic rod coil spring type

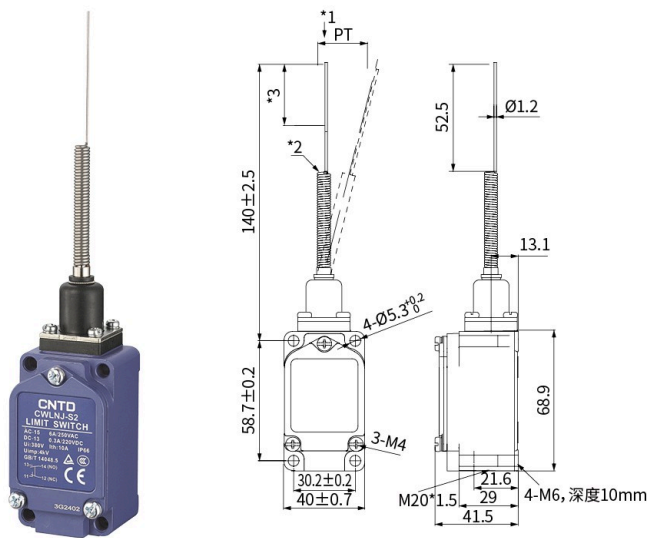


动作特性 Operating Characteristics	CWLNJ-2
动作力OF(最大Max.)	1.47N
预行程 PT	25 ± 5 mm

*1. 除了轴芯方向 (↓), 钢丝可在任意方向运动;
*2. 不锈钢钢丝盘簧;
1. Bend laterally; do not push along the actuator axis.
2. Stainless steel coil spring.
3. Apply the target within the upper one-third of the actuator length.

外观和尺寸 Appearance and Dimension

CWLNJ-S2
触须型
Tentacle type



动作特性 Operating Characteristics	CWLNJ-S2
动作力OF(最大Max.)	0.28N
预行程 PT	25±5mm

- *1. 除了轴芯方向 (↓), 钢丝可在任意方向运动;
*2. 不锈钢钢丝盘簧;
*3. 操作体的使用范围为从弹簧前端到弹簧全长的 1/3 以内。
1. Bend laterally in any direction;
do not push along the actuator axis.
*2. Stainless steel wire coil spring;
*3. The operating body is used from the front end of the spring to less than 1/3 of the total length of the spring.

安全注意事项 Safety Precautions

- 请务必避免接触动力杆端部的金属杆或导线, 以降低受伤风险。
- 为预防电路发生短路而可能对开关造成的损害, 请在开关电路中串联一只按额定电流1.5到2倍计算的保险丝。
- 在达到EN认证标准的额定使用条件下, 建议使用符合IEC60269标准, 型号为gl或gG的10A保险丝。
- Ensure not to make contact with the metal rod or wire at the end of the actuator rod to minimize the risk of injury.
- To guard against potential damage to the switch from circuit short-circuiting, include a fuse in the switch circuit with a cut-off current value calculated at 1.5 to 2 times the rated current of the switch.
- When operating within the rated specifications certified by EN standards, it is advised to use a gl or gG type 10A fuse compliant with the IEC60269 standard.

使用注意事项 Using Precautions

Use insulated M3.5 ring terminals and the specified tightening torque.

Incorrect terminals, exposed conductors or loose screws can cause malfunction, leakage or damage.

- 在内部接线时要特别小心, 以避免造成短路或损坏, 确保开关内部不会受到油、水、有害气体或粉尘的侵入。
- 正确选择和操作接插件至关重要, 错误的做法可能会导致设备故障或损坏。操作前应确保了解所有相关的安全措施。
- 请注意, 即使连接正确, 电缆的末端与开关内部也是相连的, 因此防止油、水或有害气体从电缆末端进入同样重要, 以防可能出现的设备故障或损坏。

Use insulated M3.5 ring terminals, fitted flat and tightened to the specified torque.

Incorrect terminals, exposed conductors or loose screws can cause malfunction, leakage or damage.

During internal wiring, prevent short circuits and keep oil, water, harmful gases and dust out.

Select and handle cable connectors correctly and observe the applicable safety measures.

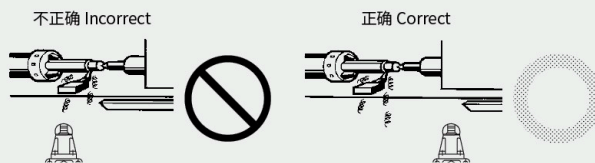
Cable ends communicate with the switch interior even when the connector is properly sealed.

Prevent oil, water and harmful gases from entering through either end of the cable.

关于使用环境 Regarding the Usage Environment

在户外环境或存在特殊切削油、化学溶剂、药品等条件下, 密封件的性能可能会下降。在使用前, 务必根据具体的使用环境来评估维护和更换的需求。安装开关时, 选择一个避免直接暴露于切削屑或粉尘的位置至关重要。同时, 需定期检查并清除驱动杆和开关表面的任何切削残留物和类似泥土的物质, 以保证开关正常工作。

In outdoor settings or areas exposed to specific cutting fluids, chemical solvents, or pharmaceuticals, the performance of sealing components can be compromised. Prior to use, it's essential to assess the need for maintenance and replacement based on the specific operational environment. When installing the switch, it's crucial to position it away from direct exposure to cutting debris or dust. Regular inspection and cleaning of any residues or mud-like substances on the drive rod and the body of the switch are necessary to maintain its proper functioning.



在环境中频繁振动或受到冲击的情况下, 开关可能会出现由于摩擦而产生的微粒, 这些微粒可引起接触问题和性能退化, 例如接触不良和响应不稳定。在剧烈振动或强烈冲击的情况下, 接点可能会出现错误动作或遭受损害。为此, 应避免在易受振动和冲击影响的地点安装开关, 尤其是那些可能导致共振的位置。开关使用的物理接点在特定条件下可能受到环境中的硅气体影响。当电弧发生时, 这些硅气体可能与之反应, 在接点处形成氧化硅沉积, 导致接触困难。如果开关附近有使用硅基材料 (如硅油、硅胶、硅质电缆等), 则应考虑采用接点保护电路来减少电弧产生, 并消除硅气体的释放。

When a switch is subject to frequent vibrations or impacts, particulate matter generated from friction can cause contact issues and a decline in performance, such as poor connectivity and unstable response. In cases of severe vibration or intense impact, the contacts might malfunction or sustain damage. Therefore, it is crucial to avoid installing switches in areas prone to vibration and shock, especially where resonance could occur. The physical contacts used in switches can be affected by silicon gases present in certain environments. When an electrical arc occurs, these gases can react, leading to the formation of silicon dioxide deposits at the contact points, making connection difficult. If there are silicon-based materials nearby (such as silicone oil, silicone gels, or silicon-insulated cables), it's necessary to consider using contact protection circuits to reduce the occurrence of electrical arcs and eliminate the release of silicon gases.

微小负载型的使用 Applications Under Minimal Load

开关接点可用于一般负载或微小负载。但是，已经连接过一般负载的接点，就不能用于连接更小容量的负载。否则，可能导致接触面的糙化，而且可能失去接触可靠性。

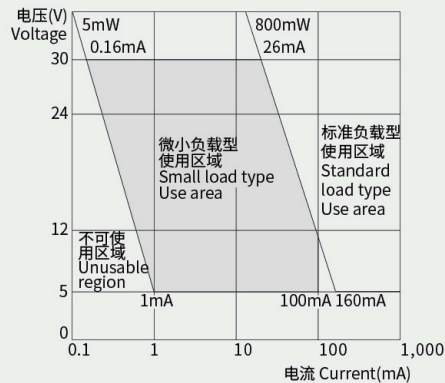
如果在开关微小负载电路时使用一般负载用开关，可能会引起接触不良。下图为开关负载区域范围定义。本目录册内产品适用于 DC24V 10mA 以上范围，当使用负载小于 DC24V 10mA 以下时，可能存在由于电流过小无法击破触点表面氧化膜或硫化膜的现象，从而导致开关接触不良。所以当使用负载小于 DC24V 10mA 以下时，请咨询昌得电气科技有限公司进行产品定制。

请设置 CR 电路等吸收电路，防止震荡和抖动所导致的噪声和脉冲缺失，对于开关时会产生冲击电流的负载，请插入接点保护电路，以免导致耐久性降低。

Switch contacts can be used for general loads or small loads. However, contacts that have already been connected to general loads cannot be used to connect smaller capacity loads. Otherwise, it may lead to roughness of the contact surface and loss of contact reliability.

A general-load switch can make unreliable contact in a small-load circuit. Standard contacts require at least 24VDC, 10mA. Below this load, the current may be too small to break through oxide or sulphide films on the contact surface, causing poor contact. Select a suitable low-load configuration for smaller loads. Contacts previously used for general loads must not be reassigned to small-signal service.

Please set the absorption circuit such as CR circuit to prevent noise and pulse loss caused by shock and jitter, for the load that will produce impulse current on the switch, please insert the contact protection circuit to avoid reducing durability.



接线注意事项 Wiring Precautions

请在断电状态下进行开关接线操作，通电状态下接线可能会造成触电危险。

接线时务必注意，不要让导线的细小碎片或其他微粒进入开关内部。

使用绝缘管和 M3.5 压接端子连接时，按照图示正确放置压接端子，避免压迫到外壳或外盖。适用的导线尺寸为 AWG20 至 AWG18 或 0.5 至 0.75mm²。

选用适当长度的导线以确保外盖平整关闭且牢固。切勿将压接端子塞进外壳缝隙，这可能导致外壳损坏或变形。

为防止端子与开关外壳内部接触，使用厚度不超过 0.5mm 的端子。

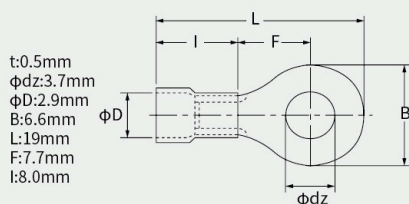
Always wire the switch with the power off to avoid the risk of electric shock.

Ensure no small wire fragments or particles enter the switch during wiring.

When connecting with an insulated tube and M3.5 crimp terminals, position the terminals as shown in the diagram to avoid pressing against the casing or cover. The suitable wire size is AWG20 to AWG18 or 0.5 to 0.75mm².

Use wires of appropriate length to ensure the cover closes smoothly and securely. Do not stuff the crimp terminals into gaps in the casing, as this may cause damage or deformation.

To prevent contact between the terminals and the interior of the switch housing, use terminals with a thickness of no more than 0.5mm.



适用导线 Applicable Conductor

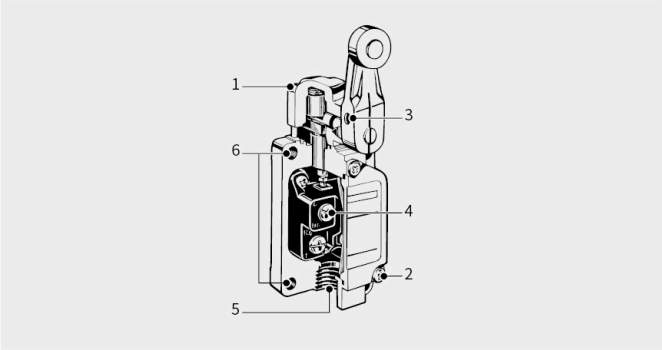
电线名称 Wire name	推荐使用电线 Wire is recommended		
	线芯数 Number of cores	导体 Conductor	成品外径 Nom OD
塑料橡皮绝缘软电线 Plastic rubber insulated flexible wire	2芯 2-core 3芯 3-core 4芯 4-core	0.5~0.75mm ²	圆形 Circular φ6~φ9
600V 塑料绝缘 塑料外皮电缆(VVF) 600V plastic insulation Plastic sheathed cable	2芯 2-core	φ1/φ1.2/φ1.6	

若电线含有硅油，可能会导致接触不良。为确保电气设备的正常运行，请避免使用含硅油的产品。
The presence of silicone oil in wire may result in inadequate contact. To ensure the proper functioning of electrical equipment, please refrain from using products containing silicone oil.

正确的固定扭矩 Correct Fixing Torque

松动的螺丝可能导致设备提前故障。请确保各部件的螺丝根据规定的扭矩紧固，以保障设备的稳定性和安全性。特别是在改变头部方向时，必须重新确认上述扭矩，并保证所有螺丝均匀紧固。同时，要注意防止异物进入内部。
Loose screws may lead to premature equipment failure. Ensure that screws on each component are tightened to the specified torque for stability and safety. It is crucial to reconfirm the specified torque and ensure that all screws are evenly tightened, especially after adjusting the orientation of the head. Additionally, take precautions to prevent the entry of foreign objects into the product.

编号 Number	类型 Types of	正确紧固扭矩 Correct tightening torque
1	头部安装螺钉 Head mounting screws	0.78~0.88N·m
2	盖安装螺钉 Cover mounting screws	1.18~1.37N·m
3	六角螺栓(摆杆定位螺钉) Hexagonal bolt (swing rod positioning screw)	1.90~2.88N·m
4	端子螺钉 Terminal screw	0.59~0.78N·m
5	接插件 Connector	1.77~2.16N·m
6	本体安装螺钉 Body mounting screws	4.90~5.88N·m

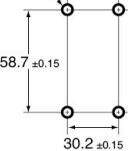
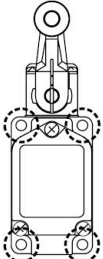


触点模块说明 Contact Box Guidance

请勿拆卸或更换产品中的触点模块。触点模块的位置若有所偏移，可能导致设备功能出现异常。同时，如果隔离板的位置安装不当，也可能会影响设备的绝缘性能。
Do not disassemble or replace the contact box in the product. Any displacement of the contact box can result in malfunctions of the equipment. Additionally, improper placement of the separator board may compromise the insulation performance of the device.

安装建议 Installation Advice

在安装产品时，应根据具体指导对面板进行适当加工。在安装过程中，请确保使用合适的紧固扭矩，以维持设备的稳定性和安全性。
When installing the product, the panel should be processed appropriately following specific instructions. Make sure to use the proper tightening torque during the installation process to ensure the stability and safety of the equipment.

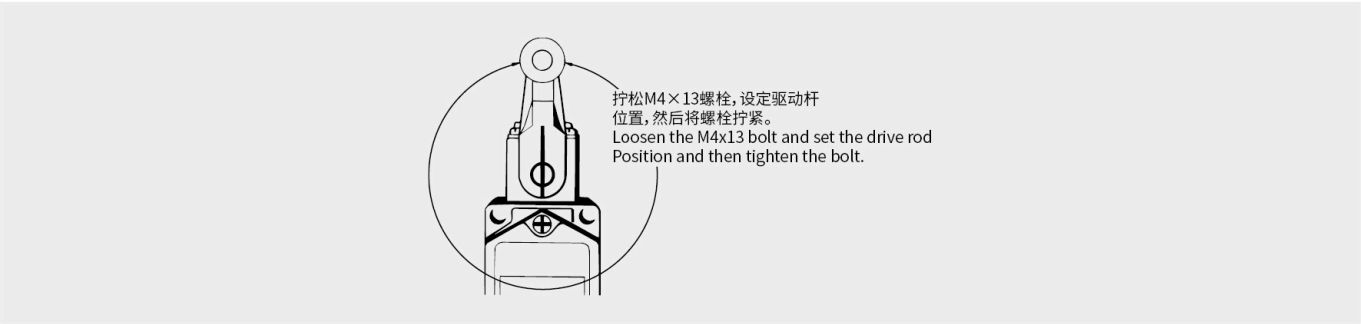
CWL series: front and rear mounting		安装位置 Installation position
正面安装/背面安装 Positive Installation/ Back Install	正面安装: 4-$\varnothing 5.2^{+0.2}_0$ 孔 Front mounting: 4-$\varnothing 5.2^{+0.2}_0$ hole 背面安装: 4-M6 螺纹孔 Rear mounting: 4-M6 threaded holes 	

关于旋转摆杆型设定位置的说明 Regarding the Setting Position of the Rotary Pendulum Type

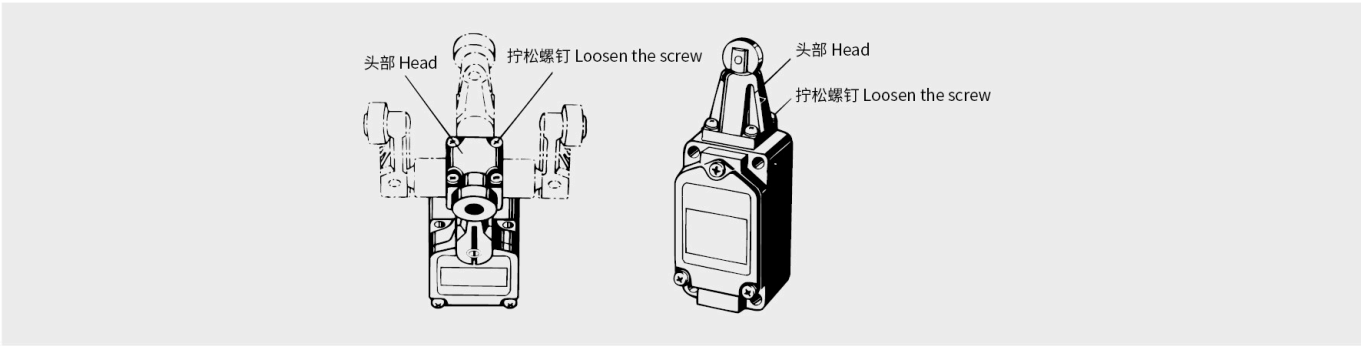
旋转摆杆型，除了叉式摆杆锁定型外，均配有设定位置的指示板。在操作完成后，指示板上的指针应位于轴承凸出部分的区域内。
For the rotary pendulum type, except for the fork-type swing rod lock version, all come with an indicator board for the set position. After operation, the pointer on this indicator board should be located within the area of the bearing's protrusion.

使用开关时 When using switches

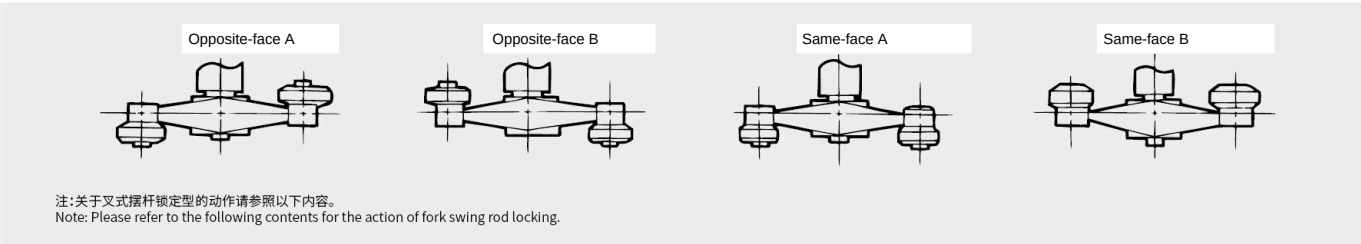
项目 Term	适用机种、适用驱动杆 Applicable models and driving rods
驱动杆的安装位置可以改变 松开驱动摆杆上的内六角螺栓，可以将驱动杆在 360 任意方向安装。 The installation position of the drive rod can be changed Loosen the hexagonal bolt on the drive swing rod to install the drive rod in any direction at 360 degrees.	Fixed roller levers: CWLCA2-2, CWLCA2-2G Adjustable roller levers: CWLCA12-2-Q, CWLCA12-2-QG, CWLCA12-2-QD Adjustable rod lever: CWLCL



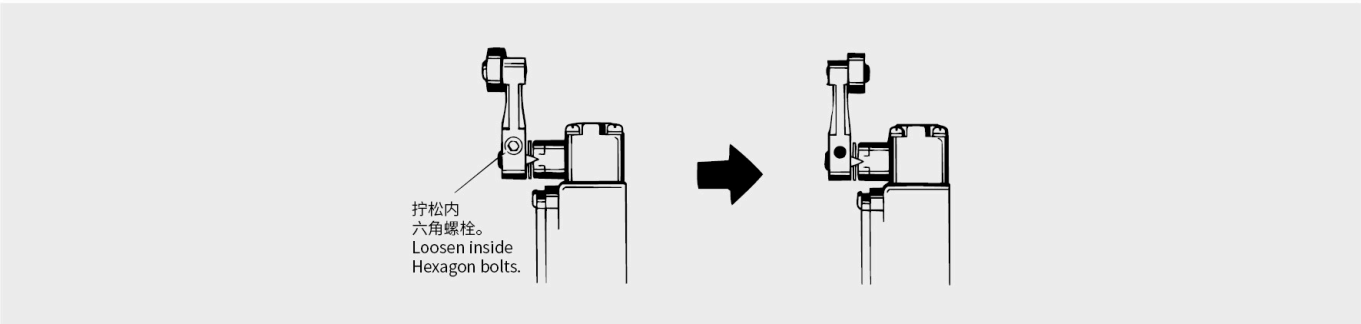
项目 Term	适用机种、适用驱动杆 Applicable models and driving rods
For returning lever heads, remove the four head screws and select one of four orientations. Reposition the internal operating plunger correctly before refitting. Roller plunger heads have two orientations 90° apart. Retighten all screws to their specified torque.	Fixed roller levers: CWLCA2-2, CWLCA2-2G Adjustable roller levers: CWLCA12-2-Q, CWLCA12-2-QG, CWLCA12-2-QD Adjustable rod lever: CWLCL Roller plungers: CWLD1, CWLD2



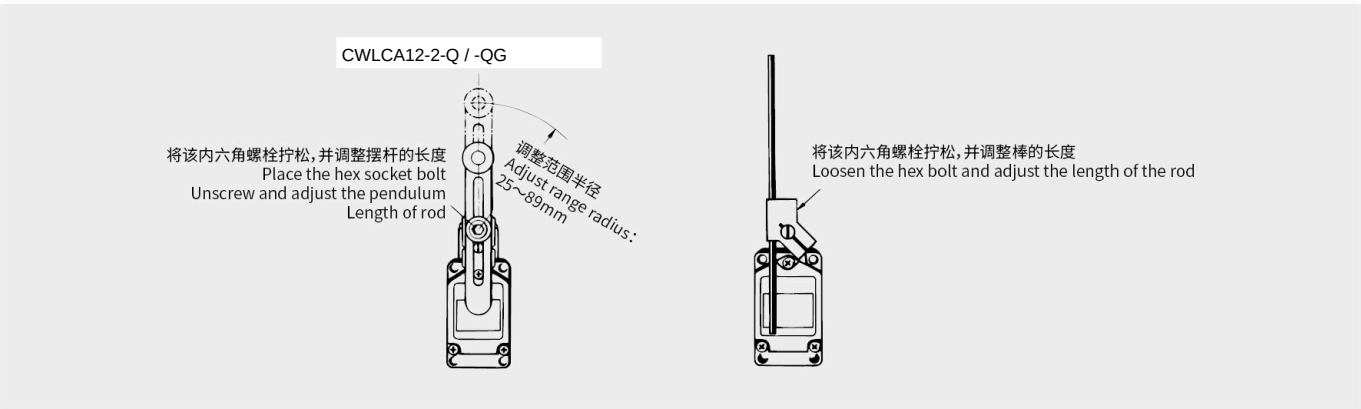
项目 Term	适用机种、适用驱动杆 Applicable models and driving rods
可选择滚珠位置 根据滚珠的位置，叉式摆杆锁定型共有 4 种类型。 Optional ball position According to the position of the ball, there are four types of fork type swing rod locking types.	Latching forks: CWLCA32-41, CWLCA32-41M, CWLCA32-42, CWLCA32-42M



项目 Term	适用機種、適用驱动杆 Applicable models and driving rods
Reverse the fixed roller lever to place the roller on the inward-facing side. Set its action within a horizontal 180° range, then retighten the bolt.	Fixed roller levers: CWLCA2-2, CWLCA2-2G Excludes adjustable roller levers and CWLCA32 latching forks.



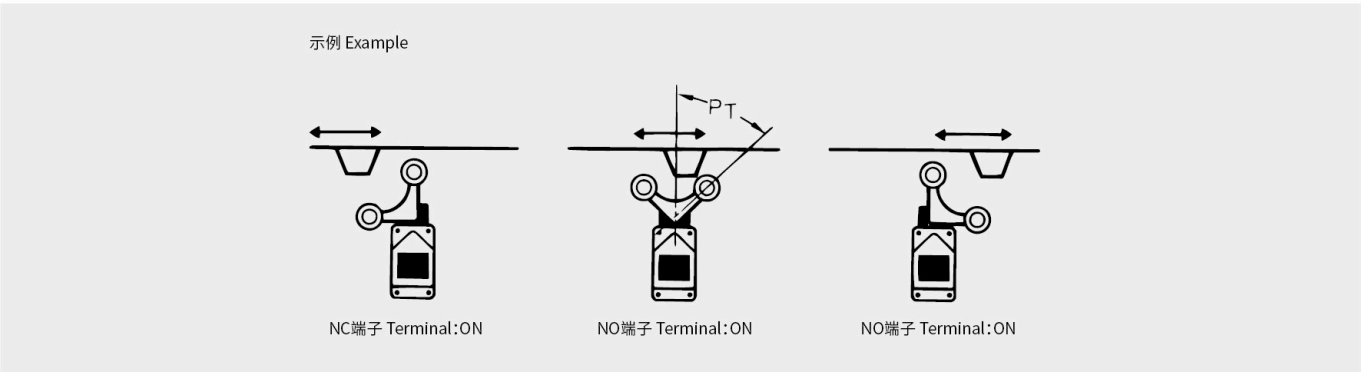
项目 Term	适用機種、適用驱动杆 Applicable models and driving rods
可以调节摆杆、棒的长度拧松内六角螺栓，可以调节摆杆和棒的长度。 The length of the swing rod and rod can be adjusted Loosen the hexagonal bolt to adjust the length of the swing rod and rod.	Adjustable rollers: CWLCA12-2-Q, -QG and -QD Adjustable rod: CWLCL



关于叉式摆杆锁定型的摆杆操作说明 Regarding the Operation of the Fork Type Swing Rod Locking Mechanism

在叉式摆杆锁定型中，当挡块压下摆杆时会导致输出反转，即使挡块移动过程中超出预定行程，也能保持这种反转输出。当挡块以相反方向压下摆杆时，系统能够恢复到反转前的原始状态。

In the fork type swing rod locking mechanism, pressing the stop against the swing rod reverses the output, and this reversal is maintained even if the stop exceeds its intended travel distance. When the stop is pressed in the opposite direction against the swing rod, the system can revert to its original state prior to the reversal.



使用注意事项 Using Precautions

本公司产品是作为工业产品而设计生产，严格遵守工业产品标准。我司明确声明，除非经过特殊设计并得到我司明确书面确认，我司产品不适用于以下应用场合：

- 要求极高可靠性的应用场合，包括核能、燃气、电力等要求长期稳定运行的系统。
- 要求极高安全性的应用场合，涉及人身安全与财产的情况。
- 苛刻条件、严酷环境的应用场合，包括室外、存在化学污染、电磁、振动或冲击影响的环境。
- 有火灾或爆炸风险的应用场合，包括存在易燃易爆性气体、强酸强碱化学品等物质的环境。
- 涉及军工用途、航天航空项目的应用场合。

The company's products are designed and produced as industrial products, in strict compliance with industrial product standards. We expressly declare that, unless specifically designed and expressly confirmed by us in writing, our products are not intended for the following applications:

- Applications that require high reliability, including nuclear, gas, electric and other systems that require long-term stable operation.
- Applications requiring very high security, situations involving personal safety and property.
- Applications in harsh conditions, harsh environments, including outdoor, chemical contamination, electromagnetic, vibration or shock effects.
- Applications where there is a risk of fire or explosion, including environments where flammable and explosive gases, strong acids and alkali chemicals are present.
- Applications involving military use and aerospace projects.