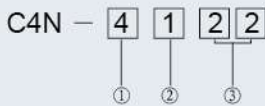


C4N 立式安全限位开关

Vertical Safety Limit Switch



型号说明 Model Number Structure



项目 Item	代号 Code	说明 Description
① 导管 / 连接器尺寸 Conduit / connector size	1	Pg13.5 (1 导管型) Pg13.5 (1 conduit type)
	4	M20 (1 导管型) M20 (1 conduit type)
	5	Pg13.5 (2 导管型) Pg13.5 (2 conduits type)
	8	M20 (2 导管型) M20 (2 conduits type)
② 内藏开关 Built-in switch	1	1NC/1NO (速动型) 1NC/1NO (quick-action type)
	2	2NC (速动型) 2NC (quick-action type)
	A	1NC/1NO (慢动型) 1NC/1NO (slow-action type)
	B	2NC (慢动型) 2NC (slow-action type)
③ 头部及传动杆 Head and driving rod	20	滚珠摆杆型 (树脂摆杆, 树脂滚珠) Roller lever (resin lever, resin ball)
	22	滚珠摆杆型 (金属摆杆, 树脂滚珠) Roller lever (metal lever, resin ball)
	25	滚珠摆杆型 (金属摆杆, 金属滚珠) Roller lever (metal lever, metal resin ball)
	2G	可调滚珠摆杆, Form Lock (金属摆杆, 树脂滚珠) Adjustable roller lever, Form Lock (metal lever, resin ball)
	2H	可调滚珠摆杆, Form Lock (金属摆杆, 橡胶滚珠) Adjustable roller lever, Form Lock (metal lever, rubber ball)
	2M	可调滚珠摆杆, Form Lock (金属摆杆, 金属滚珠) Adjustable roller lever, Form Lock (metal lever, metal resin ball)
	31	顶部柱塞型 Top plunger type
	32	顶部柱塞滚珠型 Top plunger ball type
	62	单侧悬臂滚珠型 (水平) Unilateral cantilever ball type (horizontal)
	72	单侧悬臂滚珠型 (垂直) Unilateral cantilever ball type (vertical)
	80	触须型 Whisker type
	87	塑料棒型 Plastic stick type

注: 导管连接器尺寸常规默认为 M20x1.5。

NOTE: The default size of conduit connector is M20x1.5.

特点 Features

- 强制断开动作装置 (仅 NC 接点), 可以在发生像接点熔断等故障时断开接点
- 强化顶部密封结构, 以提高密封性能
- 内藏接点座具有速动型: 1NC/1NO、2NC; 慢动型: 1NC/1NO、2NC
- Forced open action device (NC contacts only), to disconnect the contact when the contact has fusing and other failures
- Strengthened top seal structure improves the sealing performance
- Built-in contact holder has fast-action type: 1NC/1NO; Slow-action: 1NC/1NO and 2NC

规格 Specifications

保护等级 Protection level	IP66
寿命 Life	电气 Electrical
	50 万次以上 (AC250V 3A, 电阻负载) More than 500,000 times (AC250V 3A, resistive load) 30 万次以上 (AC250V 10A, 电阻负载) More than 300,000 times (AC250V 10A, resistive load)
操作速度 Operating speed	1mm-0.5m/s (C4N-4120 型)
动作频率 Operating frequency	电气: 30 次 / 分
	Electrical: 30 operations/min
接触电阻 Contact resistance	25mΩ 以下 25 mΩ or less
最小使用负载 Minimum working load	DC5V 1mA 电阻负载 (N 标准参考值)
	1mA resistive load below DC5V (N standard reference value)
额定绝缘电压 (Ui) Rated insulation voltage (Ui)	300V
防触电保护等级 Electric shock protection grade	Class II (双重绝缘)
	Class II (double insulated)
污染度 (使用环境) Pollution degree (Using conditions)	污染度 3 (EN60947-5-1)
	Pollution degree 3 (EN60947-5-1)
耐压 Withstand voltage (EN60947-5-1)	同极端子间: 2.5kV
	Between homopolar terminals: 2.5kV
	异极端子间: 4kV
	Between heteropolar terminals: 2.5kV
绝缘电阻 Insulation resistance	各端子和非充电金属部件间: 6kV
	Between terminals and uncharged metal parts: 6kV
接点间隙 Contact gap	最小 2 × 0.5mm 速动型
	Minimum 2 × 0.5mm quick-action type, 最小 2 × 2mm 慢动型 Minimum 2 × 2mm slow-action type
振动 Vibration	误动作 Malfunction
	10 ~ 55Hz 0.75mm 单振幅 10 ~ 55Hz 0.75mm single amplitude
冲击 Impact	耐久 Duration
	1,000m/s ² 误动作 Malfunction 300m/s ²
环境温度 Ambient temperature	使用时: -20~+70℃ (没有结冰) Using: -20~+70℃ (With no icing)
环境湿度 Ambient humidity	95%RH 以下 Less than 95% RH
质量 Weight	约 82g (C4N-1120) About 82g (D4N-1120) 约 99g (C4N-5120) About 99g (D4N-5120)

注 1. 上述值为初始值。

注 2. 一旦接点连接标准负载后, 就不可用于连接更小容量的负载, 否则可能导致接点表面粗糙, 从而失去接触可靠性。

*1. 保护等级是根据 (EN60947-5-1) 规格的测试法得出的。使用前务必在实际使用的环境、条件下确认其密封性。开关盒本体具有防尘、防油构造, 但应尽可能保持头部在没有碎屑粉尘、油污、化学品的场所进行使用, 否则可能导致过早磨损、损坏或故障。

*2. 耐久性的条件是环境温度 5℃ ~ 35℃、使用环境湿度 40% ~ 70% RH。其他详细条件请另行查询。

*3. 使用环境温度为 35℃ 以上时, 禁止使用 2 回路以上的 3A AC250V 负载。

*4. 这个值会因为开关频率、环境条件、可靠性等级等因素的影响而不同。请事先在实际负载上进行确认。

Note 1. The above values are initial values.

Note 2. Once the contact is connected to a standard load, it can not be used to connect a smaller load. If so, the contact may result in rough surface, thus losing contact reliability.

*1. The protection level is gotten based on test method of (EN60947-5-1). Please make sure its sealing under actual environmental conditions before use. The switch box has dust and oil resistance structure, but it should be used in places without dust, oil and chemicals. Otherwise it may lead to premature wear, damage or malfunction.

*2. The durability is for ambient temperature of 5℃ ~ 35℃ and humidity of 40% to 70% RH. For additional details, please contact us.

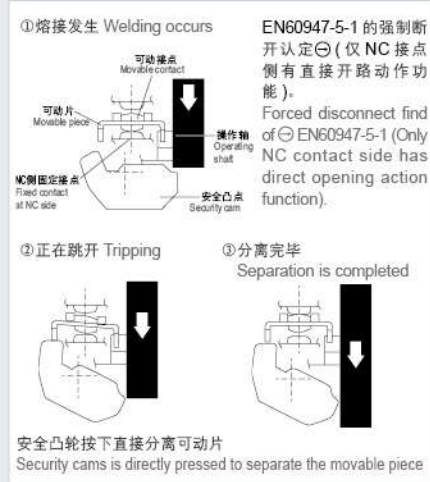
*3. When the ambient temperature is above 35℃, more than 2 circuits 3A 250VAC loads are prohibited.

*4. The values will vary with different switching frequency, environmental conditions, reliability level and other factors. Please confirm on the actual load in advance.

强制断开构造 Forced Disconnecting Mechanism

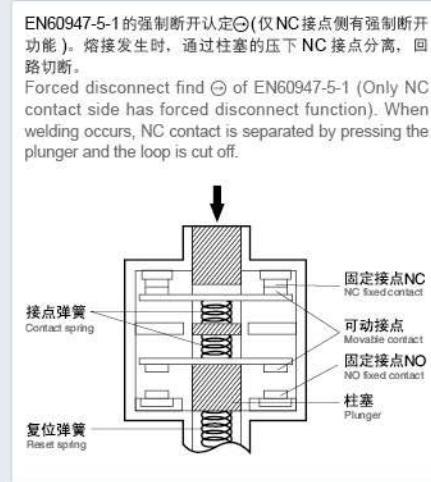
■ 1NC、1NO 接点 (速动型)

1NC and 1NO contacts (quick-action type)



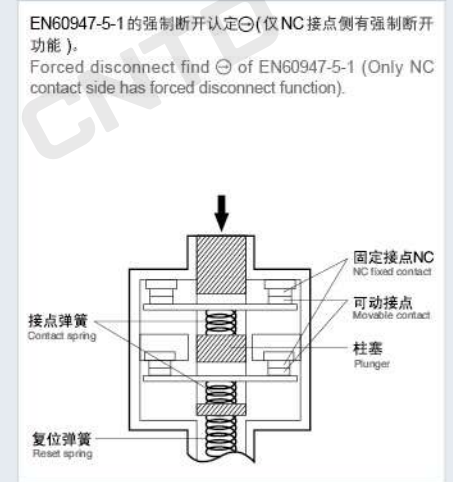
■ 1NC、1NO 接点 (慢动型)

1NC and 1NO contacts (slow-action type)



■ 2NC 接点 (慢动型)

2NC contacts (slow-action type)



接点形式 Contact Form

型号 Model	接点 Contact	接点形式 Contact form	动作模式 Operation mode	说明 Explanation
C4N-□1□	1NC/1NO (速动型) 1NC/1NO (Quick-action type)			仅 NC 接点 (31-32) 具有强制断开功能 (⊖)。 Only NC contact (31-32) has forced disconnect function (⊖) 接点 (13-14) 和 (31-32) 可作异极使用。 Contacts (13-14) and (31-32) can be used as heteropoles.
C4N-□2□	2NC (速动型) 2NC (Quick-action type)			仅 NC 接点 (11-12、31-32) 具有强制断开功能 (⊖)。 Only NC contact (11-12、31-32) has forced disconnect function (⊖) 接点 (11-12) 和 (31-32) 可作异极使用。 Contacts (11-12) and (31-32) can be used as heteropoles.
C4N-□A□	1NC/1NO (慢动型) 1NC/1NO (Slow-action type)			仅 NC 接点 (11-12) 具有强制断开功能 (⊖)。 Only NC contact (11-12) has forced disconnect function (⊖) 接点 (11-12) 和 (33-34) 可作异极使用。 Contacts (11-12) and (33-34) can be used as heteropoles.
C4N-□B□	2NC (慢动型) 2NC (Slow-action type)			仅 NC 接点 (11-12、31-32) 具有强制断开功能 (⊖)。 Only NC contact (11-12、31-32) has forced disconnect function (⊖) 接点 (11-12) 和 (31-32) 可作异极使用。 Contacts (11-12) and (31-32) can be used as heteropoles.

动作特性 Operating Characteristics

■ 速动型 (1NC/1NO)(2NC)、慢动型 (2NC)

Quick-action type (1NC/1NO)(2NC), slow-action type (2NC)

动作特性 Action characteristics		型号 Model											
		C4N-□120 C4N-□220 C4N-□B20	C4N-□122 C4N-□222 C4N-□B22	C4N-□125 C4N-□225 C4N-□B25	C4N-□226 C4N-□B26	C4N-□131 C4N-□231 C4N-□B31	C4N-□132 C4N-□232 C4N-□B32	C4N-□162 C4N-□262 C4N-□B62	C4N-□172 C4N-□272 C4N-□B72	C4N-□12H C4N-□22H C4N-□B2H	C4N-□12G C4N-□22G C4N-□B2G*4	C4N-□□80	C4N-□□87
动作力 Action force	OF 最大 Max.	5.0N			6.5N	6.5N	5.0N	5.0N	4.5N		1.5N	1.5N	
回复力 Restore force	RF 最小 Min.	0.5N			1.5N	1.5N	0.8N	0.8N	0.4N				
预行程 Pretravel	PT	18~27°			2mm	2mm	4mm	4mm	18 - 27°		15°	15°	
过行程 Overtravel	OT 最小 Min.	40°			4mm	4mm	5mm	5mm	40°				
响应差的行程 Poor response travel	MD 最大 Max.*1	14°			1mm	1mm	1.5mm	1.5mm	14°				
动作位置 Action position	OP	—			18.2±0.5mm	28.6±0.8mm	37±0.8mm	27±0.8mm	—				
总行程 Total travel	TT *2	(80°)			(6mm)	(6mm)	(9mm)	(9mm)	(80°)				
强制断开预行程 Forced disconnected pretravel	DOT 最小 Min.*3	50°			3.2mm	3.2mm	5.8mm	4.8mm	50°				
强制断开力 Forced disconnected force	DOF 最小 Min.*3	20N			20N	20N	20N	20N	20N				

注 2NC 接点的闭路-开路动作的同时性会有参差, 使用时请注意确认。

*1. 仅限速动型。

*2. 为参考值。

*3. 仅限慢动型。为了安全使用, 请确保所有值在最大或最小范围内。

*4. 为摆杆长度 32 mm 时的特性。

Note The simultaneity of ON / OFF operation of 2NC contacts have difference, please make sure before using it.

*1. Only for quick-action type.

*2. Reference values.

*3. Only for slow-action type. For safe use, please make sure that all values are within the range of maximum or minimum.

*4. The property value when length of lever is 32mm.

C4N 立式安全限位开关 Vertical Safety Limit Switch

动作特性 Operating Characteristics

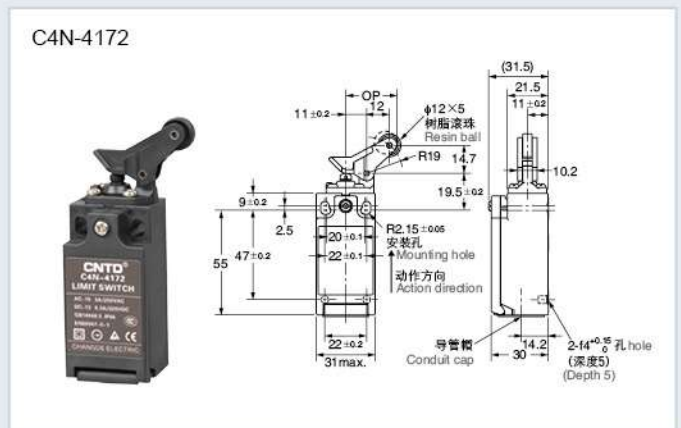
■ 慢动型 (1NC/1NO) Slow-action type (1NC/1NO)

动作特性 Action characteristics		型号 Model		C4N-□A20	C4N-□A22	C4N-□A25	C4N-□A26	C4N-□A31	C4N-□A32	C4N-□A62	C4N-□A72	C4N-□A2H	C4N-□A2G *8
		OF	最大 Max.	5.0N				6.5N	6.5N	5.0N	5.0N	4.5N	
动作力 Action force	RF	最小 Min.	0.5N				1.5N	1.5N	0.8N	0.8N	0.4N		
预行程 Pretravel	PT	*1	18 - 27°				2mm	2mm	4mm	4mm	18 - 27°		
		(2nd)*2	(44°)				(2.9mm)	(2.9mm)	(5.2mm)	(4.3mm)	(44°)		
		*3	27.5 - 36.5°				2.8mm	2.8mm	4mm	4mm	27.5 - 36.5°		
		(2nd)*4	(18°)				(1mm)	(1mm)	(1.5mm)	(1.5mm)	(18°)		
过行程 Overtravel	OT	最小 Min.	40°				4mm	4mm	5mm	5mm	40°		
动作位置 Action position	OP	—				18.2 ± 0.5mm	28.6 ± 0.8mm	37 ± 0.8mm	27 ± 0.8mm	—			
	*5	—				17.4 ± 0.5mm	28 ± 0.8mm	36 ± 0.8mm	26.1 ± 0.8mm	—			
总行程 Total travel	TT	*6	(80°)				(6mm)	(6mm)	(9mm)	(9mm)	(80°)		
强制断开预行程 Forced disconnected pretravel	DOT	最小 Min.*7	50°				3.2mm	3.2mm	5.8mm	4.8mm	50°		
强制断开力 Forced disconnected force	DOF	最小 Min.*7	20N				20N	20N	20N	20N	20N		

- *1. NC 接点呈开路。
- *2. NO 接点呈闭路。
- *3. 仅限 MBB 型。
- *4. 为 MBB 型的参考值。
- *5. 仅限 MBB 型。
- *6. 为参考值。
- *7. 为了安全使用，请确保所有值在最大或最小范围内。
- *8. 为摆杆长度 32 mm 时的特性。

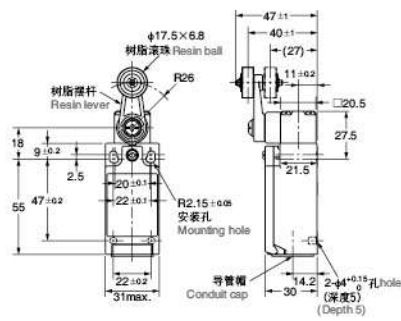
- *1. NC contact is open.
- *2. NO contact is closed.
- *3. Only for MBB type.
- *4. It is the reference value of MBB type.
- *5. Only for MBB type.
- *6. Reference values
- *7. For safe use, please make sure that all values are within the range of maximum or minimum.
- *8. The property value when length of lever is 32mm.

外观和尺寸 Appearance and Dimension

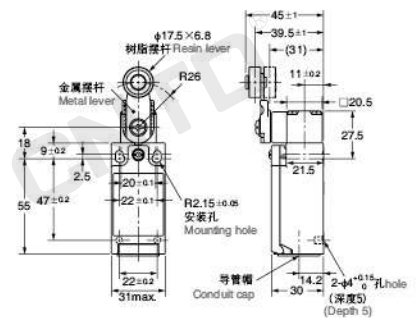


外观和尺寸 Appearance and Dimension

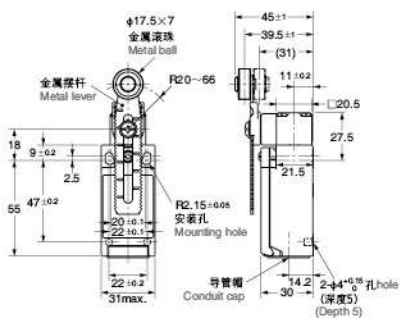
C4N-4120



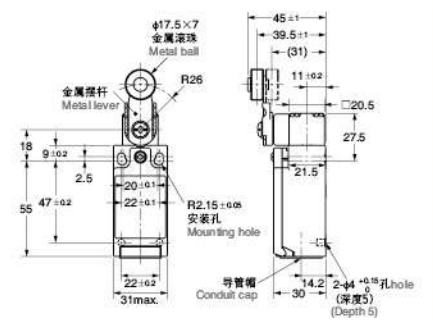
C4N-4122



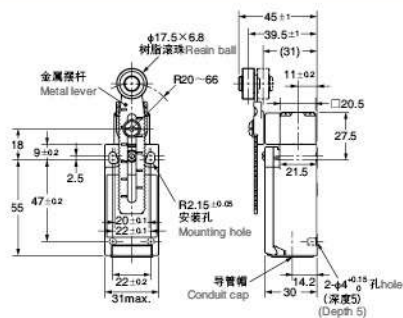
C4N-412M



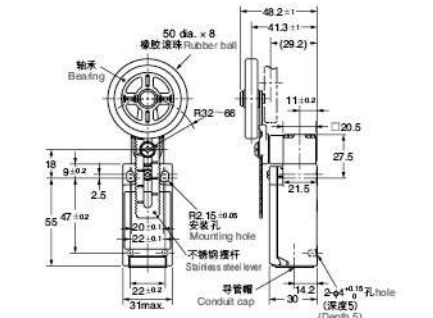
C4N-4125



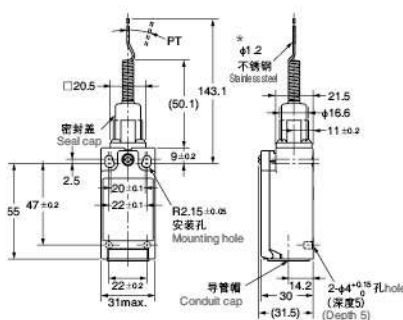
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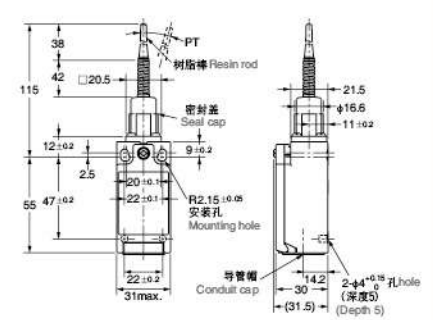
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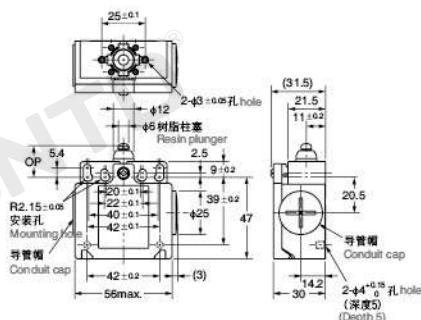
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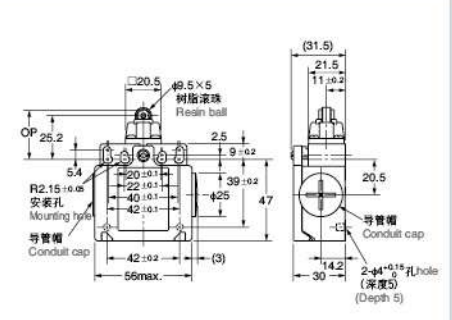
C4N-4187



C4N-8131



C4N-8132

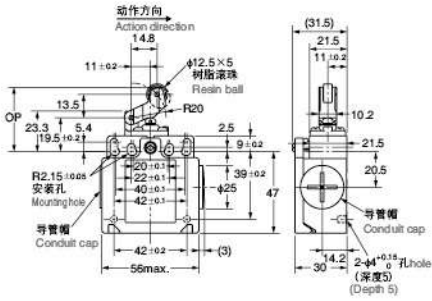


* 不锈钢垫圈和塑料棒的使用范围从前端 35mm 以内，整个动作在 70mm 以内。
* Application of stainless steel washers and plastic stick are within 35mm from the front end, the entire action is within 70mm.

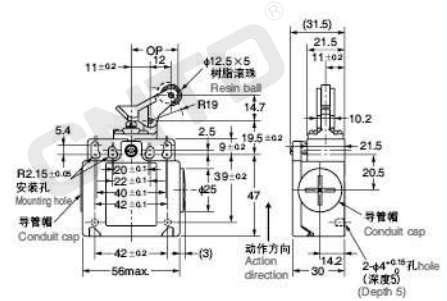
C4N 立式安全限位开关 Vertical Safety Limit Switch

外观和尺寸 Appearance and Dimension

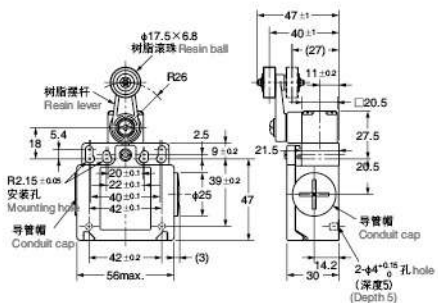
C4N-8162



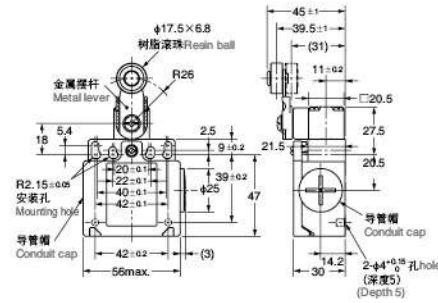
C4N-8172



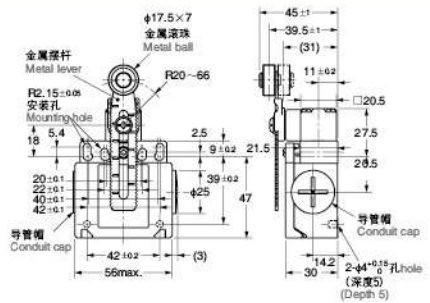
C4N-8120



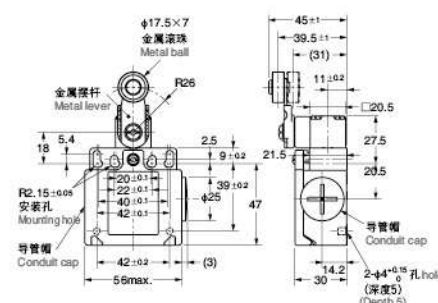
C4N-8122



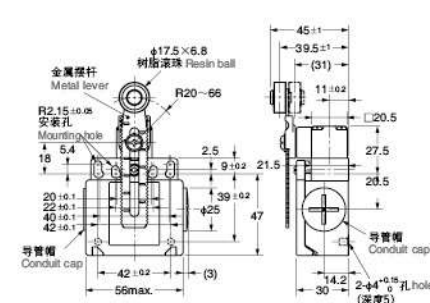
C4N-812M



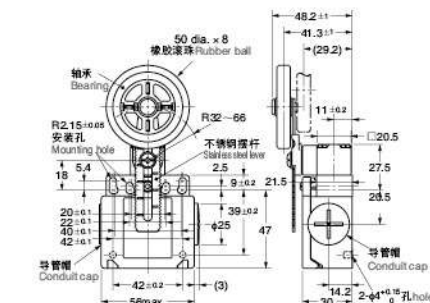
C4N-8125



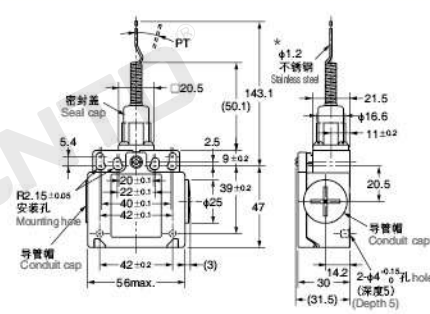
C4N-812G



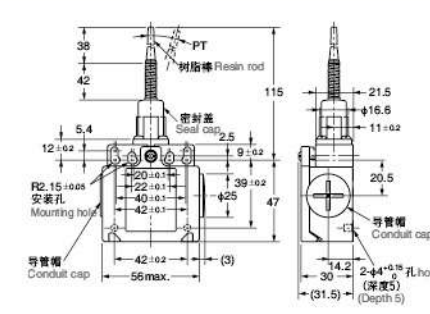
C4N-812H



C4N-8180



C4N-8187



* 不锈钢垫圈和塑料棒的使用范围从前端 35mm 以内, 整个动作在 70mm 以内
* Use of application of stainless steel washers and plastic stick are within 35mm from the front end, the entire action is within 70mm