

## Limit Switch

### ALS Series

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# Limit Switch

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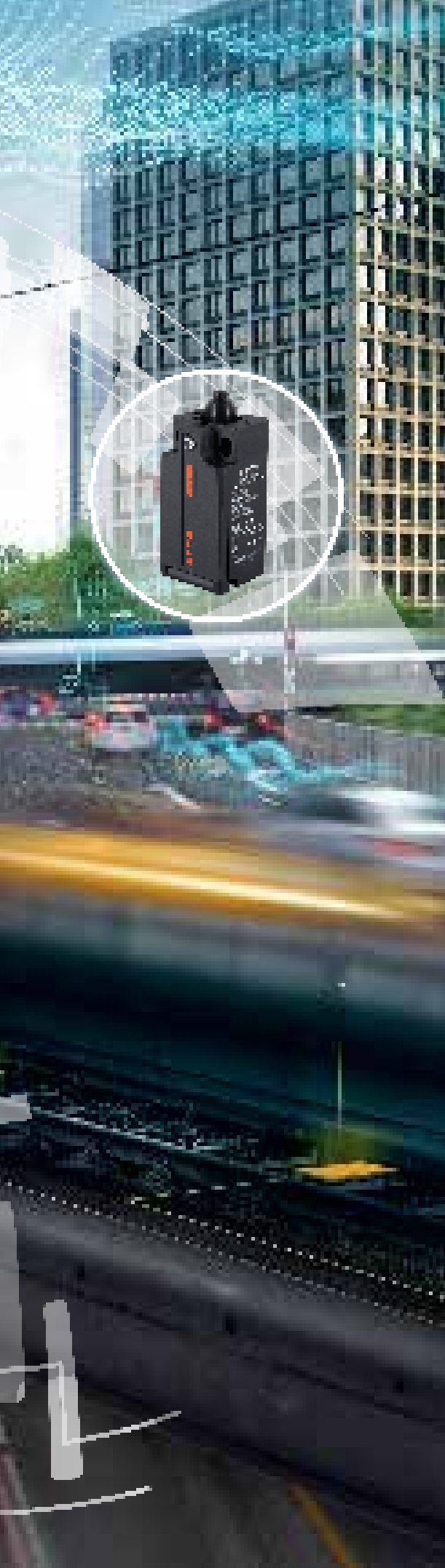
URL: <http://www.si-apt.com>

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# APT

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## ALS Series Limit Switch

ALS1-M/ALS1-P

CCC CE RoHS



## Company Profile

APT has been established in 1993. Today it is now a Chinese leading manufacturer of low-voltage components and has been specialized in the manufacturing of low voltage products such as pushbuttons, indicators, cam switches and general-purpose relays. In August 2008, Siemens Electrical Apparatus Ltd. Suzhou (hereinafter referred to as “Siemens”) made the wholly-owned acquisition of APT, putting the APT brand and related products under the operation of Siemens. With unified quality control and R&D resources of Siemens, APT focuses on manufacturing pushbuttons, indicators and other important low-voltage products such as tower lights, control cabinets, combined lights, current transformers and limit switches etc.

Through over 20 years of promotion and application, the APT products have been widely serving dozens of industrial fields in China including power, energy, rail transit, elevator, logistics, machine tool, etc. They have been successively selected and applied in Qinshan Nuclear Power Plant, the Three Gorges Project, Shenzhou V Spacecraft, Qinghai-Tibet Railway locomotives, “Harmony” Electric Multiple Unit, “Fuxing” Electric Multiple Unit, international airports and urban metros and have become the preferred brand for national key projects. At the same time, Siemens gives full play to its international operation experience to continuously enhance the management and business development of APT and better serve the Chinese market through advanced technology and improved product line.



## ALS Series Limit Switch

Typical application fields, order code description

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## ALS3-PSeries Limit Switch

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## Technical Feature of ALS1-M

Installation method, installation hole dimensions, product order code selection list

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## Technical Feature of ALS1-P

Installation method, installation hole dimensions, product order code selection list

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## Ordering Instructions

Accessory order code selection list

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### © Typical application fields

- Machine tool equipment
- Textile machinery
- Rail transit
- Food & beverage equipment
- Conveyor and handling equipment: assembly line, conveyor belt, elevator, escalator
- Plastic injection machinery
- Packaging and printing machinery
- Heavy machinery equipment: crane, lifting machine



## Order code description

### Main order code

No.	ALS □ – □ □ □ □ / □ 1 2 3 4 5 6 7						
1	Main order code of product	ALS					
2	Product specification	1:28mm metal + 30mm plastic					
3	Enclosure material	M: Metal P: Plastic					
4	Contact type	Q: quick action S: slow action					
5	Contact code	11: 1NO 1NC					
6	Type of waterproof connector	A:M20 B:M16 C:Pg11 D:Pg13.5					
7	Actuator code	See pages 8~9 and pages 14~15 for details					

### Accessory order code

No.	ALS □ – □ F – □ 1 2 3 4 5				
1	Main order code of product	ALS			
2	Product series	1:1 series 3:3 series			
3	Enclosure material	M: Metal P: Plastic			
4	Accessory				
5	Actuator code	See pages 17~19 for details			

ALS



# APTO



# ALS3P-M Series

## Limit Switch

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### Product feature

- Protection class IP67.
- EN50047 installation.
- Hinge & flip upper cover, more user friendly.
- Two contact structures, quick action and slow action, covering more fields.
- Multiple types of waterproof connectors are available.
- Metal screw holes for easier installation and use.

# ALS3-P



# ALS3-P LIMIT SWITCH

ALS3-P ALS3-P SERIES LIMIT SWITCH

## ◎ 基本技术参数

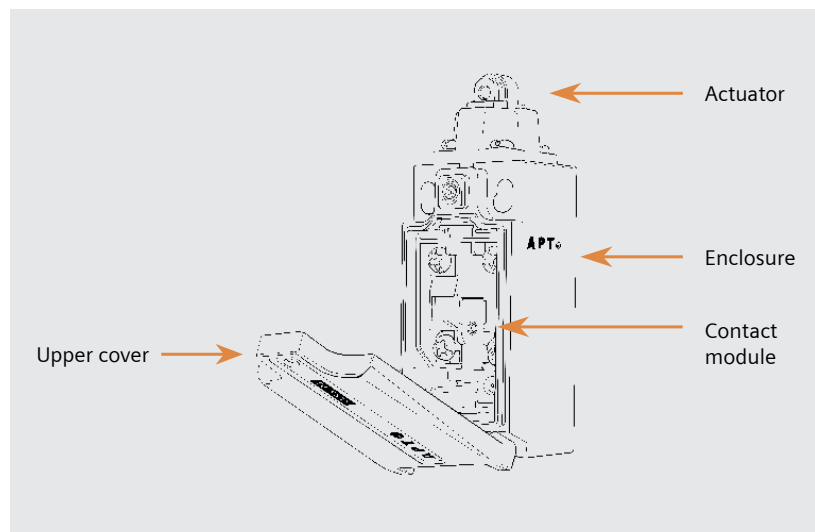
Product specification	ALS3-P
Standard	IEC60947-5-1 GB14048.5
Rated insulation voltage	AC500V
Power frequency withstand voltage	AC1890V 50Hz 1min
Conventional thermal current	10A
Product certification	CCC/CE
Mechanical endurance	About 15 million times *
Electrical endurance	500,000 times (inductive load)
Ambient temperature	-25~+70
Ambient humidity	<95%RH
Protection class	IP67
Action frequency	7,200 times/hour (mechanical action frequency)
Anti-impact class	30gn 18ms
Anti-vibration class	10~55Hz 0.75mm single amplitude
Contact material	Silver alloy
Forced break function	Yes
Wiring method	Minimum: 6 x 0.5 Maximum: 2 x 1.5
Cable outer diameter	Applicable to ISO M16 x 1.5 cable sealing pipe inlet hole ISO M20 x 1.5 cable sealing pipe inlet hole PG11 PG13.5

注：除万向式。万向式机寿命为 700 万次

## ◎ 额定触点容量

Rated insulation voltage $U_i$	Conventional thermal current $I_{th}$	AC-15	DC-13
AC500V	10A	250V/3A	220V/0.3A

备注：“/”不适用



## ◎ Installation method



1. Loosen the screws of the upper cover and remove the upper cover.



2. Lead the waterproof connector in at the end of conductor.



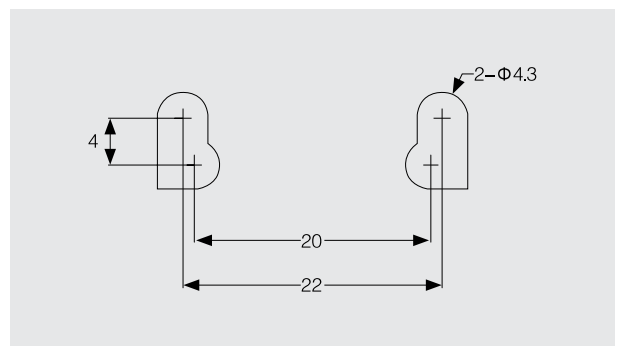
3. Connect the wire according to the requirements.



4. Fasten the screws to the upper cover.



5. Fasten the waterproof connector.



Installation hole dimensions

AL33-P


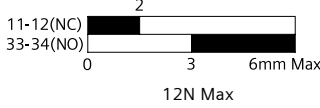
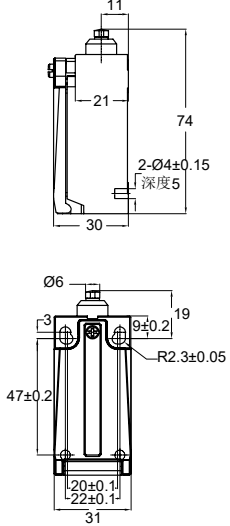


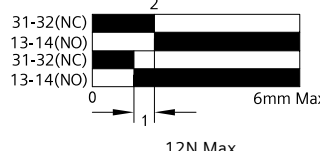
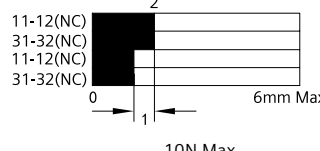

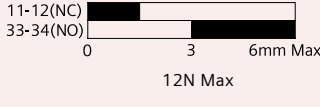
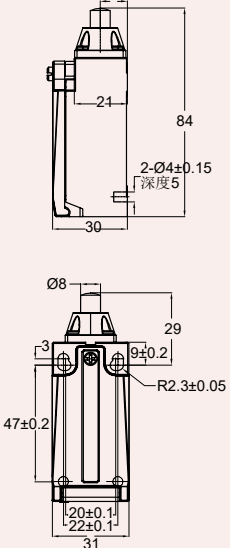
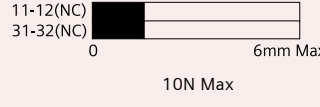

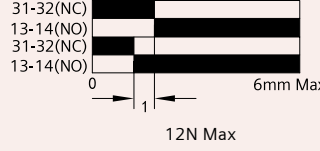
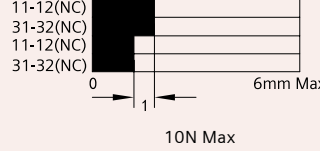
## Precautions

- The torque of fastening the wiring screw to the contact module shall be between 0.6 and 0.8Nm.
- The torque of fastening the wiring screw to the upper cover shall be between 0.5 and 0.8Nm.
- Pay attention to the screws of the upper cover during installation and avoid violent installation to prevent damage to the metal screw holes of the body.


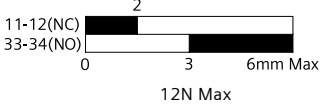
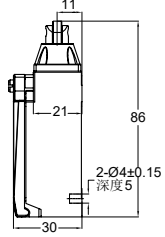


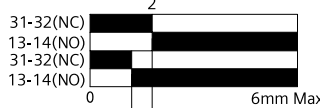
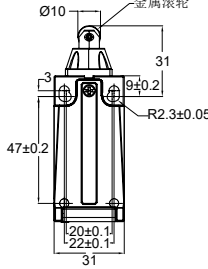
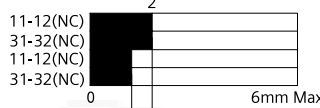


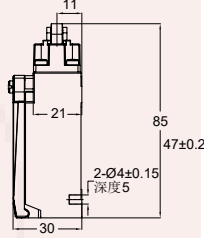
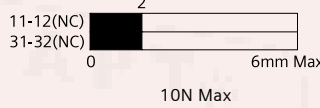

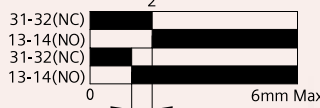
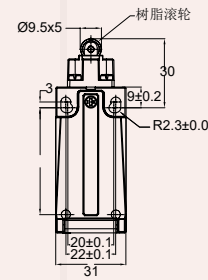

# ALS3-P LIMIT SWITCH

ALS3-P ALS3-P SERIES LIMIT SWITCH

## Product order code selection list

	Type	Module type	Order code	Stroke diagram	Dimension
Circular plunger		Slow action 1NO+1NC	ALS3-PS11 □ /A0		
		Slow action 2NC	ALS3-PS02 □ /A0		
		Quick action 1NO+1NC	ALS3-PQ11 □ /A0		
		Quick action 2NC	ALS3-PQ02 □ /A0		
ALS3-P Circular plunger (SS)		Slow action 1NO+1NC	ALS3-PS11 □ /A1		
		Slow action 2NC	ALS3-PS02 □ /A1		
		Quick action 1NO+1NC	ALS3-PQ11 □ /A1		
		Quick action 2NC	ALS3-PQ02 □ /A1		

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)


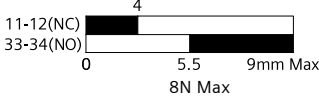
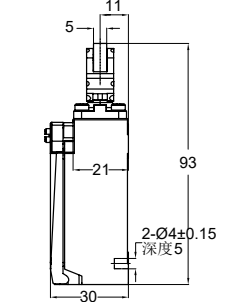
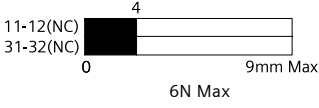

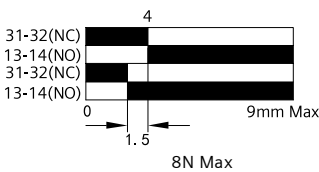
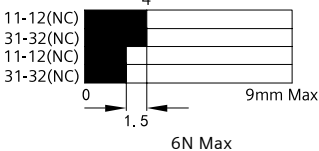

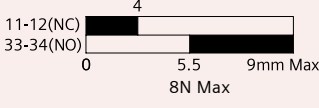
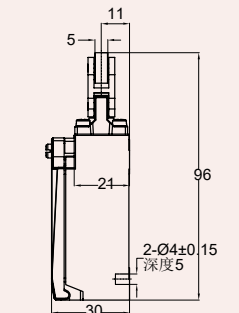
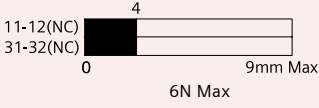

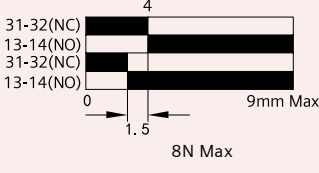
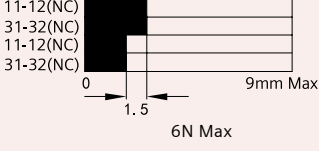
名称	样式	模块类型	订货型号	行程图	外形尺寸
Roller plunger (SS)		Slow action 1NO+1NC	ALS3-PS11 □ /A2	 <p>11-12(NC) 33-34(NO)</p> <p>0 3 6mm Max</p> <p>12N Max</p>	 <p>11 21 86 2-∅4±0.15 深度5 30</p>
		Slow action 2NC	ALS3-PS02 □ /A2	 <p>11-12(NC) 31-32(NC)</p> <p>0 6mm Max</p> <p>10N Max</p>	
		Quick action 1NO+1NC	ALS3-PQ11 □ /A2	 <p>31-32(NC) 13-14(NO) 31-32(NC) 13-14(NO)</p> <p>0 1 6mm Max</p> <p>12N Max</p>	 <p>∅10 金属滚轮 31 3 9±0.2 R2.3±0.05 47±0.2 20±0.1 22±0.1 31</p>
		Quick action 2NC	ALS3-PQ02 □ /A2	 <p>11-12(NC) 31-32(NC) 11-12(NC) 31-32(NC)</p> <p>0 1 6mm Max</p> <p>10N Max</p>	
Roller plunger (plastic)		Slow action 1NO+1NC	ALS3-PS11 □ /A3	 <p>11-12(NC) 33-34(NO)</p> <p>0 3 6mm Max</p> <p>12N Max</p>	 <p>11 21 85 47±0.2 2-∅4±0.15 深度5 30</p>
		Slow action 2NC	ALS3-PS02 □ /A3	 <p>11-12(NC) 31-32(NC)</p> <p>0 6mm Max</p> <p>10N Max</p>	
		Quick action 1NO+1NC	ALS3-PQ11 □ /A3	 <p>31-32(NC) 13-14(NO) 31-32(NC) 13-14(NO)</p> <p>0 1 6mm Max</p> <p>12N Max</p>	 <p>∅9.5x5 树脂滚轮 30 3 9±0.2 R2.3±0.05 20±0.1 22±0.1 31</p>
		Quick action 2NC	ALS3-PQ02 □ /A3	 <p>11-12(NC) 31-32(NC) 11-12(NC) 31-32(NC)</p> <p>0 1 6mm Max</p> <p>10N Max</p>	

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)


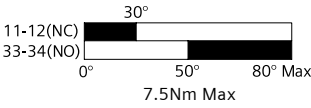
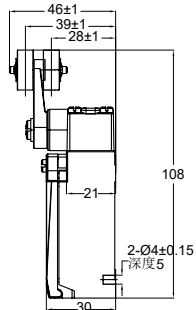
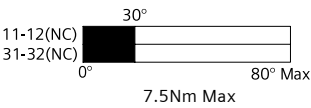

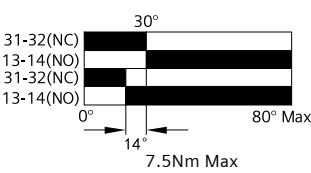
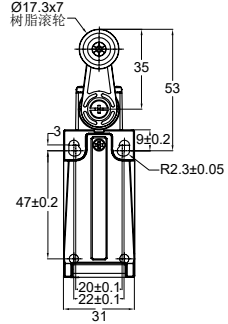
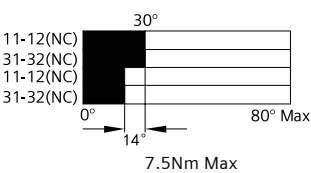

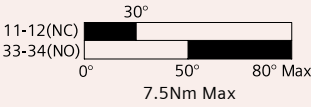
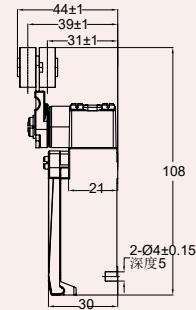
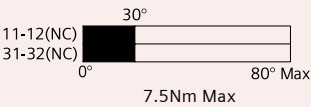

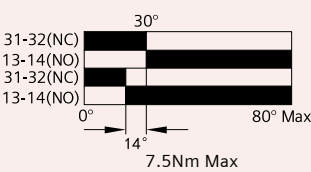
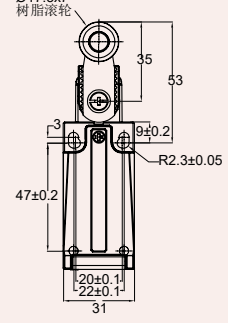
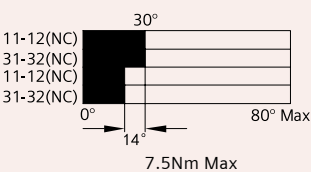
ALS3-P

# ALS3-P LIMIT SWITCH

ALS3-P ALS3-P SERIES LIMIT SWITCH

名称	样式	模块类型	订货型号	行程图	外形尺寸
Oblique angle rocker arm (horizontal)		Slow action 1NO+1NC	ALS3-PS11 □ /B1	 11-12(NC) 4 33-34(NO) 5.5 9mm Max 8N Max	 93 2-Ø4±0.15 深度5 30
		Slow action 2NC	ALS3-PS02 □ /B1	 11-12(NC) 4 31-32(NC) 9mm Max 6N Max	
		Quick action 1NO+1NC	ALS3-PQ11 □ /B1	 31-32(NC) 4 13-14(NO) 9mm Max 31-32(NC) 1.5 13-14(NO) 8N Max	
		Quick action 2NC	ALS3-PQ02 □ /B1	 11-12(NC) 4 31-32(NC) 9mm Max 11-12(NC) 1.5 31-32(NC) 6N Max	
ALS3-P		Slow action 1NO+1NC	ALS3-PS11 □ /B2	 11-12(NC) 4 33-34(NO) 5.5 9mm Max 8N Max	 96 2-Ø4±0.15 深度5 30
		Slow action 2NC	ALS3-PS02 □ /B2	 11-12(NC) 4 31-32(NC) 9mm Max 6N Max	
		Quick action 1NO+1NC	ALS3-PQ11 □ /B2	 31-32(NC) 4 13-14(NO) 9mm Max 31-32(NC) 1.5 13-14(NO) 8N Max	
		Quick action 2NC	ALS3-PQ02 □ /B2	 11-12(NC) 4 31-32(NC) 9mm Max 11-12(NC) 1.5 31-32(NC) 6N Max	

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)

名称	样式	模块类型	订货型号	行程图	外形尺寸
Bidirectional rocker arm (resin roller resin rocker)		Slow action 1NO+1NC	ALS3-PS11 □ /C1		
		Slow action 2NC	ALS3-PS02 □ /C1		
		Quick action 1NO+1NC	ALS3-PQ11 □ /C1		
		Quick action 2NC	ALS3-PQ02 □ /C1		
Bidirectional rocker arm (resin roller metal rocker)		Slow action 1NO+1NC	ALS3-PS11 □ /C2		
		Slow action 2NC	ALS3-PS02 □ /C2		
		Quick action 1NO+1NC	ALS3-PQ11 □ /C2		
		Quick action 2NC	ALS3-PQ02 □ /C2		


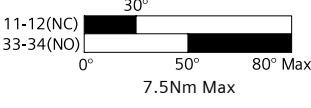
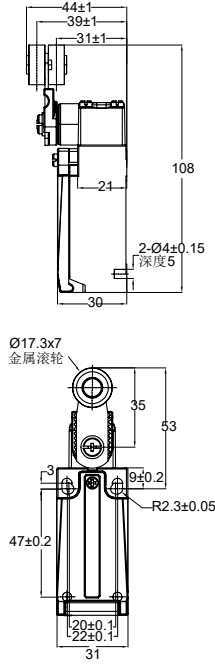
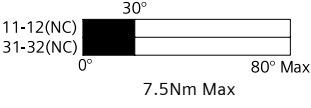

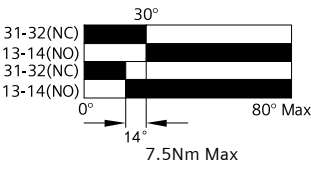
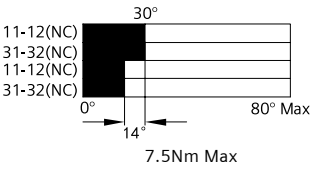

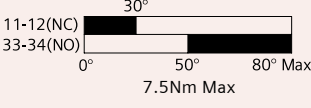
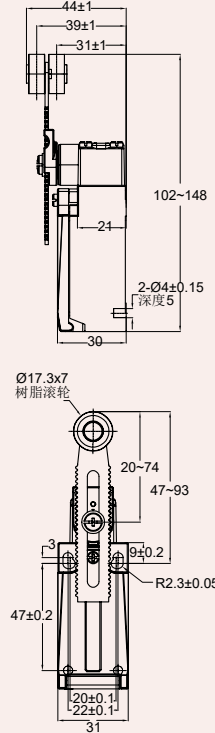
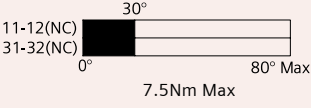

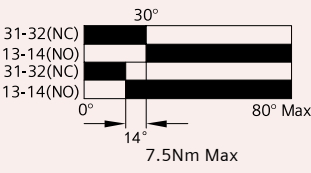
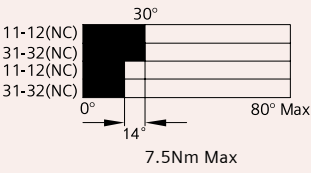
Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)

ALS3-P



# ALS3-P LIMIT SWITCH

ALS3-P ALS3-P SERIES LIMIT SWITCH

名称	样式	模块类型	订货型号	行程图	外形尺寸
Bidirectional rocker arm (metal roller metal rocker)		Slow action 1NO+1NC	ALS3-PS11 □ /C3		
		Slow action 2NC	ALS3-PS02 □ /C3		
		Quick action 1NO+1NC	ALS3-PQ11 □ /C3		
		Quick action 2NC	ALS3-PQ02 □ /C3		
ALS3-P Bidirectional rocker arm with adjustable length (resin roller metal rocker)		Slow action 1NO+1NC	ALS3-PS11 □ /C4		
		Slow action 2NC	ALS3-PS02 □ /C4		
		Quick action 1NO+1NC	ALS3-PQ11 □ /C4		
		Quick action 2NC	ALS3-PQ02 □ /C4		

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)


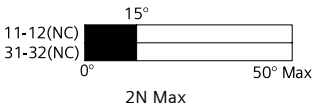
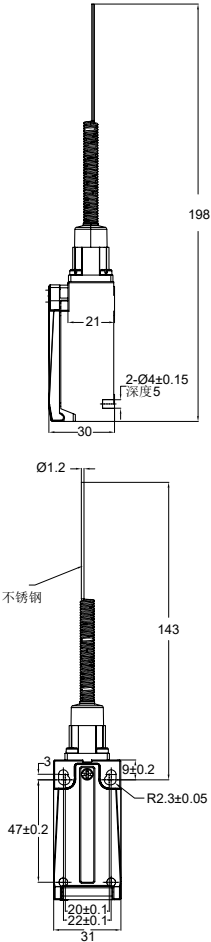

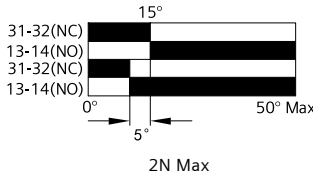

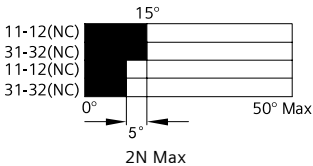
名称	样式	模块类型	订货型号	行程图	外形尺寸
Bidirectional rocker arm with adjustable length (metal roller metal rocker)		Slow action 1NO+1NC	ALS3-PS11 □ /C5	 11-12(NC) 33-34(NO) 0° 30° 50° 80° Max 7.5Nm Max	 44±1, 39±1, 31±1, 102~148, 24, 2-Ø4±0.15 深度5, 30, Ø17.3x7 金属滚轮, 20~74, 47~93, 3, 9±0.2, R2.3±0.05, 47±0.2, 20±0.1, 22±0.1, 31
		Slow action 2NC	ALS3-PS02 □ /C5	 11-12(NC) 31-32(NC) 0° 30° 80° Max 7.5Nm Max	
		Quick action 1NO+1NC	ALS3-PQ11 □ /C5	 31-32(NC) 13-14(NO) 31-32(NC) 13-14(NO) 0° 30° 14° 80° Max 7.5Nm Max	
		Quick action 2NC	ALS3-PQ02 □ /C5	 11-12(NC) 31-32(NC) 11-12(NC) 31-32(NC) 0° 30° 14° 80° Max 7.5Nm Max	
Bidirectional rocker arm with adjustable length (rubber roller metal rocker)		Slow action 1NO+1NC	ALS3-PS11 □ /C6	 11-12(NC) 33-34(NO) 0° 30° 50° 80° Max 7.5Nm Max	 47±1, 41±1, 29±1, 117~163, 21, 2-Ø4±0.15 深度5, 30, Ø47x7 橡胶滚轮, 43~89, 61~107, 3, 9±0.2, R2.3±0.05, 47±0.2, 20±0.1, 22±0.1, 31
		Slow action 2NC	ALS3-PS02 □ /C6	 11-12(NC) 31-32(NC) 0° 30° 80° Max 7.5Nm Max	
		Quick action 1NO+1NC	ALS3-PQ11 □ /C6	 31-32(NC) 13-14(NO) 31-32(NC) 13-14(NO) 0° 30° 14° 80° Max 7.5Nm Max	
		Quick action 2NC	ALS3-PQ02 □ /C6	 11-12(NC) 31-32(NC) 11-12(NC) 31-32(NC) 0° 30° 14° 80° Max 7.5Nm Max	

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)


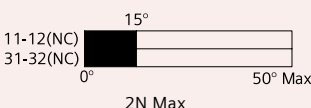
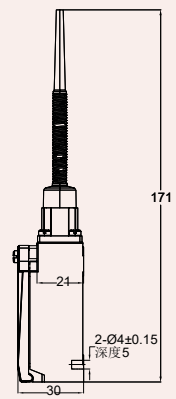

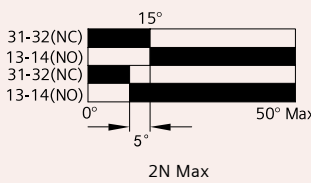

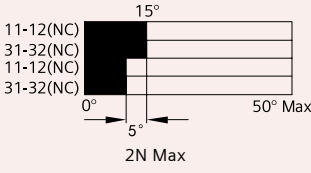
ALS3-P

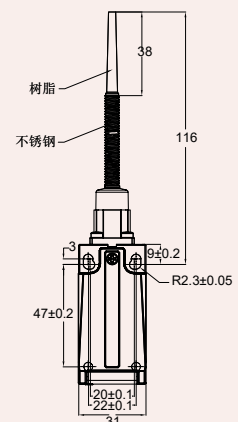
# ALS3-P LIMIT SWITCH

ALS3-P ALS3-P SERIES LIMIT SWITCH

名称	样式	模块类型	订货型号	行程图	外形尺寸
Whisker actuator		Whisker actuator	ALS3-PS02 □ /D1	 <p>11-12(NC) 31-32(NC)</p> <p>0° 15° 50° Max</p> <p>2N Max</p>	
		Whisker actuator	ALS3-PQ11 □ /D1	 <p>31-32(NC) 13-14(NO) 31-32(NC) 13-14(NO)</p> <p>0° 15° 50° Max</p> <p>5°</p> <p>2N Max</p>	
		Whisker actuator	ALS3-PQ02 □ /D1	 <p>11-12(NC) 31-32(NC) 11-12(NC) 31-32(NC)</p> <p>0° 15° 50° Max</p> <p>5°</p> <p>2N Max</p>	

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)

名称	样式	模块类型	订货型号	行程图	外形尺寸
Plastic spring rod actuator		Slow action 2NC	ALS3-PS02 □ /D2		
		Quick action 1NO+1NC	ALS3-PQ11 □ /D2		
		Quick action 2NC	ALS3-PQ02 □ /D2		



ALS3-P

Note: □ means the type of waterproof connector (A:M20, B:M16, C:Pg11, D:Pg13.5)

# APT



# ALS1-M Series

## Limit Switch

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### Product feature

- Protection class IP65.
- Compact structure with small installation space.
- The material meets the requirements of EU RoHS Standard.

# ALS1-M



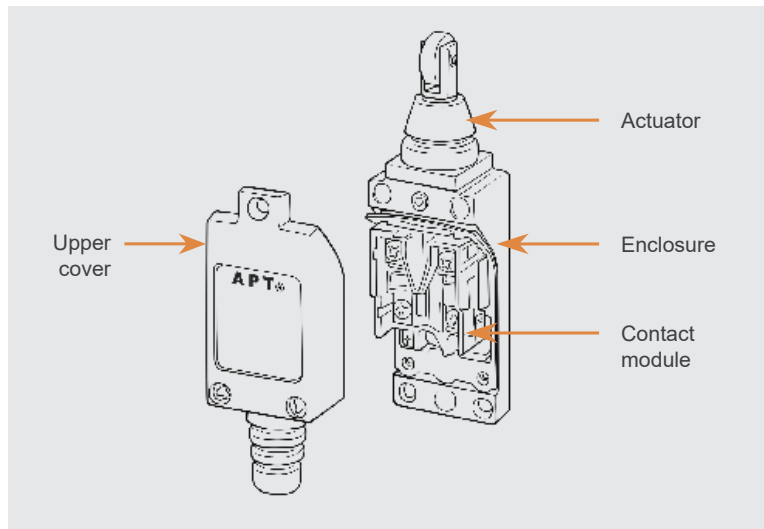
## Technical feature

Product specification	ALS1-M
Standard	IEC 60947-5-1 GB 14048.5
Rated insulation voltage	AC 400V
Power frequency withstand voltage	AC 1890V 50Hz · 1min (between non-conductive components)
Conventional thermal current	10A
Product certification	CCC / CE / RoHS
Mechanical endurance	About 10 million times
Electrical endurance	30 万次 /AC-15 at 240V/3A
Ambient temperature	-20°C ~ 70°C
Ambient humidity	<95%RH
Protection class	IP65
Action frequency	7,200 times/hour (mechanical action frequency)
Anti-impact class	Maximum 10g at free position
Anti-vibration class	10 ~ 55Hz 1.5mm amplitude (excl. spring rod products)
Contact material	Silver alloy
Wiring method	2X(0.5···0.75) mm <sup>2</sup> 1X(0.5···1.5) mm <sup>2</sup>

## Rated contact capacity

Rated insulation voltage U <sub>i</sub>	Conventional thermal current I <sub>th</sub>	AC-15	DC-13
		24V/6A	24V/3A
AC400V	10A	110V/6A	110V/0.5A
		240V/3A	250V/0.27A
		380V/0.5A	/

Remark: “/” means not applicable



## ◎ Installation method



1. Loosen the screws of the upper cover and remove the upper cover.



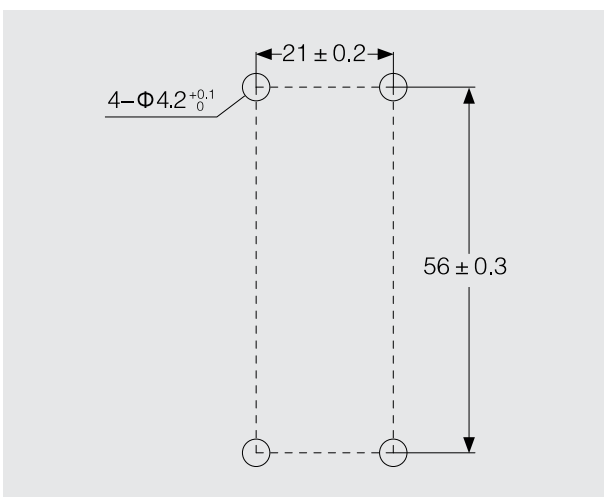
3. Connect the wire according to the requirements.



2. Lead the conductor in through the waterproof connector.



4. Fasten the screws to the upper cover evenly.




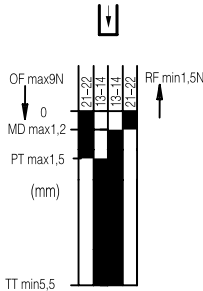
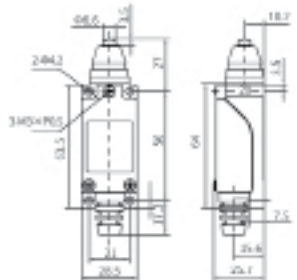

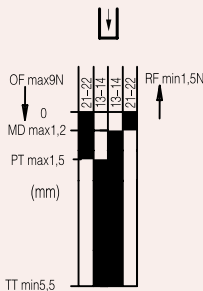
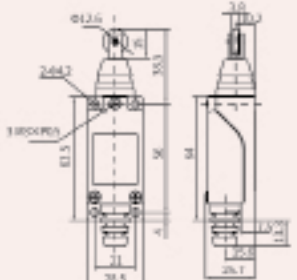

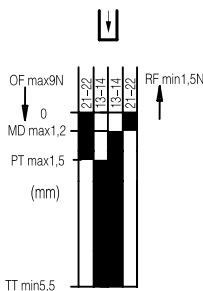
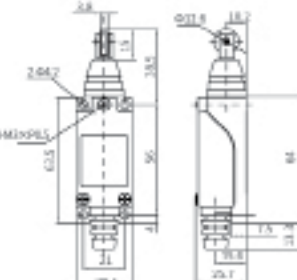

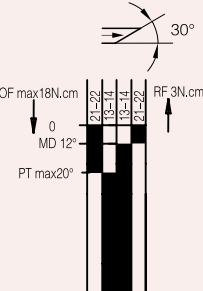
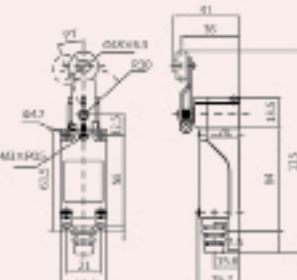
Installation hole dimensions


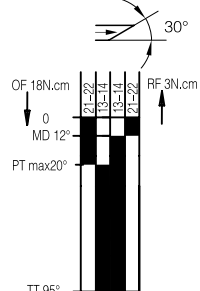
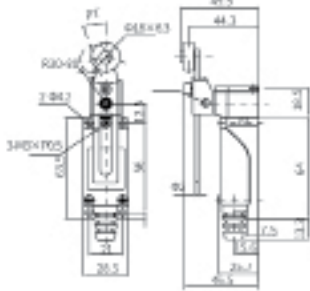

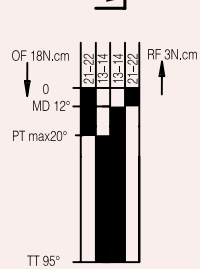
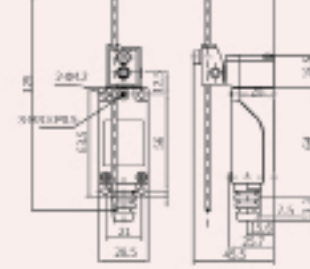

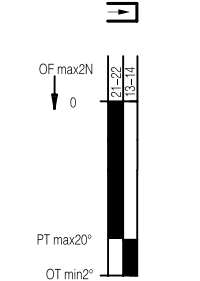
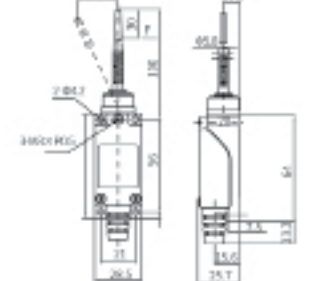

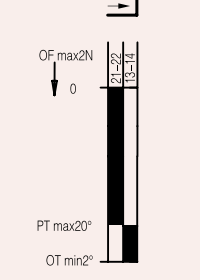
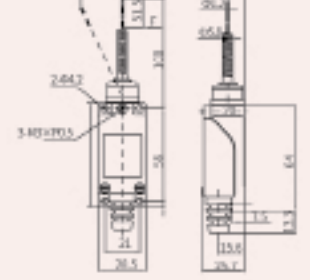
### Precautions

- The torque of fastening the wiring screw to the contact module is 0.5~0.6Nm.
- The torque of fastening the screws to the upper cover is 0.5~0.6Nm.
- Pay attention to fastening the screws to the upper cover evenly during the installation to avoid damaging the seal ring due to the uneven force.



## Product order code selection list

Name	type	Contact status	Order code	Stroke diagram	Dimension
Circular plunger		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/A2		
Horizontal roller plunger		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/B2		
Vertical roller plunger		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/C		
Bidirectional rocker arm		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/F1		

Name	type	Contact status	Order code	Stroke diagram	Dimension
Bidirectional rocker arm with adjustable length		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/G1		
Rod actuator		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/H3		
Spring rod actuator		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/S3		
Whisker actuator		Quick action 13 — 14NO 21 — 22NC	ALS1-M11/J1		

ALS1-M

# APT



# ALS1-P Series

## Limit Switch

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### Product feature

- Protection class IP67.
- Modularized design with easy installation and reliable structure.
- EN50047 installation.
- The material meets the requirements of EU RoHS Standard.
- Quick wiring.

# ALS1-P



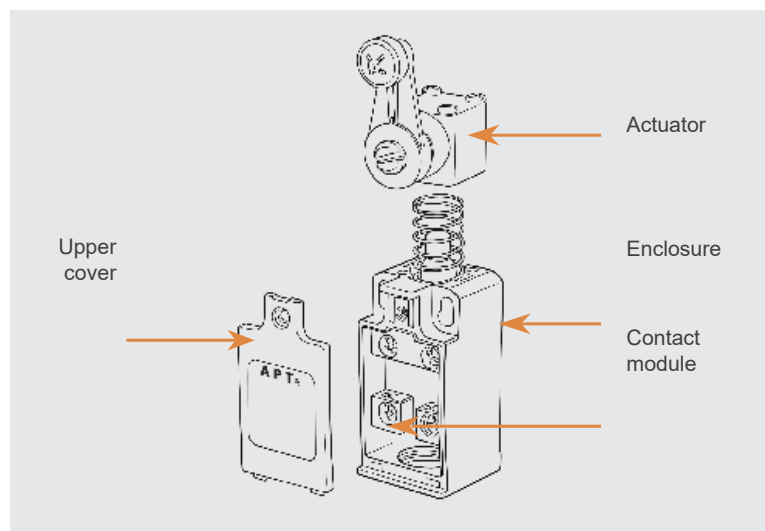
## Technical feature

Product specification	ALS1-P
Standard	IEC 60947-5-1 GB 14048.5 EN 50047
Rated insulation voltage	AC 400V
Power frequency withstand voltage	AC 1890V 50Hz · 1min (between non-conductive components)
Conventional thermal current	10A
Product certification	CCC / CE / RoHS
Mechanical endurance	10 million times
Electrical endurance	500,000 times AC-15 at 240V/3A
Ambient temperature	-25°C ~ 70°C
Ambient humidity	<95%RH
Protection class	IP67
Action frequency	6,000 times/hour (mechanical action frequency)
Anti-impact class	Maximum 10g at free position
Anti-vibration class	10 ~ 55Hz 1.5mm amplitude (excl. spring rod products)
Contact material	Silver alloy
Direct break function	Yes
Wiring method	2X(0.5~0.75) mm <sup>2</sup> 1X(0.5~1.5) mm <sup>2</sup>
Cable outer diameter	6 ~ 9 mm

## Rated contact capacity

Rated insulation voltage U <sub>i</sub>	Conventional thermal current I <sub>th</sub>	AC-15	DC-13
		24V/6A	24V/3A
AC400V	10A	120V/6A	125V/0.55A
		240V/3A	250V/0.27A
		380V/0.5A	/

Remark: “/” means not applicable



## ◎ Installation method



1. Loosen the screws of the upper cover and remove the upper cover.



2. Lead the waterproof connector in at the end of conductor.



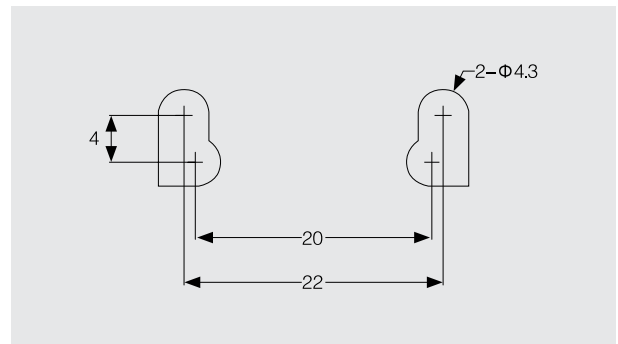
3. Connect the wire according to the requirements.



4. Fasten the screws to the upper cover.



5. Fasten the waterproof connector.



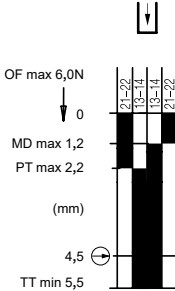
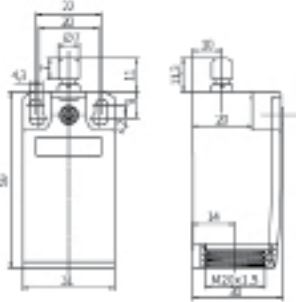


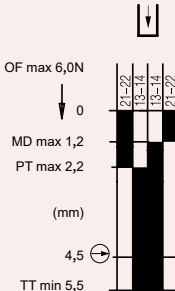
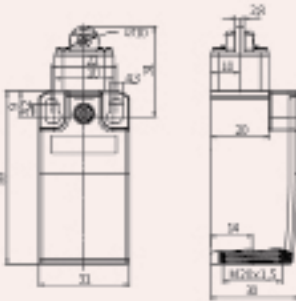


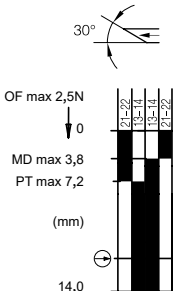
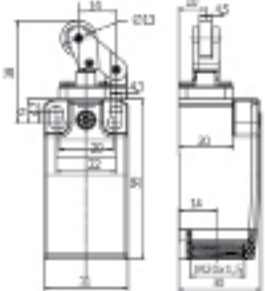


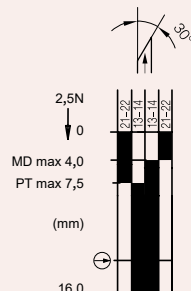
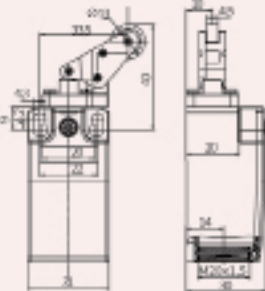


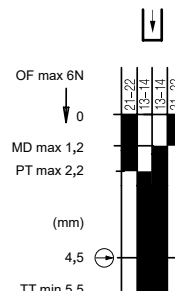
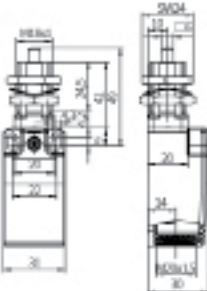


Installation hole dimensions



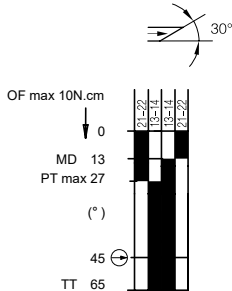
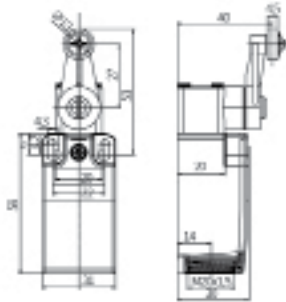


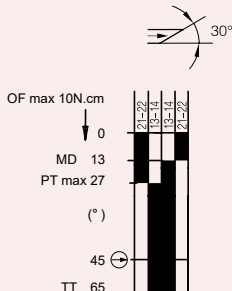
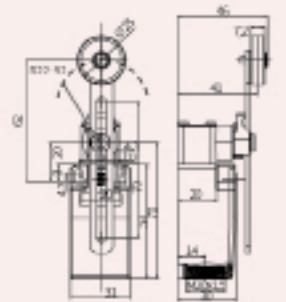


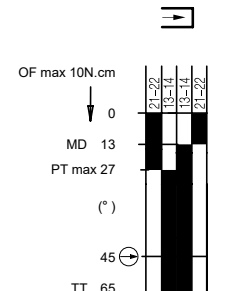
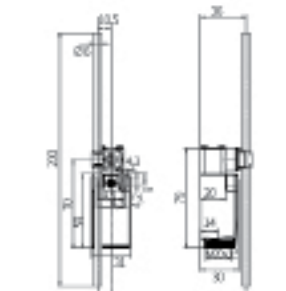


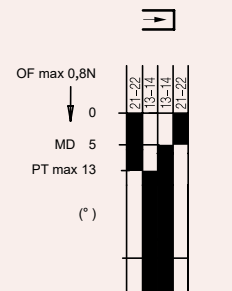
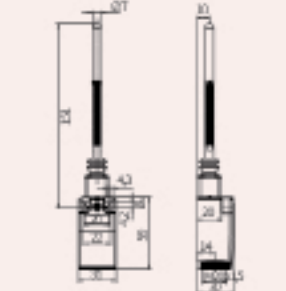


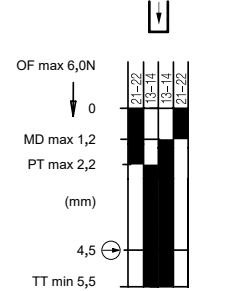
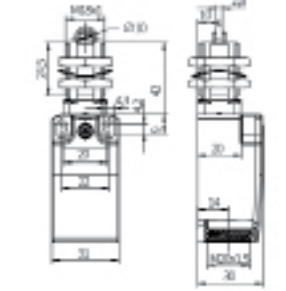
### Precautions

- The torque of fastening the wiring screw to the contact module shall not be above 0.7Nm.
- The torque of fastening the screws to the upper cover shall not be above 1Nm.
- Pay attention that the buckle between the upper cover and enclosure shall be installed in place.

## Product order code selection list

Name	type	Contact status	Order code	Stroke diagram	Dimension
Circular plunger		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/A1	 <p>OF max 6,0N            ↓ 0            MD max 1,2            PT max 2,2            (mm)            4,5            TT min 5,5</p>	
Roller plunger		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/B1	 <p>OF max 6,0N            ↓ 0            MD max 1,2            PT max 2,2            (mm)            4,5            TT min 5,5</p>	
Roller rocker arm		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/D1	 <p>30°            OF max 2,5N            ↓ 0            MD max 3,8            PT max 7,2            (mm)            14,0</p>	
Oblique angle rocker arm		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/E1	 <p>30°            2,5N            ↓ 0            MD max 4,0            PT max 7,5            (mm)            16,0</p>	
Circular plunger	 (with M18x1 sleeve)	Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/K	 <p>OF max 6N            ↓ 0            MD max 1,2            PT max 2,2            (mm)            4,5            TT min 5,5</p>	

- ★ The finished products are sold as a whole; the actuator (head) can be ordered separately.
- ★ Please refer to the following ordering instructions for the exchange principle of the actuator (head).

Name	type	Contact status	Order code	Stroke diagram	Dimension
Bidirectional rocker arm		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/F1		
Bidirectional rocker arm with adjustable length		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/G1		
Rod actuator		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/H1		
Spring rod actuator		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/S1		
Roller plunger (with M18x1 sleeve)		Quick action 13 — 14NO 21 — 22NC 	ALS1-P11/L		

ALS1-P



◎ **Ordering Instructions (ALS3 Series)**



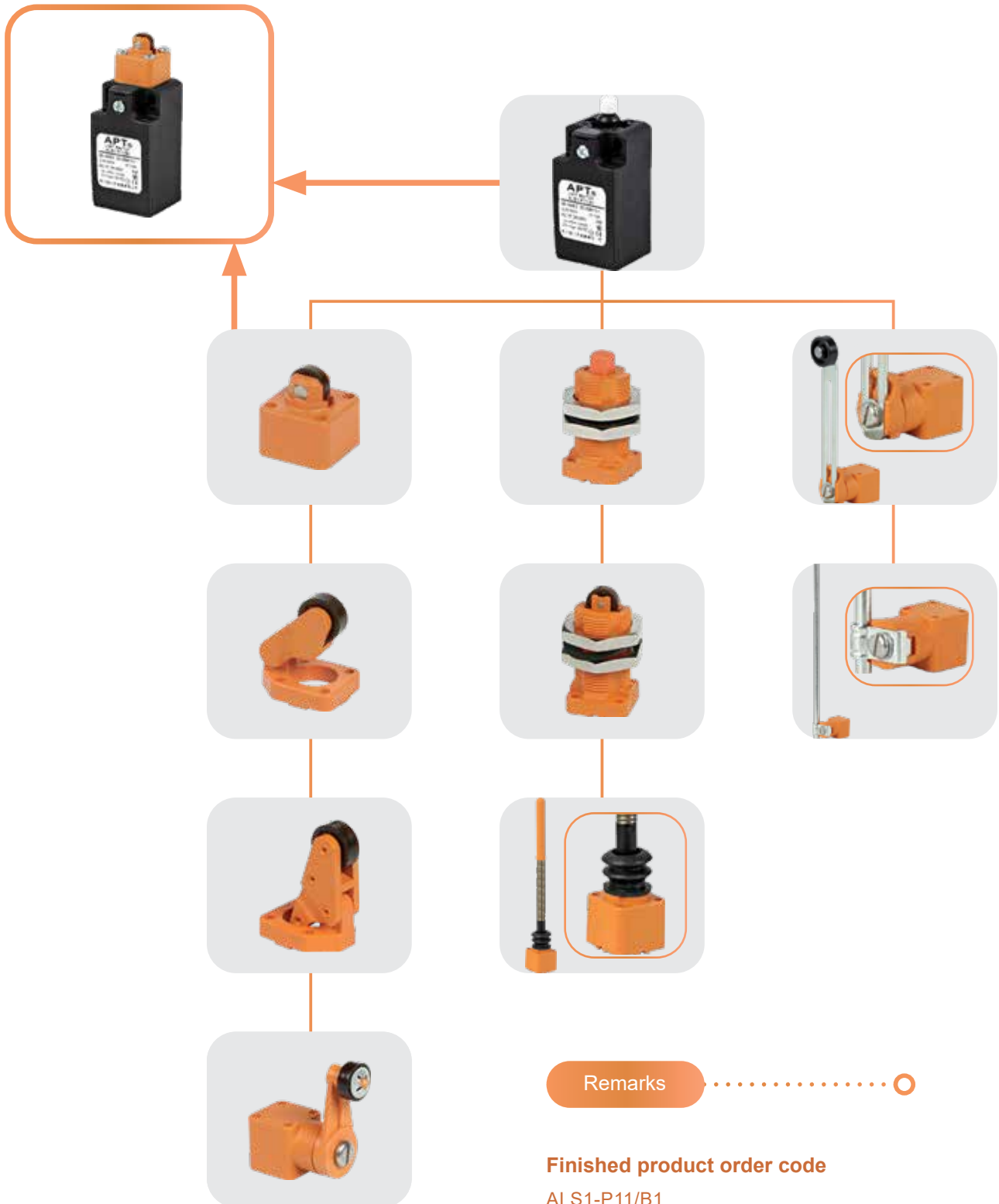
Remarks ○

**Finished product order code**

ALS3-P  
 ↳ ALS3-PF-A0 - ALS3-PF-D2

Ordering Instructions

© Ordering Instructions (ALS1 Series)



Remarks ..... ○

**Finished product order code**

ALS1-P11/B1

↳ ALS1-P11/A1 + ALS1-PF-B1

## ◎ Accessory order code selection list (actuator)

Name	Type	Order code	Remarks
Roller plunger		ALS1-PF-B1	Plastic roller
Roller plunger		ALS1-PF-B2	Metal roller
Roller rocker arm		ALS1-PF-D1	Plastic roller
Roller rocker arm		ALS1-PF-D2	Metal roller
Oblique angle rocker arm		ALS1-PF-E1	塑料滚轮
Oblique angle rocker arm		ALS1-PF-E2	Metal roller
Bidirectional rocker arm		ALS1-PF-F1	Plastic roller 130° 可活动范围
Bidirectional rocker Bidirectional rocker arm with adjustable length		ALS1-PF-G1	Φ 19mm Plastic roller 130° Movable range
Bidirectional rocker Bidirectional rocker arm with adjustable length		ALS1-PF-G3	Φ 50mm Plastic roller 130° Movable range

© **Accessory order code selection list (actuator)**

Name	Type	Order code	Remarks
Rod actuator		ALS1-PF-H1	200mm long plastic rod
Rod actuator		ALS1-PF-H2	330mm long plastic rod
Rod actuator		ALS1-PF-H3	200mm long aluminum rod
Rod actuator		ALS1-PF-H4	200mm long spring
Spring rod actuator		ALS1-PF-S1	50mm long plastic rod end
Spring rod actuator		ALS1-PF-S2	50mm long metal rod end
Circular plunger (with M18x1 sleeve)		ALS1-PF-K	With M18x1 sleeve
Circular plunger (with M18x1 sleeve)		ALS1-PF-L	With M18x1 sleeve