

oneA Co.,Ltd.

Instruction Manual

PMP Shutter Series

STEP6 / For both NPN and PNP specifications

APG-6L(-PN), APG-6B(-PN)

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Thank you for purchasing this "PMP Shutter."

Please read this instruction manual carefully before using the shutter and use the product correctly.

Store the instruction manual carefully after reading it.

Safety Precautions

■ The indications below are used to classify the level of harm and damage that may arise if the items written are ignored and the product is used incorrectly.

	Warning	There is a risk of serious injury or death if these items are not obeyed.
	Caution	There is a risk of minor injury or damage to property if these items are not obeyed.

■ The types of details to be observed are classified as below.

	Caution	These are "warning" items for which care should be taken.
	Caution	This is the indication for "caution about heat(hot/surface)" * when there is a risk of burns.
	Prohibited	These are "prohibited" items that must not be done.
	Prohibited	These are items where "disassembly is prohibited" because the disassembly may result in trouble such as electric shock.
	Compulsory	These are "compulsory" items that must be implemented.
	Compulsory	This indication instructs the user to turn off the power supply.

Warning

■ When abnormalities occur

- If there is any smoke emission or unusual smell or sound generated, switch off the power supply.
- If water or foreign matter gets inside the product or if the main body of the product has been damaged, stop using the product and switch off the power supply.
- It is dangerous for the customer to repair the product. The customer should never make repairs.

■ Regarding the tough rubber cable

- ▲ Insert the connector firmly as far as it will go and ensure that there is no looseness. Contact failure may result in heat generation or electric shock.
- ▲ Be careful that the tough rubber cable does not become trapped or entwined in machinery or equipment. This may cause a breaking of the wire or a rip in the cable covering and cause electric shock or fire.

■ Regarding installation

- When installing the product, read the "Installation method" written in this instruction manual carefully and install it correctly. If there is a problem with the installation, there is a risk of injury due to the product falling, etc.

■ Regarding the use of the product

- ▲ Always check that the power source is 24 VDC before supplying the power. If a power supply other than 24 VDC is connected, there is a risk that this may cause damage to the main body of the product and cause fire or electric shock.
- ▲ Be sure work out countermeasures so that the shutter won't hit human while opening and closing, to prevent injury.
- ▲ Do not touch the metal surfaces such as the circuit board or the terminals.
- ▲ There is a risk of burns or electric shock.
- ▲ Do not use our products for the protection of the human body.

1. Outline

This is a tool to support "zero" careless mistakes in the picking work performed in various fields in both manufacturing and logistics, something that was not possible with the conventional indicator lamps.

Careless mistakes are prevented by physically blocking the opening for insertion or retrieval.

This is an I/O support type product, so it can be used on any type of component picking system.

Also, an answerback output is returned from the lever switch or push switch on the main body of the product (both non-contact magnetic types) to the upper level to communicate that the work has finished.

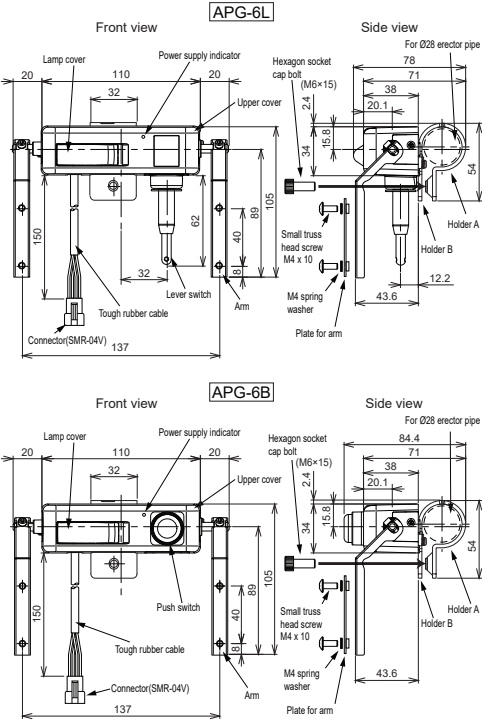
2. Cautions for use

1. Carefully check the wiring before supplying power to the main body of the product.
2. If the shutter is moved by hand whilst the power supply is switched off, always return it to its original position. If it is not returned, there is a risk that this may cause malfunction.
3. Do not apply excessive shock to the shutter or repeatedly open and close manually. The load on the internal mechanism may cause damage to the drive parts or rotation failure.
4. Do not use detergent, etc., to clean the main body of the product. Gently wipe off the dirt, for example, with a soft cloth that has been wet and then firmly wrung.
5. This is a product for industrial use, not for household use. Do not use it at home.

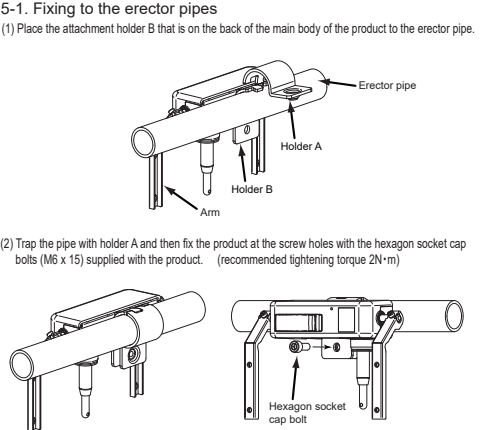
3. Specifications		
Rated voltage	DC24V	
Operating voltage range	20.0V to 26.4V	
Current consumption	20.4A or less (During opening/closing movement) 50mA or less(while not moving)	
Rush current at start up	0.6A or less	
Input	Input current 5mA, Internal residual voltage 0.5V * The residual voltage should be kept to 0.4V or less on external circuits.	
Output	NPN Specification	PNP Specification
	NPN transistor / Open collector output Maximum inlow current 100mA or less	PNP transistor / Open collector output Maximum outflow current 100mA or less
Power supply indicator	When power supplied: Red blinking	
LED lamp	When activation signal input: Green blinking	
	When error occurs: Red blinking	
Ambient temperature during use	0°C to 50°C (However, there should be no condensation).	
Ambient temperature during storage	-20°C to 70°C	
Ambient humidity during use	30 to 85 %RH	
Ambient humidity during storage	30 to 85 %RH	
Shutter torque	8.2N*cm	
Cable	Cabletye cable VCTF0.3ml×4 (with connector SMR-04V)	

Materials (RoHS compliant)	Upper cover: PPE
	Body: SPCC with cation electrodeposition coating Drive shaft: SUM with zinc-nickel alloy plating Drive shaft: SUS240F / Free shaft: SUM with nickel plating Arms: SPCC with trivalent unichrome plating Holder: SPCC with cation electrodeposition coating
Mass	APG-6L: 330 g, APG-6B: 340 g

4. Names of each part



5. Installation method

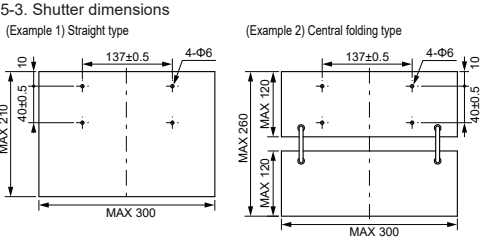
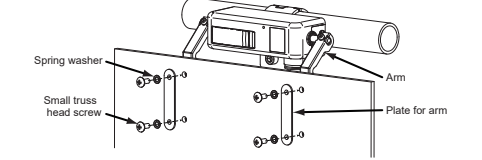


5-2. Shutter installation method

Attach a shutter (corrugated plastic, etc.) to the arms fitted to both sides of the main body of the product.

Set the shutter in place and then fix it with the small truss head screws (M4 x 10) supplied with the product.

Firmly fix the screws at the 4 screw holes.



Standard size:
Width across 300 x Vertical length 210 x Thickness 3 (mm)

Recommended shutters
Material: Corrugated plastic
Maximum thickness: 3mm
Maximum mass: 30g or less

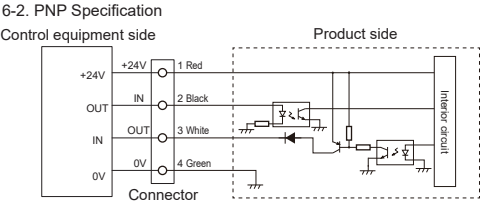
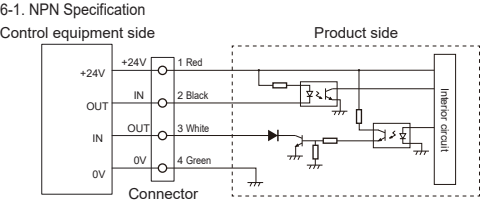
* Even if the shutter smaller than the recommended size, it may close by it's own weight if the opening position is set to 90 degree looking from the ground.
If so, set the opening position to 135 degree or more.

6. Connection

Connect the tough rubber cable coming out from the main body of the product to the control device.

Junction connector : SMP-04V type (JST)

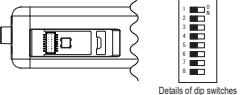
< about signal>
The terminal pin 2 inputs a door open signal
The terminal pin 3 outputs an output signal(100ms)



7. Setting

Slide the lamp cover on the main body of the product to the right to release the lock, then open it forwards to reveal the series of 8 dip switches as shown in the diagram. It is possible to use 1 to 8 of these switches to perform the settings below.

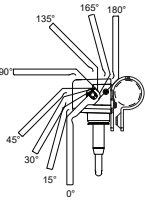
Dip switches (Each setting)
SW1 to SW4 Opening and closing angle setting
SW5 LED illumination setting
SW6, 7 Delay time setting
SW8 Answerback mode setting



7-1. Angle of opening/closing

Table of angle settings		
SW1 (Setting of closed position)	SW2 (Setting of closed position)	Setting
OFF	OFF	0°
ON	OFF	15°
OFF	ON	30°
ON	ON	45°
SW3 (Setting of open position)	SW4 (Setting of open position)	Setting
OFF	OFF	180°
ON	OFF	165°
OFF	ON	135°
ON	ON	90°

* The actual angle of stopping will vary depending on factors such as the profile and mass of the shutter.



7-2. LED illumination

It is possible to set the state of the green LED illumination when there is a signal input.

SW5	Setting
ON	Light up
OFF	Blink

7-3. Delay time

The delay time is the time from when the switch to close the shutter is operated, to the time when the shutter closes.

It is possible to change the delay time settings by operating the dip switches.

Table of delay time settings

SW6	SW7	Setting
OFF	OFF	1 second
ON	OFF	4 seconds
OFF	ON	7 seconds
ON	ON	10 seconds

7-4. Answerback mode settings

Answerback mode is a function for lamp operation (lit + blinking) during the time after when the lever switch or push switch is operated, to the time when the signal input is switched OFF.

SW8	Answerback mode
OFF	Disabled
ON	Enabled

7-5. Plant shipping settings

When the product is shipped from the factory, all the dip switches are set to OFF.

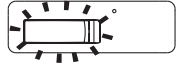
If the product is used without changing the settings, the opening and closing will be between 0° and 180° and the closing will take 1 second.

8. Operation

LED lamp indications

◀When operating>
Light off State when there is no signal input
Green blinking State when there is a signal input
Note) The light will not be lit from when the lever (6L) or push switch (6B) is pressed until when the shutter is closed.

◀Abnormal states>
Red blinking: The shutter has hit an obstruction and stopped at an intermediate position
Note 1) When the stopping due to an obstruction is while the shutter is opening:
Alternate green and red blinking will start at the stop position.
Note 2) When the stopping is while the shutter is closing, there will be red blinking at the stop position.



9. Guarantee period

The period of the guarantee is 1 year from the customer's purchase.

● If any breakdown or defect of our product that is the responsibility of our company is found during the period of the guarantee, we will either provide a substitute product or the components that must be replaced, or else we will repair our company product free of charge if it is returned to us.

However, the breakdown or defect shall be excluded from the scope of this guarantee in the following cases.

- Breakdown or failure due to the specification, standard or handling method, etc., instructed by the customer.
- When the cause is modification of the structure, performance or specification, etc., that has been carried out without our involvement after the purchase or after the delivery of the product.
- Breakdown or failure arising from a phenomenon that could not have been foreseen with the technologies in practical use after the purchase or at the time of the contract.
- When the product has been used outside of the range of conditions and environments stated in the catalog and specification documents.
- When our product is incorporated into the customer's device for use and it would have been possible to avoid the damage if the customer's device had included the functions or structures, etc., that are commonplace in the industry.
- Breakdown or failure arising from natural disaster or force majeure.
- Breakdown or failure triggered by the failure of a product not from our company.

Furthermore, the guarantee written here only applies to the single product from our company that was purchased by or delivered to the customer. Damage resulting from the breakdown or failure of our product is excluded.

10. The extent of service

● The price of our products does not include the costs for services such as the dispatching of engineers.

Please inquire with our sales contact if these are required.

Inquiries

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