

# Pneumatic Components / Sensors



## Pneumatic Components ..... 6-2

- ▶ Manifold ..... 6-3
- ▶ Light Weight Plastic Manifold ..... 6-4
- ▶ Fitting ..... 6-5
- ▶ Gasket / Air Coupler / Micro Coupler ..... 6-8
- ▶ Tube / Sleeve ..... 6-9
- ▶ Cable Ties / Cable Tie Mount / Tube Cutter ..... 6-10
- ▶ Regulator / Manual Air Valve Push Button / Manual Air Valve Push Slide Button ..... 6-11
- ▶ Flow Controller ..... 6-12
- ▶ Valve Joint (Quick Exhaust Valve / Finger Valve) ... 6-13
- ▶ Mini Pressure Regulator ..... 6-14
- ▶ Bolt / Nut / Washer ..... 6-15



## Sensors / Multi AND Board ..... 6-16

- ▶ Star Sensor ..... 6-17
- ▶ Micro Switch / Limit Switch ..... 6-18
- ▶ Limit Switch Mounting Bracket ..... 6-19
- ▶ Auto Switch (Reed-Contactless) ..... 6-20
- ▶ High-Precision Cylinder Sensor ..... 6-21
- ▶ Photo Sensor ..... 6-22
- ▶ Photo Area Sensor ..... 6-24
- ▶ Fiber Units ..... 6-25
- ▶ Fiber Amplifier Unit ..... 6-26
- ▶ Proximity Sensor ..... 6-30
- ▶ Multi AND Board ..... 6-32



## PCIO Communication Unit ..... 6-34

### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (QM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

### Lightweight Parts Series

Frame / Section / Bush Cylinder / Pads / Bush Manifolds

### By Industry

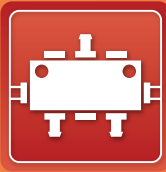
Logistics / Palletizing / Sheet Metal / Stamping / Metal Fabrication

### Assembling Tools

Tool / Jig

### Information

Various Products Information



# Pneumatic Components

## Manifold



Air circuit can be branched to two or more.

6-3

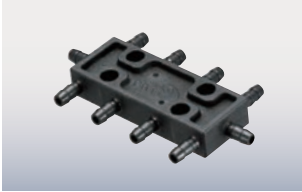
## Regulator/Manual Air Valve Push Button/Manual Air Valve Push slide Button



Used for air pressure regulations and switches.

6-11

## Light Weight Plastic Manifold



Air circuit can be branched to two or more.

6-4

## Flow Controller



Speed of air cylinder can be adjusted.

6-12

## Fitting



Used for connection of chuck device and air tube.

6-5

## Valve Joint (Quick Exhaust Valve/Finger Valve)



Used to control air flow.

6-13

## Gasket/Air Coupler/Micro Coupler



Used for pipe connection of chuck device.

6-8

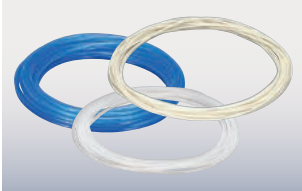
## Mini Pressure Regulator



Grips work piece gently by decreasing gripping force.

6-14

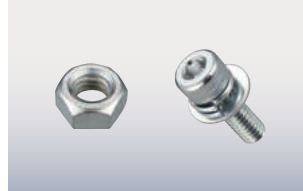
## Tube/Sleeve



Used for pipe connection of chuck device. The product is flexible and can follow hard action of robot.

6-9

## Bolt/Nut/Washer



Use for fixing parts.

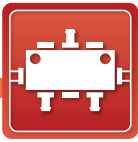
6-15

## Cable Ties/Cable Tie mount/Tube Cutter



Use to secure your tubing on plate or jungle gym.

6-10



# Manifold

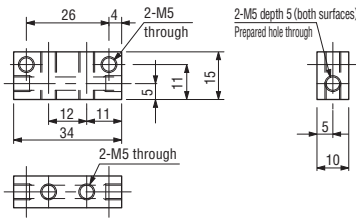
Air circuit is branched off in two or more directions.



## Manifold • mini

Order code No.	<b>122034</b>
TYPE	<b>MM-6P</b>

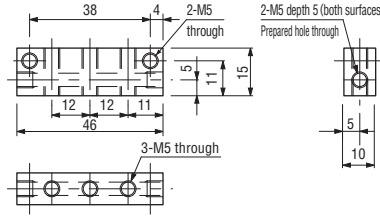
● Weight : 10g ● Mounting : M5/P26



## Manifold mini

Order code No.	<b>122035</b>
TYPE	<b>MM-8P</b>

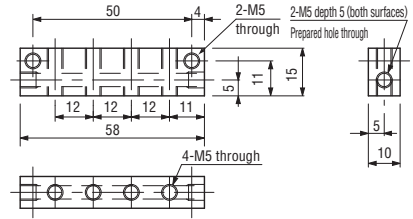
● Weight : 14g ● Mounting : M5/P38



## Manifold mini

Order code No.	<b>122036</b>
TYPE	<b>MM-10P</b>

● Weight : 17g ● Mounting : M5/P50



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Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

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Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

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Air Nipper (Large)

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Rectangular Tube

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Pneumatic Components

Sensors / Multi AND Board

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Frame / Section / Resin Cylinders / Pads / Resin Manifolds

### By Industry

Logistics - Palletizing / Sheet Metal - Stamping - Metal Fabrication

### Assembling Tools

Tool / Jig

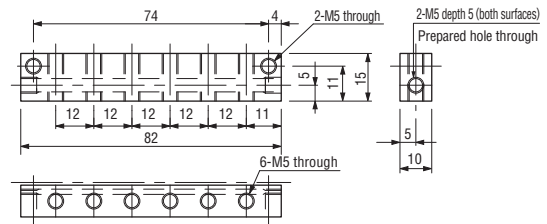
### Information

Various Products Information

## Manifold mini

Order code No.	<b>122037</b>
TYPE	<b>MM-14P</b>

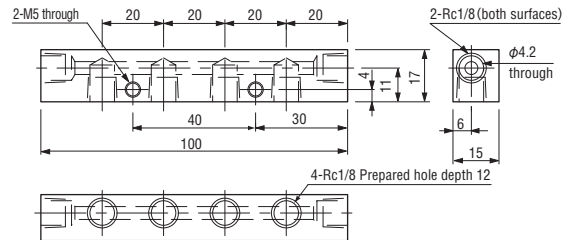
● Weight : 25g ● Mounting : M5/P74



## Manifold small

Order code No.	<b>122040</b>
TYPE	<b>MS-6P (1/8)</b>

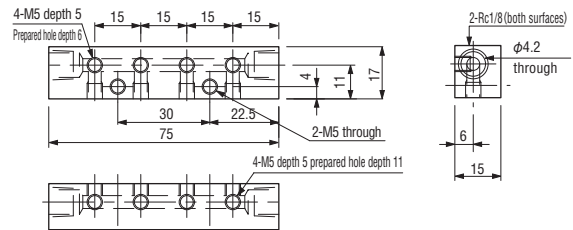
● Weight : 52g ● Mounting : M5/P40



## Manifold small

Order code No.	<b>122038</b>
TYPE	<b>MS-10P</b>

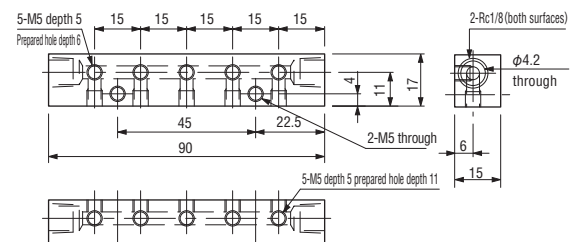
● Weight : 41g ● Mounting : M5/P30

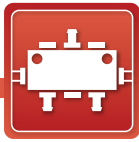


## Manifold small

Order code No.	<b>122039</b>
TYPE	<b>MS-12P</b>

● Weight : 50g ● Mounting : M5/P45





# Light Weight Plastic Manifold

Air circuit is branched off in two or more directions.

● Close up unneeded ports with cap.



Light weight plastic manifold BF5

Order code No.	<b>123195</b>
TYPE	<b>MP-10P-BF5</b>

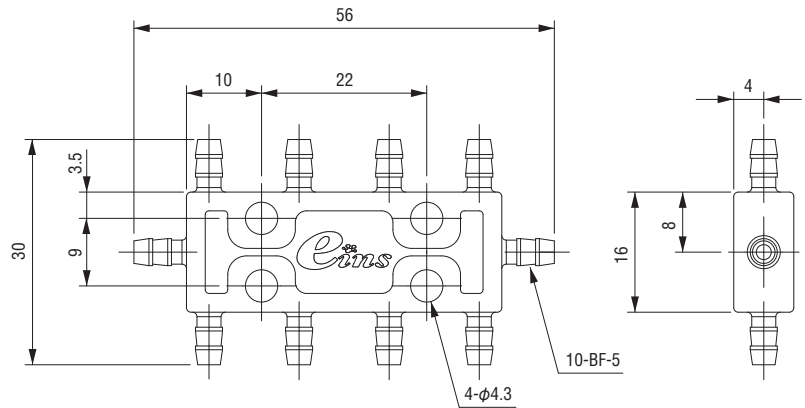
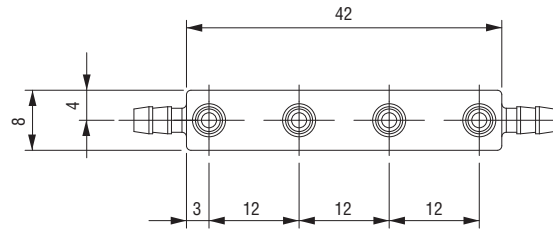
● Weight : 5g



Cap for resin manifold • BF5

Order code No.	<b>010585</b>
TYPE	<b>BF5-CAP</b>

● Weight : 1g



Light weight plastic manifold BF6

Order code No.	<b>123196</b>
TYPE	<b>MP-10P-BF6</b>

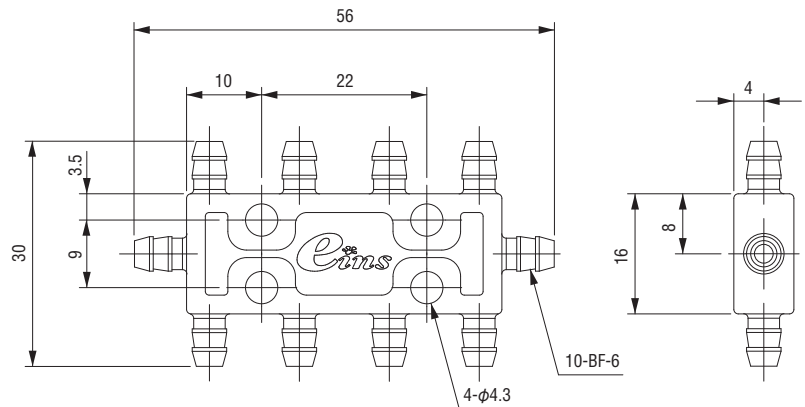
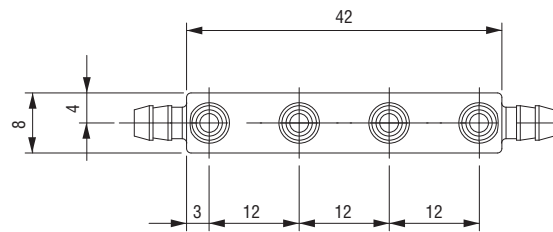
● Weight : 5g

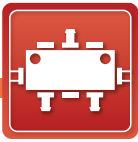


Cap for resin manifold • BF6

Order code No.	<b>010586</b>
TYPE	<b>BF6-CAP</b>

● Weight : 1g







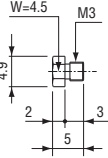
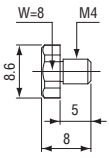
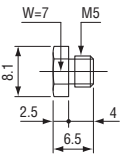
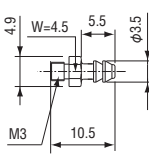
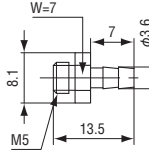
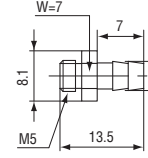








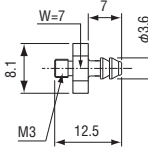
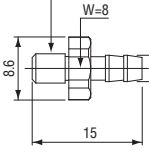
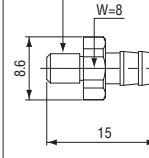
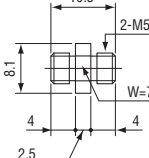
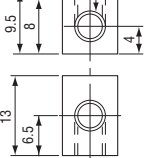
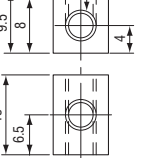







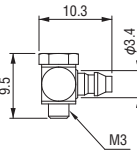
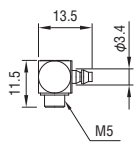
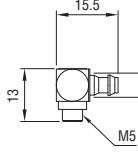
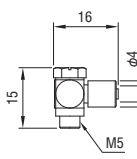
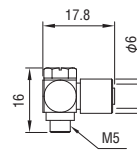
# Fitting

Used for connection of chuck device and air tube.

● Please select from (6-9) for the air tube to be connected.

Fitting	For micro-mini cylinder			For micro-mini cylinder		
						
Drawing						
Order code No.	<b>010474</b>	<b>151349</b>	<b>190106</b>	<b>010473</b>	<b>190109</b>	<b>190108</b>
TYPE	<b>PF-3</b>	<b>PF-M4</b>	<b>PF</b>	<b>BF-3</b>	<b>BF-5</b>	<b>BF-6</b>
Weight	0.5g	0.2g	1.2g	0.7g	1.4g	1.5g
Connection	M3	M4	M5	M3	M5	M5
Tube Size	—	—	—	φ4	φ4、φ4.5	φ6

Fitting	For micro-mini cylinder					
						
Drawing						
Order code No.	<b>010416</b>	<b>010482</b>	<b>010481</b>	<b>190107</b>	<b>190110</b>	<b>190111</b>
TYPE	<b>BF-5-M3</b>	<b>BF-5-M4</b>	<b>BF-6-M4</b>	<b>NF</b>	<b>EF</b>	<b>TF</b>
Weight	1.2g	0.2g	0.2g	1.4g	7.0g	6.6g
Connection	M3	M4	M4	M5	M5	M5
Tube Size	φ4、φ4.5	φ4、φ4.5	φ6	—	—	—

Fitting	Barb elbow for soft tubing			Hose Elbow	
	For micro-mini cylinder				
					
Drawing					
Order code No.	<b>120543</b>	<b>120692</b>	<b>122892</b>	<b>120500</b>	<b>122832</b>
TYPE	<b>M-3ALU-4</b>	<b>M-5ALU-4</b>	<b>M-5ALU-6</b>	<b>MS-5HLH-4</b>	<b>MS-5HLH-6</b>
Weight	0.7g	4.1g	4.5g	4.2g	6.2g
Connection	M3	M5	M5	M5	M5
Tube Size	φ4	φ4	φ6	φ4	φ6

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Suction Stems

Pad in Pad

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Sensors / Multi AND Board

PCIO Communication Unit

Lightweight Parts Series

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

By Industry

Logistics-Palletizing / Sheet Metal-Stamping-Metal Fabrication

## Assembling Tools


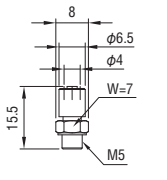
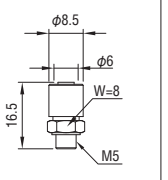
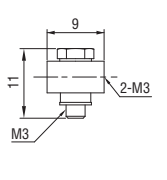
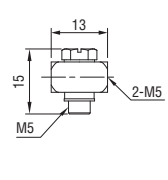
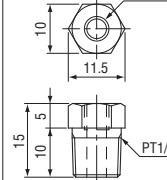
Tool / Jig


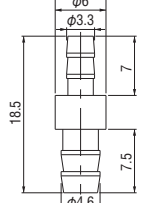
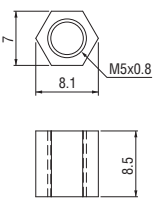
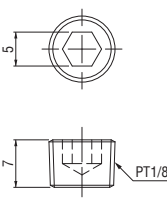
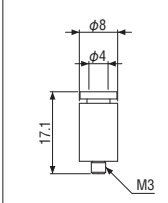
## Information


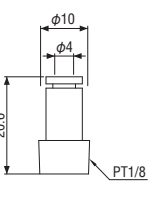
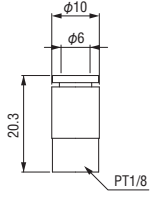
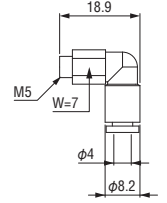
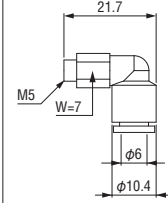
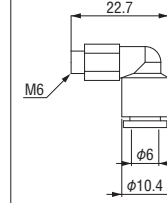
Various Products Information

# Fitting

● Please select from **(6-9)** for the air tube to be connected.

Fitting	Hose nipple		Universal tee		Bushing	
						
Order code No.	<b>122831</b>	<b>122049</b>	<b>123471</b>	<b>120607</b>	<b>190112</b>	<b>190113</b>
TYPE	<b>MS-5H-4</b>	<b>MS-5H-6</b>	<b>M-3UT</b>	<b>M-5UT</b>	<b>RBF</b>	<b>RBF-1</b>
Weight	2.5g	3.7g	1.4g	4.8g	7.1g	17.6g
Connection	M5	M5	M3	M5	PT1/8, M5	PT1/4, M5
Tube Size	φ4	φ6	—	—	—	—

Fitting	Reducer nipple	Joint	Socket plug (trivalent chromate white)	Half Union	
					
Order code No.	<b>300385</b>	<b>022667</b>	<b>271714</b>	<b>101749</b>	<b>101467</b>
TYPE	<b>4-S-6</b>	<b>CF</b>	<b>1/8</b>	<b>KQ2S04-M3G</b>	<b>KQ2S04-M5N</b>
Weight	1.2g	1.75g	2.5g	2.0g	3.0g
Connection	—	M5	1/8	M3	M5
Tube Size	φ4, φ4.5, φ6	—	—	φ4	φ4

Fitting	Half Union		Elbow Union			
						
Order code No.	<b>101746</b>	<b>101468</b>	<b>101462</b>	<b>101464</b>	<b>102051</b>	<b>101710</b>
TYPE	<b>KQ2S04-01NS</b>	<b>KQ2S06-01NS</b>	<b>KQ2L04-M5N</b>	<b>KQ2L06-M5N</b>	<b>KQ2L06-M6A</b>	<b>KQ2L04-01NS</b>
Weight	8.0g	6.5g	3.1g	3.2g	4.3g	4.8g
Connection	1/8	PT1/8	M5	M5	M6	PT1/8
Tube Size	φ4	φ6	φ4	φ6	φ6	φ4



**Quick Chuck Change**

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

**Grip**

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Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

**Cut**

Air Nipper (Small-Medium)

Air Nipper (Large)

**Frame / Module**

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

**Pneumatic Components / Sensors**
**Pneumatic Components**

Sensors / Multi AND Board

PCIO Communication Unit

**Lightweight Parts Series**

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

**By Industry**







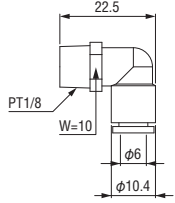
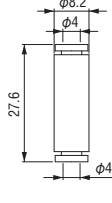
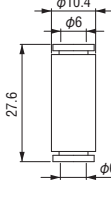
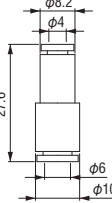
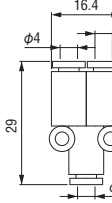
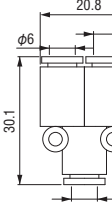
Logistics-Palletizing / Sheet Metal-Stamping-Metal Fabrication




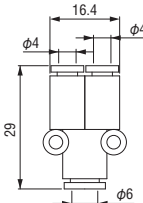
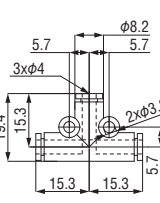
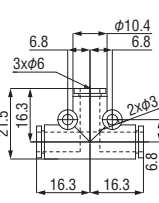
**Assembling Tools**



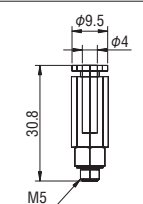
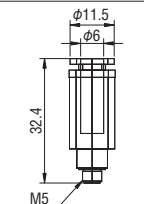
Tool / Jig

**Information**

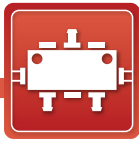
Various Products Information

	Elbow Union	Straight Union		Straight Reducer Union	Union Y	
Fitting						
Drawing						
Order code No.	<b>101463</b>	<b>101469</b>	<b>101470</b>	<b>101471</b>	<b>101472</b>	<b>101465</b>
TYPE	<b>KQ2L06-01NS</b>	<b>KQ2H04-00A</b>	<b>KQ2H06-00A</b>	<b>KQ2H04-06A</b>	<b>KQ2U04-00A</b>	<b>KQ2U06-00A</b>
Weight	5.2g	1.6g	2.1g	2.0g	2.9g	4.1g
Connection	PT1/8	—	—	—	—	—
Tube Size	phi 6	phi 4	phi 6	phi 4、phi 6	phi 4	phi 6

	Reducer Union Y	Cheese:KQ2T	
Fitting			
Drawing			
Order code No.	<b>101473</b>	<b>101596</b>	<b>101597</b>
TYPE	<b>KQ2U04-06A</b>	<b>KQ2T04-00A</b>	<b>KQ2T06-00A</b>
Weight	3.3g	2.8g	3.8g
Connection	—	—	—
Tube Size	phi 4、phi 6	phi 4	phi 6

	Half Union KCH	
Fitting		
Drawing		
Order code No.	<b>100817</b>	<b>100818</b>
TYPE	<b>KCH04-M5</b>	<b>KCH06-M5</b>
Weight	8.0g	10.0g
Connection	M5	M5
Tube Size	phi 4	phi 6

\* When removing the tube, turn off the air. (No air leaks even when the tube is removed.)



# Gasket / Air Coupler / Micro Coupler

Use with pipe connections.

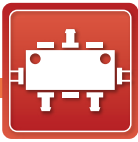
● Please select from (6-9) for the air tube to be connected.

Gasket			
Drawing			
Order code No.	<b>122889</b>	<b>122890</b>	<b>122891</b>
TYPE	<b>M3-G</b>	<b>M4-G</b>	<b>M5-G</b>
Weight	—	—	—
Connection	—	—	—
Tube Size	—	—	—

Air coupler		
Drawing		
Order code No.	<b>280018</b>	<b>322948</b>
TYPE	<b>20PF</b>	<b>60PC</b>
Weight	29.0g	24.0g
Connection	Rc1/4	—
Tube Size	—	φ6

Micro coupler					
Drawing					
Order code No.	<b>120170</b>	<b>120120</b>	<b>122893</b>	<b>122894</b>	<b>120121</b>
TYPE	<b>MC-04PH</b>	<b>MC-05PM</b>	<b>MC-04PC</b>	<b>MC-06PC</b>	<b>MC-05SM</b>
Weight	1.5g	2.0g	5.0g	3.0g	7.0g
Connection	—	M5	—	—	M5
Tube Size	φ6	—	φ4	φ6	—





# Tube / Sleeve

Use for connecting air powered devices, flexible to work with your robots movements.

Polyurethane tube (flexible)					
Order code No.	<b>196516</b>	<b>196277</b>	<b>193564</b>	<b>196513</b>	
TYPE	<b>TU0425W-20</b>	<b>TU0425B-20</b>	<b>TU0425BU-20</b>	<b>TU0425R-20</b>	
Tube Color	White	Black	Blue	Red	
Length	20m				
Outside × Inside diameter	φ4 × φ2.5				
Order code No.	<b>196514</b>	<b>196515</b>	<b>196520</b>	<b>196278</b>	
TYPE	<b>TU0425Y-20</b>	<b>TU0425G-20</b>	<b>TU0604W-20</b>	<b>TU0604B-20</b>	
Tube Color	Yellow	Green	White	Black	
Length	20m				
Outside × Inside diameter	φ4 × φ2.5		φ6 × φ4		
Order code No.	<b>193566</b>	<b>196517</b>	<b>196518</b>	<b>196519</b>	
TYPE	<b>TU0604BU-20</b>	<b>TU0604R-20</b>	<b>TU0604Y-20</b>	<b>TU0604G-20</b>	
Tube Color	Blue	Red	Yellow	Green	
Length	20m				
Outside × Inside diameter	φ6 × φ4				



Soft polyurethane tube (more flexible)			
Order code No.	<b>196530</b>	<b>196531</b>	
TYPE	<b>TUS0425W-20</b>	<b>TUS0604W-20</b>	
Tube Color	White		
Length	20m		
Outside × Inside diameter	φ4 × φ2.5	φ6 × φ4	



Urethane tube (flexible)					
Order code No.	<b>200039</b>	<b>200113</b>	<b>200040</b>	<b>200112</b>	
TYPE	<b>UF4.5 * 2.7 (5M)</b>	<b>UF4.5 * 2.7 (20M)</b>	<b>UF6 * 4 (5M)</b>	<b>UF6 * 4 (20M)</b>	
Tube Color	Light blue				
Length	5m	20m	5m	20m	
Outside × Inside diameter	φ4.5 × φ2.7		φ6 × φ4		



\* Please note that 200039 and 200113 can't be used for φ 4mm one touch fitting.

Silicone tube (super flexible)			
Order code No.	<b>300514</b>	<b>322194</b>	
TYPE	<b>4 * 2 (5M)</b>	<b>6 * 3 (5M)</b>	
Tube Color	Translucent		
Length	5m		
Outside × Inside diameter	φ4 × φ2	φ6 × φ3	



\* Can't be used for one touch fitting.

Sleeve		Order code No.	<b>300001</b>
		TYPE	<b>BS-06</b>
		Weight	0.2g

\*For pullout prevention

## Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

## Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

## Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

## Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

## Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

## Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

## Lightweight Parts Series

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

## By Industry

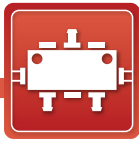
Logistics - Palletizing / Sheet Metal - Stamping - Metal Fabrication

## Assembling Tools

Tool / Jig


## Information


Various Products Information

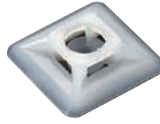


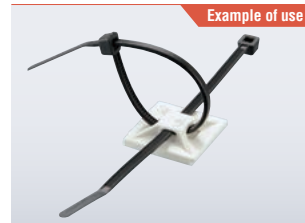
# Cable Ties / Cable Tie Mount / Tube Cutter


Keep your tooling tubes neat and tied up.

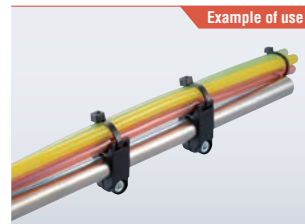
Cable Ties						
	Order code No.	<b>001920</b>	<b>001921</b>	<b>001922</b>	<b>001923</b>	<b>001924</b>
	TYPE	<b>AB100-W</b>	<b>AB150-W</b>	<b>AB200-W</b>	<b>AB300-W</b>	<b>AB350-W</b>
	Length	100mm	152mm	202mm	301mm	382mm
	Per bag	1,000pcs/bag	100pcs/bag			50pcs/bag


Cable Ties / tag		
	Order code No.	<b>152324</b>
	TYPE	<b>PLF1M-C</b>
	Length	109mm
	Per bag	100pcs/bag

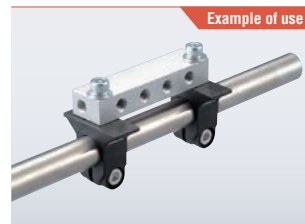
Cable tie mount			
	Order code No.	<b>183222</b>	<b>183223</b>
	TYPE	<b>SKM-20</b>	<b>SKM-30</b>
	Length	20×20×5.3	30×30×6
	Per bag	100pcs/bag	

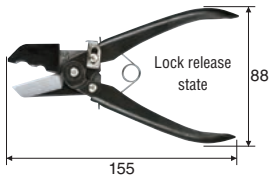


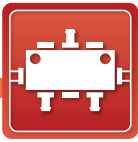
Resin Fixture (Cable Ties)			
	Order code No.	<b>171210</b>	<b>171211</b>
	TYPE	<b>RCA12</b>	<b>RCA20</b>
	Weight	0.2g	
	Per bag	φ 12	φ 20



Resin Fixture (M4)			
	Order code No.	<b>171212</b>	<b>171213</b>
	TYPE	<b>RCB12</b>	<b>RCB20</b>
	Weight	0.2g	
	Per bag	φ 12	φ 20



Tube cutter		* Do not use for cutting metal such as electric wire.	
	Order code No.	<b>190508</b>	
	TYPE	<b>TK-1</b>	
	Weight	154g	
	Applied tube material	Nylon, soft nylon, polyurethane, other non-rigid plastic tubes	
	Applied tube outside diameter	13mm or less	



# Regulator / Manual Air Valve Push Button / Manual Air Valve Push Slide Button

Used for air pressure regulations and switches.

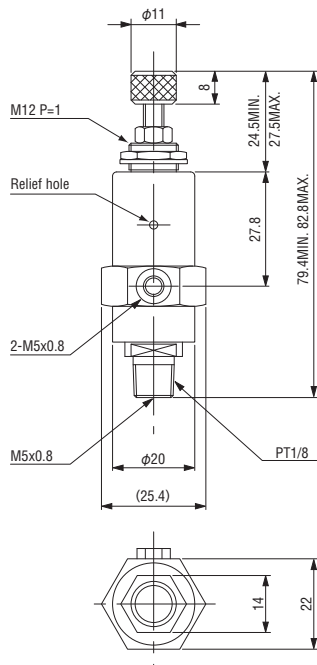
- ▶ Grip strength of components such as mini cylinder is adjusted by regulating pressure.



## Regulator

Order code No.	<b>190009</b>
TYPE	<b>RSR</b>

- Weight : 108g



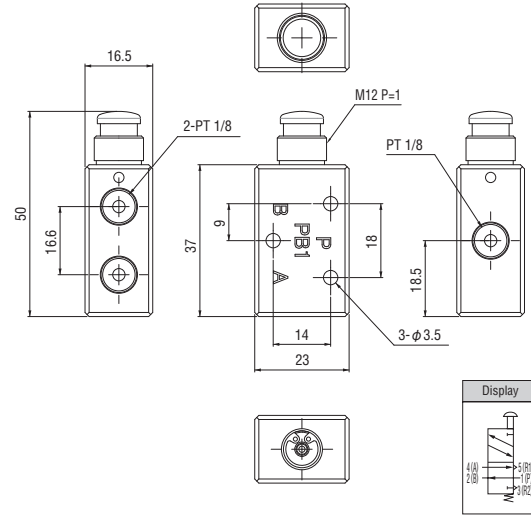
- ▶ Used to switch port of air (A/B).



## Manual air valve push button

Order code No.	<b>152308</b>
TYPE	<b>PB1-E</b>

- Weight : 65g
- Fixing bolt and nut are separately sold.
- Return type



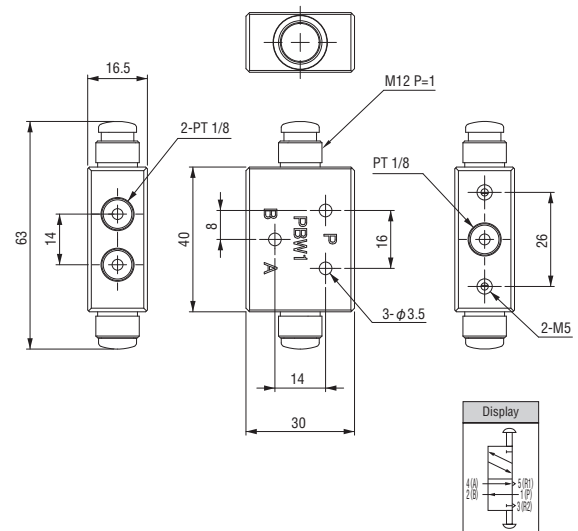
- ▶ Used to switch port of air (A/B).



## Manual air valve push slide button

Order code No.	<b>152306</b>
TYPE	<b>PBW1-E</b>

- Weight : 75g
- Fixing bolt and nut are separately sold.
- Retention type



Mountable on RSR, PB1-E, and PBE1-E.  
 [120483  $\rightarrow$  3-37] is separately required for installation to PB1-E, PBW1-E.

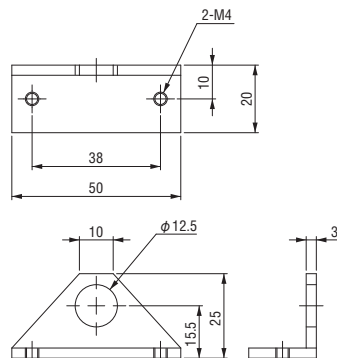
- ▶ Mounting bracket for push button and regulator.



## RSR 4P mount BKT

Order code No.	<b>020830</b>
TYPE	<b>CP-055</b>

- Weight : 2g



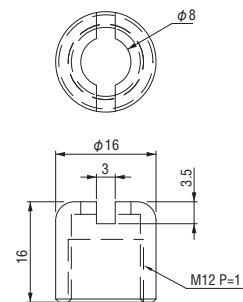
- ▶ Installation to PB1-E and PBW1-E is possible.



## Push button cap

Order code No.	<b>152307</b>
TYPE	<b>PB1-C</b>

- Weight : 5g
- With spring washer



### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

### Lightweight Parts Series

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

### By Industry

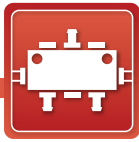
Logistics-Palletizing/Sheet Metal-Stamping-Metal Fabrication

Assembling Tools

Tool / Jig

Information

Various Products Information



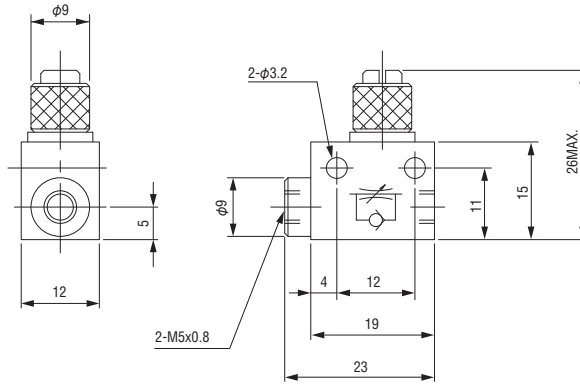
# Flow Controller

Speed of air cylinder can be adjusted.



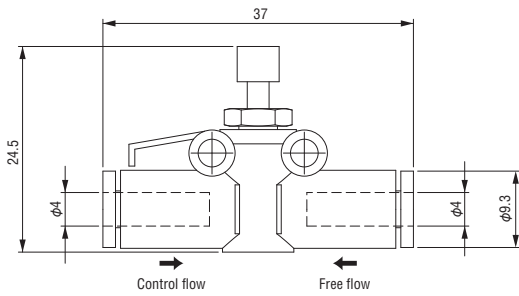
Order code No.	<b>190002</b>
TYPE	<b>SC0</b>

- Weight : 29g
- Directional



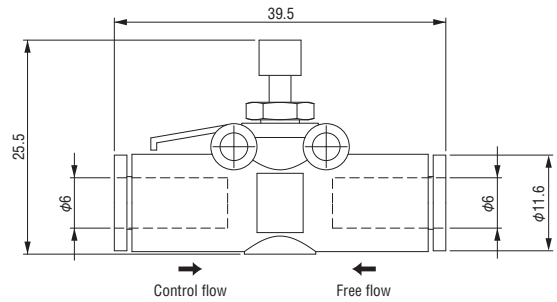
Order code No.	<b>002199</b>
TYPE	<b>AS1002F-04</b>

- Weight : 5.5g
- Directional



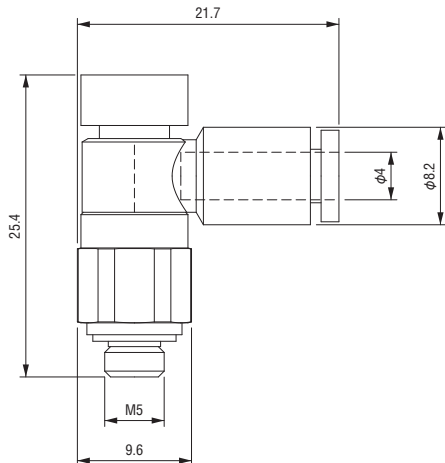
Order code No.	<b>002200</b>
TYPE	<b>AS1002F-06</b>

- Weight : 6.5g
- Directional



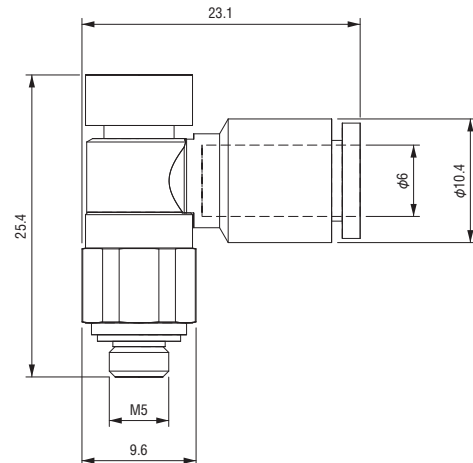
Order code No.	<b>002239</b>
TYPE	<b>AS1201F-M5-04A</b>

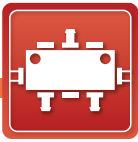
- Weight : 5g
- Meter out type



Order code No.	<b>002288</b>
TYPE	<b>AS1201F-M5-06A</b>

- Weight : 6g
- Meter out type





# Valve Joint (Quick Exhaust Valve / Finger Valve)

Used to control air flow.

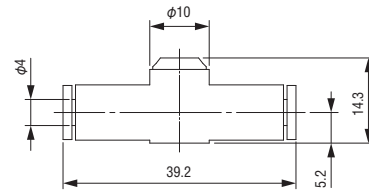
- ▶ Quick exhaust valve with one-touch pipe joint.
- ▶ The reaction time is shortened for the discharge of the air inside the cylinder.



## Quick Exhaust Valve

Order code No.	002216
TYPE	AQ240F-04-00

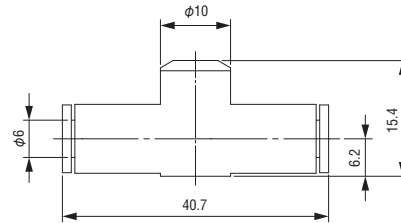
- Weight : 5g
- Silencer is included.
- Directional



## Quick Exhaust Valve

Order code No.	002217
TYPE	AQ240F-06-00

- Weight : 6g
- Silencer is included.
- Directional



- ▶ One-touch pipe joint which allows visual inspection of valve open/close with the orientation of the knob.
- ▶ A switching valve for manually controlling residual air pressure.



2-port valve

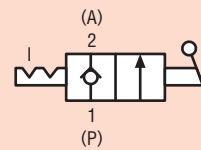
## Finger Valve

Order code No.	211152
TYPE	VHK2A-04F-04FL

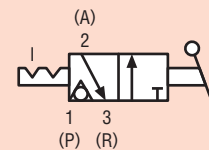
- Weight : 15g
- Applicable tube size :  $\phi 4$
- Directional

## Structural drawing

2-port valve



3-port valve



## Finger Valve

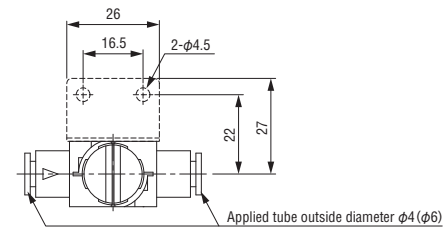
Order code No.	211153
TYPE	VHK2A-06F-06FL

- Weight : 16g
- Applicable tube size :  $\phi 6$
- Directional

## Finger Valve

Order code No.	211154
TYPE	VHK3A-04F-04FL

- Weight : 15g
- Applicable tube size :  $\phi 4$
- Directional

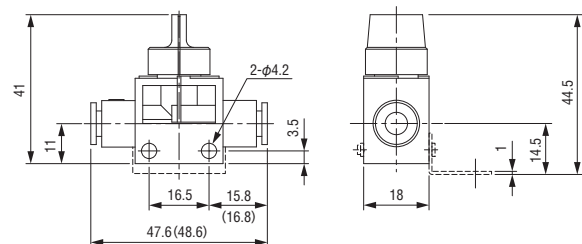


3-port valve

## Finger Valve

Order code No.	211155
TYPE	VHK3A-06F-06FL

- Weight : 16g
- Applicable tube size :  $\phi 6$
- Directional



\* Size in ( ) shows the size of the component for 06F.

### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

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Air Nipper (Small-Medium)

Air Nipper (Large)

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Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

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Lightweight Parts Series

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By Industry

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Assembling Tools

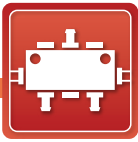
Tool / Jig

Information

Various Products Information





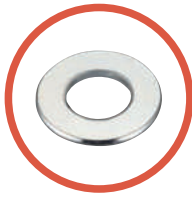


# Bolt / Nut / Washer

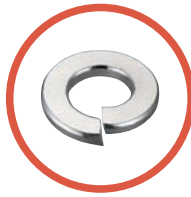
## Assembly Hardware



Nut class 1



Flat washer



Spring washer



Flat head screw with hexagon socket



Cross-recessed pan head screw



Bolt with hexagon socket (SW+ flat W) trivalent chromate white

	Product name	Order code No.	TYPE
1	Cross-recessed pan head screw (trivalent chromate white)	<b>123446</b>	<b>BKJ3-6 (M3 * 6)</b>
2	Cross-recessed pan head screw (trivalent chromate white)	<b>123447</b>	<b>BKJ3-10 (M3 * 10)</b>
3	Cross-recessed pan head screw (Stainless Steel)	<b>123448</b>	<b>NKJ2.6-5 (M2.6 * 5)</b>
4	Cross-recessed pan head screw (trivalent chromate white)	<b>123449</b>	<b>M3 * 16</b>
5	Bolt with hexagon socket (SW + flat W) trivalent chromate white	<b>122812</b>	<b>M4 * 12 (E)</b>
6	Bolt with hexagon socket (SW + flat W) trivalent chromate white	<b>122821</b>	<b>M6 * 15 (E)</b>
7	Bolt with hexagon socket (SW + flat W) trivalent chromate white	<b>122822</b>	<b>M6 * 20 (E)</b>
8	Bolt with hexagon socket (trivalent chromate white)	<b>123231</b>	<b>M3 * 6</b>
9	Bolt with hexagon socket (trivalent chromate white)	<b>123232</b>	<b>M3 * 8</b>
10	Bolt with hexagon socket (trivalent chromate white)	<b>122790</b>	<b>M3 * 10</b>
11	Bolt with hexagon socket (trivalent chromate white)	<b>122795</b>	<b>M4 * 10</b>
12	Bolt with hexagon socket (trivalent chromate white)	<b>122798</b>	<b>M4 * 25</b>
13	Bolt with hexagon socket (trivalent chromate white)	<b>122805</b>	<b>M6 * 15</b>
14	Bolt with hexagon socket (trivalent chromate white)	<b>122969</b>	<b>M6 * 25</b>
15	Bolt with hexagon socket (trivalent chromate white)	<b>122989</b>	<b>M6 * 35</b>
16	Flat head screw with cross recesses (trivalent chromate white)	<b>122787</b>	<b>M2.5 * 16</b>
17	Flat head screw with cross recesses (Stainless Steel)	<b>123515</b>	<b>M4 * 10</b>
18	Flat head screw with hexagon socket	<b>122785</b>	<b>M4 * 8</b>
19	Flat head screw with cross recesses	<b>371193</b>	<b>M4 * 12</b>
20	Flat head screw with hexagon socket	<b>122786</b>	<b>M6 * 10</b>
21	Spring washer (trivalent chromate white)	<b>122772</b>	<b>M3</b>
22	Spring washer (trivalent chromate white)	<b>122773</b>	<b>M4</b>
23	Spring washer (trivalent chromate white)	<b>122775</b>	<b>M6</b>
24	Spring washer (trivalent chromate white)	<b>122776</b>	<b>M8</b>
25	Flat Washer (Trivalent Chromate) JIS	<b>122777</b>	<b>M3</b>
26	Flat Washer (Trivalent Chromate) JIS	<b>122778</b>	<b>M4</b>
27	Flat Washer (Trivalent Chromate) JIS	<b>122780</b>	<b>M6</b>
28	Flat Washer (Trivalent Chromate) JIS	<b>122781</b>	<b>M8</b>
29	Hex Nut (Trivalent Chromate)	<b>123301</b>	<b>M3</b>
30	Hex Nut (Trivalent Chromate) JIS	<b>123302</b>	<b>M4</b>
31	Nut class 1 (trivalent chromate white)	<b>122782</b>	<b>M6</b>
32	Nut class 1 (trivalent chromate white)	<b>122783</b>	<b>M8</b>

### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

### Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

Lightweight Parts Series

Frame / Suction / Resin Cylinders / Pads / Resin Manifolds

### By Industry

Logistics-Palletizing / Sheet Metal-Stamping- Metal Fabrication

### Assembling Tools

Tool / Jig

### Information

Various Products Information



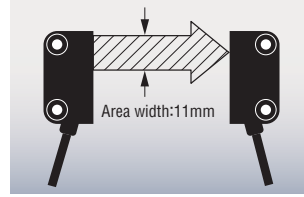
## Star Sensor



Use the lead switch inside to improve the durability. Use the two-line design for easy connection.

6-17

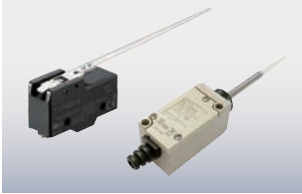
## Photo Area Sensor



Can be used for passing fine workpieces. Space-saving reflection type can be provided as a special-order product.

6-24

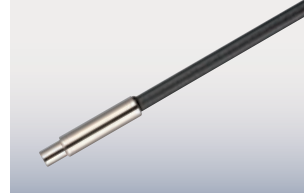
## Micro Switch / Limit Switch



Optimum for the product confirmation in the EOAT of small and large size parts. Convenient small limit switches.

6-18

## Fiber Units



Best suited for installation in a narrow area. Secure with a set screw.

6-25

## Limit Switch Mounting Bracket



Use to mount a limit switch, allowing a proper position for product confirmation to be secured.

6-19

## Fiber Amplifier Unit



Amplifier for optical fiber.

6-26

## Auto Switch (Reed · Contactless)



It can be used for container cylinders and mini cylinders.

6-20

## Proximity Sensor



Micro proximity sensor.

6-30

## High-Precision Cylinder Sensor



Detect even a tiny stroke with stability and certainty.

6-21

## Multi AND Board



Many sensor inputs are integrated in the board. And it is output from a point to the robot.

6-32

## Photo Sensor



No amplifier is required ! Special-purpose mounting brackets are also provided for jungle gym and let's joint.

6-22

## PCIO Communication Unit



Two power lines allows simple wiring between units for power supply and input/output communication

6-34



# Star Sensor

Internal reed switch to improve durability.

- ▶ Silicone rubber is adopted at the tip to prevent damage to the product.
- ▶ Lightweight (14g) and compact design.



## Star sensor

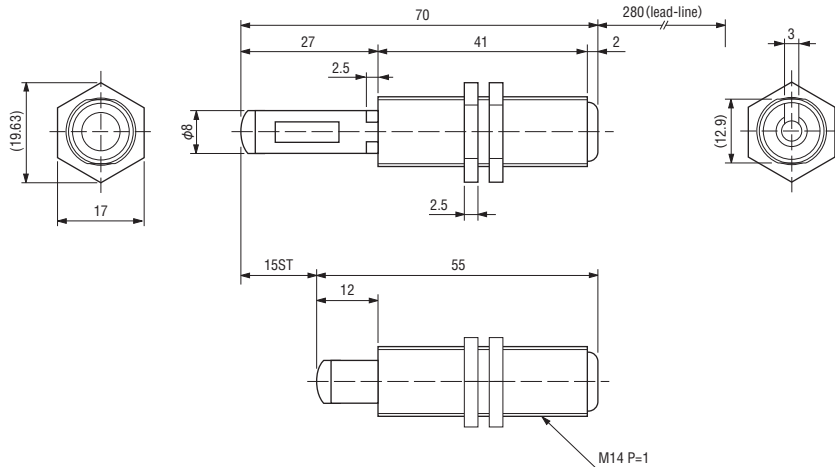
Order code No.	<b>181139</b>
TYPE	<b>SSW-15</b>

- Weight : 14g
- With 280mm lead line.
- Sensing-stroke range : 2.5mm-15mm

## Replacement rubber head for SSW-15

Order code No.	<b>270449</b>
TYPE	<b>14103301 (SSW-15)</b>

- (One set/5 pcs)



## Electrical specifications

TYPE		SSW-15
Contact point	Contact point type	1A
	Contact position	Off center gap
	Maximum contact capacity	20W
	Maximum open/close voltage	200VDC
	Maximum open/close electric current	0.5A
Electric Characteristic	Turn-on value*1	15-50A*1
	Detecting stroke	2.5mm ~ 15mm
	Open value*1	5A (min)
	Withstand voltage*2	250VDC
Others	Surrounding temperature	-25°C to 80°C
	Useful life	1 × 10 <sup>8</sup> times / DC10mV-10μA
		1 × 10 <sup>7</sup> times / DC10V-4mA
		250 × 10 <sup>4</sup> times / DC20V-0.5A
Connection method	Code drawing type (280mm)	
Spring force	0.5N	

\*1 Crossing in shipment : ±2A

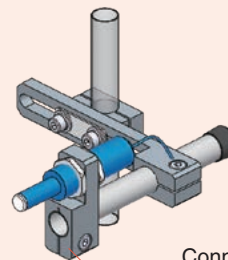
\*2 Voltage withstanding standard: turn-on value 25A or more

## Body specifications

TYPE		SSW-15
Weight		20g
Material	Main body	PA
	Shaft	PA
	Rubber head	Silicone
Accessories		Hexagon nut M14 × P1 (2 pcs)

\* Do not put a strong shock from the outside.

## Example of usage



Connector for SSW  
N01861-108  
**181139**

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Quick Chuck Change Manual (OM Type)

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Automated Hand Exchange System

## Grip

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Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

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Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

## Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

## Frame / Module

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Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

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Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

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## By Industry

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## Assembling Tools

Tool / Jig

## Information

Various Products Information



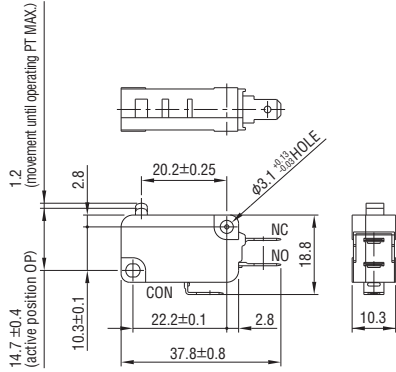
# Micro Switch / Limit Switch

Easy-to-use small limit switches.

**Micro Switch**

Order code No.	<b>210843</b>
TYPE	<b>VX-5-1A2</b>

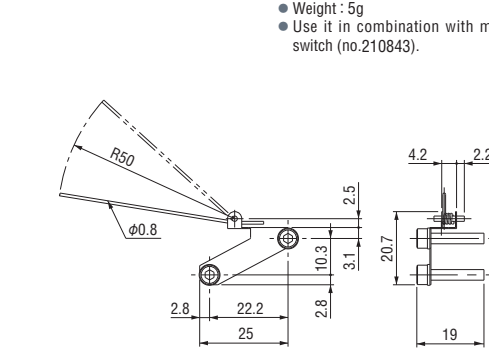
- Weight : 6g



**Limit switch hinge lever**

Order code No.	<b>210414</b>
TYPE	<b>VAV-5</b>

- Weight : 5g
- Use it in combination with micro switch (no.210843).



**Connection terminal**

Order code No.	<b>196749</b>
TYPE	<b>TMEDN480509-FA</b>

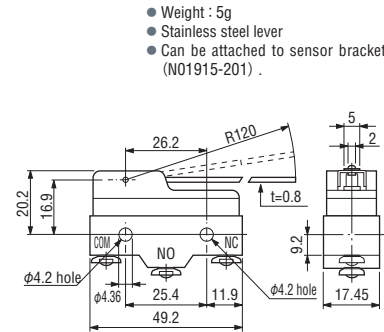
- Weight : 0.8g



**Limit Switch**

Order code No.	<b>250012</b>
TYPE	<b>Z-15HW24-B</b>

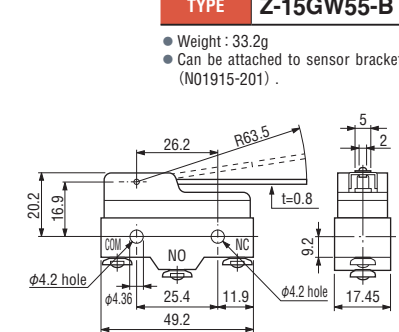
- Weight : 5g
- Stainless steel lever
- Can be attached to sensor bracket (NO1915-201).



**Limit Switch (w/o Spring)**

Order code No.	<b>250006</b>
TYPE	<b>Z-15GW55-B</b>

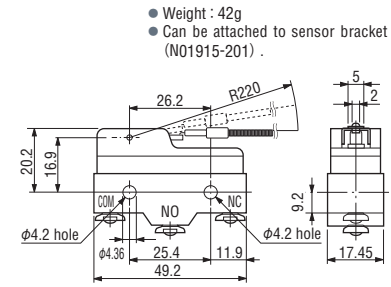
- Weight : 33.2g
- Can be attached to sensor bracket (NO1915-201).



**Limit switch · hinge lever type**

Order code No.	<b>250017</b>
TYPE	<b>Z-15GW55-B (NC W/SPRING)</b>

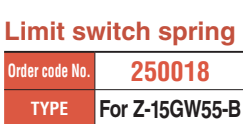
- Weight : 42g
- Can be attached to sensor bracket (NO1915-201).



**Limit switch spring**

Order code No.	<b>250018</b>
TYPE	<b>For Z-15GW55-B</b>

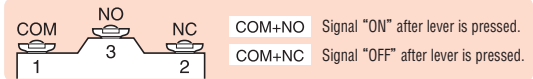
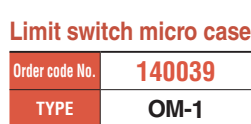
- Weight : 8g
- Exchange parts for Z-15GW55.



**Limit switch micro case**

Order code No.	<b>140039</b>
TYPE	<b>OM-1</b>

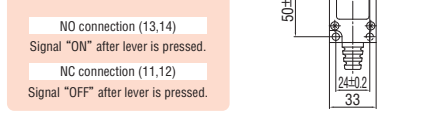
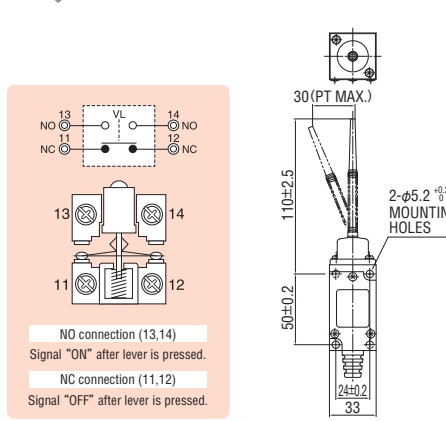
- Weight : 19g
- Mounting screws are not included.
- Protective parts for Z-15GW55



**Limit Switch**

Order code No.	<b>073334</b>
TYPE	<b>HL-5300</b>

- Weight : 134g



Pneumatic Components / Sensors • Sensors / Multi AND Board



# Limit Switch Mounting Bracket

Use to mount a limit switch, allowing a proper position for product confirmation to be secured.



Order code No.	<b>020837</b>
TYPE	<b>CP-059-A</b>

- Weight : 9g
- For Micro Switch (VX-5-1A5)

Order code No.	<b>020838</b>
TYPE	<b>CP-059-B</b>

- Weight : 10g
- For Micro Switch (VX-5-1A5)



Order code No.	<b>020839</b>
TYPE	<b>CP-059-C</b>

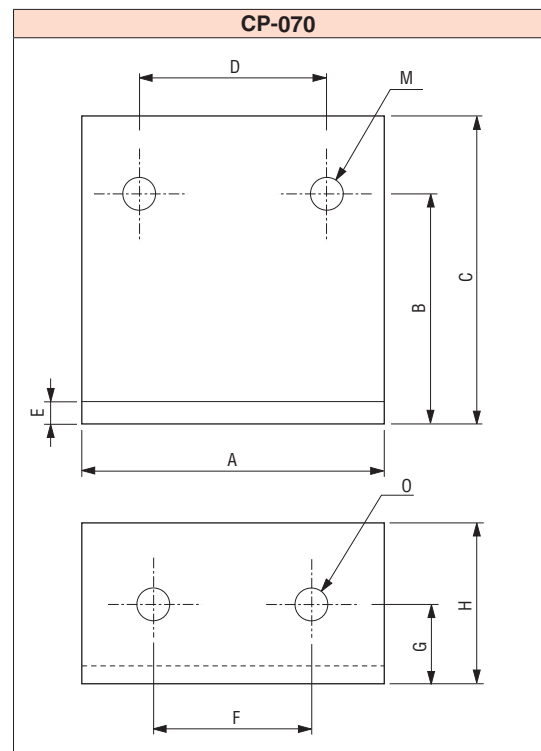
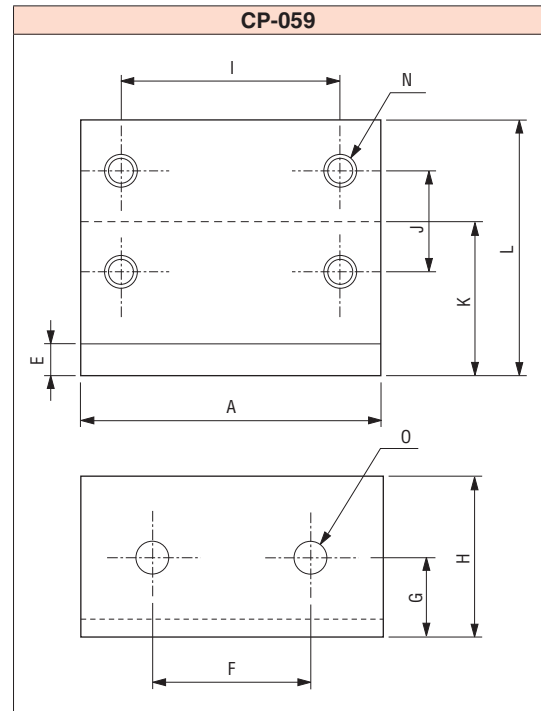
- Weight : 11g
- For Micro Switch (VX-5-1A5)

Order code No.	<b>021009</b>
TYPE	<b>CP-070</b>

- Weight : 17g
- For Limit Switch (Z-15HW)

## Dimensions (mm)

TYPE	CP-059-A	CP-059-B	CP-059-C	CP-070
A		30		40
B		—		30
C		—		40
D		—		25.5
E		3		3
F		20		20
G		10		10
H		20		20
I		22		—
J		10		—
K	15	20	25	—
L	25	30	35	—
M		—		M4
N		M3		—
O		M4		M4
Remarks	For VX-5-1A2			For Z-15HW24-B For Z-15GW55-B



### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

### Lightweight Parts Series

Frame / Suction / Resin Cylinders / Pads / Resin Manifolds

### By Industry

Logistics-Palletizing/Sheet Metal-Stamping-Metal Fabrication

### Assembling Tools

Tool / Jig

### Information

Various Products Information



# Auto Switch (Reed·Contactless)

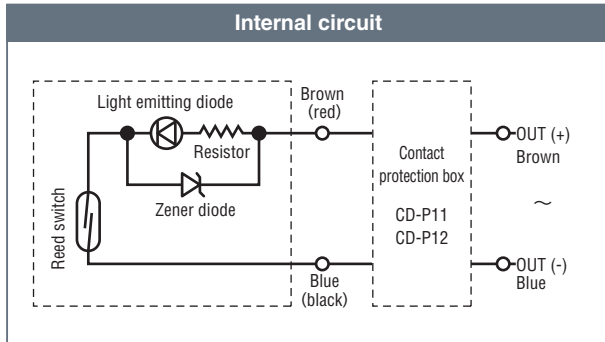
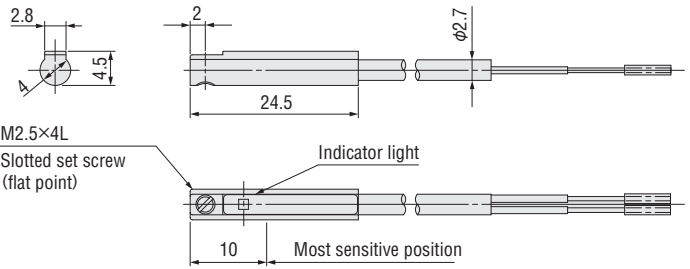
Can be attached to container cylinder and resin mini cylinder.



## Auto switch (Reed SW)

Order code No.	<b>030282</b>
TYPE	<b>D-A93</b>

- Weight : 6g
- Length : 0.5m
- Terminal process is not made.



## ■ Specification

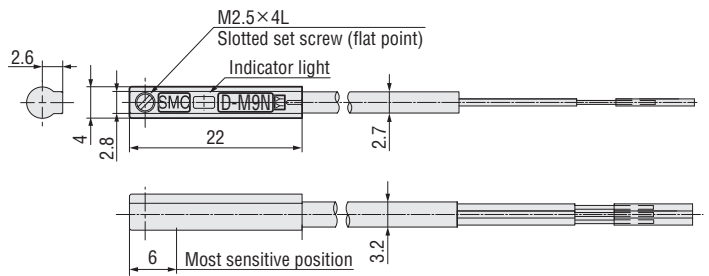
TYPE	D-A93 (With indicator light)
Applicable load	relay, PLC
Load voltage	24VDC
Load current range	5 ~ 40mA
Contact protection circuit	none
Internal voltage drop	2.4V or Less (~20mA) / 3V or Less (~40mA)
Indicator light	Red LED illuminates when turned ON
Standard	CE / UKCA marking
Lead wire	0.5M Load (brown), - (blue)



## Auto switch (contactless)

Order code No.	<b>030425</b>
TYPE	<b>D-M9N</b>

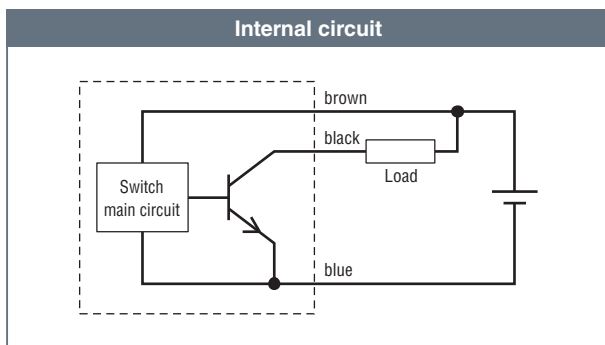
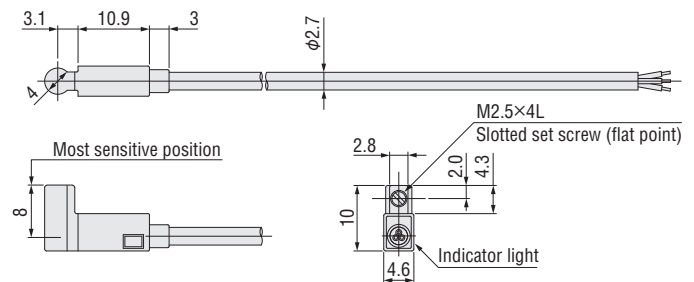
- Weight : 8g
- Length : 0.5m
- Terminal process is not made.



## Auto switch (contactless)

Order code No.	<b>030500</b>
TYPE	<b>D-F8N</b>

- Weight : 7g
- Length : 0.5m
- Terminal process is not made.



## ■ Specification

TYPE	D-F8N · D-M9N
Output Type	NPN type
Applicable load	IC circuit, DC24V relay, PLC
Power supply voltage	DC5 · 12 · 24V (DC4.5 ~ 28V)
Current consumption	10mA or less
Load voltage	28VDC or less
Load current	40mA or less
Internal voltage drop	0.8V or less at 10mA (2V or less at 40mA)
Leakage current	100 $\mu$ A or less at DC24V
Indicator light	Red LED illuminates when turned ON
Standard	CE marking, RoHS
Lead wire	0.5M + V (brown), Load (black), 0V (blue)





# High-Precision Cylinder Sensor

Suitable for mini cylinders (MEC) and container cylinders. Detect even a tiny stroke with stability and certainty.

NEW



## High-Precision Cylinder Sensor (N-pole)

Order code No.	002433
TYPE	ACH02LN

● Weight : 10.8g

## High-Precision Cylinder Sensor (S-pole)

Order code No.	002434
TYPE	ACH02LS

● Weight : 10.7g

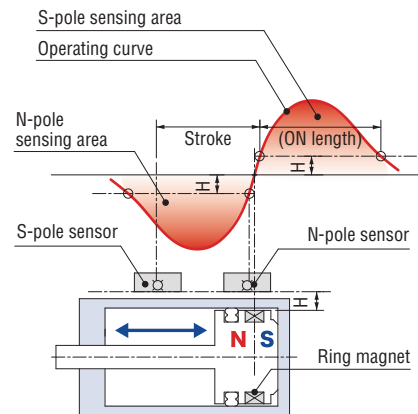
### ■ Features

- ▶ Stable functioning even with a 1mm stroke
- ▶ Stable operational points' dependability
- ▶ Superior performance in the harsh environments of vibration, heat etc.
- ▶ Fast response less than 5  $\mu$  s
- ▶ Usually combined with N pole and S pole.

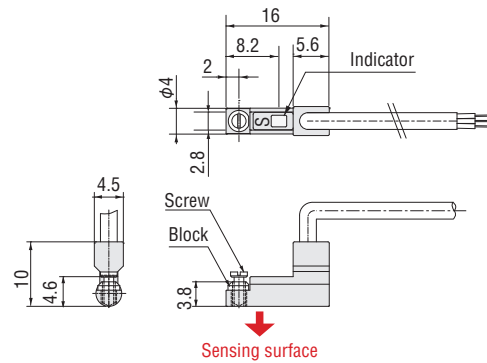
### ■ Specification

TYPE	ACH02LN	ACH02LS
Specification	3-wire L-shaped for trench $\phi$ 4	
Power supply voltage	DC5 ~ 24V	
Detecting magnetic poles	N-pole	S-pole
Magnetic sensitivity	3 ~ 4mT	
Direction to detect	Downward	
Output specification	NPN open-collector (ON when in proximity)	
Output Current	20mA MAX	
Consumption current	8mA MAX	
Response time	16 $\mu$ sec max.	
Voltage Resistance	AC1000V (1 minute / packaged changing / between the case)	
Insulation Resistance	DC 250V (Over 20M $\Omega$ in megohms / between the case)	
Operation Temperature Range	- 20 $^{\circ}$ C ~ + 85 $^{\circ}$ C (without condensation)	
Operation Humidity Range	20 ~ 95% RH	
Cable length	1m	
Cable specification	Black (N pole)	Grey (S pole)
Case material	GF reinforced PBT (black)	
Mounting	Attachment screws 0.06N $\cdot$ m	
Indicator light	Red	
Protective structure	IP67	

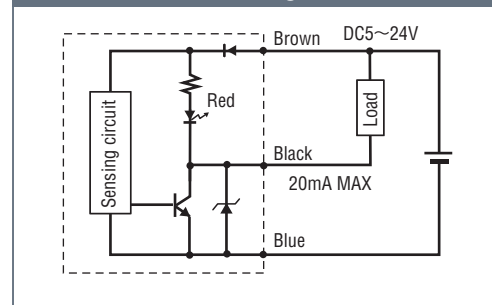
## Operation curve of our products



### ■ Outside dimension



### Circuit diagram



### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

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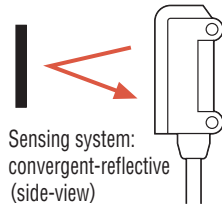
Various Products Information



# Photo Sensor

No amplifier is required ! Special-purpose mounting brackets are also provided for jungle gym and let's joint.

► Can be used with AND board.

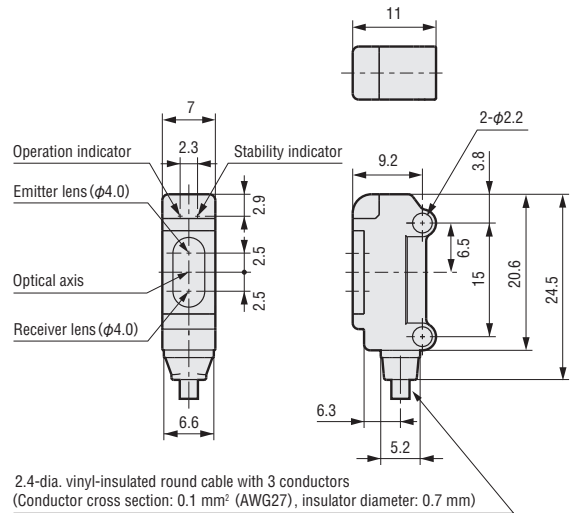


Order code No.	<b>041412</b>
TYPE	<b>E3T-SL21R (NPN)</b>

● Length : 2m

Order code No.	<b>041649</b>
TYPE	<b>E3T-SL23R (PNP)</b>

● Length : 2m



\* Wiring : brown (+V), black (load), blue (0V)

## ■ Specification

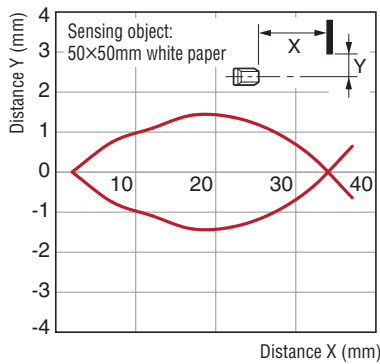
TYPE	E3T-SL21R (NPN)	E3T-SL23R (PNP)
Sensing system	Convergent-reflective (side-view)	
Output system	NPN output	PNP output
Sensing distance	5 to 30mm (50×50mm white paper)	
Minimum detectable object	0.15-mm dia. (sensing distance of 10mm)	
Hysteresis (white paper)	6mm max.	
Light source (wavelength)	Red LED (650nm)	
Power supply voltage	12 to 24VDCI 10%, ripple (p-p) 10% max.	
Current consumption	20mA max.	
Control output (Light-ON)	Load power supply voltage 26.4VDC max.	
	Load current: 50mA max. (residual voltage : 2V max. for load current of 10 to 50mA, 1V max. for load current of less than 10mA)	
	Open-collector output	
Protection circuits	power supply and control output reverse polarity protection, output short-circuit protection, mutual interference prevention	
Response time	Operate or reset 1ms max.	
Ambient illumination	Incandescent lamp 5,000lx max., sunlight 10,000lx max.	
Ambient temperature range	Operating : -25 to 55 °C (with no icing or condensation), Storage : -40 to 70 °C (with no icing or condensation)	
Ambient humidity range	operating 35% to 85%, storage : 35% to 95% (with no condensation)	
Insulation resistance	20M Ω min. at 500 VDC	
Dielectric strength	1,000VAC、50/60Hz、1min	
Vibration resistance (Destruction)	10 to 2,000Hz, 1.5-mm double amplitude or 300m/s <sup>2</sup> for 0.5 hrs each in X, Y, and Z directions	
Shock resistance (Destruction)	1,000m/s <sup>2</sup> 3 times each in X, Y, and Z directions	
Degree of protection	IP67 (IEC60529)	
Connection method	Pre-wired (standard length : 2m)	
Weight	Approx 20g	
Material	case	PBT (polyethyleneterephthalate)
	Display window	denatured polyarylate
	Lens	denatured polyarylate
Accessories	Instruction manual, Set screws for mounting (M2×14), Nuts	

## Input/output stage circuit diagram

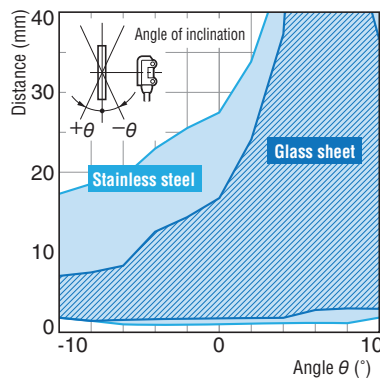
TYPE	Operation mode	Time chart	Output circuit
SE3T-SL21R (NPN output)	Light ON	Light incident Light interrupted	
		Operation indicator (orange) ON OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between brown(1) and black(4) leads)	
SE3T-SL23R (PNP output)	Light ON	Light incident Light interrupted	
		Output transistor ON OFF Output transistor ON OFF Load (e.g., relay) Operate Reset (Between blue(3) and black(4) leads)	

## Technical characteristics

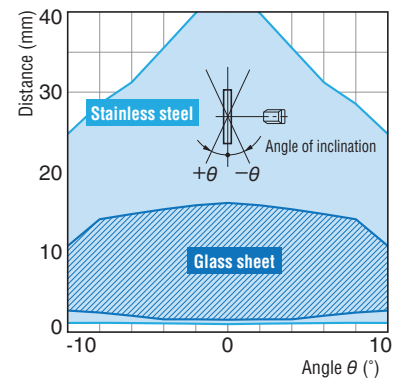
### Operation area characteristics



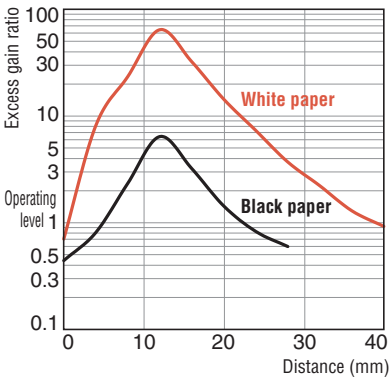
### Inclination detection area characteristics (Top to bottom)



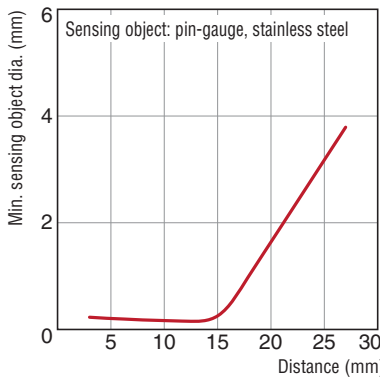
### Inclination detection area characteristics (Right to left)



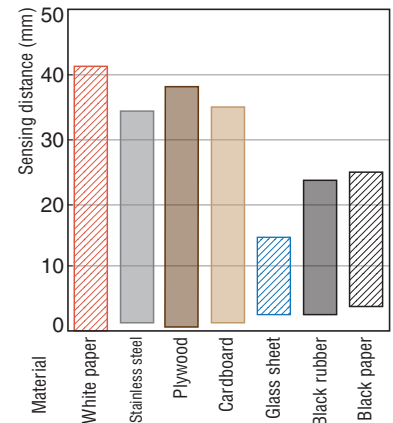
### Detected object size – Distance characteristics



### Light-receiving output – Distance characteristics



### Detection distance – Material characteristics



## Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

## Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

## Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

## Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

## Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

Lightweight Parts Series

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

## By Industry

Logistics - Palletizing / Sheet Metal - Stamping - Metal Fabrication

## Assembling Tools

Tool / Jig

Information

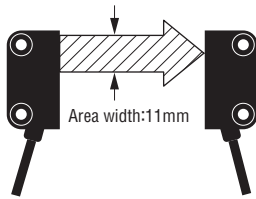
Various Products Information



# Photo Area Sensor

Can be used for passing fine workpieces.

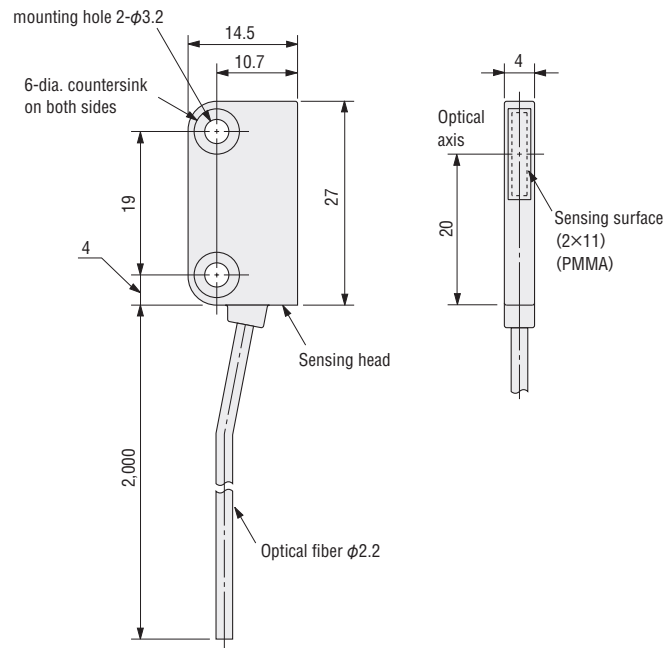
Space-saving reflection type can be provided as a special-order product.



## Photo area sensor

Order code No.	<b>041415</b>
TYPE	<b>E32-T16PR</b>

- Use the product with the optical amplifier sold separately.
- Length : 2m
- Material : heat-resistant ABS
- Provided with stickers with slits of width 0.5 and 1 mm(2 of each)



## Specification

Fiber unit	E32-T16PR			
Sensing system	area-sensing			
Sensing distance (mm) *1	1,100	840	560	220
Surrounding temperature *2	- 40°C to 70°C			
Surrounding humidity *2	35% to 85% RH			
Fiber material	Plastic (vinyl chloride coated)			
Degree of protection	IP50 (IEC)			

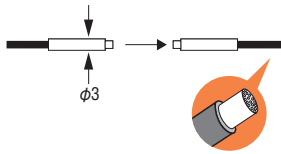
\*1 ■ High-resolution mode ■ Standard mode ■ High-speed mode ■ Super-highspeed mode (When used in combination with the E3X-DA-S Amplifier Unit (general-purpose).)

\*2 No freezing or no dew condensation shall occur under the operating surrounding temperature and humidity.



# Fiber Units

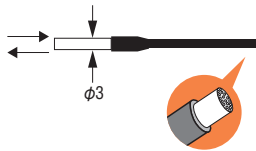
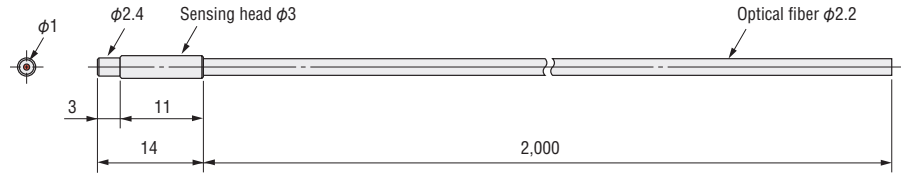
Best suited for installation in a narrow area. Secure with a set screw.



## Fiber unit • φ3mm through beam

Order code No.	<b>041413</b>
TYPE	<b>E32-T12R</b>

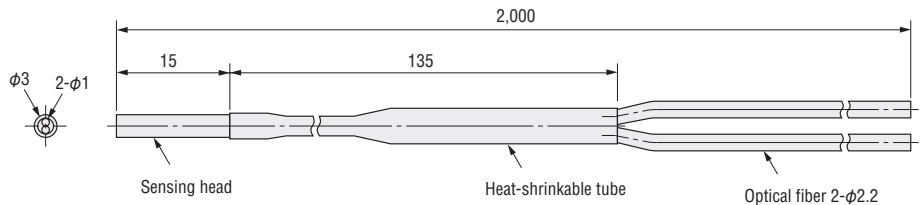
- Use the product with the optical amplifier sold separately.
- Length : 2m (including detection head section)
- Detection head quality : Brass nickel plating



## Fiber unit • φ3mm reflect

Order code No.	<b>041414</b>
TYPE	<b>E32-D12R</b>

- Use the product with the optical amplifier sold separately.
- Length : 2m (including detection head section)
- Detection head quality : Stainless (SUS304)



## ■ Specification

Fiber unit	E32-T12R	E32-D12R																
Sensing system	Through-beam fiber units	Fiber units with reflective sensors																
Sensing distance (mm) *1	<table border="1"> <tr> <td>High-resolution mode</td> <td>700</td> <td>Standard mode</td> <td>530</td> </tr> <tr> <td>High-speed mode</td> <td>350</td> <td>Super-highspeed mode</td> <td>140</td> </tr> </table>	High-resolution mode	700	Standard mode	530	High-speed mode	350	Super-highspeed mode	140	<table border="1"> <tr> <td>High-resolution mode</td> <td>300</td> <td>Standard mode</td> <td>170</td> </tr> <tr> <td>High-speed mode</td> <td>120</td> <td>Super-highspeed mode</td> <td>50</td> </tr> </table>	High-resolution mode	300	Standard mode	170	High-speed mode	120	Super-highspeed mode	50
High-resolution mode	700	Standard mode	530															
High-speed mode	350	Super-highspeed mode	140															
High-resolution mode	300	Standard mode	170															
High-speed mode	120	Super-highspeed mode	50															
Surrounding temperature *2	- 40°C to 70°C																	
Surrounding humidity *2	35% to 85% RH																	
Fiber material	Plastic (vinyl chloride coated)																	
Degree of protection	IP67 (IEC)																	

- \* 1 High-resolution mode   Standard mode   High-speed mode   Super-highspeed mode (When used in combination with the E3X-DA-S Amplifier Unit (general-purpose).)  
 \* 2 No freezing or no dew condensation shall occur under the operating surrounding temperature and humidity.

### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

### Lightweight Parts Series

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

### By Industry

Logistics-Palletizing / Sheet Metal-Stamping-Metal Fabrication

### Assembling Tools

Tool / Jig

### Information

Various Products Information



# Fiber Amplifier Unit

Amplifier for optical fiber.

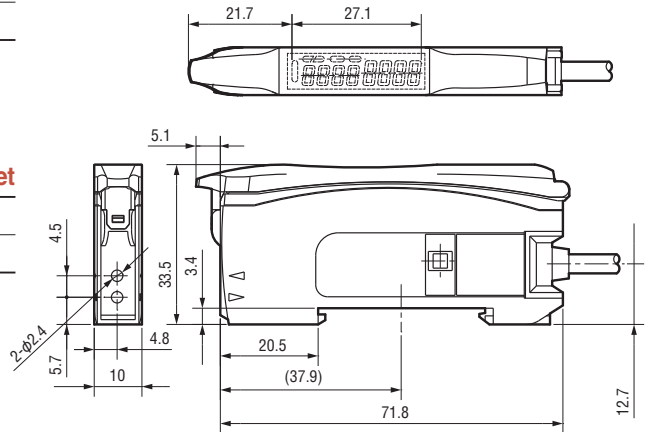


Order code No.	<b>041954</b>
TYPE	<b>E3X-HD11 2M</b>

- Function : AND/OR output
- Length : 2m
- NPN specification

### Fiber amplifier mounting bracket

Order code No.	<b>041697</b>
TYPE	<b>E39-L143</b>



## Input / output stage circuit diagram

TYPE	Operation mode	Time chart	Operation selector	Output circuit
E3X-HD11 (2M)	Light ON	Incident light: [Red bar] / No incident light: [Red bar] OUT indicator (orange): Lit [Red bar] / No lit [Red bar] Output transistor: ON [Red bar] / OFF [Red bar] Load (e.g., relay): Operation [Red bar] / Reset [Red bar] (Between brown and black leads)	L·ON (LIGHT ON)	
	Dark ON	Incident light: [Red bar] / No incident light: [Red bar] OUT indicator (orange): Lit [Red bar] / No lit [Red bar] Output transistor: ON [Red bar] / OFF [Red bar] Load (e.g., relay): Operation [Red bar] / Reset [Red bar] (Between brown and black leads)	D·ON (DARK ON)	

## Part names

### L/D Indicator

Indicates the setting status: Light-ON (L) or Dark-ON (D).

### OUT Indicator

Turns ON when the output is ON.

### DPC Indicator

Turns ON when Dynamic Power Control is effective.

### ST Indicator

Turns ON when Smart Tuning is in progress.

### △L/D Button

Use to switch between Light-ON (L) and Dark-ON (D).

### STUNE Button

Automatically sets the emitter power and set values.

Threshold Level Green digital display

Incident Level Red digital display

### MODE Button

Use to switch between Detection Mode and Setting Mode.

### +-UP/DOWN Button

Used to fine-tune the threshold or change set values.





## Specification

TYPE		E3X-HD11 2M
Light source (wavelength)		Red, 4-element LED (625 nm)
Power supply voltage		12 to 24 VDC ± 10%, ripple(p-p) 10% max
Power consumption		720 mW max. (Current consumption: 30 mA max. at 24 VDC, 60 mA max. at 12 VDC)
Control output	Load power supply voltage	26.4VDC max Open-collector output
	Load current	Groups of 1 to 3 Amplifier Units: 100mA max., Groups of 4 to 16 Amplifier Units: 20mA max
	Residual voltage	At load current of less than 10 mA: 1 V max., At load current of 10 to 100 mA: 2 V max.
	OFF current	0.1 mA max
Protection circuits		Power supply reverse polarity protection, output short-circuit protection and output reverse polarity protection
Response time	Super-highspeed mode*	NPN output : Operate or reset : 50 μs
	High-speed mode	Operate or reset : return : 250 μs (default setting)
	Standard mode	Operate or reset : 1 ms
	Giga power mode	Operate or reset : 16ms
Mutual interference prevention		Possible for up to 10 units (optical communications sync)*
Automatic power control		Always ON
Other functions		Power tuning, differential detection, DPC, timer (OFF-delay, ON-delay, or one-shot), zero reset, resetting settings, and Eco mode
Ambient illumination		Incandescent lamp: 20,000 lx max., Sunlight: 30,000 lx max.
Ambient temperature range		Operating : Groups of 1 to 2 Amplifiers: - 25 to 55°C, Groups of 3 to 10 Amplifiers: - 25 to 50°C, Groups of 11 to 16 Amplifiers: - 25 to 45°C Storage : - 30 to 70°C (with no icing or condensation)
Ambient humidity range		Operating and storage : 35% to 85% (with no condensation)
Insulation resistance		20M Ω min. (at 500 VDC)
Dielectric strength		1,000 VAC at 50/60 Hz for 1 minute
Vibration resistance (Destruction)		10 to 55 Hz with a 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions
Shock resistance (Destruction)		500m/s <sup>2</sup> for 3 times each in X, Y, and Z directions
Degree of protection		IEC 60529 IP50 (with Protective Cover attached)
Weight (packed state/unit only)		About 105g/about 64g
Materials	Case	Polycarbonate (PC)
	Cover	Polycarbonate (PC)
	Cable	PVC
Accessories		Instruction manual

\* The communications function and mutual interference prevention function are disabled when the detection mode is set to Super-high-speed mode (SHS).  
When including E3X-DA-S with activated power tuning, mutual interference prevention is possible for up to 6 units. When including E3X-MDA with activated power tuning, mutual interference prevention is possible for up to 5 units.

## Safety Precautions

### Warning



This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.

### Notes on use

Do not use this product under ambient atmosphere and environment exceeding the rating.

● For design (operation at power on)

The sensor becomes detectable within 200 ms after the power is turned on. If the load and the sensor are connected to separate power supply units, be sure to turn on the sensor power supply first.

### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

### Lightweight Parts Series

Frame / Suction / Resin Cylinders / Pads / Resin Manifolds

### By Industry

Logistics-Palletizing/Sheet Metal-Stamping-Metal Fabrication

### Assembling Tools

Tool / Jig


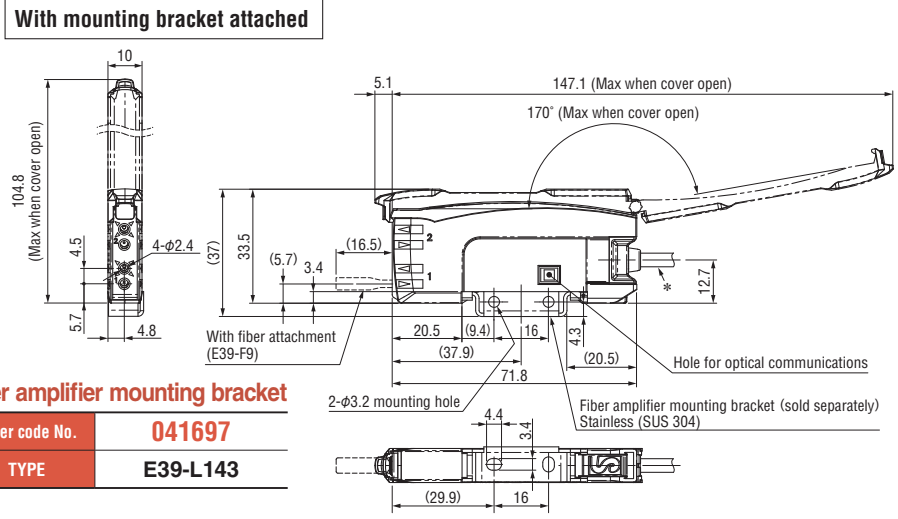
### Information

Various Products Information

# Fiber Amplifier Unit

- ▶ Two optical fibers could be connected, the installation space become 1 / 2. Contribute to the miniaturization of equipment and control board in space saving.

**With mounting bracket attached**

**Fiber amplifier mounting bracket**

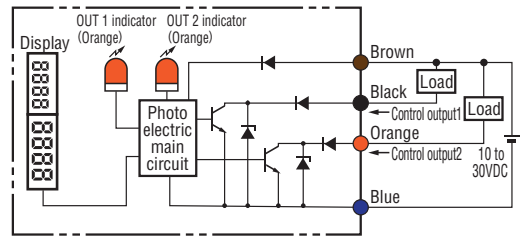
Order code No.	<b>042093</b>	Order code No.	<b>041697</b>
TYPE	<b>E3NX-MA11</b>	TYPE	<b>E39-L143</b>

● Function: AND/OR output    ● Two channel type  
● Length : 2m    ● NPN specification


\* Cord specification

Type	Outer diameter	Number of wire cores	Others
<b>E3NX-MA11</b>	φ 4.0	4-core	Conductor cross section: 0.2mm <sup>2</sup> Insulator diameter: φ 0.9mm

## Input / output stage circuit diagram (NPN Output)

TYPE	Operation mode	Time chart	MODE Switching button	Output circuit
<b>E3NX-MA11 (NPN)</b>	Light-ON	Incident light No incident light OUT indicator (orange) Lit No lit Output transistor ON OFF Load (e.g., relay) Operation Reset (Between brown and black leads)	L·ON (LIGHT ON)	
	Dark-ON	Incident light No incident light OUT indicator (orange) Lit No lit Output transistor ON OFF Load (e.g., relay) Operation Reset (Between brown and black leads)	D·ON (DARK ON)	

## Part names



**L/D Indicator**  
Indicates the setting status: Light-ON (L) or Dark-ON (D).

**OUT 1 Indicator / OUT 2 Indicator**  
When OUT1 or OUT2 is ON.

**STUNE Button**  
Automatically sets the emitter power and set values.

**Threshold Level Green digital display**  
**Incident Level Red digital display**

**OUT 1 Indicator**  
**OUT 2 Indicator**  
The indicator for the selected output channel is it.

**DPC Indicator**  
Turns ON when Dynamic Power Control is effective.

**ST Indicator**  
Turns ON when Smart Tuning is in progress.

**△L/D Button**  
Use to switch between Light-ON (L) and Dark-ON (D).

**MODE Button**  
Use to switch between Detection Mode and Setting Mode.

**+ - UP/DOWN Button**  
Used to fine-tune the threshold or change set values.

## Specification

TYPE		E3NX-MA11 (NPN)
Light source (wavelength)		Red, 4-element LED (625 nm)
Power supply voltage		10 to 30 VDC, Including 10%, ripple (p-p)
Power consumption		960 mW max. (current consumption at 40mA max.)
Control output	Load power supply voltage	30VDC max, open-collector output*1
	Load current	100mA max.; residual voltage : 1V max.
Protection circuits		Power supply reverse polarity protection, output short-circuit protection and output reverse polarity protection
Response time	Super-highspeed mode*2	Operate or reset : 130 $\mu$ s*2*3
	High-speed mode	Operate or reset : 450 $\mu$ s
	Standard mode	Operate or reset : 1ms
	Giga power mode	Operate or reset : 16ms
Sensitivity setting		Teaching or manual method
Functions	Power tuning	Select from ON/OFF
	Timer	Select from OFF-delay, ON-delay, or one-shot timer.
	Automatic power control	Equipped (Always effective)
	Zero-reset	Negative values can be displayed. (Threshold value is shifted.)
	Initial reset	Settings can be returned to defaults as required.
	Mutual interference prevention	Possible for up to 9 units (18 channels)*4
Indicators		Operation indicator 1ch (orange) ,Operation indicator 2ch (orange)
Digital display		Select from incident level for channel 1 + incident level for channel 2 or other 7 patterns
Display orientation		Switching between normal / reversed display is possible.
Ambient illumination		Incandescent lamp : 20,000 max. Sunlight : 30,000 max.
Ambient temperature range		Operating : Groups of 1 to 2 Amplifier Units : -25°C to 55°C , Groups of 3 to 10 Amplifier Units : -25°C to 50°C , Groups of 11 to 16 Amplifier Units : -25°C to 45°C Storage : -30 to 70°C (with no icing or condensation)
Ambient humidity range		Ambient humidity range : Operating and storage : 35% to 85% (with no condensation)
Insulation resistance		20M $\Omega$ min. (at 500 VDC)
Dielectric strength/Vibration resistance /Shock resistance		1,000 VAC at 50/60 Hz for 1 minute / Destruction: 10 to 55 Hz with a 1.5-mm double amplitude for 2 hrs each in X, Y and Z directions
Degree of protection		IEC 60529 IP50 (w / protective cover attached)
Connection method		Code drawing type (2m)
Weight (packed state)		About 190g
Material		Case : Polybutylene terephthalate (PBT) , Cover : Polycarbonate (PC)
Accessories		Instruction manual

\*1 Depends on the NPN/PNP output system.

\*2 Communications are disabled if the detection mode is selected during super-high-speed mode, and the communications functions for mutual interference prevention and the Mobile Console will not function.

\*3 When differential output is selected for the output setting, the second channel output is 200  $\mu$ s for operation and reset respectively.

\*4 Mutual interference prevention can be used for up to 5 units (10 channels) if power tuning is enabled.

## Safety Precautions

### Warning



This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.

### Notes on use

Do not use this product under ambient atmosphere and environment exceeding the rating.

#### ● For design (operation at power on)

The sensor becomes detectable within 200 ms after the power is turned on. If the load and the sensor are connected to separate power supply units, be sure to turn on the sensor power supply first.

### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

### Grip

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

### Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

### Pneumatic Components / Sensors

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

### Lightweight Parts Series

Frame / Suction / Resin Cylinders / Pads / Resin Manifolds

### By Industry

Logistics-Palletizing/Sheet Metal-Stamping-Metal Fabrication

### Assembling Tools

Tool / Jig

### Information

Various Products Information



# Proximity Sensor

Micro proximity sensor.



Order code No.	<b>041417</b>
TYPE	<b>E2S-W13 (NPN)</b>

● Length : 1m



Order code No.	<b>041640</b>
TYPE	<b>E2S-W15 (PNP)</b>

● Length : 1m



Order code No.	<b>041773</b>
TYPE	<b>E2S-W13-R-S (NPN)</b>

● Length : 1m  
● Please utilize it as the sensor for the runner chuck (E, E1 Series) due to the improved vibration resistance standard.

## ■ Specification

TYPE		E2S-W13 (NPN)	E2S-W15 (PNP)	E2S-W13-R-S (NPN)
Sensing surface		Top		
Sensing distance		1.6mm ± 15%		
Set distance		0 ~ 1.2mm		
Differential travel		10% max. of sensing distance		
Detectable object		Ferrous metal (The sensing distance decreases with non-ferrous metal.)		
Standard sensing object		Iron, 12 × 12 × 1mm		
Response frequency*1		1kHz (Average value)		
Power supply voltage (operating voltage range)		12 to 24 VDC (10 to 30 VDC), ripple (p-p) : 10% max.		
Current consumption		13mA max. at 24VDC (no-load)		
Control output	Load current	NPN open-collector output, 50mA max. (30VDC max.)	PNP open-collector output, 50mA max. (30VDC max.)	NPN open-collector output, 50mA max. (30VDC max.)
	Residual voltage	1.0V max. (load current of 50mA with cable length of 1m)		
Indicators		Operation indicator (orange)		
Operation mode (with sensing object approaching)		NO		
Protection circuits		Power supply reverse polarity protection, surge suppressor		
Ambient temperature range		Operating : -25 to 70°C (with no icing or condensation), Storage : -40 to 85°C (with no icing or condensation)		
Ambient humidity range		operating : 35% to 90% (with no condensation), storage : 35% to 95% (with no condensation)		
Temperature influence		± 15% max. of sensing distance at 23°C in the temperature range of -25 to 70°C		
Voltage influence		± 2.5% max. of sensing distance at rated voltage in rated voltage ± 10% range		
Insulation resistance		Between charged parts and the case : 50 MΩ min. (at 500 VDC)		
Dielectric strength		Between charged parts and the case : 1,000VAC 50/60 Hz for 1 min		
Vibration resistance (Destruction)		10 to 55Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions		
Shock resistance (Destruction)		500m/s <sup>2</sup> 3 times each in X, Y, and Z directions		
Degree of protection		IEC 60529 IP67		
Connection method		Pre-wired models (1m)		
Weight		Approx 20g	Approx 30g	
Material (case)		polyarylate		
Accessories		Mounting brackets*2		

\* 1 The response frequency is an average value. Measurement conditions are as follows: standard sensing object, a distance of twice the standard sensing object, and a set distance of half the sensing distance.

\* 2 Not for runner chuck. See page → [2-33.35](#) for runner chuck.

**Quick Chuck Change**

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

**Grip**

Mini Cylinder

Accessories for Mini Cylinder

Container Cylinders

Accessories for Container Cylinder

Grippers

Rubber Material / Grip Pad

**Suction**

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

**Cut**

Air Nipper (Small-Medium)

Air Nipper (Large)

**Frame / Module**

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

**Pneumatic Components / Sensors**

Pneumatic Components

Sensors / Multi AND Board

PCIO Communication Unit

**Lightweight Parts Series**

Frame / Section / Resin Cylinders / Pads / Resin Manifolds

**By Industry**

Logistics - Palletizing / Sheet Metal - Stamping - Metal Fabrication

**Assembling Tools**

Tool / Jig

**Information**

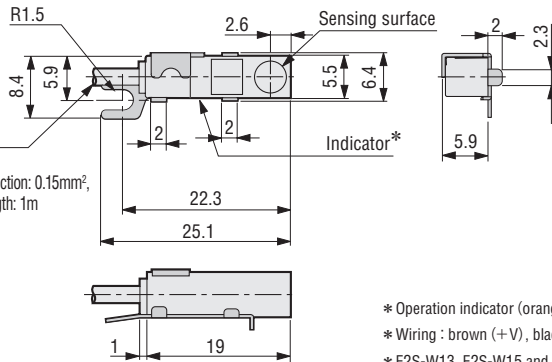
Various Products Information

**With mounting bracket attached**

Vinyl insulation round type cord  
 φ2.9. vinyl-insulated round cable  
 with 2 / 3 conductors (conductor cross section: 0.15mm<sup>2</sup>,  
 insulator diameter: 0.9 mm), standard length: 1m



Shape: Unshield



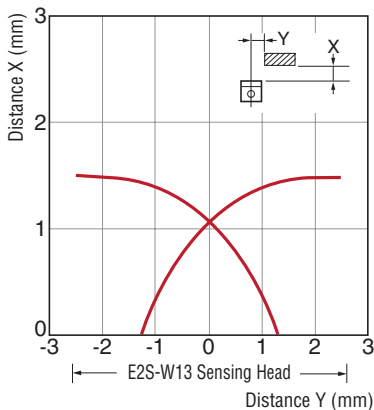
- \* Operation indicator (orange)
- \* Wiring : brown (+V), black (load), blue (0V)
- \* E2S-W13, E2S-W15 and E2S-W13-R-S have the same size.

**Input/output stage circuit diagram**

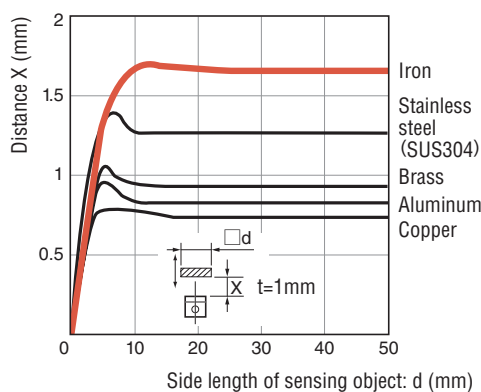
TYPE	Operation mode	Output system	Timing chart	Output circuit
E2S-W13 (NPN) E2S-W13-R-S (NPN)	NO	NPN	<p>Sensing object Present / Not present</p> <p>Output transistor (Load) ON / OFF</p> <p>Operation indicator (orange) ON / OFF</p>	<p>*Load current: 50mA max.</p>
E2S-W15 (PNP)	NO	PNP	<p>Sensing object Present / Not present</p> <p>Output transistor (Load) ON / OFF</p> <p>Operation indicator (orange) ON / OFF</p>	<p>*Load current: 50mA max.</p>

**Technical characteristics (typical example)**

**Sensing area**



**Influence of sensing object size and material**





# Multi AND Board

Combine multiple sensors to create one output to robot



## Eight-point specification

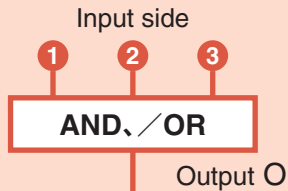
### Multi AND board

Order code No.	002161
TYPE	AND/OR-EU

● Weight : 115g

- ▶ Just connect a sensor. The easy design allows minimum wiring and space saving.
- ▶ Switching AND and /OR outputs is easy and quick. Just slide the select switch at the unit.
- ▶ The protective circuit prevents problems with overloads.

## About "AND" and "/OR"



### AND

Output O is turned on when all the inputs (1 2 3) are ON.

### /OR

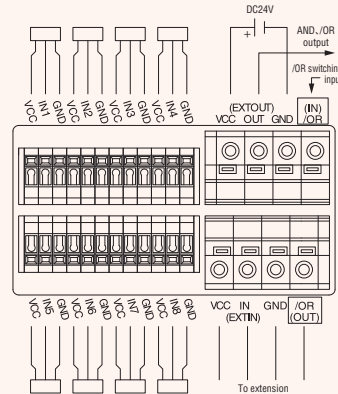
Output O is turned on when all the inputs (1 2 3) are OFF.

## Specification

Max. number of connection sensors	Power supply voltage (V)	Internal consumption current (mA)	Sensor input terminal (mA)
8	DC24 (± 10%)	100 or less (DC24V)	10 or less / one point
Surrounding humidity (%)	Surrounding temperature (°C)	Operation condition	
35-80 (non-condensing)	0-40	No particulate and corrosive gas	

\* Can be extended to 32 points.

## Wiring specification



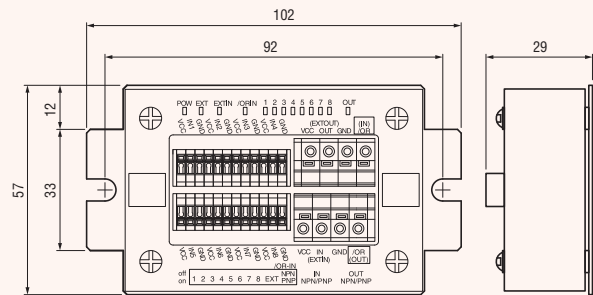
### Connection method

- ① Push down the button with tools such as minus driver.
  - ② Put the stripped electric wire into the wire insert hole of the terminal block.
  - ③ Release the button. And connection completed.
- \* Be sure to insert a wire into the hole.

### Diameter of electric wire

Sensor input terminal AWG28-AWG22  
Power supply input, signal output terminal / extension AWG26-AWG22  
\* Stripped wire length of each terminal is 10mm.

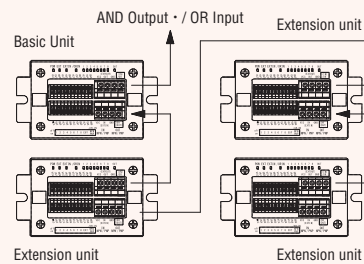
## Outside dimension / mounting dimension



VCC 24V(+) GND 24G(-) IN signal

- \* 2-φ6 (mounting hole) : M4-M5
- \* Use the mounting washer (φ10mm or less) for M5.

## Extension Configuration

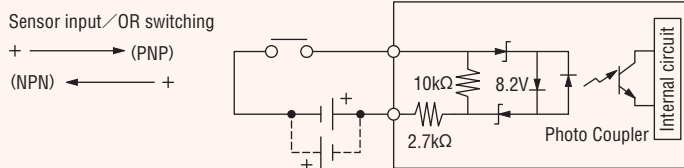


When the power supply voltage becomes less than 21V, the power indicator light will become dark, and please check the power supply to this unit.

- The extension unit could be extended up to 3 units to the basic unit.
- Please wire for AND Output / OR Input.
- The / or input of the extension unit will match the polarity of all units at / OR-IN the dip switch.
- The OUT of extension unit should be set to the NPN side.

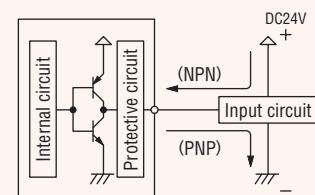
\* Please add the basic unit if extension unit is more than 3.

## Sensor input OR switching input circuit configuration (8-point, 4-point common)



- \* Select the input setting with the switch as illustrated according to the output circuit specification of the customer's sensor.
- \* Select the input with the DIP switch as illustrated according to the output circuit specification of the customer.

## Configuration of output circuit (8-point, 4-point common)

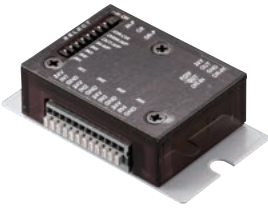


- \* Select NPN/PNP as illustrated above according to the input circuit specification of the customer.





You can see moving images of products by using QR code reader of your smartphone.



#### Four-point specification

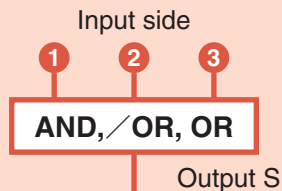
#### Multi AND board 4P

Order code No.	002237
TYPE	AND/OR-EU-4P

● Weight : 58g

- ▶ Just connect a sensor. The easy design allows minimum wiring and space saving.
- ▶ Product hold condition check and product release condition check can be switched by switching AND output, /OR output, and OR output. Product hold condition and product release condition can be checked by one unit.
- ▶ The protective circuit prevents problems with overloads.

#### About "AND", "/OR", and "OR"



#### AND

Output S is turned on when all the inputs (123) are ON.

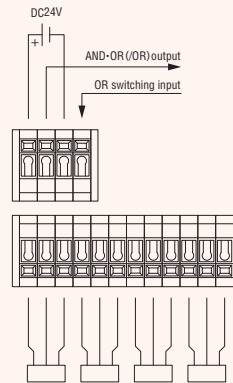
#### /OR

Output S is turned on when all the inputs (123) are OFF.

#### OR

Output S is turned on when either of input (123) is ON.

#### Wiring specification



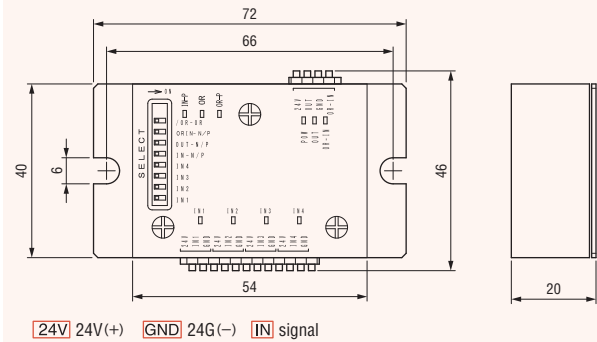
#### Connection method

- ① Push down the button with tools such as minus driver.
  - ② Put the stripped electric wire into the wire insert hole of the terminal block.
  - ③ Release the button. And connection completed.
- \* Be sure to insert a wire into the hole.

#### Diameter of electric wire

Sensor input terminal AWG28-AWG22  
Power supply input, signal output terminal / extension AWG26-AWG22  
\* Stripped wire length of each terminal is 10mm.

#### Outside dimension / mounting dimension

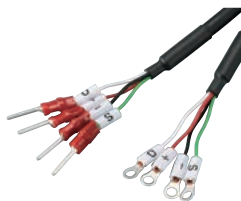


- \* 2-φ6 (mounting hole) : M4-M5
- \* Use the mounting washer (φ10mm or less) for M5.

#### Specification

Max. number of connection sensors	Power supply voltage (V)	Internal consumption current (mA)	Sensor input terminal (mA)	Surrounding humidity (%)	Surrounding temperature (°C)	Operation condition
4	DC24 (±10%)	50 or less (DC24V)	10 or less / one point	35-80 (non-condensing)	0-40	No particulate and corrosive gas

#### ▶ Connecting cable for Eins Multi AND Board

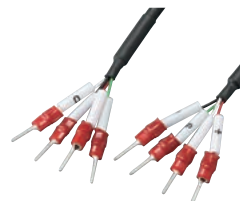


#### Eight-point specification

#### Connection harness • for multi AND boards

Order code No.	123106
TYPE	MAND-EH05 • 500MM

● Overall length : 500mm



#### Eight-point specification

#### Connection harness • for multi AND boards

Order code No.	123105
TYPE	MAND-EH02 • 200MM

● Overall length : 200mm



#### Eight-point specification

#### Connection harness • for multi AND boards

Order code No.	123107
TYPE	MAND-EH10 • 1000MM

● Overall length : 1,000mm



#### Triplex cable (5m)

Order code No.	171292
TYPE	RMCV-0 0.3SQ*3C 5M

● Overall length : 5,000mm

#### Quick Chuck Change

Quick Chuck Change Manual

Quick Chuck Change Manual (OM Type)

Tool Changer

Automated Hand Exchange System

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Rubber Material / Grip Pad

#### Suction

Suction Cups

Suction Stems

Pad in Pad

Vacuum Gripper

Air Ejector / Filter / Check Valve

Ultra Small Part Take Out

Vacuum Generator Unit

#### Cut

Air Nipper (Small-Medium)

Air Nipper (Large)

Frame / Module

Jungle Gym

Let's Joint

Rectangular Tube

Base Aluminum Material

Sliding Chuck

#### Pneumatic Components / Sensors

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By Industry

Logistics - Palletizing / Sheet Metal - Stamping - Metal Fabrication

#### Assembling Tools

Tool / Jig

Information

Various Products Information





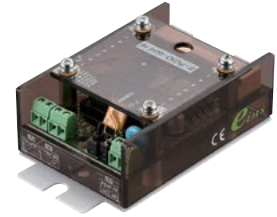
# PCIO Communication Unit

Two power lines allows simple wiring between units for power supply and input/output communication

- ▶ Two power lines allows simple wiring between units for power supply and input communication.
- ▶ Input signal reception with sink/source specifications.
- ▶ Two types according to the number of input/output points : 16 points (eight/eight) and 32 points (16/16).

## Specification

	E-PCIO-UNIT16	E-PCIO-UNIT32
Power supply voltage	DC24V (± 10%)	
System consumption current	2A or less	
Internal consumption current	100mA or less (DC24V)	180mA or less (DC24V)
Output current	100mA (Max) / one point	50mA (Max) / one point
Input current	5mA or less / one point	
Surrounding humidity	35%~80% (non-condensing)	
Surrounding temperature	0-40°C	
Operation condition	No particulate and corrosive gas	



Power Communication I/O unit(16)

Order code No.	152312
TYPE	E-PCIO-UNIT 16

● Weight : 97g

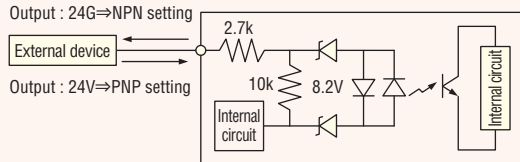
Power Communication I/O unit(32)

Order code No.	152313
TYPE	E-PCIO-UNIT 32

● Weight : 131g

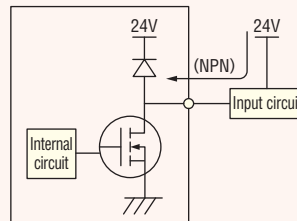
## Configuration of Input circuit

### Input switch



\* Please switch the switch according to the output specifications of the customer, referring to the above figure.

## Configuration of output circuit



\* Only NPN is used for the output specification of the unit.



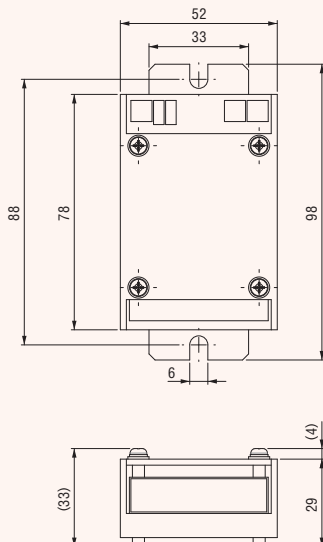
PCIO communication harness (03)

Order code No.	152314
TYPE	E-PCIO-HNS 03

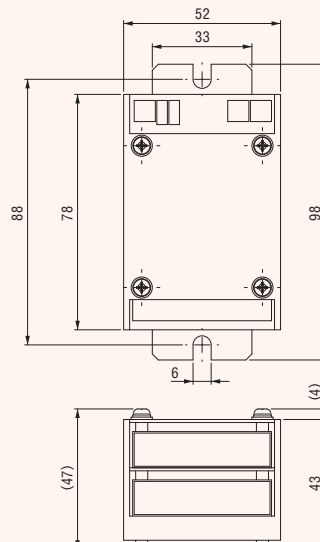
● Harness length : 300mm

## Outside dimension / mounting dimension

### E-PCIO-UNIT 16



### E-PCIO-UNIT 32



PCIO marktube

Order code No.	041770
TYPE	E-PCIO-MKT SET

● 2 set