

# New Product Introduction



## Sealed Ultra Subminiature Basic Switch D2EW series addition 2

\* M3-screw mounting models, Molded lead wires on right and left-side



Omron Corporation  
Device & Module Solution Company  
August 2024



# D2EW Series addition type



# Line-up of sealed switches

Making this switch ideal for places subject to water spray or excessive dust.

(To IP67 Excluding the terminals on terminal models / High temperature durability up to + 85 ° C)

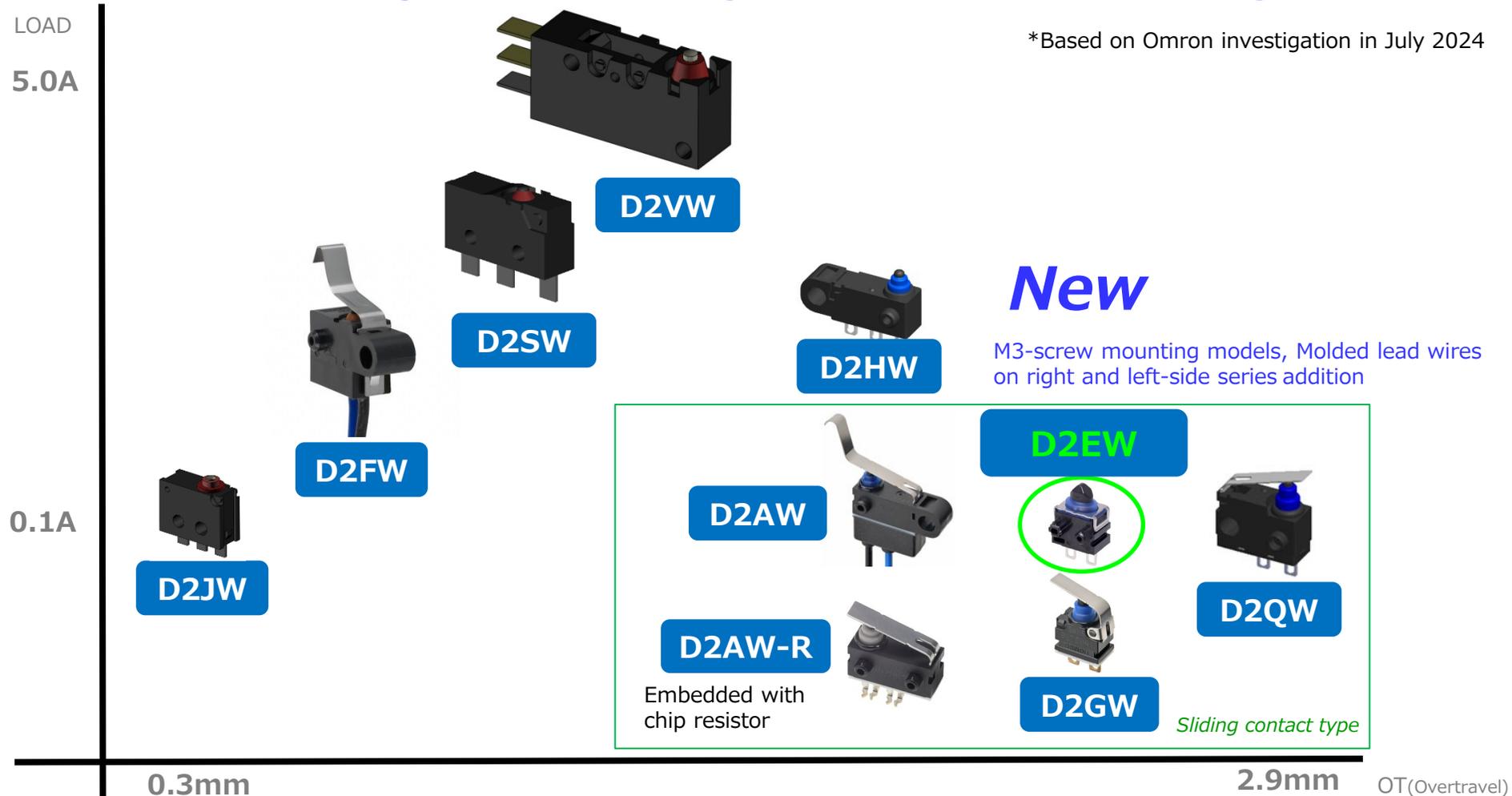
**D2EW** has been added switches with **Smallest class in the industry\***

(8.3mm×7.0mm×5.3mm ) **Supports multi-angle operation without using a lever,**

**Increased flexibility in customer unit design.**

**Added new series including M3-screw mounting models, Molded lead wires on right and left-side.**

\*Based on Omron investigation in July 2024



# D2EW Series addition type

M3-screw mounting models, Molded lead wires on right and left-side series addition.  
 UL/cUL approved versions Scheduled for release in Fall of 2024.

## Mounting structure

Slit	Post

## Contact form

NO	NC

Please contact Omron representatives or authorized distributors for samples of the new product release.

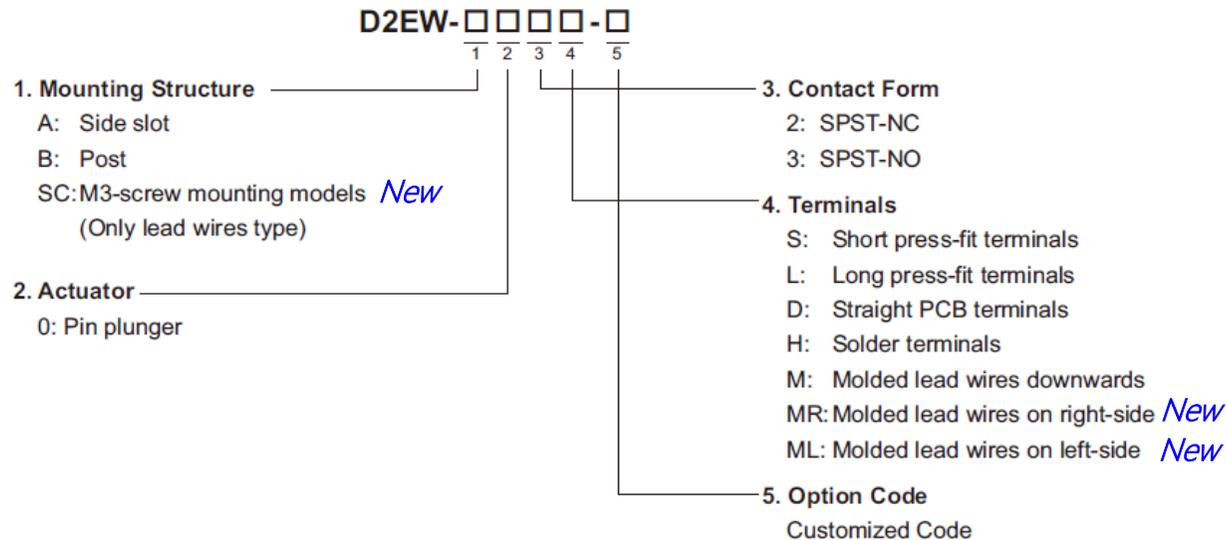
For project considering the products in roadmap, please feel free to contact us even before the product release.

## Terminals

Long Solder-less Terminals	Short Solder-less Terminals	Straight PCB Terminals	Solder Terminals	Molded lead wires downwards	<b>NEW</b> Molded lead wires on right/left-side	<b>NEW</b> M3-screw mounting models	<b>COMING SOON</b> UL/cUL approved versions
							All series

# D2EW Model Number Legend

Some model number elements cannot be used in conjunction.



Actuator	Terminals	Contact Form	Model		
			Side Slot	Post	M3-screw mounting models
Pin plunger 	Short press-fit terminals	SPST-NC	D2EW-A02S	—	
		SPST-NO	D2EW-A03S	—	
	Long press-fit terminals	SPST-NC	—	D2EW-B02L	
		SPST-NO	—	D2EW-B03L	
	Straight PCB terminals	SPST-NC	D2EW-A02D	D2EW-B02D	
		SPST-NO	D2EW-A03D	D2EW-B03D	
	Solder terminals	SPST-NC	D2EW-A02H	D2EW-B02H	
		SPST-NO	D2EW-A03H	D2EW-B03H	
	Molded lead wires downwards	SPST-NC	—	D2EW-B02M	D2EW-SC02M
		SPST-NO	—	D2EW-B03M	D2EW-SC03M
	Molded lead wires on right-side	SPST-NC	—	D2EW-B02MR	—
		SPST-NO	—	D2EW-B03MR	—
	Molded lead wires on left-side	SPST-NC	—	D2EW-B02ML	—
		SPST-NO	—	D2EW-B03ML	—

*New**New**New*

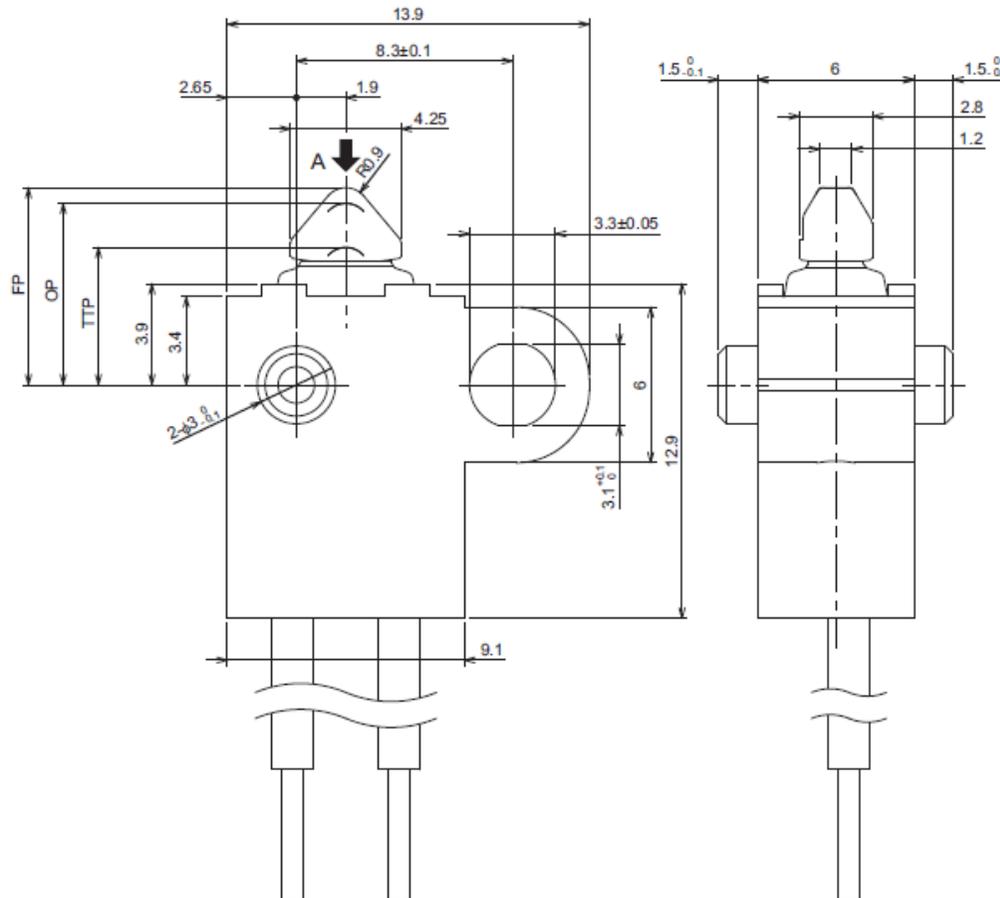
If you have any desired model with a specification not in the above list, contact your OMRON sales representative. We will consider if a requested model can be manufactured by modifying existing models.

# D2EW Switch Dimensions (Unit: mm) & Operating Characteristics

- Molded lead wires downwards

*New*

D2EW-SC0□M



Operating characteristics	Type	M3-screw Mounting Models
Operating Force	OF Max.	1.2 N {122 gf}
Releasing Force	RF Min.	0.1 N {10 gf}
Overtravel	OT Max.	1.7 mm (reference value)
Movement Differential	MD Max.	0.25 mm
Free Position	FP Max.	7.7 mm
Operating Position	OP	7.0±0.25 mm
Total Travel Position	TTP	5.3 mm

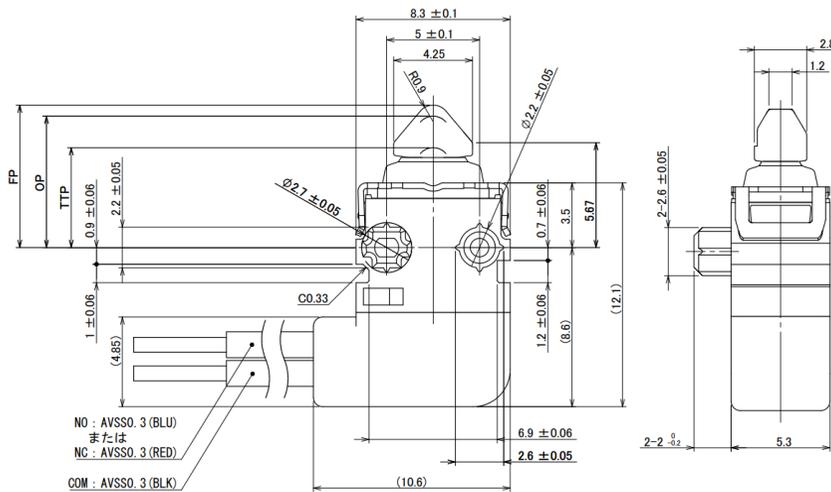
# D2EW Switch Dimensions (Unit: mm)

## & Operating Characteristics

### ● Molded Lead Wires on Left-side

New

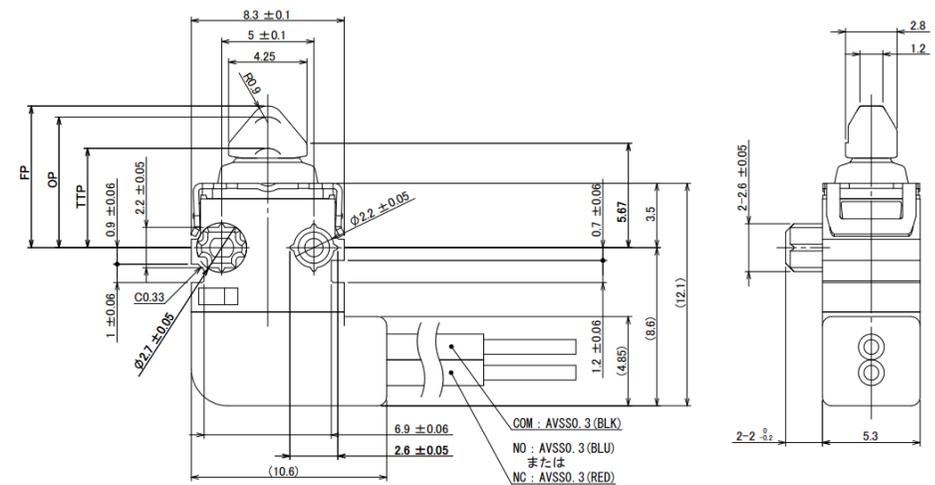
#### D2EW-B0□ML



### ● Molded Lead Wires on Right-side

New

#### D2EW-B0□MR



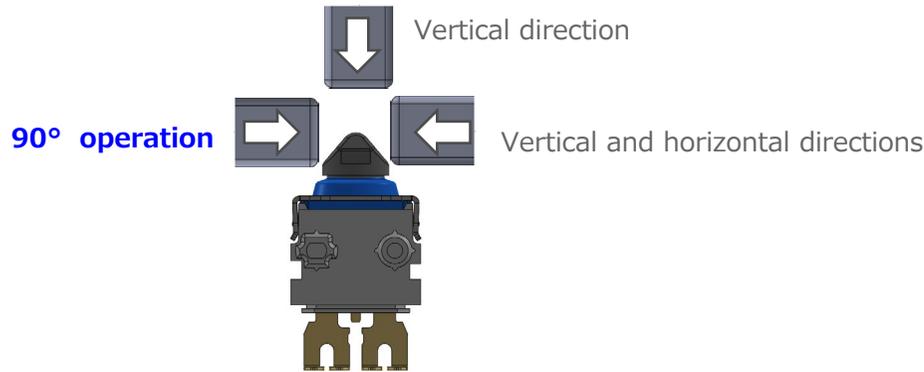
Operating characteristics	Type	Post
Operating Force	OF Max.	1.2 N {122 gf}
Releasing Force	RF Min.	0.1 N {10 gf}
Overtravel	OT	1.7 mm (reference value)
Movement Differential	MD Max.	0.25 mm
Free Position	FP Max.	7.8 mm
Operating Position	OP	7.1±0.2 mm
Total Travel Position	TTP	5.4 mm

# D2EW Switch Product Features

<Ultra-small size> The industry's smallest class (8.3 x 7.0 x 5.3 mm) D2GW equivalent size.

<Ultra-micro load> Minimum applicable load 50  $\mu$ A. Contributes to energy saving.

<increased flexibility in customer unit design> Unique Pin plunger shape supports multi-angle operation without using a lever. Operating angle limitation exemption.



\*Based on Omron investigation in April 2024

< Downsizing and space saving in customer unit design > Minimal cam operation eliminates the need for levers, reducing space required.

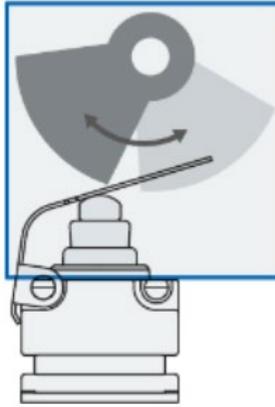
**NG** Ordinary switch

It cannot be operated from the side.



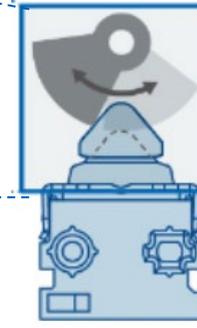
**OK** Countermeasure1 D2GW

It can be operated with a lever, but requires space.



**OK** Countermeasure2 D2EW

No lever required and can be operated with the smallest cam and smallest space.



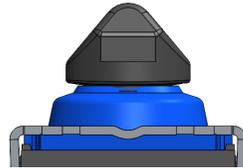
# D2EW Switch Product Features

< Incorrect assembly prevention structure >

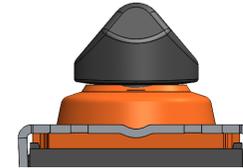
Prevents incorrect assembly due to different shapes and colors.

**Rubber Cap** Different colors

**SPST-NO Rubber Cap Blue**

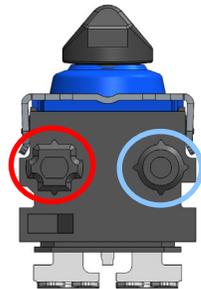


**SPST-NC Rubber Cap Red**

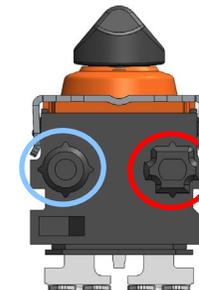


**POST** Left-right asymmetrical post shape

SPST-NO

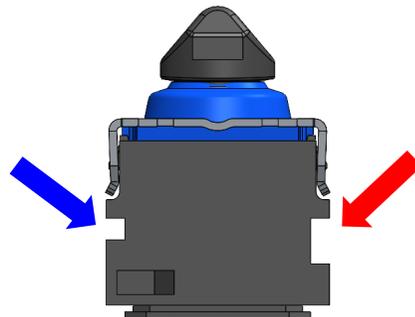


SPST-NC

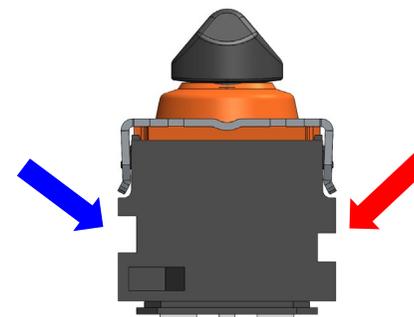


**Side slot** Different slit shapes

SPST-NO



SPST-NC



# D2EW Main Specifications and Features

Items		
Operating speed		30mm to 500mm/s (pin plunger models)
Operating frequency	Mechanical	30 operations/min Max.
	Electrical	30 operations/min Max.
Insulation resistance		100MΩ Min. ( at 500 VDC)
Contact resistance (initial value)	Terminals	500mΩ max.
	Molded lead wires	500mΩmax.
Dielectric strength	Between same polarity	500 VAC 50/60 Hz 1min
	Between current carrying metal parts and ground	1,500 VAC 50/60 Hz 1min
Vibration resistance *1	Malfunction	10 to 55Hz, 1.5mm double amplitude
Shock resistance	Destruction	1,000 m/s <sup>2</sup> Max.
	Malfunction *1	300 m/s <sup>2</sup> Max.
Durability *2	Mechanical	300,000operations Min. (at 30ops./min.)
	Electrical	300,000 operations Min. (at 20ops./min.)
Degree of protection	Terminals	IEC IP67(excluding the terminals on terminal models)
	Molded lead wires	IEC IP67
Ambient operatingtemperature		-40 to +85°C (at 60% RH Max.) (with no icing or condensation)
Ambient operation humidity		95%RH max. (for +5 to +35°C)
Heat resistance		85°C 500 hours
Cold resistance		-40°C 500 hours
Humidity resistance		85°C 85%RH 500 hours
Temperature cycle resistance		-40°C (0.5 hours <--> 85°C (0.5 hours) 500cycles
Weight		Approx. 0.5g (for pin plunger models with terminals)

**Note:** The data given above are initial values.

\*1. For the pin plunger models, the above values apply for use at the free position, operating position, and total travel position. Close or open circuit of the contact is 1 ms Max.

\*2. For testing conditions, consult your OMRON sales representative.

# D2EW Applications

Confidential C



## 【 The product itself is small 】



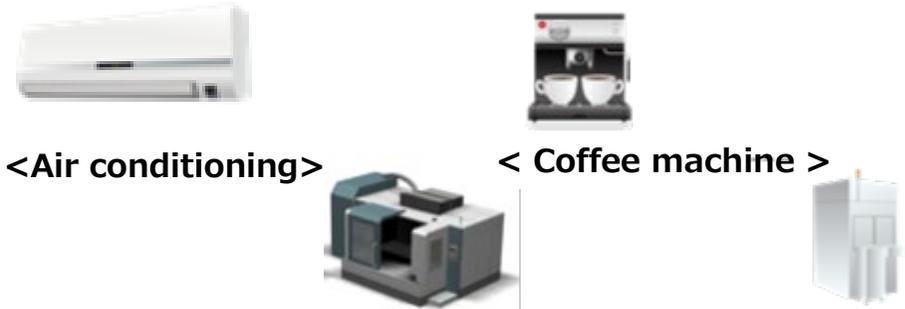
<Card reader machine> < Mobile printer> <Electronic lock>

Cover open / close detection  
Card presence / absence detection

Lock position detection  
( Open / close output )

## 【Products that require multiple detection functions】

e.g. Cover open / close detection



<Air conditioning>

< Coffee machine >

< FA equipment > <Inspection Equipment>

## 【For environments that require waterproofing & Dustproof 】



<AGV/AMR>

Obstacle contact detection  
Charger connection/ Blocking detection  
Detecting open-close status



<Vending Machine>

Detecting goods



<Smart Meter · Gas Meter (Electricity)>

Detecting open-close status of cover



<Fast Charging Station for Electric Vehicle>

Detecting charger coupler connection



<Security>

Detecting open-close status of cover



<FA equipment>

Position detection



<Refrigerator>

Detecting ice maker position



<Laundry Machine>

Detecting water level



<Fire/Smoke/Gas Alarm System>

Push button unit to trigger fire alarm

# E-WEB LP now available

The secret of the multi-angle operation technology achieved with rice ball-shaped buttons is now available on the web!

Are you having trouble packing in parts?

Try it first!

# Microswitch

for leverless & multi-angle operation

△ Effective use of space △ Ultra-compact

OMRON Original Rice-ball Shaped Button



Americas site



Europe site



Asia Pacific site



China site



Korea site

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■ Thank You