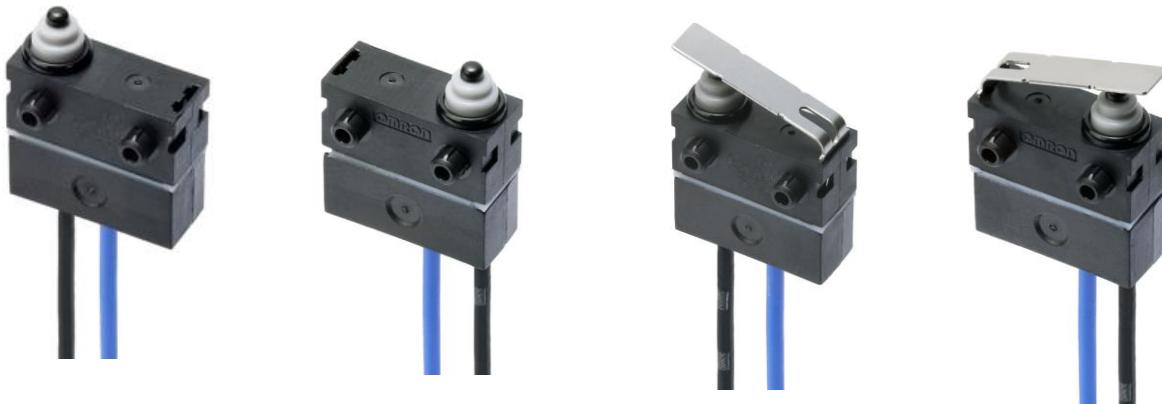


New Product Information

D2AW-R



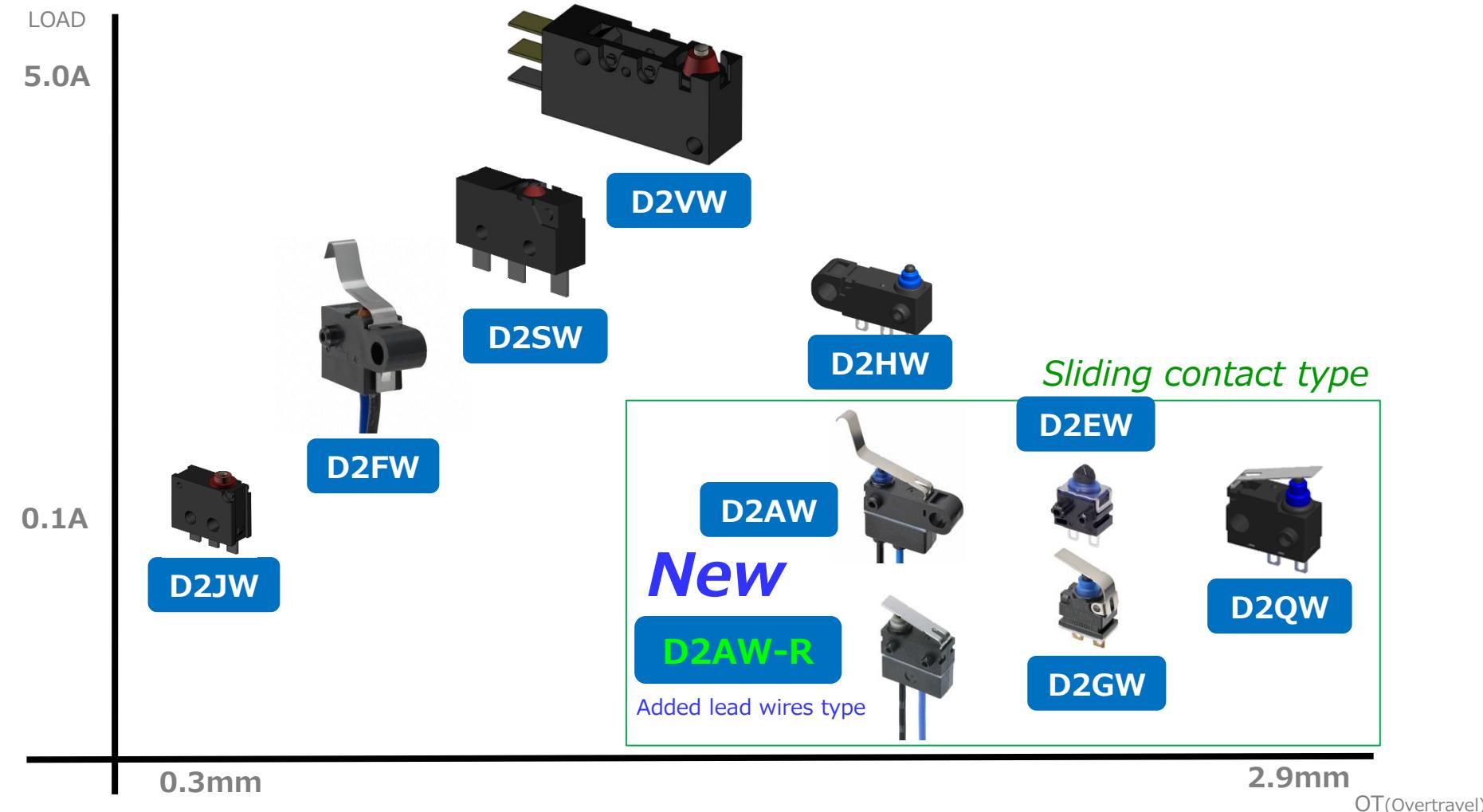
**Sealed Ultra Subminiature Basic Switch with integrated Resistors
Molded lead wires type series addition**

Line-up of sealed switches

Molded lead wire models have been added to D2AW-R with integrated resistors.

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

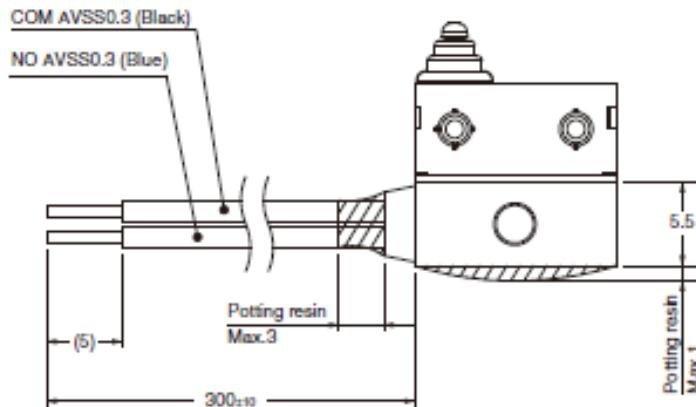
(Water-resistance performance is equivalent to IP67*. High temperature resistance: Durable up to 85° C. *Excluding the terminals)



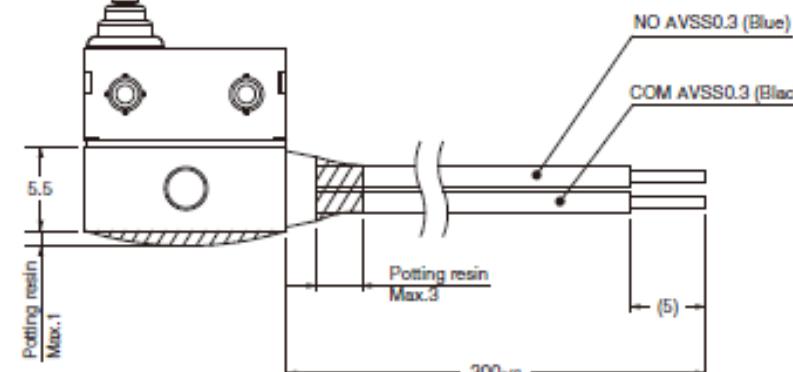
Product features

1. Same outline as D2HW/D2AW
2. 2 chip resistors (max.) can be mounted
3. Maximum rated current of chip resistor: 0.5 W
4. PCB terminals, Press-fit terminals
5. Sliding contact mechanism

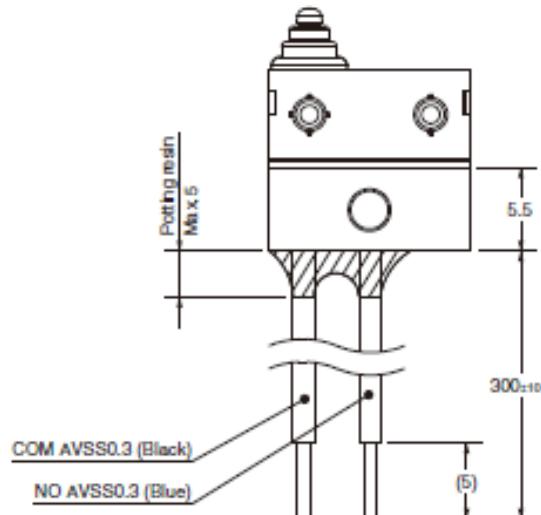
- Molded lead wires on left-side



- Molded lead wires on right-side



- Molded lead wires downwards

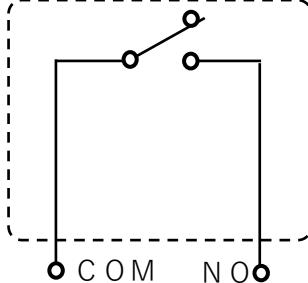
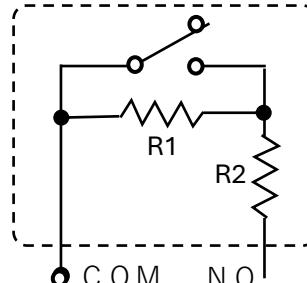


Structure

Built-in 1-2 chip resistor(s) can be used to monitor and display the following output states:
"ON/OFF", "Short-circuit", or "Disconnection".

Circuit diagram

2 embedded chip resistors

Switch type	D2AW (w/o chip resistors)	D2AW-R (w/2 chip resistors)
Circuit No.	0	1
Circuit Diagram		
Switch	OFF	∞
	ON	≈ 0
Abnormal condition	Short-circuit	0
	Disconnection	∞ $\infty \Rightarrow 0$ ON? Short?
		∞ Output different signals

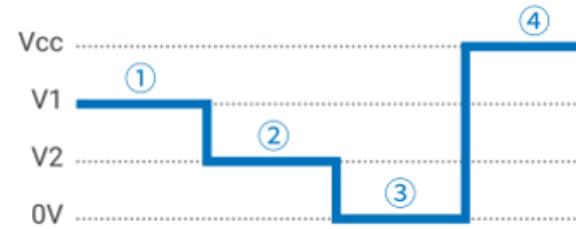
D2AW(w/o resistors) may output “ ∞ ” under abnormal conditions. (“ ∞ ” is output signal when it is OFF.) However, D2AW-R(w/2 chip resistors) can output different signals by detecting following modes: 1. OFF 2.ON 3. Short-circuit 4. Disconnection.

Circuit diagram

Example of usage

For the analog input (voltage) of the microcontroller, four thresholds are set.
Determines whether a switch is ON or OFF, Disconnected, or shorted.

D2AW-R(with integrated Resistors)
voltage output



〔Vcc/V1/V2/0V〕Four types of output can detect four states.

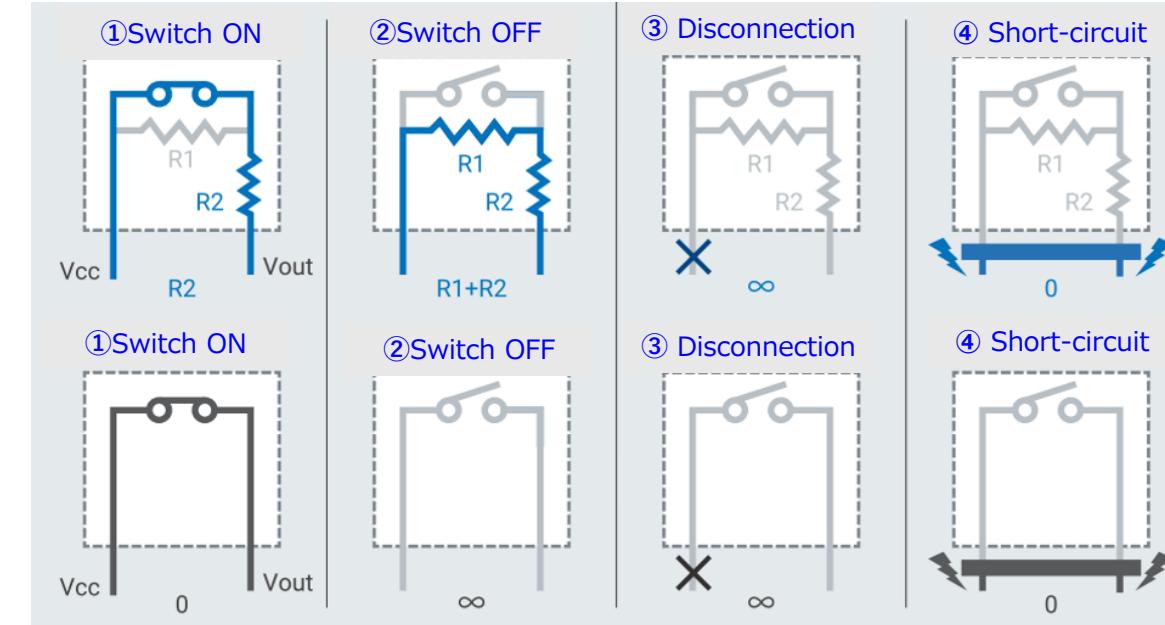
④ Short-circuit ①ON ②OFF ③ Disconnection

D2AW-R(Normal switch) voltage output

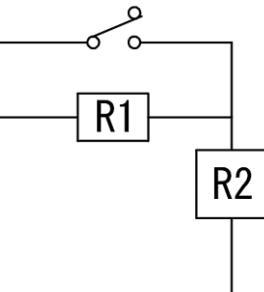
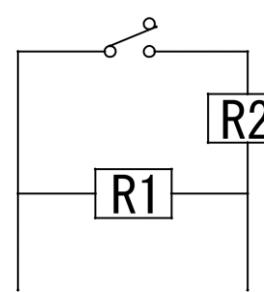


〔Vcc/0V〕There are only two types of outputs, and the following cannot be determined.

①ON or ④ Disconnection
②OFF or ③Short-circuit



D2AW-R SPECIFICATIONS

		R1	R5	
Rating voltage		5 to 14 VDC		
Resistance value ※1	Resistor1	5110 Ω	3920 Ω	
	Resistor2	1620 Ω	511 Ω	
Output resistance ※2	FP-OP	6730 Ω ± 5%	3920 Ω ± 5%	
	OP-TTP	1620 Ω ± 5%	452 Ω ± 5%	
Resistor power ratings		0.5W		
Circuit diagram ※2				

*1. The resistance value and power rating of resistors 1 and 2 can be changed.

Contact your OMRON sales representative for details.

*2. Avoid use outside of the operating temperature range of -40°C to +85°C.

Temperature might cause output resistance to fluctuate which induces malfunction.

APPLICATIONS

Possible applications using the feature to detect different modes
(1.ON 2. OFF 3. Short-circuit 4. Disconnection)

1. Security devices (anti-theft, anti-tamper)
2. FA devices (failure diagnosis)

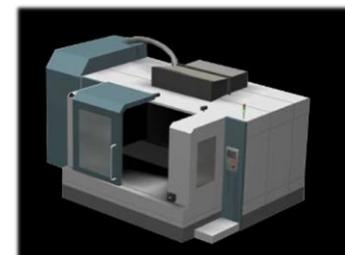
Security devices

D2AW-R switches are ideal for alarming/security devices.(Smart meter cover, anti-theft device cover, safety boxes, automatic locking systems, etc.)



FA devices

D2AW-R switches are useful for failure diagnosis. D2AW-R can detect irregular conditions such as wire disconnection and switch failure. Remote detection is also possible. This new product reduces man-hours to detect failure and send alerts for parts replacement.



Thank You

