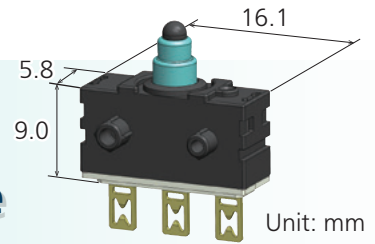


2 circuits detection switches

2 switching circuits inside & 3 types are available
















Panasonic unique technologies

- One switch has **2 switching circuits** which can work **independently**
- **3 types are available** using combination of contact pad designs
- For space saving, work saving, wire saving, safety & security

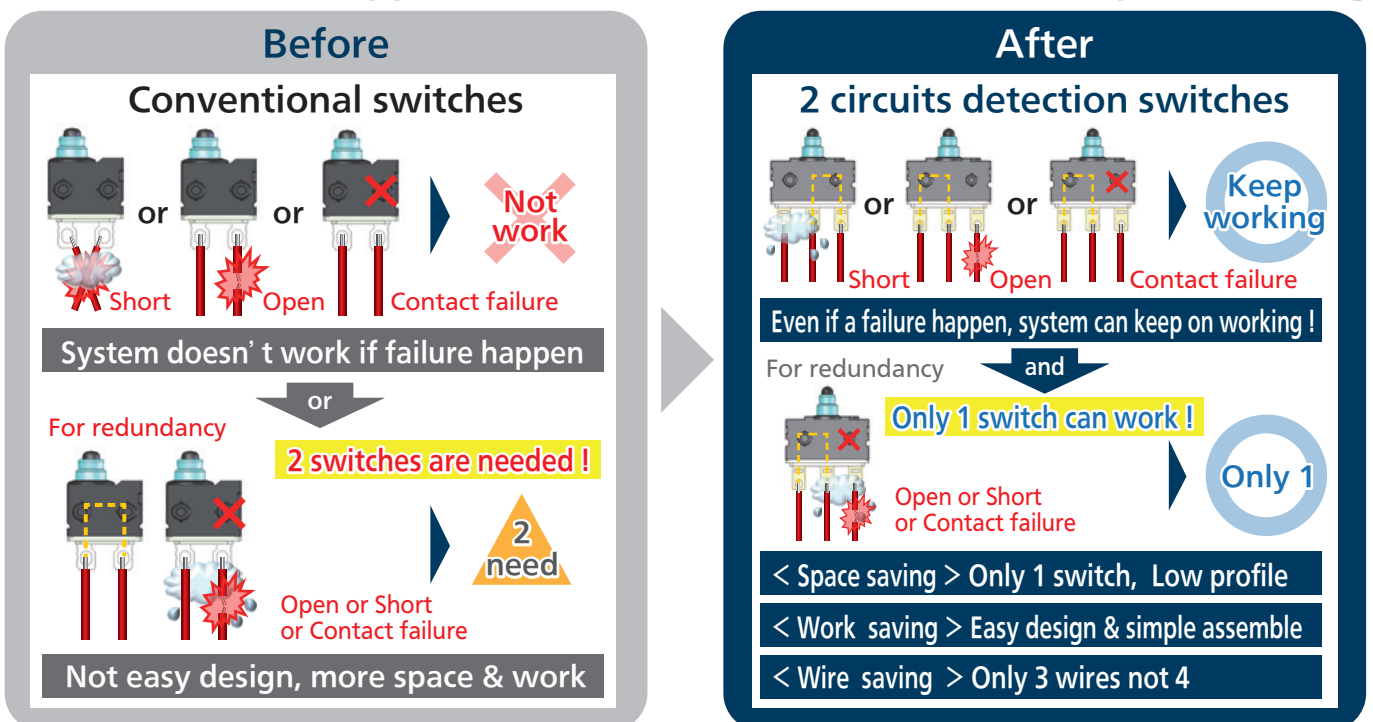
3 types

- ① **Redundancy type:** Even if a failure happen on one circuit, other one can keep on working
- ② **2 steps detection type:** Just one switch can detect 2 steps movement
- ③ **Failure detection type:** Not only ON / OFF but also all failures can be detected

Applications	To be smart	To be more convenient	Automotive
Safety	 FA robot  Agricultural machine  AGV	 Cleaner robot  Washing machine  Cleaner	 Autonomous driving
Security	 Meter  Camera  Delivery box	 Door lock  Bicycle lock	 Vehicle theft prevention

① Redundancy type

Even if a failure happens on one circuit, other one can keep on working

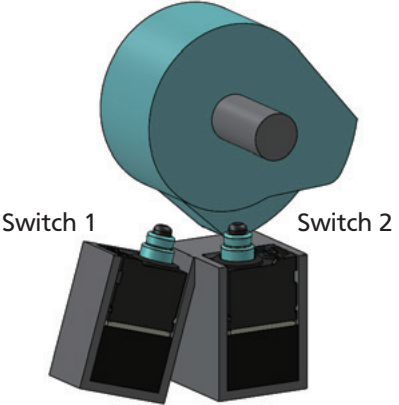


② 2 steps detection type

Just one switch can detect 2 steps movement

Before

Conventional switches



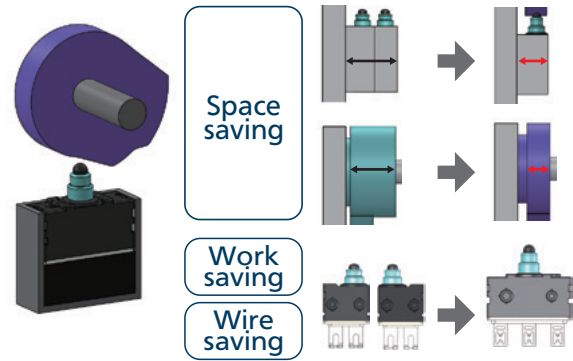
Switch 1 Switch 2

Not easy mechanical design

Space x 2 & Assemble x 2

After

2 circuits detection switches



Space saving

Work saving

Wire saving

< Space saving > Only 1 switch, Low profile

< Work saving > Easy design & simple assemble

< Wire saving > Only 3 wires not 4

③ Failure detection type

Not only ON / OFF but also all failures such as Open / Short can be detected

Before

Conventional switches

	Short	Normal	Open	Normal
Status	Wire short 	ON 	Wire open 	OFF
	Contact short 		Contact open 	
Voltage Out				
Judge	Same out put → Not detectable		Same out put → Not detectable	

After

2 circuits detection switches

	Short	Normal	Open	Normal
Status	Wire short 	ON 	Wire open 	OFF
	Contact short 		Contact open 	
Voltage Out				
Judge	4 different out put each → Detectable			

Any failure can be detected