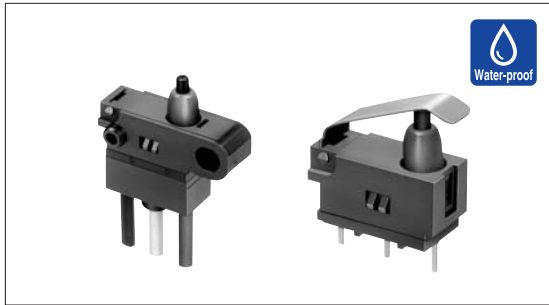


Detector Switch Water-proof Type

SPVQ1 Series



Water-proof structure with 3mm long travel.



Typical Specifications

Items		Specifications	
Rating (max.) / (min.) (Resistive load)		0.1A 12V DC/50 μ A 3V DC	
Contact resistance (Initial/After operating life)		500m Ω max./1 Ω max.	
Operating force		Push type	Actuator type
		2N max.	5.9N max.
Operating life	Without load	300,000cycles	
	With load	300,000cycles (0.1A 12V DC)	

Product Line

Poles	Positions	Changeover timing	Operating part shape	Terminal type	Main body form	Minimum order unit (pcs)	Product No.	Drawing No.
1	2	Non shorting	Push	For PC board	Normal	120	SPVQ140100	1
					Boss - right side		SPVQ140200	5
					Boss - left side		SPVQ140300	6
					Boss - both sides		SPVQ140400	7
			Normal		SPVQ130200		1	
			Boss - right side		SPVQ130400		5	
			Boss - left side		SPVQ130500		6	
			Boss - both sides		SPVQ130600		7	
			Normal		SPVQ130300		1	
			Boss - right side		SPVQ130700		5	
			Boss - left side		SPVQ130800		6	
			Boss - both sides		SPVQ130900		7	
			Push	With wire	With a screw hole	180	SPVQ120500※	2
					Boss - right side	100	SPVQ120600※	8
					Boss - left side		SPVQ120700※	9
					Boss - both sides		SPVQ120800※	10
				Actuator A	With a screw hole	180	SPVQ111200※	3
					Boss - right side	100	SPVQ111400※	8
					Boss - left side		SPVQ111500※	9
					Boss - both sides		SPVQ111600※	10
Actuator B	With a screw hole	180	SPVQ111700※	4				
	Boss - right side	100	SPVQ111800※	8				
	Boss - left side		SPVQ111900※	9				
	Boss - both sides		SPVQ112000※	10				

Packing Specifications

Bulk

Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
SPVQ130200, SPVQ130300, SPVQ130400, SPVQ130500, SPVQ130600, SPVQ130700, SPVQ130800, SPVQ130900, SPVQ140100, SPVQ140200, SPVQ140300, SPVQ140400	600	2,400	540×360×230
SPVQ111200, SPVQ111700, SPVQ120500	180	720	555×375×223
SPVQ111400, SPVQ111500, SPVQ111600, SPVQ111800, SPVQ111900, SPVQ112000, SPVQ120600, SPVQ120700, SPVQ120800	100	400	540×360×230

Notes

- ※ The length of lead wire is 250mm. For length modification, please contact us.
- This unit cannot be used in water.
- Please place purchase orders per minimum order unit N (integer).

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products



Automotive
Use

Dimensions

Unit:mm

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products



Automotive
Use

No.	Style	Actuator configuration
1		<p>Push</p> <p>Actuator A</p> <p>Actuator B</p>
2		
3		

Dimensions

Unit:mm

No.	Style	
4		
5		<p>Actuator configuration</p> <p>Push</p>
6		<p>Actuator A</p>
7		<p>Actuator B</p>

Detector

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Automotive
Use

Dimensions

Unit:mm

Detector

Push

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Dual-in-line
Package Type

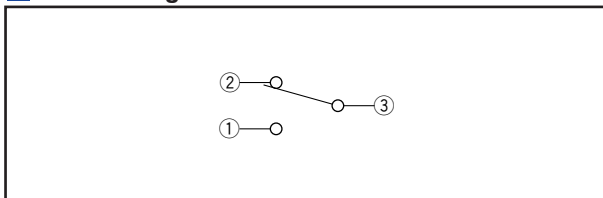
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Products

















Automotive
Use

No.	Style	Actuator configuration
8	<p>Technical drawing of Style 8 detector switch. Dimensions include: 5.8, 5, 3.5, 8, 7.5, $\phi 1.6$, 9.15, 8.45, 6.15, 2.6, 0.4, 0.4, 2.6, 2.9, 8.5, 3.5, 10.4, 11.6, 1.8, (1.5). Labels include: ON starting position, Total travel position, Terminal No.①, Terminal No.②, Terminal No.③, and $C0.3$ $C0.3$.</p>	<p>Push</p> <p>Actuator configuration diagram for Style 8 showing a push actuator. Dimensions include: 6.15, 8.45, 9.15. Labels include: Total travel position and ON starting position.</p>
9	<p>Technical drawing of Style 9 detector switch. Dimensions include: 8, 7.5, $\phi 1.6$, 5.8, 5, 3.5, 9.15, 8.45, 6.15, 3.5, 8.5, 2.9, 0.4, 0.4, 2.6, 2.6, 10.4, 11.6, 1.8, (1.5). Labels include: ON starting position, Total travel position, Terminal No.①, Terminal No.②, Terminal No.③, and $C0.3$ $C0.3$.</p>	<p>Actuator A</p> <p>Actuator configuration diagram for Style 9 showing Actuator A. Dimensions include: 7.2, 9.8, 10.5. Labels include: Total travel position and ON starting position.</p>
10	<p>Technical drawing of Style 10 detector switch. Dimensions include: 8, 7.5, $\phi 1.6$, 5.8, 5, 3.5, 9.15, 8.45, 6.15, 3.5, 8.5, 2.9, 0.4, 0.4, 2.6, 2.6, 10.4, 11.6, 1.8, (1.5). Labels include: ON starting position, Total travel position, Terminal No.①, Terminal No.②, Terminal No.③, and $C0.3$ $C0.3$.</p>	<p>Actuator B</p> <p>Actuator configuration diagram for Style 10 showing Actuator B. Dimensions include: 6.2, 9, 10. Labels include: Total travel position and ON starting position.</p>

Circuit Diagram



List of Varieties (General-purpose Type / Water-proof Type / Telephone-hook Type)

Series	General-purpose Type					Water-proof Type		
	SPVT	SPVG	SPVL	SSCW	SPVQ5	SPVQ1	SPVQ3	
Photo								
Operation type						 	 	
Operating temperature range	-40°C to +85°C							
Automotive use	●	●	●	●	●	●	●	
Rating (max.) (Resistive load)	1mA 5V DC	50mA 20V DC	1mA 5V DC	0.1A 12V DC				
Rating (min.) (Resistive load)	100μA 3V DC		50μA 3V DC	100μA 3V DC	50μA 3V DC		50μA 3V DC or 1mA 5V DC	
Electrical performance	Initial contact resistance	2Ω max.	500mΩ max.	2Ω max.	500mΩ max.			
	Insulation resistance	100MΩ min. 100V DC			100MΩ min. 250V DC	100MΩ min. 500V DC		
	Voltage proof	100V AC for 1 minute			250V AC for 1 minute	500V AC for 1 minute		
Mechanical performance	Terminal strength	0.5N for 1 minute		1N for 1 minute	3N for 1 minute Wire strength 30N for 1 minute			
	Actuator strength	10N		5N	20N			
Durability	Operating life without Load	100,000cycles 5Ω max.	100,000cycles 1Ω max.	50,000cycles 5Ω max.	100,000cycles 1Ω max.	300,000cycles 1Ω max.	300,000cycles or 1,200,000cycles 1Ω max.	
	Operating life with Load	(1mA 5V DC) 100,000cycles 5Ω max.	(50mA 20V DC) 100,000cycles 1Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.	(0.1A 12V DC) 100,000cycles 1Ω max.	(0.1A 12V DC) 300,000cycles 1Ω max.	(0.1A 12V DC) 300,000cycles or 1,200,000 1Ω max.	
Environmental performance	Cold	-40±2°C for 96h	-40±2°C for 500h					
	Dry heat	85±2°C for 96h	85±2°C for 500h					
	Damp heat	40±2°C, 90 to 95%RH for 96h	60±2°C, 90 to 95%RH for 500h					
Dimensions (mm)	W	5.6	5.5	5.55	13.1	13.8	13.3	13
	D	6.5	6.5	6.6	11.35	5.8		
	H	1.9	2	1	5.3	5.8	8	8.35
Soldering	Manual soldering	350±5°C, 3s max.					300±10°C, 3 ⁺¹ s	
	Dip soldering	—					260±5°C, 5±1s	
	Reflow soldering	Please see P.102						
Number of poles	1							
Operation force	0.4N max.		0.35N max.	1N max.	2N max.	2N max. 5.9N max.	3N max.	
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- Detector Switches Cautions103

Detector
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