

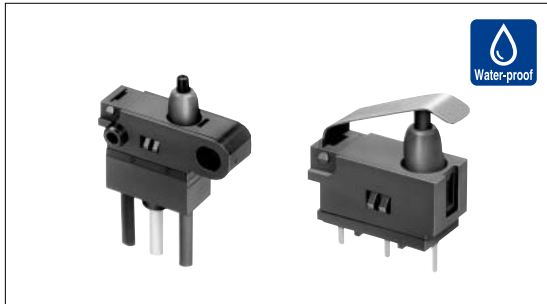
Detector Switch Water-proof Type

SPVQ1 Series

www.DataSheet4U.com



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 max./1 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)	

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

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	2,400	SPVQ140100	1
					Boss - right side		SPVQ140200	5
					Boss - left side		SPVQ140300	6
					Boss - both sides		SPVQ140400	7
			Actuator A		Normal		SPVQ130200	1
					Boss - right side		SPVQ130400	5
					Boss - left side		SPVQ130500	6
					Boss - both sides		SPVQ130600	7
			Actuator B		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	720	SPVQ120500	2
					Boss - right side	400	SPVQ120600	8
					Boss - left side		SPVQ120700	9
					Boss - both sides		SPVQ120800	10
				Actuator A	With a screw hole		720	SPVQ111200
					Boss - right side	400	SPVQ111400	8
					Boss - left side		SPVQ111500	9
					Boss - both sides		SPVQ111600	10
Actuator B	With a screw hole	720	SPVQ111700	4				
	Boss - right side	400	SPVQ111800	8				
	Boss - left side		SPVQ111900	9				
	Boss - both sides		SPVQ112000	10				

Notes

- ※ The length of lead wire is 250mm. For length modification, please contact us.
- This unit cannot be used in water.

www.DataSheet4U.com purchase orders per minimum order unit(integer).

ALPS

Dimensions

Unit:mm

- Detector
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- Custom-Products

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

Dimensions

Unit:mm

No.	Style	
4	<p>Technical drawing of detector switch style 4. It includes a side view and a front view. Dimensions include 7.5, $\phi 1.6$, 8.4, 5.8, 4, 2.3, 2-C0.3, 10, 9, 6.2, 3.1, 0.7, 11.6, 12.6, 1.8, 2.9, 8.5, 3.5, and (1.5). Labels include 'ON starting position', 'Total travel position', 'Terminal No.①', 'Terminal No.②', and 'Terminal No.③'.</p>	
5	<p>Technical drawing of detector switch style 5. It includes a side view and a front view. Dimensions include 5.8, 5, 3.5, 7.5, $\phi 1.6$, 2.6, 0.4, 9.15, 8.45, 6.15, 3.5, 4.5, 2.6, 8, 3-0.6, 5, 5, 10.4, 2.9, 0.4, and 2.6. Labels include 'ON starting position', 'Total travel position', 'Terminal No.①', 'Terminal No.②', and 'Terminal No.③'.</p>	<p>Actuator configuration</p> <p>Push</p> <p>Actuator configuration diagram for style 5 showing a push actuator. Dimensions include 6.15, 8.45, and 9.15. Labels include 'Total travel position' and 'ON starting position'.</p>
6	<p>Technical drawing of detector switch style 6. It includes a side view and a front view. Dimensions include 7.5, $\phi 1.6$, 2.6, 0.4, 2.6, 0.4, 3.5, 6.15, 8.45, 9.15, 4.5, 2.6, 8, 3-0.6, 5, 5, 10.4, 2.9, 3.5, 5, and 5.8. Labels include 'Total travel position', 'ON starting position', 'Terminal No.①', 'Terminal No.②', and 'Terminal No.③'.</p>	<p>Actuator A</p> <p>Actuator configuration diagram for style 6 showing actuator A. Dimensions include 7.2, 9.8, and 10.5. Labels include 'Total travel position' and 'ON starting position'.</p>
7	<p>Technical drawing of detector switch style 7. It includes a side view and a front view. Dimensions include 8, 7.5, $\phi 1.6$, 2.6, 0.4, 2.6, 0.4, 3.5, 6.15, 8.45, 9.15, 4.5, 2.6, 8, 3-0.6, 5, 5, 10.4, 2.9, 5, 5, and 5.8. Labels include 'Total travel position', 'ON starting position', 'Terminal No.①', 'Terminal No.②', and 'Terminal No.③'.</p>	<p>Actuator B</p> <p>Actuator configuration diagram for style 7 showing actuator B. Dimensions include 6.2, 9, and 10. Labels include 'Total travel position' and 'ON starting position'.</p>

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Dimensions

Unit:mm

Detector

Push

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Power

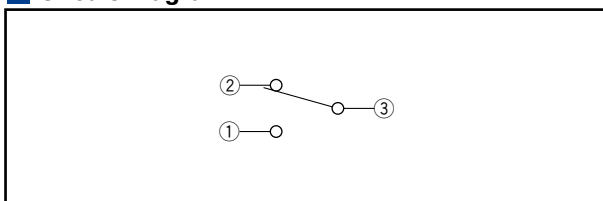
Dual-in-line
Package Type

TACT Switch™








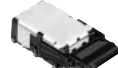










Custom-
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No.	Style	Actuator configuration
8	<p>Technical drawing of Style 8 detector switch. Dimensions include: 5.8, 5, 3.5, 8, 7.5, 8, 0.4, 2.6, 2.6, 0.4, 2.9, 8.5, 3.5, 9.15, 8.45, 6.15, 2.6, 0.4, 0.4, 2.6, 10.4, 11.6, 1.8, (1.5), 1.8, 10.4, 11.6, Terminal No.①, Terminal No.②, Terminal No.③, ON starting position, Total travel position, $\phi 1.6$, and $C0.3$.</p>	<p>Push</p> <p>Actuator configuration diagram for Style 8 showing a push actuator. Dimensions include: 6.15, 8.45, 9.15, Total travel position, and ON starting position.</p>
9	<p>Technical drawing of Style 9 detector switch. Dimensions include: 8, 7.5, 8, 0.4, 2.6, 2.6, 0.4, 2.9, 8.5, 3.5, 9.15, 8.45, 6.15, 2.6, 0.4, 0.4, 2.6, 10.4, 11.6, 1.8, (1.5), 1.8, 10.4, 11.6, Terminal No.①, Terminal No.②, Terminal No.③, ON starting position, Total travel position, $\phi 1.6$, and $C0.3$.</p>	<p>Actuator A</p> <p>Actuator configuration diagram for Style 9 showing Actuator A. Dimensions include: 5.8, 5, 3.5, 7.2, 9.8, 10.5, Total travel position, and ON starting position.</p>
10	<p>Technical drawing of Style 10 detector switch. Dimensions include: 8, 7.5, 8, 0.4, 2.6, 2.6, 0.4, 2.9, 8.5, 3.5, 9.15, 8.45, 6.15, 2.6, 0.4, 0.4, 2.6, 10.4, 11.6, 1.8, (1.5), 1.8, 10.4, 11.6, Terminal No.①, Terminal No.②, Terminal No.③, ON starting position, Total travel position, $\phi 1.6$, and $C0.3$.</p>	<p>Actuator B</p> <p>Actuator configuration diagram for Style 10 showing Actuator B. Dimensions include: 5.8, 5, 3.5, 6.2, 9, 10, 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					Telephone-hook Type	
	SSCW	SPVQ5	SPVQ1	SPVQ3	SPVQ4	SPVQ6	SSCN	SPPY5	
Photo									
Operation type			 1-way  2-way	 1-way  2-way					
Operating temperature range	-40 to +85							-10 to +60	
Rating (max.) (Resistive load)	0.1A 20V DC	0.1A 12V DC					0.1mA 3V DC min. 50mA 48V DC max.		
Rating (min.) (Resistive load)	100μA 3V DC	50μA 3V DC	50μA 3V DC or 1mA 5V DC	50μA 3V DC	50μA 5V DC	100μA 3V DC	0.1mA 3V DC		
Electrical performance	Initial contact resistance	500m max.						100m max.	
	Insulation resistance	100M min. 250V DC	100M min. 500V DC						
	Voltage proof	250V AC for 1 minute	500V AC for 1 minute						
Mechanical performance	Terminal strength	3N for 1 minute					5N for 1 minute		
	Actuator strength	20N					10N	5N	
Durability	Operating life without Load	100,000cycles 1 max.	300,000cycles 1 max.	300,000cycles or 1,200,000cycles 1 max.	300,000cycles 1 max.	100,000cycles 1 max.	300,000cycles 1 max.		
	Operating life with Load	(0.1mA 12V DC) 100,000cycles 1 max.	(0.1A 12V DC) 300,000cycles 1 max.	(0.1A 12V DC) 300,000cycles or 1,200,000 1 max.	(0.1A 12V DC) 300,000cycles 1 max.	(0.1A 12V DC) 100,000cycles 1 max.	(1mA 3V DC) 300,000cycles 1 max. or (50mA 60V DC) 100,000cycles 1 max.		
Environmental performance	Cold	-40 ± 2 for 500h						-20 ± 2 for 96h	
	Dry heat	85 ± 2 for 500h						85 ± 2 for 96h	
	Damp heat	60 ± 2 , 90 to 95%RH for 500h						40 ± 2 , 90 to 95%RH for 96h	
Dimensions (mm)	W	13.1	13.8	13.3	13	14.7	13.3	13	14.4
	D	11.35		5.8		5.4	5.3	25	28.6
	H	5.3	5.8	8	8.35	7.6	7	5	7.15
Soldering	Manual soldering	300 ± 10 , 3 ⁺¹ s						350 ± 5 , 3s max.	
	Dip soldering	260 ± 5 , 5 ± 1s							
	Reflow soldering							Please see P.79	
Number of poles	1							2	
Operation force	1N max.	2N max.	2N max. 5.9N max.	1 ± 0.5N	1 ± 0.3N	1 ± 0.5N	2N max.	0.8N max.	
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