

# Detector Switch Water-proof Type

## SPVQ4H Series



Contributes high contact reliability at micro-current range.



### Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		0.1A 12V DC/1mA 5V DC
Contact resistance (Initial/After operating life)		500mΩ/1Ω max.
Operating force		3N max.
Operating life	Without load	300,000cycles
	With load	300,000cycles (0.1A 12V DC)

### Product Line

Poles	Positions	Change over timing	Operating part shape	Terminal type	Minimum order unit (pcs)	Product No.	Drawing No.
1	2	Non shorting	Actuator	With wire (downwards)	720	SPVQ4H1200	1
	1			With wire (downwards) N/O Circuit		SPVQ4H1300	2
				With wire (downwards) N/C Circuit		SPVQ4H1400	3

### Packing Specifications

#### Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
180	720	555 × 375 × 223

### Dimensions

Unit:mm

No.	Style	No.	Style				
1		3					
2		<h3>Circuit Diagram</h3> <table border="1"> <tbody> <tr> <td> <b>No.1</b>  </td> <td> <b>No.3</b>  </td> </tr> <tr> <td> <b>No.2</b>  </td> <td></td> </tr> </tbody> </table>		<b>No.1</b> 	<b>No.3</b> 	<b>No.2</b> 	
<b>No.1</b> 	<b>No.3</b> 						
<b>No.2</b> 							

### Notes

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

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

Series	General-purpose Type				Water-proof Type			
	SPVT	SPVL	SSCW	SPVQ5	SPVQ1	SPVQ3	SPVQ4H	
<b>Detector</b>								
<b>Push</b>								
<b>Slide</b>								
<b>Rotary</b>								
<b>Encoders</b>								
<b>Power</b>								
<b>Dual-in-line Package Type</b>								
<b>TACT Switch™</b>								
<b>Custom-Products</b>								
<b>Operation type</b>					 			
<b>Operating temperature range</b>	-40°C to +85°C							
<b>Automotive use</b>	●	●	●	●	●	●	●	
<b>Rating (max.) (Resistive load)</b>	50mA 20V DC	1mA 5V DC	0.1A 12V DC					
<b>Rating (min.) (Resistive load)</b>	100μA 3V DC	50μA 3V DC	100μA 3V DC	50μA 3V DC		50μA 5V DC or 1mA 5V DC	1mA 5V DC	
<b>Electrical performance</b>	<b>Initial contact resistance</b>	500mΩ max.	2Ω max.	500mΩ max.				
	<b>Insulation resistance</b>	100MΩ min. 100V DC		100MΩ min. 250V DC	100MΩ min. 500V DC			
	<b>Voltage proof</b>	100V AC for 1 minute		250V AC for 1 minute	500V AC for 1 minute			
<b>Mechanical performance</b>	<b>Terminal strength</b>	0.5N for 1 minute	1N for 1 minute	—————		3N for 1 minute Wire strength 30N for 1 minute Applicable to product with wire	Wire strength 30N for 1 minute	
	<b>Actuator strength</b>	10N	5N	20N				
<b>Durability</b>	<b>Operating life without Load</b>	100,000cycles 1Ω max.	50,000cycles 5Ω max.	100,000cycles 1Ω max.	300,000cycles 1Ω max.		300,000cycles or 1,200,000cycles 1Ω max.	
	<b>Operating life with Load</b>	(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 cycles 1Ω max.	
<b>Environmental performance</b>	<b>Cold</b>	-40±2°C for 500h						
	<b>Dry heat</b>	85±2°C for 500h						
	<b>Damp heat</b>	40±2°C, 90 to 95%RH for 500h	60±2°C, 90 to 95%RH for 500h					
<b>Dimensions (mm)</b>	<b>W</b>	5.6	5.55	13.1	13.8	13.3	13	19
	<b>D</b>	6.5	6.6	11.35		5.8		6
	<b>H</b>	1.9	1	5.3	5.8	8	8.35	11.9
<b>Soldering</b>	<b>Manual soldering</b>	350±5°C, 3s max.			—————		300±10°C, 3 <sup>+</sup> 1s	
	<b>Dip soldering</b>	—————			—————		260±5°C, 5±1s	
	<b>Reflow soldering</b>	Please see P.97			—————			
<b>Number of poles</b>	1							
<b>Operation force</b>	0.4N max.	0.35N max.	1N max.	2N max.	2N max. 5.9N max.	3N max.		
<b>Page</b>	68	71	72	73	74	78	84	

- Detector Switches Soldering Conditions .....97
- Detector Switches Cautions .....98

### Note

●marks in "Available for automotive use" indicate that all of the series products can work at the operating temperature range from -40°C to +85°C.