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Model & Spec: KW10-Z3P150	產品規格書	DONGNAN

1 General

- 1.1 Application This specification is applied to KW10 Micro Switch used for electronic equipment.
- 1.2 Operating temperature range -40℃ to 85℃
- 1.3 Test conditions Unless otherwise specified. The atmospheric conditions for making measurements and tests are as follows
- | | |
|----------------------|---------------------------|
| Ambient temperature: | 15~35℃ |
| Relative humidity: | 45~85% |
| Air pressure: | 86~106kPa (860~1060 mbar) |
- Should any doubt arise in judgment. tests shall be conducted at the following conditions.
- | | |
|----------------------|---------------------------|
| Ambient temperature: | 20±2℃ |
| Relative humidity: | 60~70% |
| Air pressure: | 86~106kPa (860~1060 mbar) |

2 Appearance construction and dimensions

- 2.1 Appearance Switch shall have good finishing, and no rust crack or plating failures.
- 2.2 Construction and dimensions Refer to individual product drawing.

3 Ratings

3(0.5)A 125/250VAC 3GPA 125/250VAC 3RA 125/250VAC 40T85,1E4,50-60Hz IP40 3 A, 30 V dc 40T85,1E4, IP40 (UL, CUL)

3(0.5) A, 125/250 VAC 3 A, 125/250 VAC 3 A, 30 V d.c. 40T85, 1E4, 50-60Hz, IP40 (DEMKO, ENEC, CB)

3(0.5)A250VAC (CQC, CE ,TUV,EK)

4 Electrical specifications

NO.	Items	Test conditions	Criteria
4.1	Contact resistance	Shall be measured at 1A,5V DC by voltage drop method after some operations without load. Applied position: Between terminal and terminal	50mΩ MAX
4.2	Insulation resistance	Test voltage:500VDC, measured after 1 min ±5s Applied position: 1)Between terminal and terminal 2)Between terminal and ground	100MΩ MIN
4.3	Voltage proof	Following test voltages shall be applied for 1 min. (Cut-off current:0.5mA) 1)Between terminal and terminal :500VAC (50~60Hz) 2)Between terminal and ground: 1500V AC(50~60Hz)	No dielectric breakdown shall occur

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5 Mechanical specifications

NO.	Item	Test conditions	Criteria
5.1 Operating character- istic	5.1.1 Operating force (OF)	The force which moves the actuating part from the free position to the actuating position and reverses the live contact from the actuating part	0.45N MAX
	5.1.2 Release force (RF)	The force which is required to reverse the live contact from the actuating part	0.06N MIN
	5.1.3 Pre Travel (PT)	The distance for the actuating part to travel from the free position to the actuating position	
	5.1.4 Movement Differential (MD)	The distance for the actuating part to travel from the actuating position to the returning position	0.7mm MAX
	5.1.5 Over Travel (OT)	The distance for the actuating part to travel from the actuating position to the actuating limit position	0.7mm MIN
	5.1.6 Operating Position (OP)	After the force is placed on the actuating part the live contact from the free position state to reversing position	7±1.2mm
5.2	Actuator strength	It shall satisfy following condition when a thrust load of the specified to the operating direction vertically for 1 minutes	10N
5.3	Terminal strength	Insert and pull out	25N
5.4	Vibration	Switch shall be secured to a lasting machine by a normal mounting device and method switch shall be measured after following test. 1) Vibration frequency range: 10-55Hz 2) Total amplitude: 1.5mm 3) Sweep ratio: 10-55-10Hz Approx: 1min 4) Method of changing the sweep vibration frequency: Logarithmic or linear 5) Direction of vibration: Three perpendicular directions including actuator. 6) Duration: 2 h each (6 h in total)	Contact resistance(item 4.1): 100mΩ MAX Insulation resistance (item 4.2): 50MΩ MIN Voltage proof: (item 4.3) No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within ±10% of specified value . Shall be free from mechanical abnormalities.
5.5	Shock	Switch shall be measured after following test at the condition of releasing self-lock. 1) Mounting method: Normal mounting method 2) Acceleration: 30g 3) Duration: 11ms 4) Test direction: 6 directions 5) Number of shocks: 3 times per direction (18times in total)	

6 Solder specifications

NO.	Item	Test conditions	Criteria									
6.1	Solderability	Switch shall be checked after following test. 1) Soldering temperature: $235 \pm 5^{\circ}\text{C}$ 2) Immersing time : $3 \pm 0.5\text{s}$	More than 90% of immersed part shall be covered with solder. If frame is made of tin-plate, cutting section shall not be applied.									
6.2	Resistance to solder heat	Switch shall be measured after following test. temperature and immersing time <table><tr><td></td><td>Temperature($^{\circ}\text{C}$)</td><td>Time(s)</td></tr><tr><td>Wave soldering</td><td>260 ± 5</td><td>5 ± 1</td></tr><tr><td>Manual soldering</td><td>350 ± 5</td><td>3 ± 0.5</td></tr></table>		Temperature($^{\circ}\text{C}$)	Time(s)	Wave soldering	260 ± 5	5 ± 1	Manual soldering	350 ± 5	3 ± 0.5	No abnormalities will be observed in appearance and operation. The electrical performance requirements specified in item 6 shall be satisfied.
	Temperature($^{\circ}\text{C}$)	Time(s)										
Wave soldering	260 ± 5	5 ± 1										
Manual soldering	350 ± 5	3 ± 0.5										

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7 Durability

NO.	Item	Test conditions	Criteria
7.1	Cold	After testing at $-40\pm 2^{\circ}\text{C}$ for 96 h, the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h. water drops shall be removed.	Contact resistance(item 4.1): 100mΩ MAX Insulation resistance (item 4.2): 50MΩ MIN Voltage proof: (item 4.3) No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within $\pm 10\%$ of specified value . No abnormalities shall be recognized in appearance and construction.
7.2	Dry heat	After testing at $85\pm 2^{\circ}\text{C}$ for 96 h, the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h.	
7.3	Damp heat	After testing at $40\pm 2^{\circ}\text{C}$ and 90-95%RH for 96 h, the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h. water drops shall be removed.	
7.4	Change of temperature	After 20 cycles of following conditions the switch shall be allowed to stand under normal room temperature and humidity condition for 1h, and then measurement shall be made within 1 h. water drops shall be removed.	
7.5	Salt mist	Switch shall be checked after following lest. 1) Temperature: $35\pm 2^{\circ}\text{C}$ 2) Salt solution: $5\pm 1\%$ (solids by mass) 3) Duration: $24\pm 1\text{h}$ After test, salt deposit shall be removed in running water	No remarkable corrosion shall be recognized in metal part

8 Durability

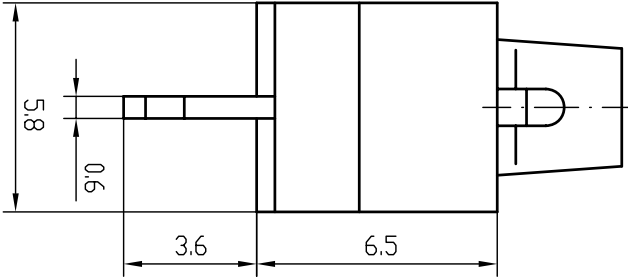
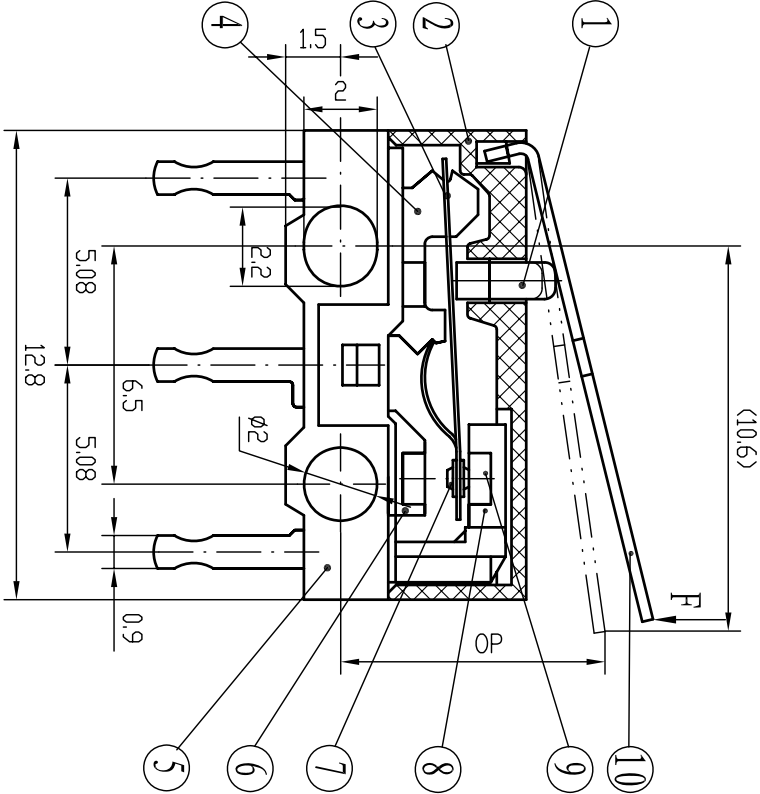
NO.	Item	Test condition	Criteria
8.1	Endurance (According to UL61058)	3GPA 125/250VAC; 3RA 125/250VAC; 3 A, 30 V d.c Switch shall be operated 10,000 cycles at 15~20 cycles/min Voltage proof(Cut-off current:0.5mA) Test voltages shall be applied for 1 min.	Insulation resistance(item 4.2): 50MΩ MIN Voltage proof: Terminal and ground:1000VAC No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within $\pm 20\%$ of specified value . 6,000cycles, Temperature rise: 30°C MAX 10,000cycles, Temperature rise: 55°C MAX No abnormalities shall be recognized in appearance and construction
8.2	Endurance (According to EN61058-1 /IEC61058-1)	3(0.5)A 250VAC; 3 A, 30 V d.c Switch shall be operated 10,000 cycles at 15~20 cycles/min Voltage proof(Cut-off current:0.5mA) Test voltages shall be applied for 1 min.	Insulation resistance(item 4.2): 50MΩ MIN Voltage proof: Terminal and terminal:375VAC Terminal and ground:1125VAC No dielectric breakdown shall occur. Operating characteristic (item 5.1): Operating characteristic variety Within $\pm 20\%$ of specified value . Temperature rise: 55°C MAX No abnormalities shall be recognized in appearance and construction

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1. Specifications 技术特性表

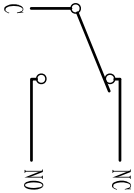
RATINGS额定值	3(0.5)A250VAC 10E3 T85
	3(0.5)A 125/250VAC 3GPA 125/250VAC
TEMPERATURE 温度等级	3RA 125/250VAC 40T85, 1E4, 50-60Hz IP40
ELECTRONICAL LIFE 电气寿命	3 A, 30 V dc 40T85, 1E4, IP40
Insulation resistance 绝缘电阻	≥100MΩ
Test voltage 耐电压	AC1000V
Contact resistance 接触电阻	≤50mΩ
Operating force 动作力	≤0.45N
Operating Position 动作位置	7 ±1.2mm



2. Parts List 零件材质表

No.	Name 名称	Material 材料
1	Plunger 开关子	Plastic PBT4308(白色) 工程塑料
2	Cover 盖	Plastic PBT4308(黑色) 工程塑料
3	Moving piece 可动片	Beryllium alloy (0Be2 铍青铜
4	Support 支架	Brass alloy H65, Silver plated 黄铜, 镀银
5	Case 底座	Plastic PBT4308(白色) 工程塑料
6	N0 Terminal 常开端子	Brass alloy H65, Silver plated 黄铜, 镀银
7	Contact 电触点	AgNi10 银-镍
8	NC Terminal 常闭端子	Brass alloy H65, Silver plated 黄铜, 镀银
9	Contact 电触点	AgNi10 银-镍
10	Moving arm 动臂	Stainless steel SUS304 不锈钢

SCHEMATIC DIAGRAM 电路图



3. Safety authentication 安全认证

		DESIGN	陈丹琼20120911	KW10-Z3P150
		CHECKED BY	陈 洁20120911	
		TECHNICS		
EDITION	20120911			AVY8 3.604.110-18
PROJ		STANDARDIZATION		DONGNAN ELECTRONICS
		APPROVED BY	江小林20120911	