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Model & Spec: KW3A-5Z4-A100	產品規格書	DONGNAN

1 General

- 1.1 Application This specification is applied to KW3A Micro Switch used for electronic equipment.
- 1.2 Operating temperature range -40℃ to +105℃
- 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

- 5GPA 125/250VAC μ40T105 5E4 4A 30VDC (UL CUL)
- 5(2)A 125/250VAC μ 40T105 5E4 4A 30VDC 40T105 5E4 (ENEC DEMKO)
- 5(2)A 250VAC μ 10T105 5E4 (VDE SEMKO CE KTL CQC)

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 5s. (Cut-off current:0.5mA) 1)Between terminal and terminal :1000VAC (50~60Hz) 2)Between terminal and ground: 2000V 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	1.1N MAX
	5.1.2 Release force (RF)	The force which is required to reverse the live contact from the actuating part	0.15N MIN
	5.1.3 Pre Travel (PT)	The distance for the actuating part to travel from the free position to the actuating position	1.4mm MAX
	5.1.4 Movement Differential (MD)	The distance for the actuating part to travel from the actuating position to the returning position	0.4mm MAX
	5.1.5 Over Travel (OT)	The distance for the actuating part to travel from the actuating position to the actuating limit position	1mm 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	21.4±0.6 mm
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)	

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6 Durability

NO.	Item	Test conditions	Criteria
6.1	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.
6.2	Dry heat	After testing at $105\pm 2^{\circ}\text{C}$ 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.	
6.3	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.	
6.4	Change of temperature	After 5 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. The duration of each exposure is 30 min.	

7 Durability

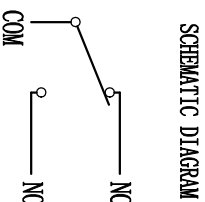
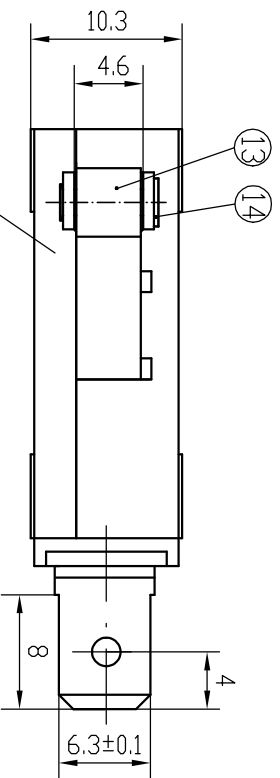
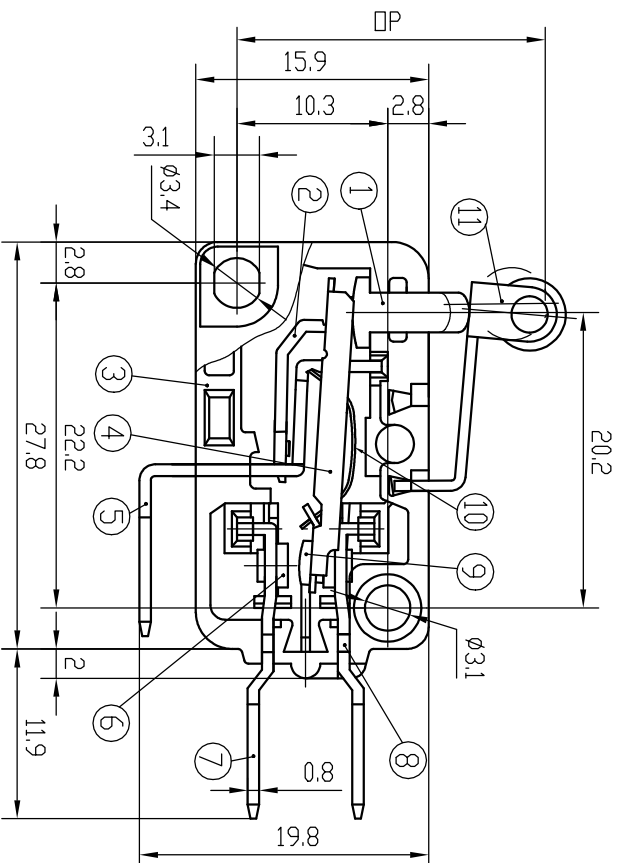
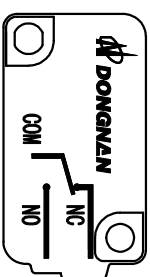
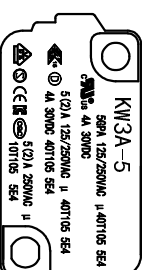
NO.	Item	Test condition	Criteria
7.1	Endurance (According to UL61058)	5GPA 125/250VAC 4A 30VDC Switch shall be operated 50,000 cycles at 15~20 cycles/min Voltage proof(Cut-off current:0.5mA) Test voltages shall be applied for 1 min	Insulation resistance(item 4.2): 50MΩ MIN Voltage proof: Terminal and ground:1500VAC 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
7.2	Endurance (According to EN61058-1 /IEC61058-1)	5(2)A 125/250VAC 4A 30VDC Switch shall be operated 50,000 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:750VAC Terminal and ground:1500VAC 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

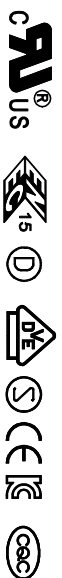
RATINGS 额定值	50PA 125/250VAC μ 40T105 5E4 4A 30VDC
ELECTRONICAL LIFE 电气寿命	5(2)A 125/250VAC μ 40T105 5E4 4A 30VDC 40T105 5E4
TEMPERATURE 温度等级	5(2)A 250VAC μ 10T105 5E4
INSULATION STRENGTH 绝缘电阻	100M Ω MIN
TEST VOLTAGE 耐电压	AC:1000V/2000V
CONTACT RESISTANCE 接触电阻	50m Ω MAX
OPERATING FORCE 动作力	1.1N MAX
RELEASE FORCE 释放力	0.15N MIN
OP 动作位置	21.4 \pm 0.6mm
MOVEMENT DIFFERENTIAL 差动行程	0.4mm MAX



2. Parts List OF TYPE KW3A 零件材质表

No.	Name 名称	Material 材料
1	BUTTON 开关子	Bakelite PF2A5-15JJ(b) 黑色 电木粉
2	LEVER 杠杆	Brass alloy H62, Silver plated 黄铜, 镀银
3	CASE 底座	Plastic PBT (灰) 工程塑料
4	MOVING PIECE 可动片	Brass alloy H62, Silver plated 黄铜, 镀银
5	TERMINAL 支架	Brass alloy H65, Silver plated 黄铜, 镀银
6	CONTACT 静触点	AgNi10/Cu 银-镍/铜
7	TERMINAL 端子	Brass alloy H65, Silver plated 黄铜, 镀银
8	TERMINAL 端子	Brass alloy H65, Silver plated 黄铜, 镀银
9	CONTACT 动触点	AgNi10/Cu 银-镍/铜
10	SPRING 簧片	Beryllium alloy QBe2 铍青铜
11	MOVING ARMS 动臂	Stainless steel 不锈钢
12	COVER 盖	Plastic PBT (灰) 工程塑料
13	Roller 滚轮	leaded brass bars, Nickel plated, HPb59-1铅黄铜棒, 镀镍
14	Pin shaft 销轴	Brass alloy H62, Nickel plated 黄铜棒, 镀镍

3. Safety authentication 安全认证



General Tolerance Dimension 未注公差

≤3 ±0.1
>3-10 ±0.2
>10-30 ±0.3

DESIGN	DESIGN	陈久斌 20210623	KW3A-5Z4-A100
CHECKED BY	CHECKED BY	郭兴生 20210623	
TECHNICS	TECHNICS		AVY8 3. 604. 016-1405
STANDARDIZATION	STANDARDIZATION		DONGNAN ELECTRONICS
APPROVED BY	APPROVED BY	徐良刚 20210623	