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| Total Page    | 8 |
| Edition       | A |
| Reference No. |   |

**承 認 書**  
**Specifications For Approval**

|                |     |                   |                  |
|----------------|-----|-------------------|------------------|
| Customer       |     | Part No.:         |                  |
| Gangyuan Model | G20 | Gangyuan Part No. | G20-26CM-200-311 |

|   |                   |             |
|---|-------------------|-------------|
| <b>Approved by Gangyuan</b>   |                   |             |
| Approved by   | Checked by        | Prepared by |
|   |                   |             |
| <b>Approved by Customer</b>   |                   |             |
| Research & Development b  | Quality Assurance |             |
|   |                   |             |
| <p>Remark:</p> <p>1:This product specification is considered as the technical agreement between the receiving customer and Gangyuan, Any information on the general product catalogue which is in conflict with or differentform from the corresponding information of this document is considered as invalid.</p> <p>2:If customer issue purchase orders without confirmation by signature of this specification after receipt,such confirmation will be considered as granted upon receipt of the first purchase order.</p> |                   |             |

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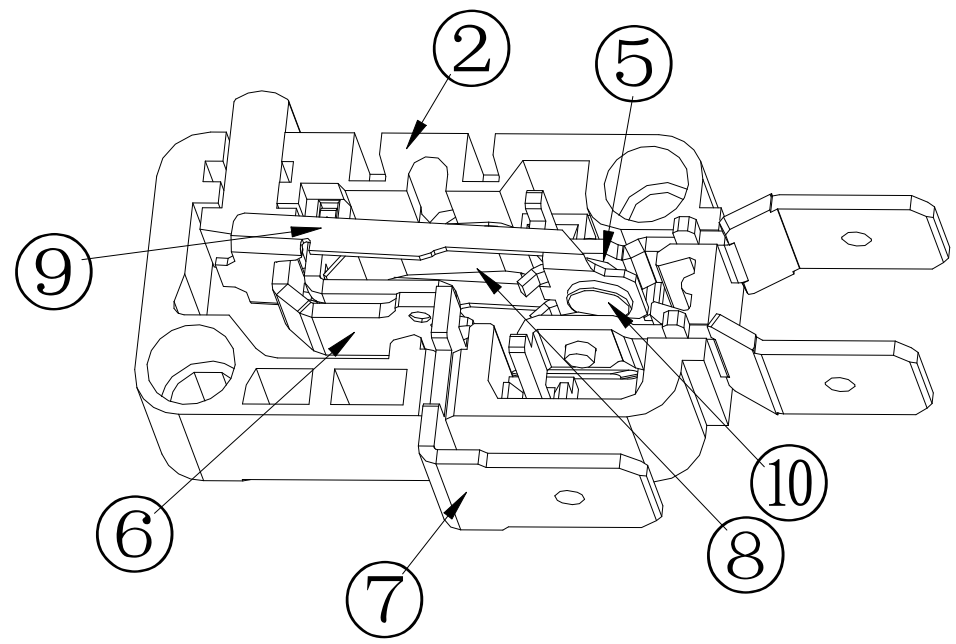
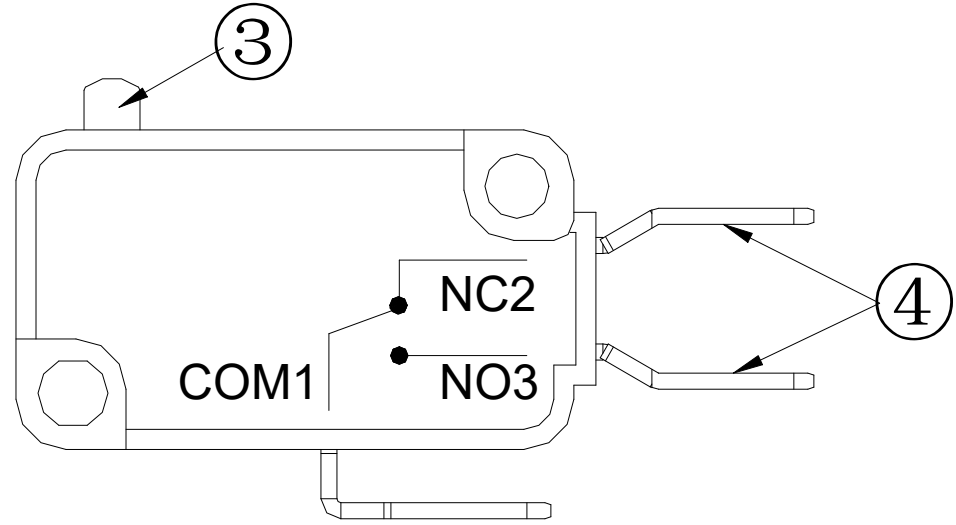
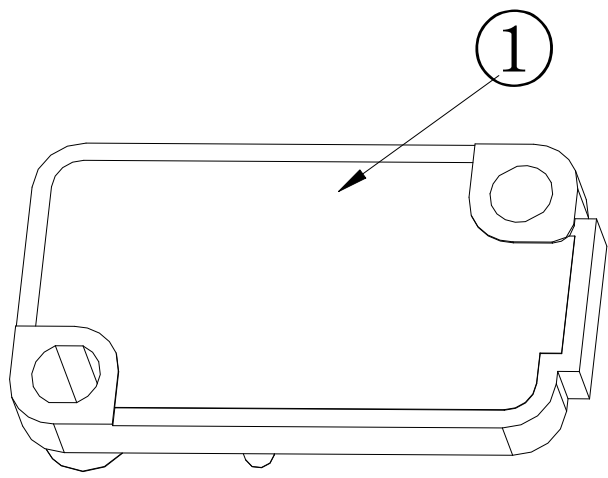
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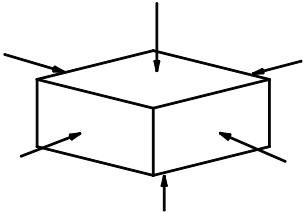


|     |                |        |                      |                     |
|-----|----------------|--------|----------------------|---------------------|
| 10  | 切换片银点          | 1      | 银合金 Silver alloy     |                     |
| 9   | 切换片            | 1      | 黄铜 Brass             | 镀银 D. Ag            |
| 8   | 弹片             | 1      | 铍青铜 Beryllium bronze |                     |
| 7   | 支架             | 1      | 黄铜 Brass             | 镀银 D. Ag            |
| 6   | 驱动片            | 1      | 黄铜 Brass             | 镀银 D. Ag            |
| 5   | 端子银点           | 2      | 银合金 Silver alloy     |                     |
| 4   | 端子             | 2      | 黄铜 Brass             | 镀银 D. Ag            |
| 3   | 按钮             | 1      | PBT 30%GF            | 黑色 Black            |
| 2   | 下盖             | 1      | PBT 30%GF            | 黑色 Black            |
| 1   | 上盖             | 1      | PBT 30%GF            | 黑色 Black            |
| NO. | Part Name 零件名称 | Qty 数量 | Material 材料规格        | Plating/Color 镀层及颜色 |

|              |               |       |                  |  |    |                |
|--------------|---------------|-------|------------------|--|----|----------------|
| 未注尺寸公差       |               | 产品名称  | 微动开关             | 图号:  |    | 共 2 页<br>第 2 页 |
| 0-10: ±0.20  | 26-50: ±0.40  |       |                  |  |    |                |
| 11-25: ±0.30 | ∠: ±2°        | 产品型号  | G20-26CM-200-311 | 投影:<br>  | 比例 | 重量             |
| 设计           | 莫江江 2018.3.29 |       |                  |  |    |                |
| 审核           | 王飞凌 2018.3.29 | 零部件名称 |                  | 温州港源电子有限公司<br>WENZHOU GANGYUAN ELECTRONICS CO., LTD. |    |                |
| 批准           |               | 物料编码  |                  |  |    |                |

| <b>GangYuan Electronics Co.,Ltd</b>  |   | 檔編號  | GY-002   |
|--|---|--|--|
|  |   | 發佈日期   | 2018年3月30日   |
| PRODUCT SPECIFICATION 產品規格書  |   | 檔版次  | 第A版 第0次修訂  |
| SERIES 系列  | MICRO SWITCH 微動開關                       | 頁碼   | 共8頁 第4頁  |
| <b>1. General Characteristics 一般特性:</b><br>1.1 Application: This specification is applied to the micro switch (G20 series) for general applications.<br>適用範圍: 該承認書微動開關 (G20 系列) 的一般使用範圍。<br>1.2 Operating Temperature Range: -25°C ~ +125°C<br>使用溫度範圍: -25°C ~ +125°C<br>1.3 Operating Relative Humidity: ≤85%<br>相對濕度: ≤85%<br>Test Conditions: Unless otherwise specified, the atmospheric conditions for making measurements and tests are as follows:<br>實驗條件: 若沒有特別說明, 則試驗大氣條件如下:<br>Ambient Temperature: 5~35°C<br>環境溫度: 5~35°C<br>Relative Humidity: 45~85%<br>相對濕度: 45~85%<br>Air Pressure: 86~106Kpa (860~106mbar)<br>大氣壓力: 86~106Kpa (860~106mbar) |   |  |  |
| <b>2. Appearance, Structure and Dimensions 外觀, 結構及尺寸:</b><br>2.1 Appearance: The switch shall have good finishing, and no rust, crack or plating defects.<br>外觀: 產品外觀良好, 無銹蝕、裂紋和鍍層缺陷。<br>2.2 Structure & Dimensions: Refer to individual product drawing.<br>結構及尺寸: 參見產品圖紙<br>2.3 Markings: Refer to individual product drawing.<br>標識: 參見產品圖紙。  |   |  |  |
| <b>3. Ratings 額定負荷</b>   |   | 26A 125/250VAC                                   |  |
| <b>4. Electrical Characteristics 電氣特性</b>  |   |  |  |
| No.  | Item 專案                                 | Criteria 標準                                      | Test Method 實驗方法   |
| 4.1  | Contact Resistance<br>接觸電阻<br>(初始值)     | 50mΩ Max.  | Measured by a voltage drop method at 1A Max, 5VDC. Any equipment with error not more than 5% can be used. Resistance after test is the average of 5 successive measurements.<br>以 1A, 5V 直流電, 採用電壓降法測量。也可用誤差不超過 5% 的儀錶進行測量, 實驗後的電阻取 5 次測量的平均值。 |
| 4.2  | Insulation Resistance<br>絕緣電阻           | 100MΩ Min.                                       | 500VDC voltage is applied between each pair of terminals and between the terminal and the metal frame for 60±5S.<br>在相互絕緣的所有端子之間及各接線端子與外露的非載流金屬零件之間加載 500V 直流電, 持續時間 60±5S。  |
| 4.3  | Dielectric withstand in voltage<br>耐壓強度 | No dielectric breakdown shall occur.<br>無擊穿現象發生。 | 1500VAC (50~60Hz, cut-off current 10mA) is applied between non-connected terminals and between terminals and the metal frame for 60±5s.<br>在相互絕緣的所有接線端子之間 1500V (50-60Hz 電流為 10mA) 交流電, 各接線端子與外殼或非載流金屬零件之間加載 1500V (50-60Hz) 交流電, 持續時間 60±5S。  |

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| SERIES 系列                                 | MICRO SWITCH 微動開關       | 頁碼  | 共8頁 第5頁   |
| <b>5. Mechanical Characteristics 機械特性</b> |                         |   |   |
| No.                                       | Item 專案                 | Criteria 標準   | Test Method 實驗方法  |
| 5.1                                       | Operating Force 操作力     | 200 ± 50gf  | Apply a tension meter on the midpoint of the actuator (or tip of the shaft) to supply a pressure vertically from its free position to operating position.<br>在操作元件末端沿操作方向均勻施加靜載荷，使操作元件轉換到動作位置。  |
| 5.2                                       | Return Force 回彈力        | 50gf min  | The value to which the force in the actuator midpoint (or tip of the shaft) must be reduced to allow the contact to the normal position.<br>在操作元件末端沿操作方向均勻減少靜載荷，使操作元件從動作位置轉換到自由位置。  |
| 5.3                                       | Operation Position 操作位置 | 18.1 ± 0.4mm  | Position of switch plunge or actuator at which point contacts snap from normal to operated position. Note that the case of flexible of adjustable actuators.<br>開關操動件受到外力後，由自由狀態切換到動作狀態的動作位置。（注意防止蓋片變形或按鈕傾斜現象。）   |
| 5.4                                       | Pre Travels 行程          | 1.5mm Max   | The distance vertically through, which the midpoint of the actuator (or tip of the shaft) trip move from its free position to operating position.<br>從自由位置到動作位置的距離。   |
| 5.5                                       | Terminal Strength 接線端強度 | Shall be free from terminal looseness, damage and insulator breakage. No functional defective occur<br>端子無鬆動，損壞及絕緣層的破裂。<br>無功能性不良   | A static load of 25N shall be applied to the tip of terminal in a desired direction for 10 ± 1s. The test shall be done once per terminal.<br>以 25N 作用力沿軸向逐漸施加於接線端末端，作用力方向為離開開關向外指向，每個接線端子測量一次。   |
| 5.6                                       | Vibration Proof 振動      | After test,<br>Contact resistance: 200m Ω Max.<br>Insulation resistance: 100M Ω Min.<br>No functional defective occur<br>No abnormalities shall be recognized in appearance and construction.<br>實驗後：<br>接觸電阻：200m Ω Max.<br>絕緣電阻：100M Ω Min.<br>無功能性不良。<br>表面及結構無明顯變形。 | Switch shall be secured to a testing machine by a normal mounting device and method. Switch shall be measured after following test.<br>(1) Vibration frequency range = 10~55 Hz<br>(2) Total amplitude = 1.5mm<br>(3) Sweep ratio: 10~55~10Hz Approx. 1 min<br>(4) Method of changing the sweep vibration frequency: logarithmic or linear<br>(5) Direction of vibration: Three perpendicular directions including actuating direction.<br>(6) Duration: 2 hours (6 hours in total)<br>開關採用常規的安裝方法牢固地安裝在試驗設備上，並在下述參數條件下進行試驗：<br>(1) 振頻=10-55Hz<br>(2) 振幅 1.5mm<br>(3) 振動變化速率：10-55-10Hz 大約 1 分鐘<br>(4) 變頻方法：對數或線性型式<br>(5) 振動方向：三個相互垂直的方向，其中一個方向應是促動元件運動的方向。<br>(6) 時間：每個方向 2 小時（共 6 小時）。 |

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| SERIES 系列                    | MICRO SWITCH 微動開關           | 頁碼  | 共8頁 第6頁   |
| No.                          | Item 專案                     | Criteria 標準   | Test Method 實驗方法  |
| 5.7                          | Mechanical Shock 衝擊         | <p>After test,<br/>           Contact resistance:200Ω Max.<br/>           Insulation resistance:100MΩ Min.<br/>           No functional defective occur<br/>           No abnormalities shall be recognized in appearance and construction.</p> <p>實驗後:<br/>           接觸電阻: 200mΩ Max.<br/>           絕緣電阻: 100MΩ Min.<br/>           無功能性不良。<br/>           表面及結構無明顯變形。</p> | <p>Switch shall be measured after following test:<br/>           (1) Mounting Method: Normal<br/>           (2) Acceleration: 490m/s<sup>2</sup> (50G)<br/>           (3) Duration: 11ms<br/>           (4) Test Direction: 6 directions</p>  <p>(5)Number of shocks: 3 times per direction (18 times in total)<br/>           試件在下述參數條件下進行試驗:<br/>           (1) 安裝方法: 常規方法<br/>           (2) 加速度: 490m/ s<sup>2</sup> (50G)<br/>           (3) 時間: 11ms<br/>           (4) 實驗方向: 圖示 6 方向<br/>           (5) 衝擊次數: 每個方向 3 次 (總共 18 次)</p>  |
| 5.8                          | Solder Heat Resistance 耐焊接熱 | <p>No abnormalities shall be observed in appearance and operation.<br/>           No functional defective occur<br/>           無外觀及功能損壞。<br/>           無功能性不良。</p>   | <p>Switch shall be measured after following test:<br/>           (1) Solder: H63A (JIS Z3282)<br/>           (2) Flux: Rosin Flux having a nominal composition of 25% solids by mass of water white rosin in methyl alcohol (JIS K 1501) solution.<br/>           (3) Soldering Temperature &amp; Immersing Time<br/>           Dip Soldering 260±5° C 5±1s<br/>           Manual Soldering 300±5° C 2~3s<br/>           (4)Immersion Depth: (For Dip Soldering)<br/>           Immersion depth shall be at copper plating portion of PCB after mounting.<br/>           (Thickness of PCB=1.6mm)<br/>           試件在下述參數條件下進行試驗:<br/>           (1) 焊料: H63A (JIS Z 3282)<br/>           (2) 焊劑: 焊劑, 品質百分比為 25%松香, 75% 甲醇的無色透明溶液。<br/>           (3) 焊接溫度及浸漬時間:<br/>           自動焊接 260± 5°C 5±1s<br/>           手工焊接 300±5°C 2~3s<br/>           (4) 浸漬深度: (對於手動焊接)<br/>           接線端應浸到離開根部 1.6mm 處。</p> |

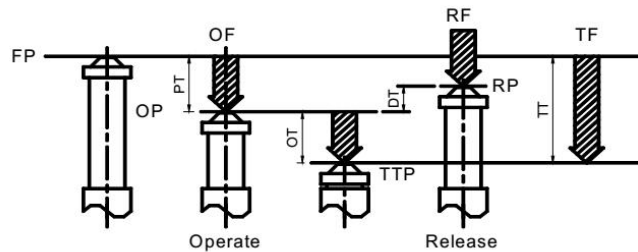
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| SERIES 系列                                     | MICRO SWITCH 微動開關           | 頁碼  | 共8頁 第7頁   |
| <b>6. Durability characteristics 耐久性能</b>     |                             |   |   |
| No.   | Item 專案                     | Criteria 標準   | Test Method 實驗方法  |
| 6.1   | Mechanical Life<br>機械壽命     | After test,<br>Contact resistance: 2Ω Max.<br>Insulation resistance: 10MΩ Min.<br>No functional defective occur<br>The switch shall be free from abnormalities in appearance construction.          | 1,000,000 cycles of operation shall be performed continuously at a rate of 60 cycles per minute without load.<br>在不帶負荷的條件下，速度為60次/分，在壽命試驗設備上連續轉換1,000,000次。   |
| 6.2   | Electronic Life<br>電氣壽命     | 實驗後：<br>接觸電阻：2Ω Max.<br>絕緣電阻：10MΩ Min.<br>無功能性不良。<br>開關外觀及結構應無損壞。   | operation shall be performed continuously at a rate of 6-12 cycles per minute with load as follow<br>在帶以下負荷的條件下，速度為6-12次/分，在壽命試驗設備上連續轉換。<br>26A 250VAC 10,000cycles(次)  |
| <b>7. Weather Proof Characteristics 耐候性能：</b> |                             |   |   |
| 7.1   | Cold Proof<br>低溫            | After test,<br>Contact resistance: 200mΩ Max.<br>Insulation resistance:<br>50MΩ Min.<br>No functional defective occur.<br>The switch shall be free from abnormalities in appearance & construction. | After testing at -25 ± 2° C for 48 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated.<br>試件在-25±2℃的溫控箱內保持48小時，然後在正常溫度和濕度下恢復1小時，並在此後1小時內對試品進行測量，水滴應消失。                    |
| 7.2   | Hot Proof<br>高溫             | 實驗後：<br>接觸電阻：200mΩ Max.<br>絕緣電阻：50MΩ Min.<br>無功能性不良。<br>開關外觀及結構應無損壞。  | After testing at 125 ± 2° C for 48 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that.<br>試件在125±2℃的溫控箱內保持48小時，然後在正常溫度和濕度下恢復1小時，並在此後1小時內對試品進行測量。   |
| 7.3   | Moisture Resistance<br>恒定濕熱 |   | After testing at 40 ± 2° C ,90~95% RH for 96 hours, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated.<br>試件在40±2℃, 90-95%RH的溫控箱內保持48小時，然後在正常溫度和濕度下恢復1小時，並在此後1小時內對試品進行測量，水滴應消失。 |



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| SERIES 系列                           | MICRO SWITCH 微動開關 | 頁碼   | 共8頁 第8頁    |

| No. | Item 專案                     | Criteria 標準   | Test Method 實驗方法   |
|-----|-----------------------------|---|--|
| 7.4 | Temperature Cycling<br>溫度轉換 | <p>After test,<br/>Contact resistance: 200mΩ Max.<br/>Insulation resistance: 50MΩ Min.<br/>No functional defective occur.<br/>The switch shall be free from abnormalities in appearance &amp; construction.</p> <p>實驗後:<br/>接觸電阻: 200mΩ Max.<br/>絕緣電阻: 50MΩ Min.<br/>無功能性不良。<br/>開關外觀及結構應無損壞。</p> | <p>After 5 cycles of following conditions, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated.</p> <p>試件按下述實驗條件試驗5次, 然後在正常溫度和濕度下恢復1小時, 並在此後1小時內對試品進行測量, 水滴應消失。</p>  |
| 7.5 | Salt Mist<br>鹽霧實驗           | <p>No remarkable corrosion shall be recognized in metal part.<br/>在金屬件上沒有腐蝕斑點。</p>  | <p>The switch shall be checked after following test:<br/>(1) Temperature: 35 ± 2° C<br/>(2) Salt Solution: 5 ± 1% (Solids by mass)<br/>(3) Duration: 24 ± 1 hour</p> <p>After test, salt deposit shall be removed by running water.</p> <p>試件在下述實驗後測量:<br/>(1) 溫度: 35 ± 2°C<br/>(2) 鹽溶液濃度: 5 ± 1% (品質百分比)<br/>(3) 時間: 24 ± 1 小時</p> <p>實驗後的鹽沉積物用水沖掉。</p> |

8. Operating data diagram 操作參數示意圖



- |                            |       |
|----------------------------|-------|
| OF: Operating Force        | 操作力   |
| RF: Release Force          | 回復力   |
| TF: Total travel Force     | 全行程力  |
| FP: Free Position          | 自由位置  |
| OP: Operating Position     | 動作位置  |
| TTP: Total Travel Position | 全行程位置 |
| RP: Release Position       | 釋放位置  |
| PT: Pre Travel             | 行程    |
| OT: Over travel            | 超行程   |
| DT: Differential Travel    | 差動行程  |
| TT: Total Travel           | 全行程   |

单击下面可查看定价，库存，交付和生命周期等信息

[>>Gangyuan\(港源\)](#)