



## Datasheet

RS PRO Sub-Miniature Pushbutton Switches  
Stock number: **175-8XXX (Details as follows)**

EN



The picture above is for reference only.

### Specifications:

RATING : 26A 250/125VAC.

CONTACT RESISTANCE : 50 m $\Omega$  max. @ 1A 12VDC (initial value)

INSULATION RESISTANCE : 100 M $\Omega$  min. at 500VDC

DIELECTRIC STRENGTH : 1,500V RMS @ sea level

OPERATION TEMPERATURE : -25°C to 85°C

MECHANICAL LIFE : Momentary 1,000,000 cycles

Latching 500,000 cycles

ELECTRICAL LIFE : 26A /125&250VAC 10,000 CYCLES

OPERATION PRESSURE : 3.5 $\pm$ 1.5N

TRAVEL : About 3.2mm

INGRESS PROTECTION : IP67, IK08(Stainless)

TORQUE: 1~3Nm.

**RS Part no.**

175-8192 175-8706	MW22-A0F0000-A3ZA
175-8193 175-8725	MW22-A0F0000-A3TA
175-8194 175-8741	MW22-A0F0000-A3DA
175-8217 175-8770	MW22-A0F1000-A3ZA
175-8218 175-8789	MW22-A0F1000-A3TA
175-8219 175-8797	MW22-A0F1000-A3DA
175-8183 175-8691	MW22-A0F0E124-A3ZA
175-8171	MW22-A0F0E124-A3TA
175-8185 175-8729	MW22-A0F0E124-A3DA
175-8174 175-8830	MW22-A0F0L124-A3ZA
175-8175 175-8837	MW22-A0F0L124-A3TA
175-8176 175-8846	MW22-A0F0L124-A3DA
175-8207	MW22-A0F1E124-A3ZA
175-8222 175-8819	MW22-A0F1E124-A3TA
175-8209 175-8807	MW22-A0F1E124-A3DA
175-8197	MW22-A0F1L124-A3ZA
175-8198 175-8801	MW22-A0F1L124-A3TA
175-8199 175-8809	MW22-A0F1L124-A3DA

# Specifications:

## 1. Style :

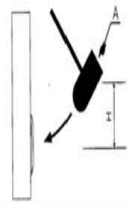
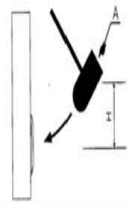
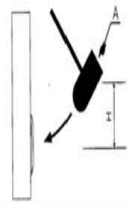
This specification describes “Metal Pushbutton Switch” , mainly used as signal of electric devices, with the general requirements of mechanical and electrical characteristic.

- ①Switch combination : 1NO or 1NC or 1NO 1NC.
- ②Enclosure material : Stainless steel.
- ③Operating Type : Momentary or Maintained.
- ④Operating Temperature Range : -25 °C~+85 °C.
- ⑤Degrees of protection provided by enclosures  
IP code : IP67.  
IK code : IK08 .(for case :stainless steel)

**2. Type of Actuation :** Pushbutton Switch.

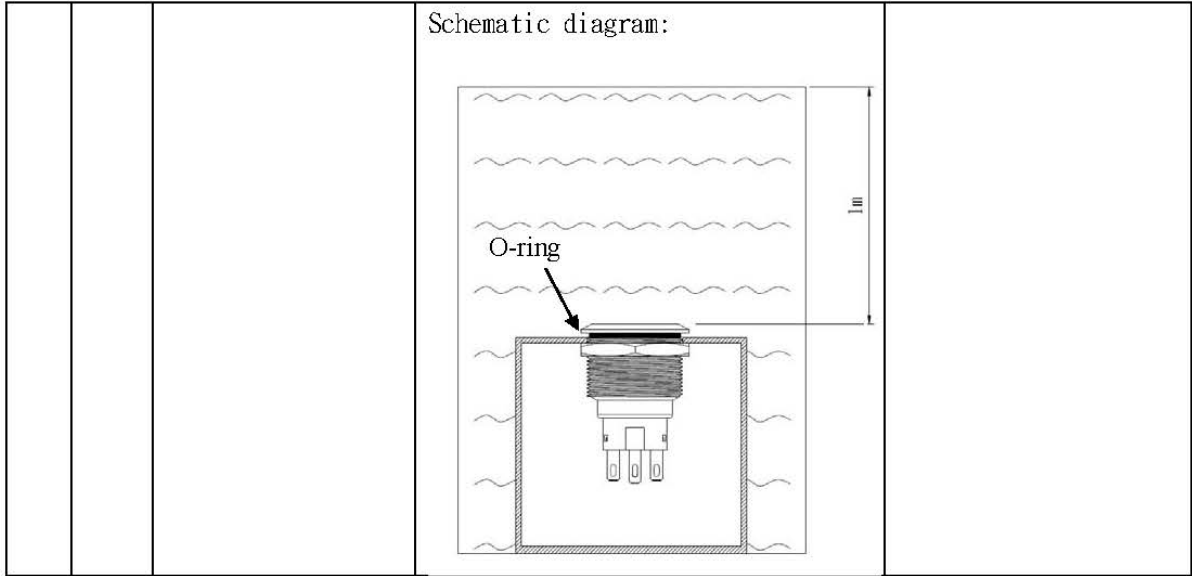
## 3. Test Sequence :

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By Visual Examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product.
ELECTRIC PERFORMANCE	2	Contact Resistance	To be measured between the two terminals associated with each switch pole.	50mΩ Max.
	3	Insulation Resistance	Measurements shall be made following application of 500 VDC / 100mA potential across terminals and cover for 1 minute.	100MΩ min.
	4	Dielectric Withstanding Voltage	⊙ 1500 VAC (50Hz or 60Hz) / between terminals /1minute. ⊙3000 VAC (50Hz or 60Hz) /between terminal and frame/ 1minute.	There shall be no breakdown or flashover.

MECHANICAL PERFORMANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS													
	5	Operation pressure	MODEL-1305N MECHANICAL TEST 500gram、1000gram、2000gram.	3.5 ± 1.5N													
	6	Operation Travel	Full Travel.	3.2 ± 0.3mm.													
	7	Torque	Applied to nut.	About 1~3Nm.													
	8	Panel Thickness	Applied to nut.	10mm Max.													
9	IK Code	<table border="1"> <thead> <tr> <th>IK Degree</th> <th>Weight (A)</th> <th>Original Height (H)</th> <th>Impact Energy</th> <th>Impact Diagram</th> </tr> </thead> <tbody> <tr> <td>08</td> <td>1.25 kg</td> <td>40cm</td> <td>5J</td> <td rowspan="2">  </td> </tr> <tr> <td>10</td> <td>5.0kg</td> <td>40cm</td> <td>20J</td> </tr> </tbody> </table>	IK Degree	Weight (A)	Original Height (H)	Impact Energy	Impact Diagram	08	1.25 kg	40cm	5J		10	5.0kg	40cm	20J	After three mechanical impact with corresponding grade energy at the same position of the crust, the switch has no harmful effect.
IK Degree	Weight (A)	Original Height (H)	Impact Energy	Impact Diagram													
08	1.25 kg	40cm	5J														
10	5.0kg	40cm	20J														
OPERATING LIFE	10	Operating Life	Measurements shall be made following the test forth below : ①26A/125/250VAC. ② Rate of Operation : 6-8operation cycles per minute. ③ Electronics Life Test : 10,000 cycles.	①Dielectric Strength : between terminals : 1000VAC. between terminals of opposite polarity : 1000VAC. ②Insulation Resistance : 50MΩ (at 500VDC)min. ③Contact Resistance : 100mΩ Max.													
			④Mechanical Life Test : Momentary : 1,000,000 cycles. Maintained : 500,000 cycles.														

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
HUMIDITY RESISTANCE	11	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ① Temperature : $-25\pm 2^{\circ}\text{C}$ . ② Time : 48 hours.	As shown in item 4. ① Insulation Resistance : $50\text{M}\Omega$ (at 500VDC)min. ② Contact Resistance : $100\text{m}\Omega$ Max.
	12	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ① Temperature : $85\pm 2^{\circ}\text{C}$ . ② Time : 48 hours.	As shown in item 4. ① Insulation Resistance : $50\text{M}\Omega$ (at 500VDC)min. ② Contact Resistance : $100\text{m}\Omega$ Max..
	13	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ① Temperature: $40\pm 2^{\circ}\text{C}$ ② Relative Humidity: 90~95% ③ Time: 48 hours.	As shown in item 4. ① Insulation Resistance : $50\text{M}\Omega$ (at 500VDC)min. ② Contact Resistance : $100\text{m}\Omega$ Max..

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
HUMIDITY RESISTANCE	14	Salt spray Testing	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made:</p> <p>①Temperature : 35±2°C.            ②The ratio of salt-water : 5%.            ③The spray amount of salt- water : 1~2 ml/h.            ④Time : 24 hours.</p>	No remarkable corrosion shall be recognized in metal part.
RoHS	15	HSF	<p>Refer RoHS Standard :            The electronic electrical machinery product limits with six big chemical materials.</p>	<p>Cd : 100ppm            Pb : 1000ppm            Hg : 1000ppm            Cr6+ : 1000ppm            PBB、PBDE : 1000ppm</p>
SOLDER HEAT RESISTANCE	16	Manual Soldering	<p>■ hand Soldering :            ①Soldering Temperature : 300°C±5°C.            ②Duration of Solder Heated : 3 seconds (Max).</p> <p>■ Precautions in Handling:            ①Please make sure that there is no flux rose over the surface of the PCB.</p>	<p>①Shall be free from pronounced backlash and falling-off or breakage terminals.            ②As shown in item 2~4.</p>
IP Level 1	17	Test of IP 67	<p>Protected against the effects of Temporary immersion in water. (1m below the surface of the water for a duration of 30 min).</p>	<p>IP67 According to EN 60529 : 1991+A1 : 2000            IEC 60529 : 2001</p>



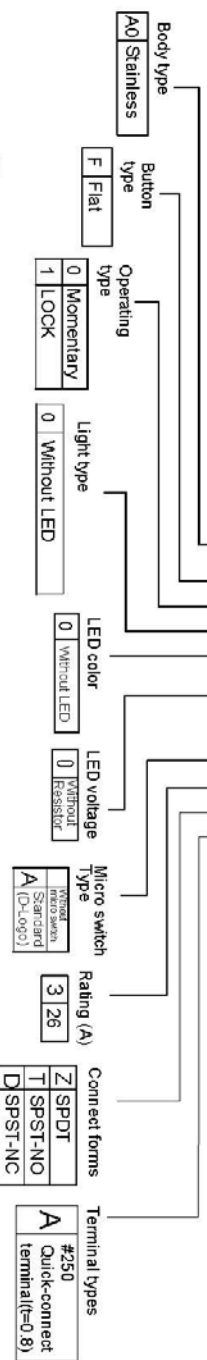
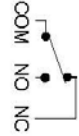
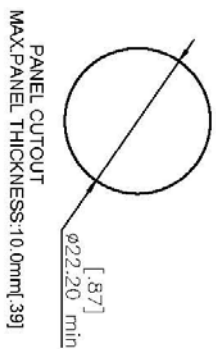
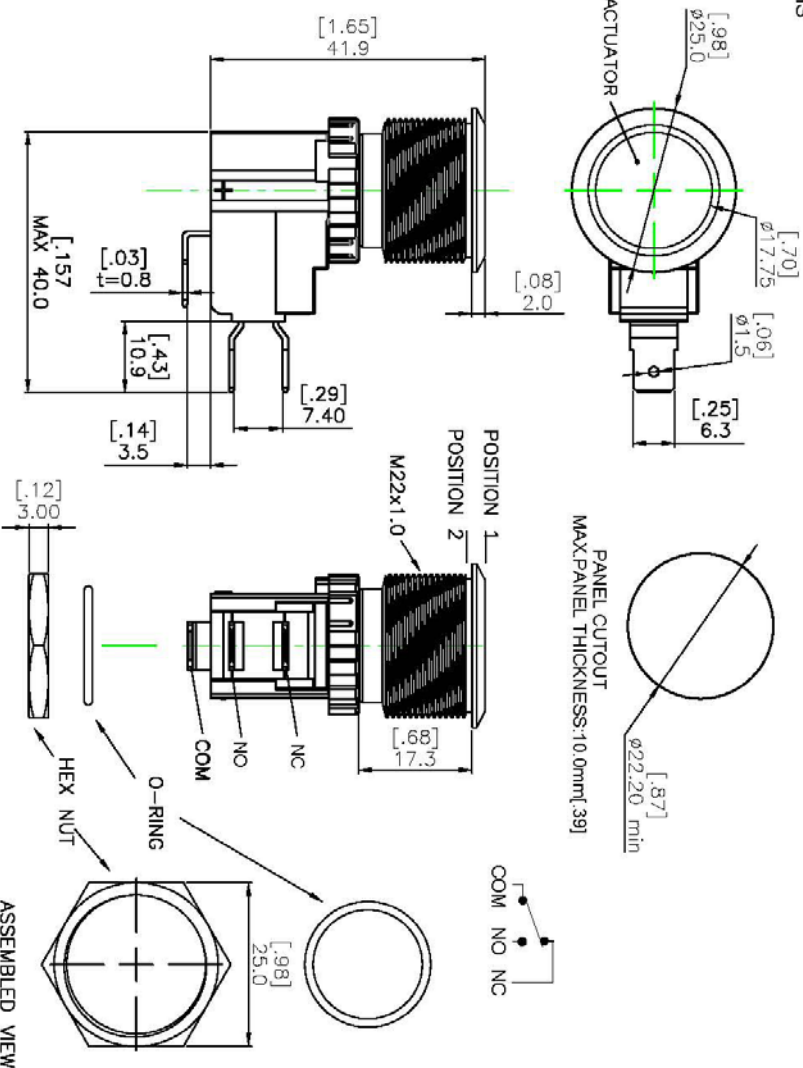
**Wiring:**

1. Solder the terminals using a 60W soldering iron at 350°C within 3 seconds.  
(Sn-Ag-Cu type solder is recommended.)
2. When soldering, be sure to keep the soldering iron as far away from the housing as possible.
3. Also ensure that no tensile force is applied to the terminal. Do not bend the terminal or apply excessive force to the terminal.

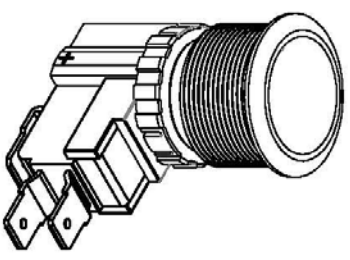
**4. LED Specifications : (LED Without resistor)**

Color	VF(v) Min.	VF(v) TYP.	VF(v) MAX.	IF(MAX)
White	2.8	3.3	3.8	20mA
Red	1.8	2.1	2.5	20mA
yellow	1.8	2.1	2.5	20mA
Blue	2.8	3.2	3.8	20mA
Green	2.8	3.2	3.6	20mA

**MATERIAL:**  
 BUSHING: Stainless Steel.  
 BASE: PBT(UL 94-V0) ; PC(UL94-V2) ; PA6T(UL94-V0)  
 ACTUATOR: PC(UL 94-V2);Stainless Steel.  
 INNER ASSEMBLY: POM/PA66  
 SPRING: Steel  
 SEALING: Silicone.  
 O-Ring: Silicone.  
 TERMINAL/CONTACT: Brass, Silver plated.  
 HEX NUT : Nickel plated brass.  
 RoHS



# MW22-XXXXXXX-XXXX



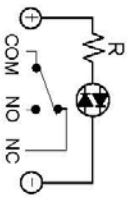
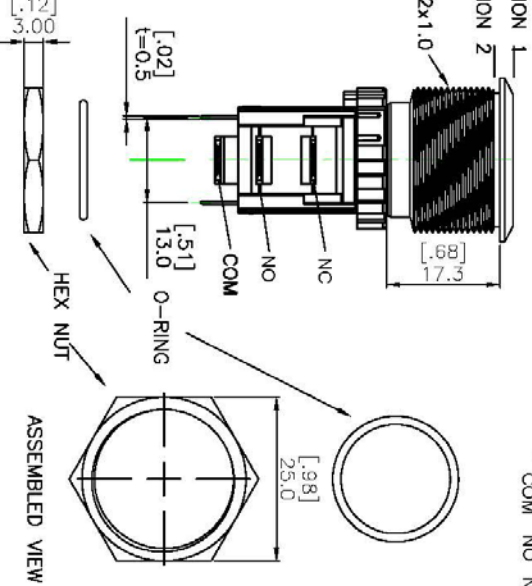
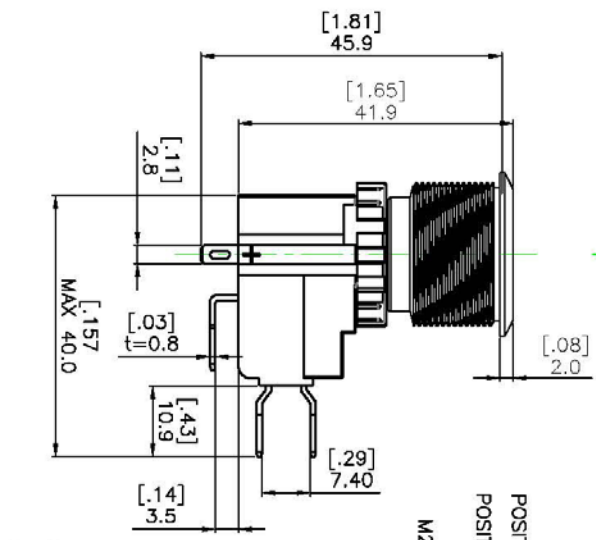
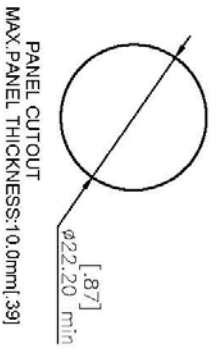
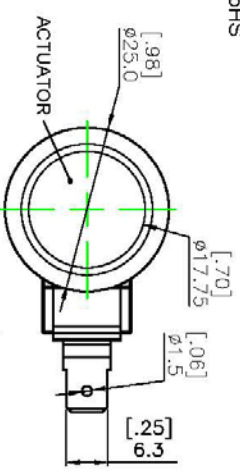
- SPECIFICATIONS**
- 1.CONTACT MATERIAL: SILVER
  - 2.RATING: 26A 250/125VAC.
  - 3.ELECTRICAL LIFE: 26A /125&250VAC 10,000 CYCLES
  - 4.MECHANICAL LIFE: Momentary 1,000,000. SELF-LOCK 500,000.
  - 5.INSULATION RESISTANCE:100MΩ MIN AT 500VDC.
  - 6.DIELECTRIC STRENGTH: 1,500V RMS@sea level.
  - 7.CONTACT RESISTANCE: 50mΩ MAX@1A 12VDC(initial value).
  - 8.OPERATING TEMPERATURE: -25°C to 85°C
  - 9.TRAVEL: ABOUT 3.2mm.
  - 10.OPERATION PRESSURE: 3.5±1.5N
  - 11.INGRESS PROTECTION: IP67,IK08(Stainless Steel).
  - 12.TORQUE: 1~3Nm.

**TOLERANCE (公差):**  
 0.00 mm ± 0.25mm  
 0.0 mm ± 0.40mm  
 ANGULAR: ± 2°

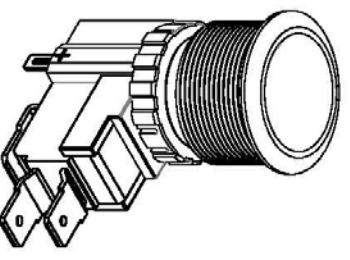


# MW22-XXXXXXXX-XXXX

**MATERIAL:**  
 BUSHING: Stainless Steel  
 BASE: PBT(UL 94-V0) ; PC(UL94-V2) ; PA6T(UL94-V0)  
 ACTUATOR: PC(UL 94-V2);Stainless Steel.  
 INNER ASSEMBLY: POM/PA66  
 SPRING: Steel.  
 SEALING: Silicone.  
 O-Ring: Silicone.  
 TERMINAL/CONTACT: Brass ,Silver plated.  
 HEX NUT : Nickel plated brass.  
 RoHS



Body type	Button type	Operating type	Light type	LED color	LED voltage	Micro switch Type	Rating (A)	Connect forms	Terminal types
A0 Stainless	F Flat	0 Momentary 1 LOCK	0 Without LED E Ring Moveable (Flat bottom only) L Ring+Power logo	0 Without LED 1 White 3 Red 5 Yellow 6 Green 7 Blue A Red&Green B Red&Blue	0 Without Resistor 3 3V 6 6V 12 12V 24 24V 36 36V 110 110V 220 220V	Without Standard (D-Logo)	3 26	Z SPDT T SPST-NO D SPST-NC	A  #250 Quick-connect terminal(=0.8)



- SPECIFICATIONS**
- 1.CONTACT MATERIAL: SILVER
  - 2.RATING: 26A 250/125VAC.
  - 3.ELECTRICAL LIFE: 26A /125&250VAC 10,000 CYCLES
  - 4.MECHANICAL LIFE: Momentary 1,000,000. SELF-LOCK 500,000.
  - 5.INSULATION RESISTANCE:100MΩ MIN AT 500VDC.
  - 6.DIELECTRIC STRENGTH: 1,500V RMS@sea level.
  - 7.CONTACT RESISTANCE: 50mΩ MAX.@1A 12VDC(initial value).
  - 8.OPERATING TEMPERATURE: -25°C to 85°C
  - 9.TRAVEL: ABOUT 3.2mm.
  - 10.OPERATION PRESSURE: 3.5±1.5N
  - 11.INGRESS PROTECTION: IP67 ;IK08(Stainless Steel).
  - 12.TORQUE: 1~3Nm.

**TOLERANCE (公差):**  
 0.00 mm ± 0.25mm  
 0.0 mm ± 0.40mm  
 ANGULAR: ± 2°