



## 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, 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.**

175-8359, 175-9093	MW19-A0F0000-A3ZA
175-8360 175-9101	MW19-A0F0000-A3TA
175-8361 175-8943	MW19-A0F0000-A3DA
175-8037 175-8640	MW19-A0F1000-A3ZA
175-8038	MW19-A0F1000-A3TA
175-8039 175-8709	MW19-A0F1000-A3DA
175-8082 175-8466	MW19-A0F0E00-A3ZA
175-8107 175-8649	MW19-A0F0E00-A3TA
175-8073 175-8521	MW19-A0F0E00-A3DA
175-8103 175-8525	MW19-A0F0L00-A3ZA
175-8104 175-8554	MW19-A0F0L00-A3TA
175-8105 175-8577	MW19-A0F0L00-A3DA
175-8028 175-8677	MW19-A0F1E00-A3ZA
175-8029 175-8713	MW19-A0F1E00-A3TA
175-8030	MW19-A0F1E00-A3DA
175-8060 175-8751	MW19-A0F1L00-A3ZA
175-8061 175-8451	MW19-A0F1L00-A3TA
175-8062 175-8472	MW19-A0F1L00-A3DA
175-8112 175-8790	MW19-A0F0E124-A3ZA
175-8113 175-8806	MW19-A0F0E124-A3TA
175-8114 175-8820	MW19-A0F0E124-A3DA
175-8072 175-8481	MW19-A0F0L124-A3ZA
175-8022 175-8494	MW19-A0F0L124-A3TA
175-8059 175-8705	MW19-A0F0L124-A3DA
175-8069 175-8680	MW19-A0F1E124-A3ZA

175-8034 175-8551	MW19-A0F1E124-A3TA
175-8032 175-8469	MW19-A0F1E124-A3DA
175-8051	MW19-A0F1L124-A3ZA
175-8052 175-8489	MW19-A0F1L124-A3TA
175-8053	MW19-A0F1L124-A3DA

# Specifications:

## 1. Style :

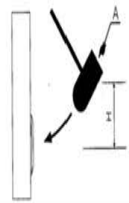
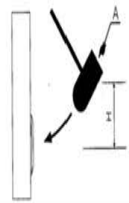
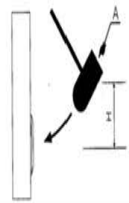
This specification describes "Metal Pushbutton Switch", mainly used as signal of electric devices, with the general requirements of mechanical and electrical characteristic.

- 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 :

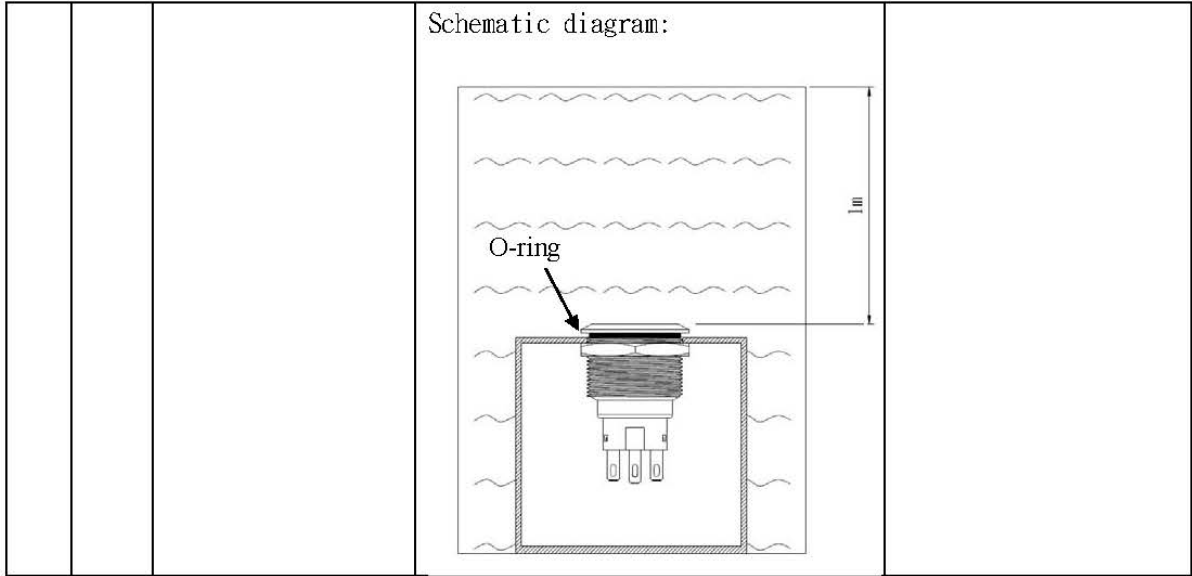
	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By Visual Examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product.
ELECTRIC PERFORMANCE	2	Contact Resistance	To be measured between the two terminals associated 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	① 1500 VAC (50Hz or 60Hz) / between terminals /1minute. ②3000 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.														

May.22.2018

	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:**

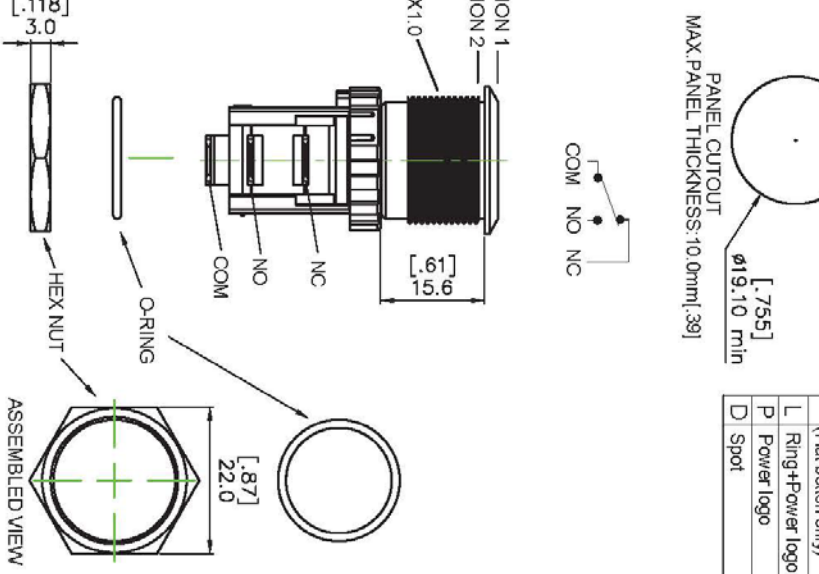
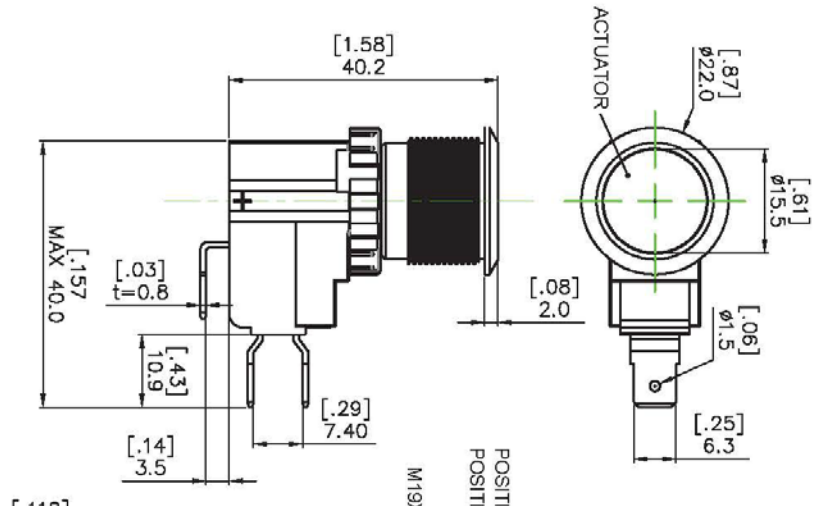
1. Solder the terminals using a 60W soldering iron at 350°C within 3 seconds.  
(Sn-Ag-Cu type solder is recommended.)
2. When soldering, be sure to keep the soldering iron as far away from the housing as possible.
3. Also ensure that no tensile force is applied to the terminal. Do not bend the terminal 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: PB7(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



**MW19-XXXXXXXX - XXXX**

MAX. PANEL THICKNESS: 10.0mm[.39]

PANEL CUTOUT  $\phi 19.10$  min

ACTUATOR

Body type: A0 Stainless

Button type: F Flat

Operating type: 0 Momentary, 1 LOCK

Light type: 0 Without LED, E Ring Moveable (Flat button only), L Ring+Power logo, P Power logo, D Spot

LED color: 0 Without LED, 1 White, 3 Red, 5 Yellow, 6 Green, 7 Blue, A Red&Green, B Red&Blue

LED voltage: 0 Without LED, 3 3V, 6 6V, 12 12V, 24 24V, 36 36V, 110 110V, 220 220V

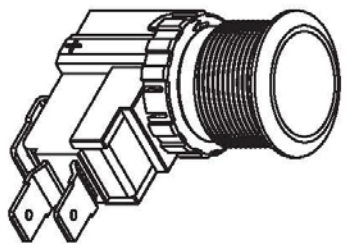
Micro switch Type: A (C-Logo)

Rating (A): 3 26

Connect forms: Z SPDT, T SPST-NO, D SPST-NC

Terminal types: A #250 Quick-connect terminal( $\phi=0.8$ )

COM NO NC

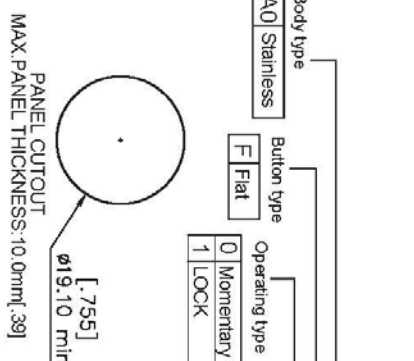
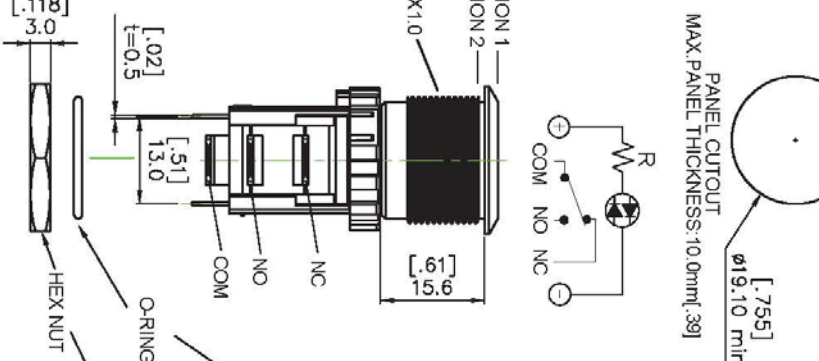
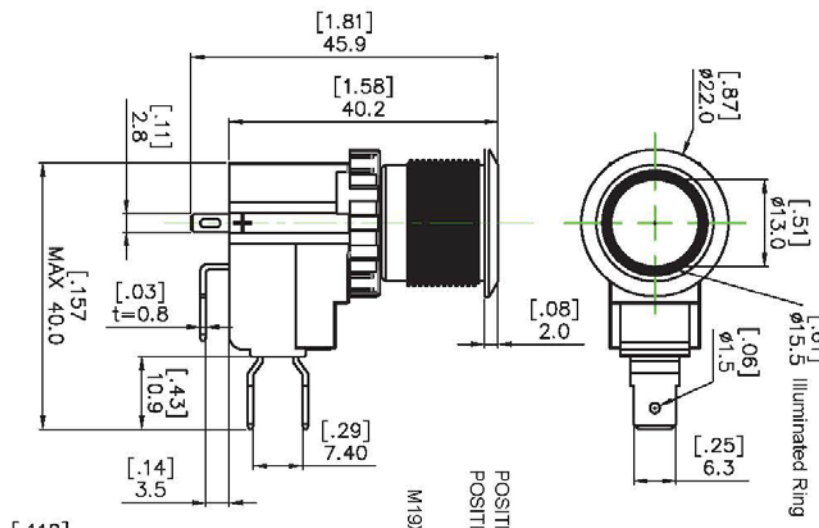


**SPECIFICATIONS**

- CONTACT MATERIAL: SILVER
- RATING: 26A 250/125VAC.
- ELECTRICAL LIFE: 26A /125&250VAC 10,000 CYCLES
- MECHANICAL LIFE: Momentary 1,000,000.  
SELF-LOCK 500,000.
- INSULATION RESISTANCE: 100M $\Omega$  MIN AT 500VDC.
- DIELECTRIC STRENGTH: 1,500V RMS@sea level.
- CONTACT RESISTANCE: 50m $\Omega$  MAX.@1A 12VDC(initial value).
- OPERATING TEMPERATURE: -25C to 85C.
- TRAVEL: ABOUT 3.2mm.
- OPERATION PRESSURE: 3.5 $\pm$ 1.5N
- INGRESS PROTECTION: IP67,IK08.
- TORQUE: 1~3Nm.

**TOLERANCE (公差):**  
 0.00 mm  $\pm$  0.25mm  
 0.0 mm  $\pm$  0.40mm  
 ANGULAR:  $\pm 2^\circ$

**MATERIAL:**  
 BUSHING: Stainless Steel.  
 BASE: PB(TUL 94-V0) ; PC(UL94-V2) ; PA6(TUL94-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



**MW19-XXXXEXXX - XXXX-XXXX**

Special code

Contact Gap: Standard (0.5mm)

Terminal types: #250 Quick-connect terminal( $\phi=0.8$ )

Connect forms: Z SPDT, T SPST-NO, D SPST-NC

Rating (A): 1/16, 3/26

Micro switch Type: Standard (Mono switch), A (C-Loop)

LED color	LED voltage	LED current
0 Without LED	0 Without LED	0 Without LED
1 White	3 3V	3 3V
3 Red	6 6V	6 6V
5 Yellow	12 12V	12 12V
6 Green	24 24V	24 24V
7 Blue	36 36V	36 36V
A Red&Green	110 110V	110 110V
B Red&Blue	220 220V	220 220V

Light type	LED odor	LED voltage
0 Without LED	0 Without LED	0 Without LED
E Ring Moveable (Flat bottom only)	1 White	3 3V
L Ring+Power logo	3 Red	6 6V
P Power logo	5 Yellow	12 12V
D Spot	6 Green	24 24V
	7 Blue	36 36V
	A Red&Green	110 110V
	B Red&Blue	220 220V

Operating type: 0 Momentary, 1 LOCK

Body type: A0 Stainless

Button type: F Flat

Operating type: 0 Without LED, 1 Ring Moveable (Flat bottom only), L Ring+Power logo, P Power logo, D Spot

Light type: 0 Without LED, 1 White, 3 Red, 5 Yellow, 6 Green, 7 Blue, A Red&Green, B Red&Blue

LED odor: 0 Without LED, 1 White, 3 Red, 5 Yellow, 6 Green, 7 Blue, A Red&Green, B Red&Blue

LED voltage: 0 Without LED, 3 3V, 6 6V, 12 12V, 24 24V, 36 36V, 110 110V, 220 220V

LED current: 0 Without LED, 3 3V, 6 6V, 12 12V, 24 24V, 36 36V, 110 110V, 220 220V

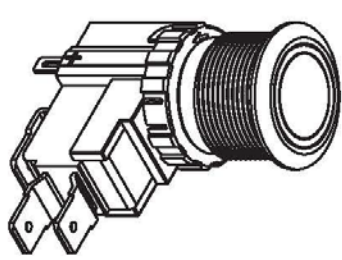
Micro switch Type: Standard (Mono switch), A (C-Loop)

Rating (A): 1/16, 3/26

Connect forms: Z SPDT, T SPST-NO, D SPST-NC

Terminal types: #250 Quick-connect terminal( $\phi=0.8$ )

Contact Gap: Standard (0.5mm)



**SPECIFICATIONS**

- CONTACT MATERIAL: SILVER
- RATING: 26A 250/125VAC.
- ELECTRICAL LIFE: 26A /125&250VAC 10,000 CYCLES
- MECHANICAL LIFE: Momentary 1,000,000  
 SELF-LOCK 500,000.
- INSULATION RESISTANCE: 100M $\Omega$  MIN AT 500VDC.
- DIELECTRIC STRENGTH: 1,500V RMS@sea level.
- CONTACT RESISTANCE: 50m $\Omega$  MAX @1A 12VDC(initial value).
- OPERATING TEMPERATURE: -25C to 85C
- TRAVEL: ABOUT 3.2mm.
- OPERATION PRESSURE: 3.5 $\pm$ 1.5N
- INGRESS PROTECTION: IP67,IK08.
- TORQUE: 1~3Nm.

**TOLERANCE (公差):**  
 0.00 mm  $\pm$  0.25mm  
 0.0 mm  $\pm$  0.40mm  
 ANGULAR:  $\pm 2^\circ$