Datasheet

RS PRO Sub-Miniature Pushbutton Switches

Stock number: **175-9XXX (Details as follows)**

EN

The picture above is for reference only.

Specifications:

RATING : Ith 5A/250VAC resistive load 3A/250VAC
CONTACT RESISTANCE : 50 mΩ max. @ 1A 12VDC (initial value)
INSULATION RESISTANCE : 1,000 MΩ min. at 500VDC
DIELECTRIC STRENGTH : 2,000V RMS @ sea level
OPERATION TEMPERATURE : -20°C to 55°C
MECHANICAL LIFE : Momentary 1,000,000 cycles
Self-lock 500,000 cycles
ELECTRICAL LIFE : 50,000 make-and-break cycles at full load
TORQUE : 5~14Nm
PANEL THICKNESS : 10mm (Ø22.20mm)
OPERATION PRESSURE : 1Pole 2.5±1N / 2Poles 3.5±1N
TRAVEL : About 3.2mm
INGRESS PROTECTION : IP67, IK10(Stainless)

RS Part no.

175-9334	MPB22-A0F100-JQ
175-9333	MPB22-A0F100-JR
175-9323	MPB22-A0F110-JQ
175-9335	MPB22-A0F110-JR
175-9245	MPB22-A0F210-JQ
175-9244	MPB22-A0F210-JR
175-9310	MPB22-A0F200-JQ
175-9271	MPB22-A0F200-JR

Specifications:

1. Style :

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

①Switch combination : 1NO1NC/2NO2NC.

②Enclosure material : Stainless steel / Nickel plated brass/ Aluminum alloy.

③Operating Type : Resettable or Self-locking.

④Operating Temperature Range : -20 ℃~+55 ℃.

Storage Temperature Range : -40℃~+85 ℃.

⑤Degrees of protection provided by enclosures

IP code: IP67.

IK code: IK08 .(For case :Nickel plated brass / Aluminum alloy)

IK10 .(for case :stainless steel)

2. Electrical Rating : Ith :5A / Ui :250VAC.

Ie: 3A / Ue :250VAC (resistive load).

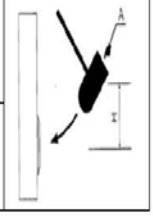
Ie: 3A / Ue :28VDC (resistive load).

3. Type of Actuation : Pushbutton Switch.

4. 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.	1000MΩ min.
	4	Dielectric Withstanding Voltage	①2000VAC(50Hz or 60Hz) / between terminals /1minute. ②2000 VAC(50Hz or 60Hz) /between terminals and frame/ 1minute.	There shall be no breakdown or flashover.

Jan.05.2018

<table>
<tr><th></th><th>ITEM</th><th>DESCRIPTION</th><th>TEST CONDITIONS</th><th>REQUIREMENTS</th></tr>
<tr><td rowspan="5">MECHANICAL PERFPRMANCE</td><td>5</td><td>Operation pressure</td><td>MODEL-1305N MECHANICAL TEST
500gram 、1000gram、 2000gram.</td><td>1Pole about 2.5 ± 1N.
2Pole about 3.5 ± 1N.</td></tr>
<tr><td>6</td><td>Operation Travel</td><td>Full Travel.</td><td>3.2 ±0.3mm.</td></tr>
<tr><td>7</td><td>Torque</td><td>Applied to nut.</td><td>About 5~14Nm.</td></tr>
<tr><td>8</td><td>Panel Thickness</td><td>Applied to nut.</td><td>About 1~10mm.</td></tr>
<tr><td>9</td><td>IK Code</td><td><table><tr><th>IK Degree</th><th>Weight (A)</th><th>Original Height (H)</th><th>Impact Energy</th><th>Impact Diagram</th></tr><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></table></td><td>After three mechanical impact with corresponding grade energy at the same position of the crust , the switch has no harmful effect.</td></tr>
<tr><td>OPERATING LIFE</td><td>10</td><td>Operating Life</td><td>Measurements shall be made following the test forth below：
①Ie:3A /Ue:250VAC .(resistive load)
②Rate of Operation: 6-8operation cycles per minute.
③Electronics Life Test：50,000 cycles.(for 3A/250VAC)
④Electronics Life Test：6,000 cycles.(for 3A/28VDC)

④Mechanical Life Test：Resettable : 1,000,000 cycles. Self-locking: 500,000 cycles.</td><td>①Dielectric Strength：
between terminals :1000VAC.
between terminals of opposite polarity :2000VAC.
②Insulation Resistance： 1000MΩ (at 500VDC)min.
③Contact Resistance：100mΩ Max.</td></tr>
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	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：-20±3℃. ② Time：96 hours.	As shown in item 2~4.
	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：55±3℃. ② Time：96 hours.	As shown in item 2~4.
	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: ①Temperature:40±2℃ ②Relative Humidity:90~95% ③Time:96 hours.	①Contact Resistance: 100 mΩ Max. ②Insulation Resistance: 1000MΩ min.

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	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
HUMIDITY RESISTANCE	14	Salt spray Testing	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: ①Temperature:35±2℃. ②The ratio of salt-water：5%. ③The spray amount of salt- water：1~2 ml/h. ④Time:48 hours.	The testing standard based on bubble, crack, And magnifying glass with gauge.
	15	Test of IP 67	Protected against the effects of Temporary immersion in water. (1m below the surface of the water for a duration of 30 min).	IP67 According to EN 60529：1991＋A1：2000 IEC 60529：2001
RoHs	16	HSF	Refer RoHS Standard：The electronic electrical machinery product limits with six big chemical materials.	Cd：100ppm Pb：1000ppm Hg：1000ppm Cr6+：1000ppm PBB、PBDE：1000ppm
SOLDER HEAT RESISTANCE	17	Manual Soldering	■ hand Soldering： ①Soldering Temperature：290℃.(Max) ②Duration of Solder Heated：3 seconds (Max). ■ Precautions in Handling: ①Please make sure that there is no flux rose over the surface of the PCB.	①Shall be free from pronounced backlash and falling-off or breakage terminals. ②As shown in item 2~4.

Wiring:

1. Solder the terminals using a 60W soldering iron at 290°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.

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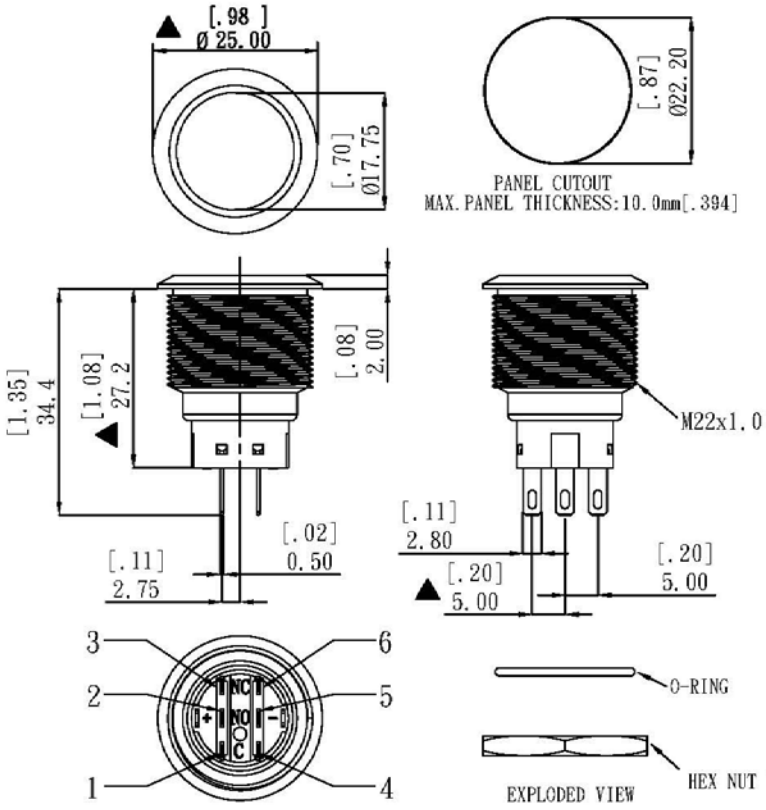
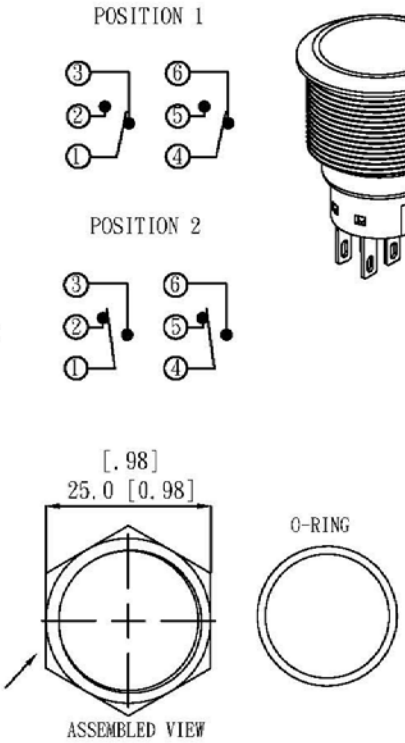
MATERIAL:
BUSHING: Stainless Steel.
BASE: PBT(UL 94-V0), PC(UL 94-V2)
ACTUATOR: PC ; Stainless Steel.
INNER ASSEMBLY: POM / PA66
SPRING: spring steel.
SEALING: Sillicone.
O-Ring:Sillicone.
TERMINAL: Brass ,Silver or glod plated.
HEX NUT: Nickel plated brass.
RoHS





MPB22-XXXXXE-XX

Body type
A0	Stainless (Natural)

Button type
F	Flat

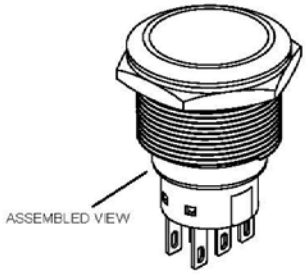
Contact Configuration
1	1NO 1NC
2	2NO 2NC

Operating type
0	Momentary
1	LOCK

Light type
0	Without LED

Terminal shape
J	Solder Terminal

Terminal plating
Q	Silver
R	Gold



SPECIFICATIONS
1.CONTACT MATERIAL: Q=SILVER.
R= Brass,Coin silver,Gold plated.
2.RATING: Ith 5A/250VAC. resistive load 3A/250VAC.
3.ELECTRICAL LIFE: 50,000 MAKE-AND-BREAK CYCLES AT FULL LOAD.
4.MECHANICAL LIFE: Momentary 1,000,000.
SELF-LOCK 500,000.
5.INSULATION RESISTANCE:1,000MΩ MIN AT 500VDC .
6.DIELECTRIC STRENGTH: 2,000V RMS@sea level.
7.CONTACT RESISTANCE: 50mΩ MAX.@1A 12VDC(initial value).
8.OPERATING TEMPERATURE: -20℃ to 55℃ .
9.TRAVEL: ABOUT 3.2mm.
10.OPERATION PRESSURE:1Pole 1.5~2.5N. / 2Pole 2.2~3.5N.
11.INGRESS PROTECTION: IP67,IK10(Stainless).
12.TORQUE: 5~14Nm.

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