Datasheet

RS PRO Sub-Miniature Pushbutton Switches

Stock number: **175-XXXX (Details as follows)**

EN

The picture above is for reference only.

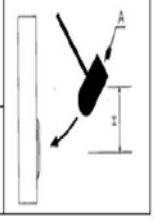
Specifications:

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 (Ø25.20mm)
OPERATION PRESSURE : 1Pole 2.5±1N / 2Poles 3.5±1N
TRAVEL : About 3.2mm
INGRESS PROTECTION : IP67, IK08(Stainless)

RS Part no.	
175-9275	MPB25-A0F10E-124-JQ
175-9269	MPB25-A0F11E-124-JQ
175-9259	MPB25-A0F21E-124-JQ
175-9263	MPB25-A0F20E-124-JQ
175-9274	MPB25-A0F10E-324-JQ
175-9282	MPB25-A0F11E-324-JQ
175-9257	MPB25-A0F21E-324-JQ
175-9262	MPB25-A0F20E-324-JQ
175-9273	MPB25-A0F10E-524-JQ
175-9267	MPB25-A0F11E-524-JQ
175-9256	MPB25-A0F21E-524-JQ
175-9261	MPB25-A0F20E-524-JQ
175-9272	MPB25-A0F10E-624-JQ
175-9266	MPB25-A0F11E-624-JQ
N/A	MPB25-A0F21E-624-JQ
175-8336	MPB25-A0F20E-624-JQ
175-8347	MPB25-A0F10E-724-JQ
175-8342	MPB25-A0F11E-724-JQ
175-8345	MPB25-A0F21E-724-JQ
175-8335	MPB25-A0F20E-724-JQ
175-8346, 175-9052	MPB25-A0F10E-A24-JQ
175-8341, 175-8937	MPB25-A0F11E-A24-JQ
175-8382, 175-9102	MPB25-A0F21E-A24-JQ
175-8333, 175-9043	MPB25-A0F20E-A24-JQ
175-8350	MPB25-A0F10E2-324-JQ
175-8330	MPB25-A0F11E2-324-JQ
175-8332	MPB25-A0F21E2-324-JQ
175-8339	MPB25-A0F20E2-324-JQ

175-8349	MPB25-A0F10E2-624-JQ
175-8344	MPB25-A0F11E2-624-JQ
175-8369	MPB25-A0F21E2-624-JQ
175-8338	MPB25-A0F20E2-624-JQ
175-8348	MPB25-A0F10E2-724-JQ
175-8356	MPB25-A0F11E2-724-JQ
175-8343	MPB25-A0F21E2-724-JQ
175-8337	MPB25-A0F20E2-724-JQ
175-8381	MPB25-D0F10E3-324-JQ
175-8377	MPB25-D0F11E3-324-JQ
175-8357	MPB25-D0F21E3-324-JQ
175-8374	MPB25-D0F20E3-324-JQ
175-8380	MPB25-D0F10E3-624-JQ
175-8376	MPB25-D0F11E3-624-JQ
175-8370	MPB25-D0F21E3-624-JQ
175-8373	MPB25-D0F20E3-624-JQ
175-8379	MPB25-D0F10E3-724-JQ
175-8375	MPB25-D0F11E3-724-JQ
175-8383	MPB25-D0F21E3-724-JQ
175-8372	MPB25-D0F20E3-724-JQ

Specifications:

<table>
<tr><th></th><th>ITEM</th><th>DESCRIPTION</th><th>TEST CONDITIONS</th><th>REQUIREMENTS</th></tr>
<tr><td rowspan="5">MECHANICAL PERFRMANCE</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)

①Mechanical Life Test：
Rate of Operation:
30 operation cycles/MIN
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>
</table>

Jul.27.2017

	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.

Jul.27.2017

	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.

Jul.27.2017

5. 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(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

MPB25-XXXXXE-XX-XX

Body type

A0	Stainless (Natural)

Button type

F	Flat

Contact Configuration

1	1NO 1NC
2	2NO 2NC

Operating type

0	Momentary
1	LOCK

LED color

0	Without LED
1	White
3	Red
5	Yellow
6	Green
7	Blue
Bi color LED	
A	Red/Green
B	Red/Blue
D	Blue/Yellow
G	Red/Yellow
H	Green/Yellow
J	Orange/Green

LED voltage

0	Without Resistor
3	3V
6	6V
12	12V
24	24V
36	36V
110	110V
220	220V

Terminal plating

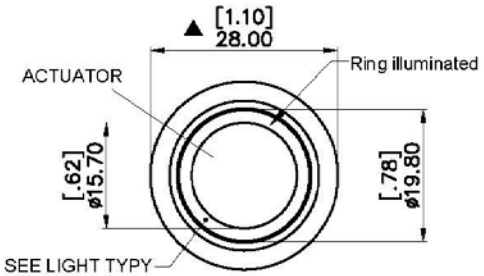
Q	Silver
R	Gold

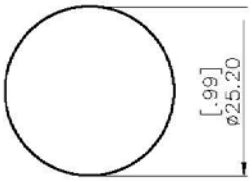
Light type

E	Ring
E2	Ring with LED color (Red/Green/Blue led type only)

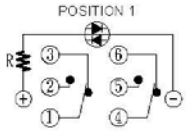
Terminal shape

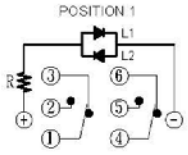
J	Solder Terminal

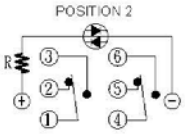


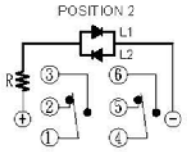


PANEL CUTOUT
MAX.PANEL THICKNESS:10.0mm[.394]



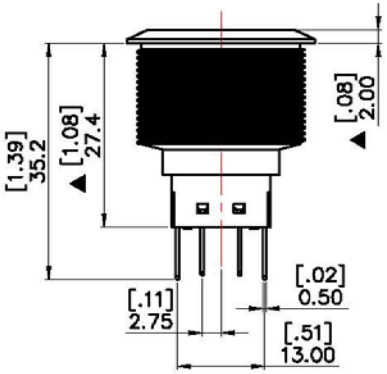


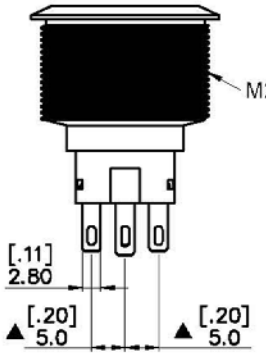


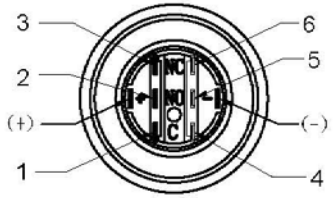


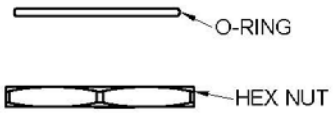
SINGLE COLOR LED

BI-COLORE LED

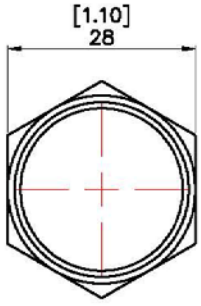




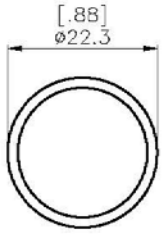




EXPLODED VIEW



HEX NUT



O-RING

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 2.5±1N. / 2Pole 3.5±1N.
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°

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

MPB25-XXXXXXX-XX-XX

Body type
D0	Stainless (Natural), Flat

Button type
F	Flat

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

Operating type
0	Momentary
1	LOCK

LED color
0	Without LED
1	White
3	Red
5	Yellow
6	Green
7	Blue
Bi color LED	
A	Red/Green
B	Red/Blue
D	Blue/Yellow
G	Red/Yellow
H	Green/Yellow
J	Orange/Green

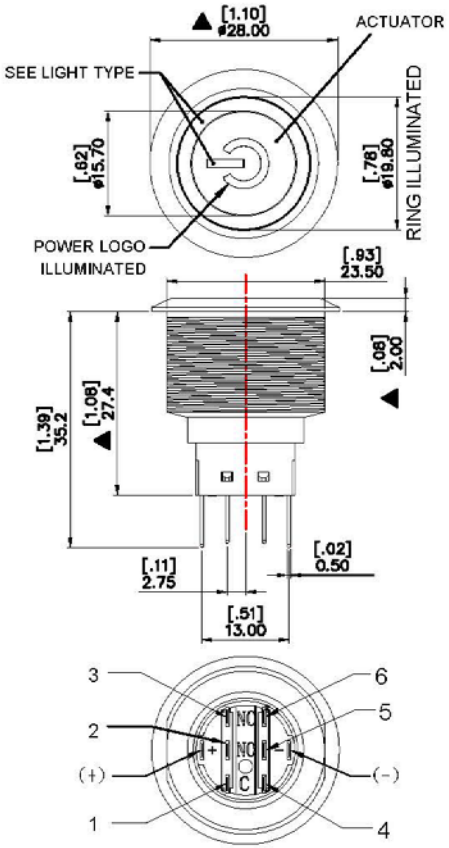
LED voltage
0	Without Resistor
3	3V
6	6V
12	12V
24	24V
36	36V
110	110V
220	220V

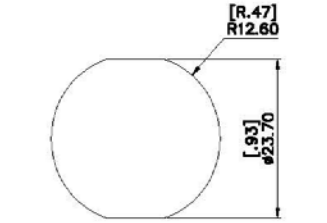
Terminal plating
Q	Silver
R	Gold

Light type
E3	Ring+Power logo with LED color

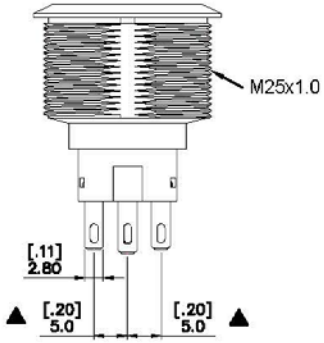
* Red/Green/Blue led type only

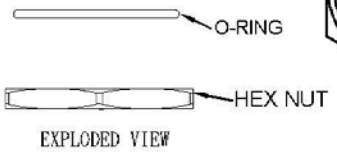
Terminal shape
J	Solder Terminal



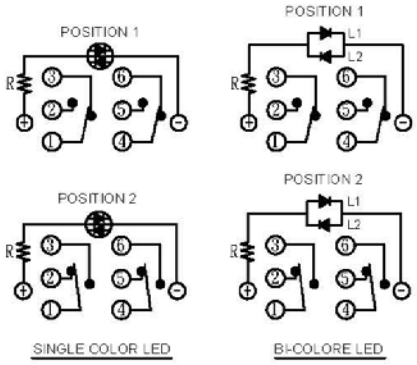


PANEL CUTOUT
MAX.PANEL THICKNESS:10.0mm[.394]



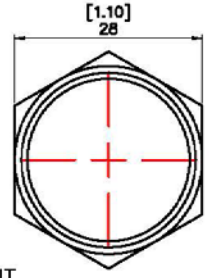


EXPLODED VIEW

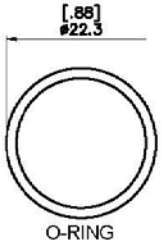


SINGLE COLOR LED

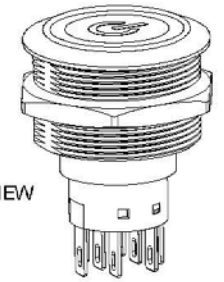
BI-COLORE LED



HEX NUT



O-RING



ASSEMBLED VIEW

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 2.5±1N. / 2Pole 3.5±1N.
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°