



## Datasheet

### RS PRO Sub-Miniature Pushbutton Switches

Stock number: **1759499,1759474,1759580,  
1759536,1759490,1759472**

EN



The picture above is for reference only.

#### Specifications:

RATING : 5-24V / 1A DC

OPERATING LIFE : 50 MILLION CYCLE MIN.

CONTACT RESISTANCE : 1Ω MAX.

OPERATING TEMPERATURE: -20°C to 65°C.

#### RS Part no.

175-8656	175-9499	TC22M-A1-F1FB00-3CD101
175-8655	175-9474	TC22M-A1-F1FG00-3CD101
175-8666	175-9580	TC22L-A1-F1FB00-3CD101
175-8661	175-9536	TC22L-A1-F1FG00-3CD101
175-8636	175-9490	TC22L-A1-F1FB00-L3D101
175-8684	175-9472	TC22L-A1-F1FG00-L3D101

# Specifications:

## 1. OBJECTIVE :

This specification defined material, performance, quality and reliability requirements of the Dailywell's capacitive switches and cable assembly.

## 2. SCOPE:

This specification provides information and requirements regarding application of the Dailywell's capacitive switches and cable assembly.

## 3. GENERAL:

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## 4. APPLICABLE DOCUMENTS:

HSF per Dailywell's HSF-001 Rev. C

IP68 per IEC 60529

IP69K per IEC 60529

## 5. REQUIREMENTS:

### 5.1 DESIGN AND CONSTRUCTIONS

The switches Sealing IP requirement for panel mount applications.  
Apply cable or terminal connect to the input of devices to enable power or signal.

These switches are not design for safety use.

### 5.2 MATERIALS

Bushing	Aluminum nature anodized
METAL Cap	Aluminum nature anodized
Plastic Cap	PC
PCB	FR4 94V-O rated Tin plating
Sealing	Silicon, Epoxy.
Cable	UL 3386, UL10368 or Equivalent.
Connector	Customer design.
LED	RGB SMT type.

### 5.3 RATING

5-24V DC / 1A

5V DC / 1A

12V DC / 1A

24V DC / 1A

#### 5.4 ELECTRICAL CHARACTERISTICS

Supply Voltage	5-24VDC
Max. Current	1A max.
Contact Resistance	1Ω max.
Power Consumption w/o illumination	2mA max.
Illumination power consumption	10mA max.
Output mode	NPN
Operating type	MOM. or Latch type
※ Trigger	By flowing water

#### 5.5 MECHANICAL CHARACTERISTICS

Actuation Force	Touch , Zero force.
Operating Life	10 Million cycle expectancy.
Cable retention force to Switch	10KG min.
Connector mating force	By connector define.
Connector un-mating force	By connector define.

#### 5.6 ENVIROMENTAL CONDITIONS

Operating Temperature	-20℃ to +65℃
Storage Temperature	-40℃ to +85℃
The Salt Test	See test sequence
HSF	See test sequence

## 6. TEST SEQUENCE FOR QUALIFICATIONS

Electrical Parameter			
ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
1	Visual Examination	By Visual Examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product.
2	Contact Resistance	@5VDC 1A. For transistor resistance from drain to source	1Ω Max
3	Current Rating	Continue 1 hour w/- 5Ω resistor	1A / 5VDC
4	Power Consumption w/o illumination	Without LED	2mA max.
5	Illumination power consumption	Red, Green and Blue color illumination	10mA max.

Mechanical Parameter			
ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
1	Operating Life	Life cycle tester with Touch pen	10 million cycle.
2	Cable retention force to switch	Force Analyzer	10KG min.
3	Connector mating force	Force Analyzer	By connector define
4	Connector un-mating force	Force Analyzer	By connector define

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Environmental Parameter			
ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
1	Operating Temperature	① -20±3℃ for 96 hours. ② 65±3℃ for 96 hours.	Functions
2	IP 68	IEC 60529	Pass
3	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 °C. 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.
4	HSF	Refer to RoHS Standard : The electronic electrical machinery product limits with six big chemical materials.	Cd < 100ppm. Pb < 1000ppm Hg < 1000ppm Cr6+ < 1000ppm PBB、PBDE < 1000ppm

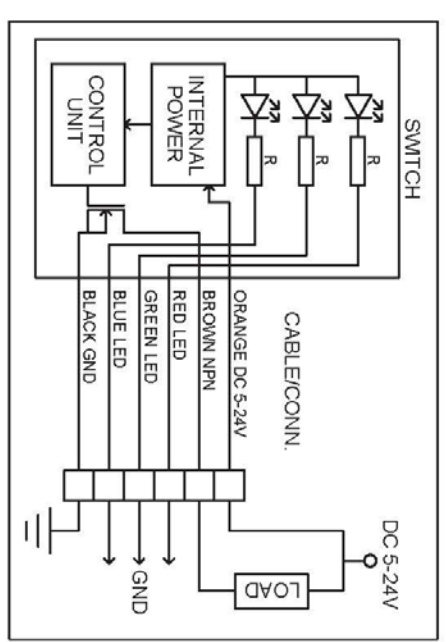
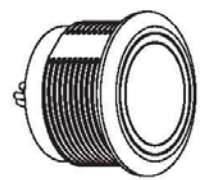
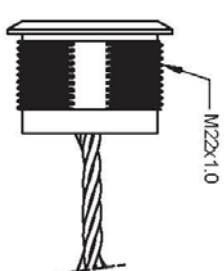
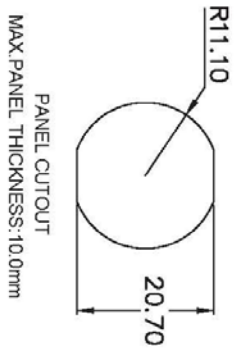
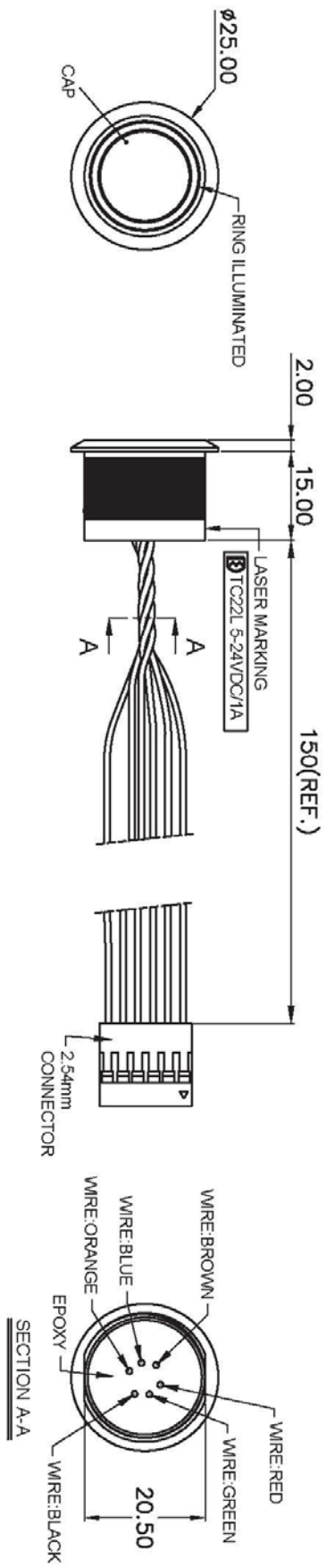
#### 7. PACKING AND PACKAGE

ESD bag, paper box.

#### 8. Revision History

Rev.	Description	Date
R01	Research Project	2017/10/24

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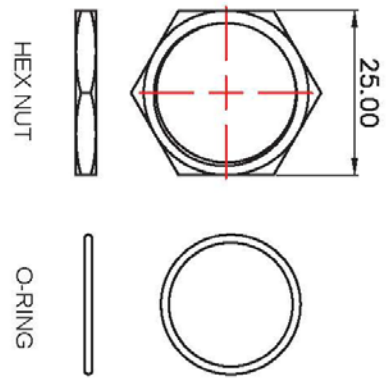
Application Diagram

**SPECIFICATIONS**  
 1. RATING: 5-24V/1A DC.  
 2. TYPE: LOCK  
 3. OPERATING LIFE: 50 MILLION CYCLE MIN.  
 4. CONTACT RESISTANCE: 1Ω MAX.  
 5. OPERATING TEMPERATURE: -20°C to 65°C  
 6. INDICATOR COLOR: RED/GREEN/BLUE

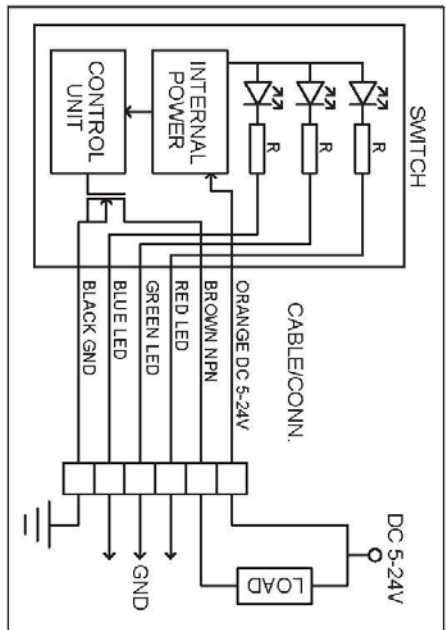
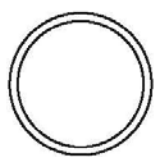
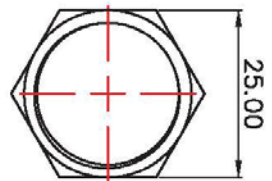
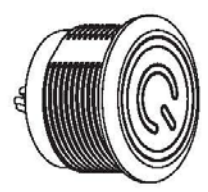
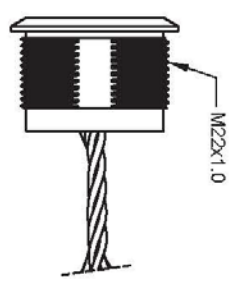
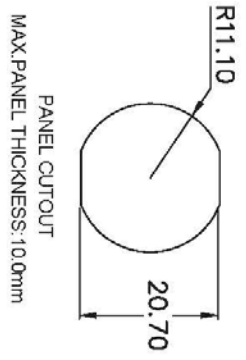
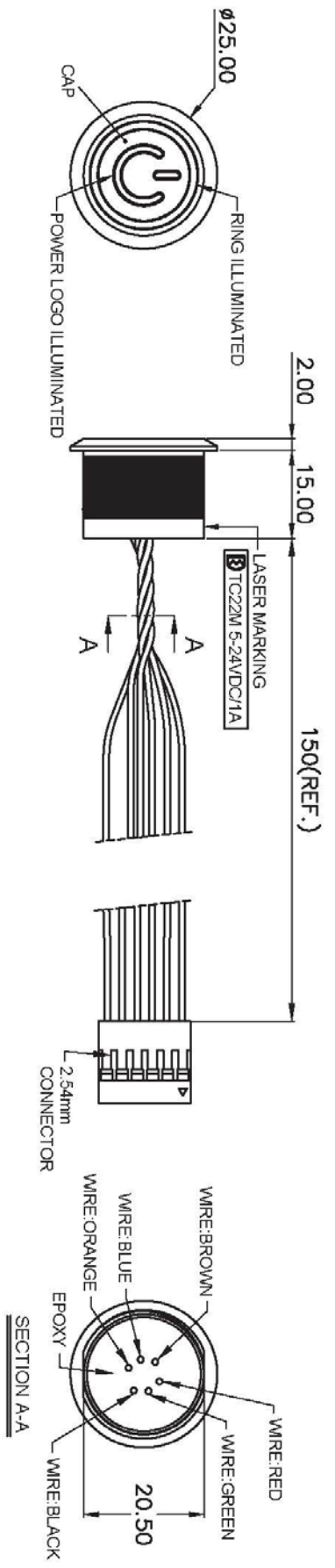
**MATERIAL:**  
 BUSHING: Aluminum alloy.  
 CAP: PC; Aluminum alloy.  
 SEALING: Silicone, EPOXY.  
 O-Ring: Silicone.  
 HEX NUT: Nickel plated brass.

**RoHS**

INDICATOR	
SWITCH	LED
OFF	RED GREEN BLUE
ON	USER



TOLERANCE (公差):	
0.00 mm ± 0.25mm	
0.0 mm ± 0.40mm	
ANGULAR: ±5°	



Application Diagram

- SPECIFICATIONS**
1. RATING: 5-24V/1A DC.
  2. TYPE: MOMENTARY.
  3. OPERATING LIFE: 50MILLION CYCLE MIN.
  4. CONTACT RESISTANCE: 1Ω MAX.
  5. OPERATING TEMPERATURE: -20°C to 65°C
  6. INDICATOR COLOR: RED/GREEN/BLUE
- MATERIAL:**
- BUSHING: Aluminum alloy.  
 CAP: PC; Aluminum alloy.  
 SEALING: Silicone, EPOXY.  
 O-Ring: Silicone.  
 HEX NUT: Nickel plated brass.

INDICATOR		LED		USER
SWITCH	RED	GREEN	BLUE	
OFF				
ON				



HEX NUT



O-RING

**TOLERANCE (公差):**

0.00	mm ± 0.25mm
0.0	mm ± 0.40mm

ANGULAR: ±5°