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Datasheet

RS PRO Capacitive Switches

Stock number: **175-8XXX (Details as follows)**

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.

175-8682	TC16M-A1-F1FB00-3CD201
175-8679	TC16M-A1-F1FG00-3CD201
175-8660	TC16L-A1-F1FB00-3CD201
175-8616	TC16L-A1-F1FG00-3CD201
175-8612	TC16L-A1-F1FB00-L3D201
175-8683	TC16L-A1-F1FG00-L3D201

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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:

This document is composed of the following sections.

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4. APPLICABLE DOCUMENTS:

HSF per Dailywell's HSF-001 Rev. C
IP68 per IEC 60529
IP69K per IEC 60529

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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

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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

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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 ℃. 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

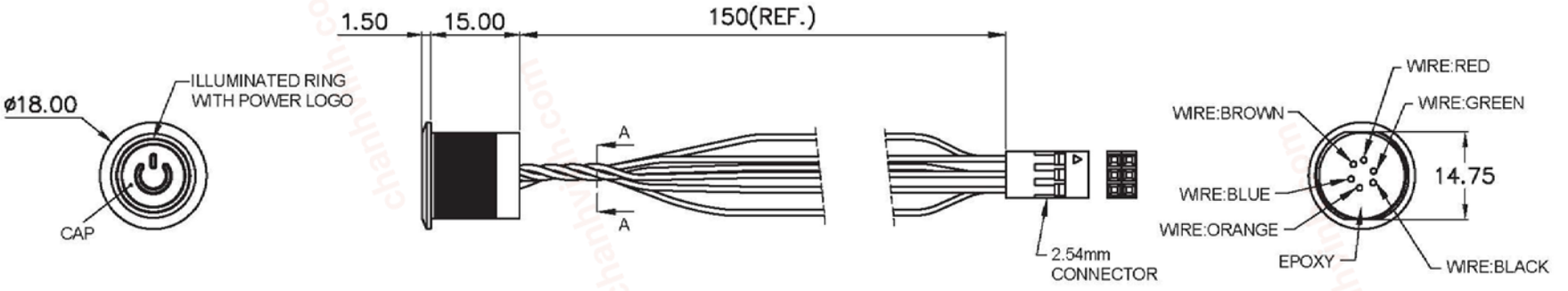
7. PACKING AND PACKAGE

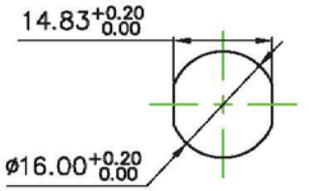
ESD bag, paper box.

8. Revision History

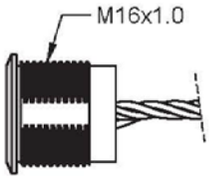
Rev.	Description	Date
R01	Research Project	2017/10/24

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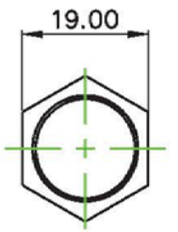


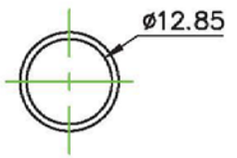


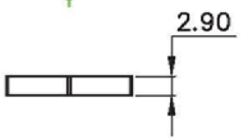
PANEL CUTOUT
MAX.PANEL THICKNESS:8.0mm(Max.)



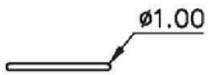




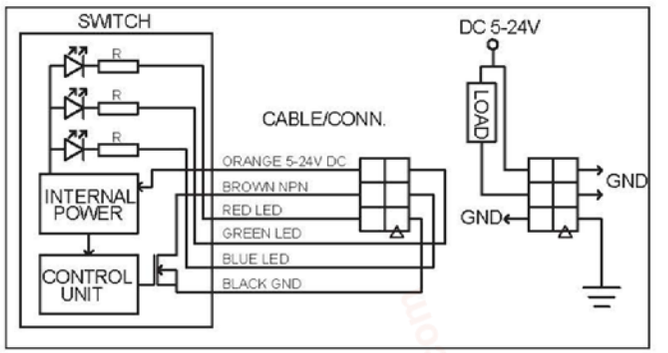




HEX NUT



O-RING



Application Diagram

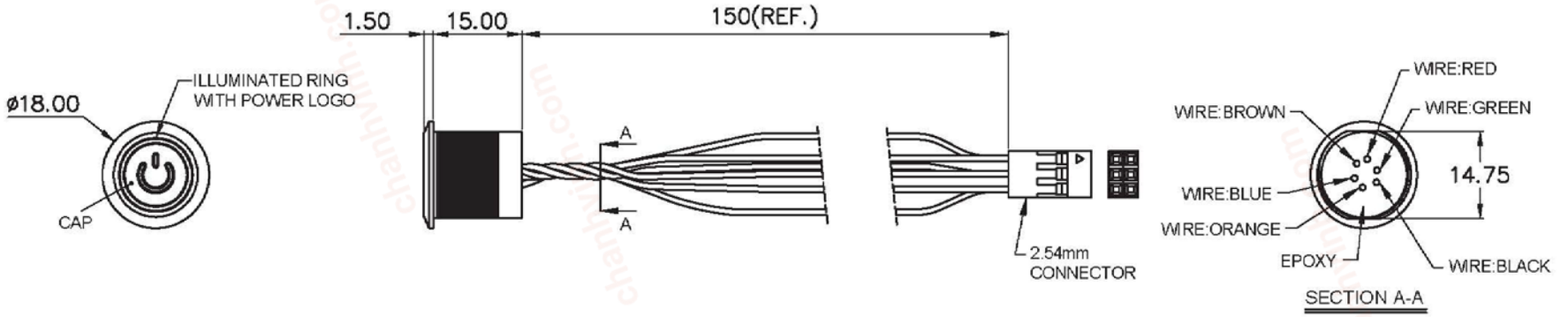
SPECIFICATIONS
1.RATING: 5-24V/1A DC.
2.TYPE: LOCK.
3.OPERATING LIFE: 50MILLION CYCLE MIN.
4.CONTACT RESISTANCE: 1Ω MAX.
5.OPERATING TEMPERATURE: -20℃ to 65℃
6.INDICATOR COLOR: RED/GREEN/BLUE

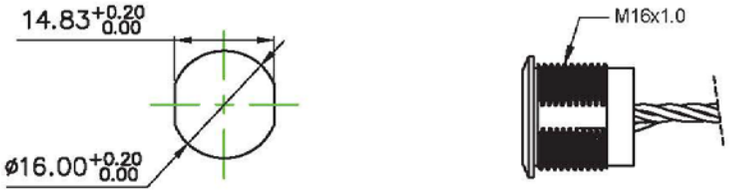
MATERIAL:
BUSHING: Aluminum alloy.
CAP: PC ; Aluminum alloy.
SEALING: Sillicone, EPOXY.
O-Ring:Sillicone.
HEX NUT: Nickel plated brass.
RoHS

INDICATOR			
SWITCH	LED		
	RED	GREEN	BLUE
OFF	USER		
ON			

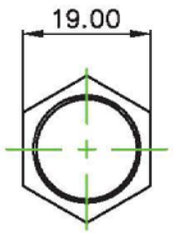
TOLERANCE(公差):
0.00 mm ± 0.25mm
0.0 mm ± 0.40mm
ANGULAR: ±5°

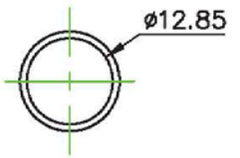
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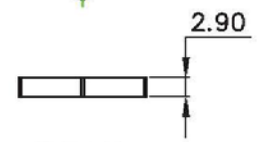


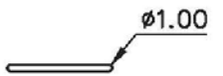


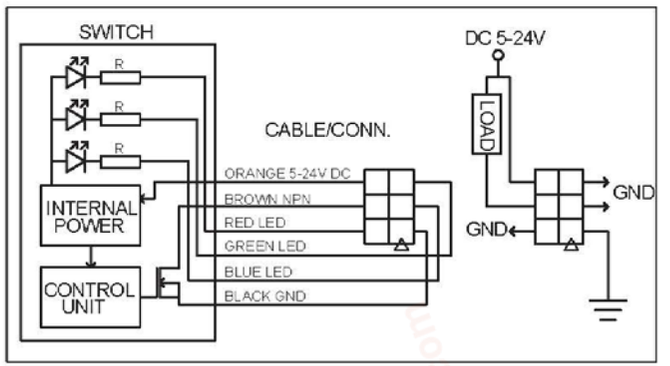












Application Diagram

SPECIFICATIONS

1.MODE: MOMENTARY.
2.RATING: 5-24V/1A DC.
3.OPERATING LIFE: 50 MILLION CYCLE MIN.
4.CONTACT RESISTANCE: 1Ω MAX.
5.OPERATING TEMPERATURE: -20℃ to 65℃
6.INDICATOR COLOR: RED/GREEN/BLUE

MATERIAL:

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

RoHS

INDICATOR			
SWITCH	LED		
	RED	GREEN	BLUE
OFF	USER		
ON			

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

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