### **Specifications**

Ratings

6A 125V AC / 250V AC 0.1A 24VDC

#### Characteristics

Operating speed	0.1mm to 1 m/s (pin plunger models)		
Operating frequency	Mechanical: 300 operations/min max.		
Operating frequency	Electrical: 30 operations/min max.		
Insulation resistance	100MΩmin. (at DC 500V)		
Contact resistance	50m $\Omega$ max. For terminal models		
(initial value)	70m $\Omega$ max. For molded lead wire models		
Dielectric strength	AC 1000V (50/60HZ for 1 minute)		
Vibration resistance	Malfunction: 10 to 55Hz, 1.5-mm double amplitude		
Shock resistance	Destruction: 1,000 m/s <sup>2</sup> {approx. 100G} max.		
Shock resistance	Malfunction: 300 m/s <sup>2</sup> {approx. 30G} max.		
Durability	Mechanical: 1,000,000 operations min. (60 operations/min)		
Durability	Electrical: 200,000 operations min.		
Degree of protection	IP67		
Degree of protection	Class 1		
against electrical shock			
Ambient operating	-40°C ~ +120° (without wire leads)		
temperature	-40°C ~ +105° (with wire leads)		
Ambient operating	95% max. (for 5°C to 35°C)		
humidity			

#### Contact Form

SPDT





## **Product Selection**

SR		- 🗆	
	1	2	3

## 1. Contact

- 0: Silver contact
- 1: Gold-plated contact

## 2. ACTUATOR TYPES

- 00: Pin plunger
- 01: Short hinge lever
- XX: other actuator types

## 3. TERMINAL TYPE

- A: Solder Type
- P: PCB Type
- C: Cable Type



## **Dimensions**

## Terminal

Solder terminal (A)



## PCB terminal (P)





## Molded lead wires (C)



## Short hinge Lever models





## Mounting Holes



# Operating Characteristics

	Pin plunger	Short hinge lever	
OF max.	200g	100g	
RF min.	50g	15g	
PT max.	1.2mm	4.5mm	
OT min.	0.6mm	1.5mm	
MD max.	0.15mm	0.6mm	
FP max.	9.3mm	-	
OP	8.4±0.3mm	10.7±1.3mm	



### **Precautions**

#### Cautions

#### **Degree of Protection**

Do not use the Switch underwater. The Switch was tested and found to meet the conditions necessary to meet the following standard.

The test checks for water intrusion after immersion for a specified time period. The test does not check for switching operation underwater.

IEC Publication 529, degree of protection IP67.

#### **Protection against Chemicals**

Prevent the Switch from coming into contact with oil and chemicals. Otherwise, damage to or deterioration of Switch materials may result.

### Correct Use

#### Mounting

Use M2.3 mounting screws with plane washers or spring washers to securely mount the Switch. Tighten the screws to a torque of 0.23 to 0.26 Nm {2.3 to 2.7 kgf  $\cdot$  m}.

### **Operating Body**

With the pin plunger models, set the Switch so that the plunger can be pushed in from directly above. Since the plunger is covered with a rubber cap, applying a force from lateral directions may cause damage to the plunger or reduction in the sealing capability.



#### Handling

Handle the Switch carefully so as not to break the sealing rubber of the plunger.



HIGHLY ELECTRIC CO., LTD.

Component - Appliance Switches

E88392

#### HIGHLY ELECTRIC CO LTD

10TH FL-3, 738 CHUNG CHENG RD, CHUNG HO DISTRICT, NEW TAIPEI 235 TW

#### SR f/b 0 or 1, f/b -00, -01 or -two digits; f/b A or P

Micro								
				Temp	Pol/	Circuit	30C cycle	55C cycle
Load	Amps	Volts	Hz	(C)	Thr	Code	Endurance	Endurance
1	6	250	50-60	40T105	1/2 or 1/1	2.2 or 1.2	6K	10K
1	6	125	50-60	40T105	1/2 or 1/1	2.2 or 1.2	6K	10K
R	0.1	24	DC	40T105	1/2 or 1/1	2.2 or 1.2	6K	10K
Degree of Protection (IP): 40						Disconne	ect: <b>micro</b>	
Standard Edition: 2009-08-10 Terminal Connections: Prep					ns: Prepared			
SPCOA: Notes 3A, 3B, 3C								
Report Date: 2011-08-26								
				e e		LU		

#### **Conditions of Acceptability**

Unless specified otherwise in the individual Reports, consideration is to be given to the following Conditions of Acceptability when these components are employed in the end-use equipment.

- 1. The switch terminals have been investigated for use only with copper wire or copper alloy quick-connect terminals. The connector shall be properly matched to the tab.
- 2. The spacing between any connections when installed on the switch terminals and the adjacent mounting surface shall be judged using the spacing requirements in the end-product standard.
- 3. For switches employing integral leads, the minimum temperature rating of the leads is 60°C.
- 4. These switches have been subjected to a minimum of 6000 cycles endurance test.

#### Special Conditions of Acceptability (that may apply to the above product)

The following are the Special Conditions of Acceptability for switches identified by number in the individual Recognitions indicated in the "SPCOA" field above. Switches with a Condition of Acceptability other than noted below are identified by a letter and described in the Follow-up Procedure Report.

- 1. These switches incorporate prepared connectors, such as crimp-on connectors or solder-tinted wire.
- 2. These are lighted switches employing a lamp. The usable lamp life has not been investigated.

These switches have openings in the housing adjacent to arcing parts. Caution is needed if the end-use

3. application involves combustible dust or adjacent combustible materials that could be ignited by switch arcing.

These are diaphragm-actuated water-level switches suitable for use at a maximum temperature (shown within parentheses in degrees Celsius) and for exposure to typical laundry detergent. If the switch is

- <sup>+</sup> mounted below the water level and has an integral metal case, the metal case shall be considered a live part.
- 5. Speed-control circuits have been investigated for risk of fire and shock. The suitability of the speed control for a particular appliance shall be investigated in the end-use application.
- These switches employ screw-type pressure-wire connectors or push-in terminals. The terminals have 6. been investigated for use with solid and/or solder-dipped stranded conductors of a specified size (shown within parentheses in sg.mm or AWG).
- 7. These switches employ auxiliary contacts that have not been investigated.
- These switches were investigated for the IP rating when mounted in a representative end-product 8. enclosure as defined by the manufacturer. The suitability of the protection from solid objects or water for

parts enclosed in the end product shall be considered in the end-use investigation.

#### Special Conditions of Acceptability for File E88392

(that may apply to the above product)

The following are the Special Conditions of Acceptability for switches specific to this file number. The "SPCOA" field above indicates which of these special conditions apply to the product shown.

- Note 1A When mounted in accordance with the manufactures instruction, this switch gets a protection degree of IP 40.
- Note 1B The switch is to be employed in an end use product providing an enclosure or insulating barrier that provides Reinforced or Double Insulation over the front and rear switch enclosure Surfaces.
- Note 1C Whole switch is installed inside of end product; considered for no accessible parts.
- Note 2A The terminals have been evaluated for use with 1.5 mm2 flexible stranded conductors.
- Note 2B The Switch body is installed inside of end product and considered no accessible parts.
- Note 2C Heating test was conducted at ambient temperature of 85 deg C with measured maximum - temperature of 116.4 deg C on terminals, the suitability of wire conductors using on the switches terminals shall be determined in end-product applications.
- Note 3A The terminals have been evaluated for use with 24 AWG flexible stranded conductors.
- Note 3B The Switch body is installed inside of end product and considered no accessible parts.
- Note 3C Heating test was conducted at ambient temperature of 105 deg C with measured maximum - temperature of 118.9 deg C on terminals, the suitability of wire conductors using on the switches terminals shall be determined in end-product applications.
- Note A1 These switches employ terminals which have been investigated for use only as solder-type terminals.