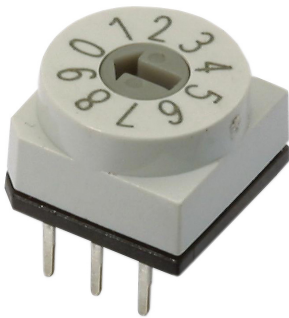


# Flat-head and Cross-head Through Hole Actuator



## Specifications:

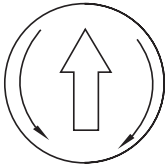
Rating	: Non Switching Rating 24V DC 400mA Switching Rating 24V DC 150mA
Life	: 10,000 Steps
Operating Force	: 400gf.cm Max.
Initial Contact Resistance	: 100mΩ Max.
Dielectric Strength	: AC 250V 1 minute
Insulation Resistance	: 100MΩ Min. (DC 250V Megger)
Operating Temperature	: -60°C to +125°C

## Style:

This specification describes “Rotary Switch” mainly used as signal switch of electric devices with the general requirements of mechanical and electrical characteristics.

- 1.1 Operating Temperature Range : -60°C to +125°C
- 1.2 Storage Temperature Range : -60°C to +125°C
- 1.3 The shelf life of product is within 6 months.
- 2. Current Range:
  - 2.1 Non-Switching : 400mA, 24V DC
  - 2.2 Switching : 150mA , 24V DC
- 3. Type of Actuation : Rotating

## Test Sequence

Performance	Description	Test Conditions	Requirements
Electric Performance	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.
	Contact Resistance	1. To be measured between the two terminals associated with each switch pole. 2. Measurements shall be made with a 1kHz shall current contact resistance meter.	1. 80mΩ max. (initial)
	Insulation Resistance	250V DC, 1 minute ±5 seconds.	100MΩ min.
	Dielectric with-standing Voltage	250V AC (50Hz or 60 Hz) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.	There shall be no breakdown or flashover.
	Capacitance	1 MHz ±10kHz	5pF max.
Mechanical Performance	Operation Force	Applied in the direction of operation. 	400gf·cm Max (3.92N·cm Max)
	Stop Strength	A static load of 1 kgf (9.8N) is applied in the vertical direction operated for a period of 15 seconds.	There shall be no sign of damage mechanically.

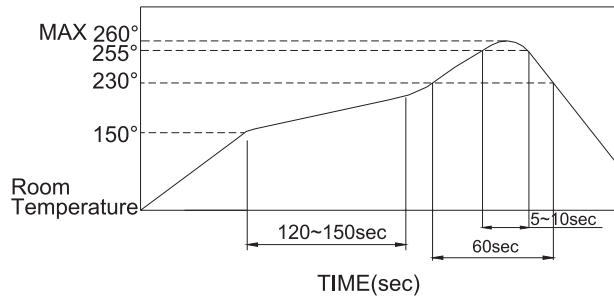
# Flat-head and Cross-head Through Hole Actuator

Performance	Description	Test Conditions	Requirements						
Mechanical Performance	Soldering Heat Resistance	1. Soldering Temperature <table border="1" style="margin-left: 20px;"> <tr> <td>P.C. Board terminal RBH Series</td> <td>SMT Type Terminal RBM Series</td> </tr> <tr> <td>260°C ±5°C</td> <td>See the Temperature profile</td> </tr> <tr> <td colspan="2" style="text-align: center;">5±1sec</td> </tr> </table> 2. Duration of Solder Immersion: 5±1 sec. 3. Frequency of Soldering Process: 2 times max. (PCB is 1.6mm in thickness.)	P.C. Board terminal RBH Series	SMT Type Terminal RBM Series	260°C ±5°C	See the Temperature profile	5±1sec		1. As shown in item 4~6 2. Contact Resistance: 200mΩ max. 3. Insulation Resistance: 10MΩ min.
	P.C. Board terminal RBH Series	SMT Type Terminal RBM Series							
	260°C ±5°C	See the Temperature profile							
	5±1sec								
Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1. Frequency : 10-55-10 Hz 1 min/cycle. 2. Direction : 3 vertical directions including the direction of operation. 3. Test Time : 2 hours each direction.	Ditto							
Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1. Acceleration : 50G. 2. Action Time : 11 ±1m sec. 3. Testing Direction : 6 sides. 4. Test cycle : 3 times in each direction	Ditto							
Solderability	1. Soldering Temperature : 260 ±5°C Lead-Free solder : M705E JIS Z 3282 Class A (Tin 96.5%, Silver 3%, Copper 0.5%) 2. Flux : 5-10 seconds. 3. Duration of solder Immersion : 5±1 sec.	No anti-soldering and the coverage of dipping into solder must more than 85% was requested.							
Durability	Operation Life	Measurements shall be made following the test set forth below: 1. 25mA, 24V DC resistive load 2. Rate of Operation : 1 cycles/ minute 3. Step of Operation : 10,000 Steps.	1. As shown in item 3,4 2. Contact Resistance : 500mΩ max.						
Weather-Proof	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1. Temperature : -60°C±2°C 2. Time : 96 hours	1. As shown in item 4~6 2. Contact Resistance: 200mΩ max. 3. Insulation Resistance : 10MΩ min.						
	Resistance High Temperature	Following the test set forth below the Sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1. Temperature : 125°C ±2°C 2. Time: 96 hours	Ditto						
	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1. Temperature : 40°C ±2°C 2. Relative Humidity : 90 ~ 95% 3. Time : 504 hours	Ditto						

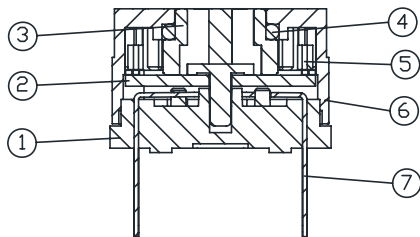
# Flat-head and Cross-head Through Hole Actuator

## Soldering Conditions:

Condition for Soldering – RBM Series

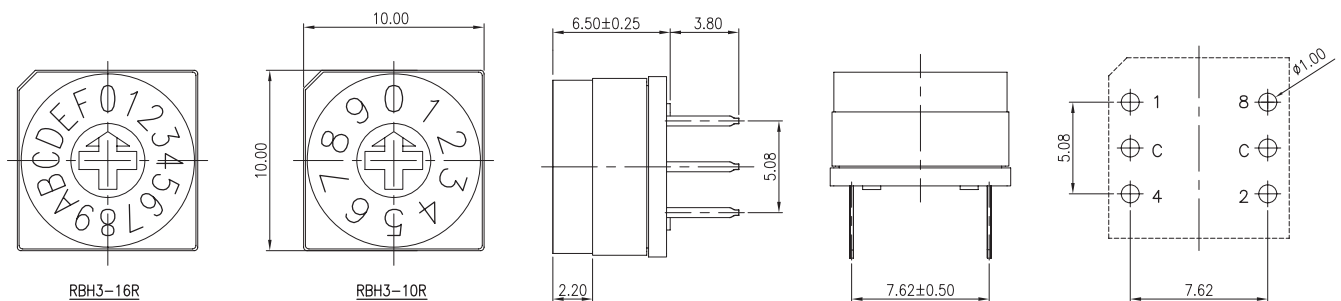


The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface temperature depending on board's material, size, thickness, etc. Care, therefore, should be used not to allow switch's surface temperature to exceed 260°C.



Item	Description	Materials	Q'TY	Treatment
1.	Base	High - Temp. Thermoplastic Nylon UL94V - 0	1	Molded Black
2.	PCB Contact	FR-4		Gold Plated
3.	Actuator	High - Temp. Thermoplastic Nylon UL94V - 0		Molded Grey
4.	O Ring	Silicone		-
5.	Spring	Stainless Steel	2	-
6.	Cover	High - Temp. Thermoplastic Nylon UL94V - 0	1	Molded White
7.	Terminal	Brass		Gold Plated

## Diagram:



Dimensions : Millimetres

# Flat-head and Cross-head Through Hole Actuator



TYPE	CIRCUIT CHARACTERISTICS																
RBH3-10R	CODE	POSITION ●ON															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	1		●						●		●						
	2			●	●				●	●							
	4					●	●	●	●								
8									●	●							

TYPE	CIRCUIT CHARACTERISTICS																
RBH3-16R	CODE	POSITION ●ON															
		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	1		●					●		●		●			●		●
	2			●	●				●	●			●			●	●
	4					●	●	●	●					●	●	●	●
8									●	●	●	●	●	●	●	●	

## Part Number Table

Description	Part Number
Through hole; 3×2; 10 STEPS; Flat-head actuator	RBH2-10RBVB
Through hole; 3×3; 10 STEPS; Flat-head actuator	RBH3-10RBVB
Through hole; 3×3; 16 STEPS; Flat-head actuator	RBH3-16RBVB
Through hole; 3×2; 16 STEPS; Cross-head actuator	RBH2-16RAVB
Through hole; 3×2; 16 STEPS; Flat-head actuator	RBH2-16RBVB
Through hole; 3×2; 10 STEPS; Cross-head actuator	RBH2-10RAVB
Through hole; 3×3; 10 STEPS; Cross-head actuator	RBH3-10RAVB
Through hole; 3×3; 16 STEPS; Cross-head actuator	RBH3-16RAVB

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro  
 Farnell.com/multicomp-pro  
 Element14.com/multicomp-pro

