

CUSTOMER'S NAME

ALPHA REFERENCE NO.

ELECTRONICS SOURCE CO., LTD.

SP21040031

SPECIFICATION

PART NO.	ALPHA MODEL NAME
	RV24A01F-30C2-15F-B500K-9

MODEL NAME

MODEL NO.

APPROVAL

PREPARED BY	REVIEWED BY	APPROVED BY
 2021.4.16 彩霞	 2021-4-16 延玲	 2021.4.16 祖衛



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CUSTOMER'S NAME	NOTE	DATE
CUSTOMER'S PART NAME		
CUSTOMER'S DRAWING NO.		

1. MECHANICAL SPECIFICATION

1. OUTSIDE DIMENSION	append fig.	
2. TOTAL ROTATION ANGLE	degree	300 ±5°
3. TOTAL TRAVEL STROKE	mm	±0.5
4. NUT WIRING STRENGTH	twisting moment	less than 9 kgf.cm
5. SCREW TIGHTENING FORCE	torsional moment	less than kgf.cm
6. ROTATION TORQUE	speed 60 deg/sec.	20~200 gf.cm
7. SLIDING FORCE	speed 20mm/sec	gf.cm
8. SHAFT LEVER STRENGTH	pulling pushing	more than kgf.cm
9. SHAFT LEVER WOBBLE	within mm (bending moment	gf.cm)
10. SHAFT LEVER STOP STRENGTH	more than 6 kgf.cm (static load) /	60 sec
11. TERMINAL STRENGTH	more than 500 gf.cm / 10 ± 1 sec	
	soldering heat 350±5°C/3sec. 200gf.cm/10 ±1sec	
	resist change within ± 2%	
12. CLICK POSITION & TORQUE	gf.cm	
13. SWITCH WORKING ANGLE (STROKE)	degree (mm)	50°±10°
14. SWITCH WORKING TORQUE (FORCE)	gf.cm	800gf.cm
15. SWITCH CIRCUIT		S.P.S.T

SHAFT

ANGLE OF FLAT OR SLOT	DIMENSION		
MATERIAL	M	L	F
at		15	T

MODEL NAME	DRAWING NO.
RV24A01F-30C2-15F-B500K-9	

2. ELECTRICAL SPECIFICATION

1. OVERALL RESISTANCE & TOLERANCE	terminal 1-3	500K Ω± 20 %
2. TAP RESISTANCE & TOLERANCE	terminal 1-4	Ω± %
3. RATED WATTAGE	temp 0~50°C	0.5 W
4. MAXIMUM WORKING VOLTAGE		500 V
5. RESISTANCE TAPER MEASURING POINT & TOLERANCE		50 %point 40 ~ 60 %
6. RESIDUAL RESISTANCE	terminal 1-2/2-3 side	less than 20/30 Ω
7. TAP RESIDUAL RESISTANCE	terminal 4 side	less than 100 Ω
8. SLIDE NOISE	speed 60° / 1 sec	less than 47 mV
9. INSULATION RESISTANCE	more than 100 MΩ(DC	500 V)
10. WITHSTAND VOLTAGE	AC 500 V	1 minute
11. TRACKING ERROR		
12. SWITCH CONTACT RESISTANCE	MΩ	less than 30 mΩ
13. SWITCH RATING		AC125V, 1A

3. USABLE TEMPERATURE RANGE: from -10°C to 70°C

4. VR LIFE 15,000 ± 1000 TIMES

RESISTANCE CHANGE: within ±

20 %

SLIDE NOISE : less than

200 mV

SW LIFE 10,000 ± 1000 TIMES

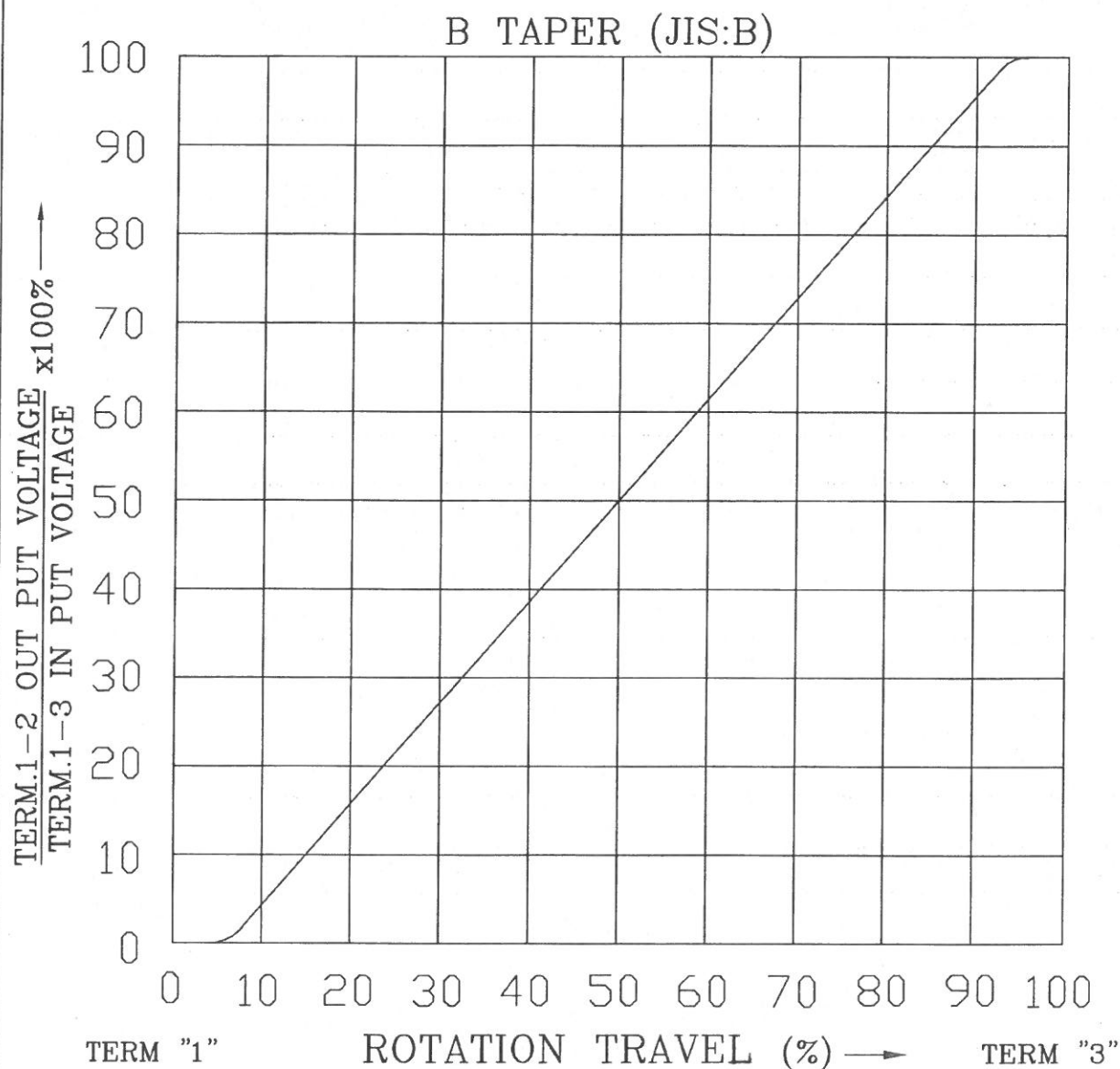
CONTACT RESISTANCE: less than

50 mΩ

REFERENCE NO.

REV

STANDARD RESISTANCE TAPER



NO.	DATE	DESCRIPTION			MODEL NAME		
TOL. UNLESS OTHERWISE STATED		DIMENSION	SCALE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NO.
<u>less than 10 ±0.3</u>		mm		何 90.8.21 建志	王 90.8.21 茂松	王 90.8.21 茂松	
<u>above 10 ~ 30 ±0.5</u>							
<u>above 30 ~100 ±1.0</u>							
<u>above ±5°</u>							

TAIWAN ALPHA ELECTRONIC CO., LTD.

Common Specification of Lead-Free Soldering and Storage conditions for Potentiometers

以下焊錫條件以可變電阻置於單層 1.6mm 厚度之印刷電路板上測試為基準。

The specification below is based on testing results of 1.6mm thickness single layer printed circuit board.

1. 手工焊錫條件：

For Manual Soldering：

1-1 操作溫度最高 350°C，操作時間 3 秒以內。

To be performed within 3 seconds at 350°C or below.

2. 自動或半自動機台焊錫條件：

For Automated or Semi-Automated Soldering Equipments:

2-1 使用發泡式且比重 0.82 以上的助焊劑，發泡高度以印刷電路板厚度一半為標準，且助劑不能流入可變電阻基板表面及印刷電路板表面。

Flux of 0.82 specific gravity, applied by foam fluxer, shall be used. Foam head shall be limited to the height which is half thickness of printed circuit board to be soldered. No flux should be allowed to run up onto resistive element board of potentiometer and the surface of printed circuit board.

2-2 預熱時間不超過兩分鐘，焊錫接面（即印刷電路板底）最高預熱溫度不超過 100°C。

Regarding preheating, the entire flow duration should not exceed 2 minutes, and soldering surface temperature (undersurface of PCB) shall be settled within 100°C.

2-3 焊錫過程機台設定溫度在 260°C 以下、4 秒以內。

Solder Dipping is to be performed within 4 seconds at 260°C or below.

3. 若回轉型電位器是塑膠軸且帶有檔位，請將主軸先調整至其中一個檔位或中心檔位上才可以進行焊錫作業。

For rotary potentiometer with plastic shaft which have centre detent or multiple detents, the shaft should be settled in relevant detent position prior to soldering process.

4. 手工焊錫、自動或半自動機台焊錫不得超過一回。

Regardless of soldering facility and method, solder dipping or solder smearing must not be carried out more than 1 time.

註：本項焊錫溫度條件不適用於回流焊接作業設備。

Remarks: This specification is not recommended for and applicable in reflow soldering.

焊錫注意事項：

Caution for soldering:

如圖所示，請避免 PCB 上層表面有焊錫

Please avoid soldering on upper surface of P.C.B. as shown.

5. 保管條件(Storage conditions):

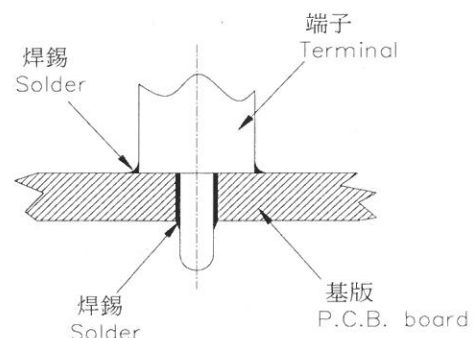
產品需儲存在原始的包裝,以及保持常溫

常濕、避免陽光直射、遠離任何腐蝕性氣體。

產品需盡快完全地使用完,建議最慢不要超過

交貨後 6 個月。產品經拆封後，全部的數量都需迅速地使用完。

The products shall be stored in the original packaging and kept at room temperature and humidity, out of direct sunlight, and away from any and all corrosive gas. The products shall be completely used as soon as possible, but no longer than 6 months from the date of delivery. Once product packaging is opened, the complete quantity of such products shall be promptly used.



24mm Rotary Type with Rotary Switch

Application

- ✓ TV/Video, Audio, Home appliance, Industrial control

Feature

- ✓ Suitable for various control



■Specification

Total Rotational Angle	300±5°
Maximum Operating Voltage	500V AC
Insulation Resistance	100MΩ at DC500V
Dielectric Strength	AC 500V for 1 minute
Rotational Torque	20-200 gf.cm
Rotational Stop Strength of the Shaft	6 kgf.cm min
Rotation Life	15,000 cycles
Switch Working Angle	50° ±10°
Switch Working Torque	800 gf.cm max
Switch Life	10,000 cycles

■How to order

RV24A03F – 40 D2 – 25F – B500K

[Model](#)

Bushing Type

Order Code	Description
D2	3/8"x0.75, 6.5mm
Blank	M8x0.75, 6.5 mm

Taper and Resistance Value

Order Code	Taper	Resistance Value
A100K	Log/A	100KΩ
B1M	Linear/B	1MΩ
C500K	Rev-log/C	500KΩ

Taper: A, B and C

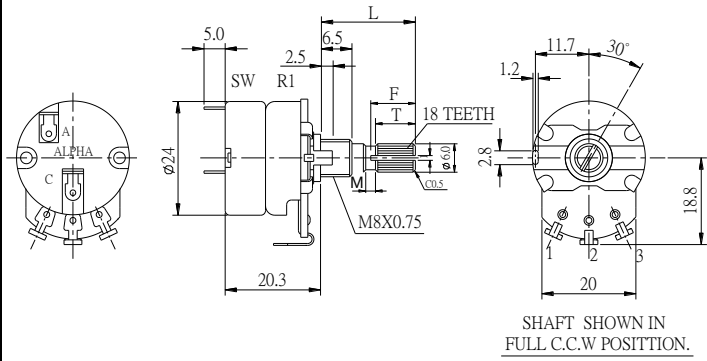
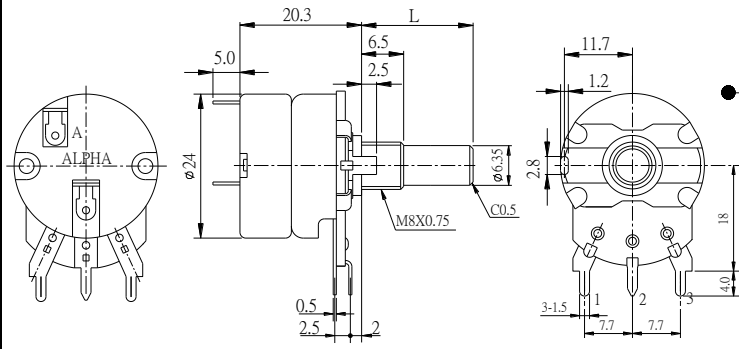
Resistance Value: 1KΩ to 500KΩ and 1MΩ

[Shaft Type](#)

24mm Rotary Type with Rotary Switch

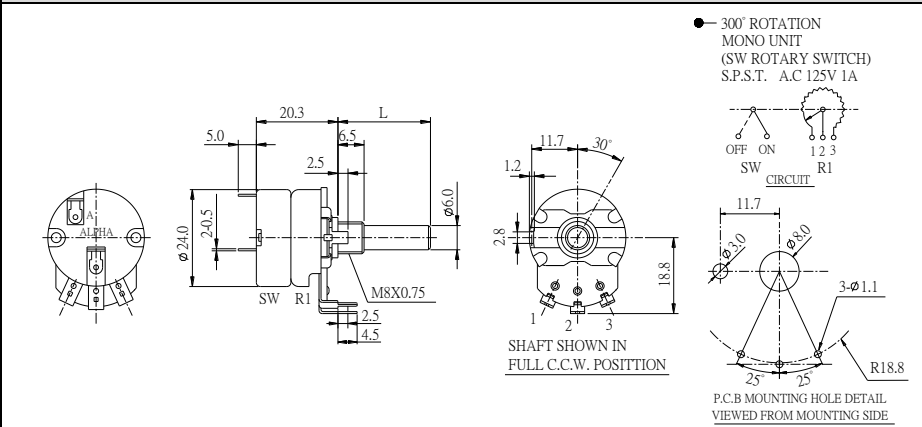
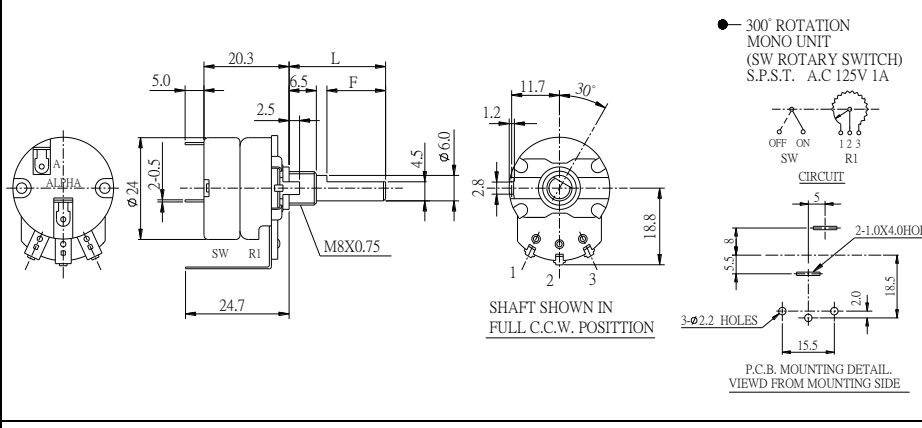
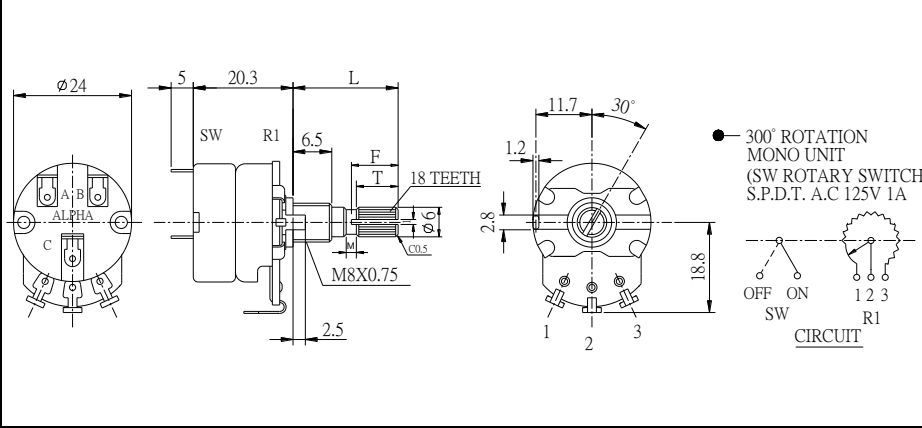
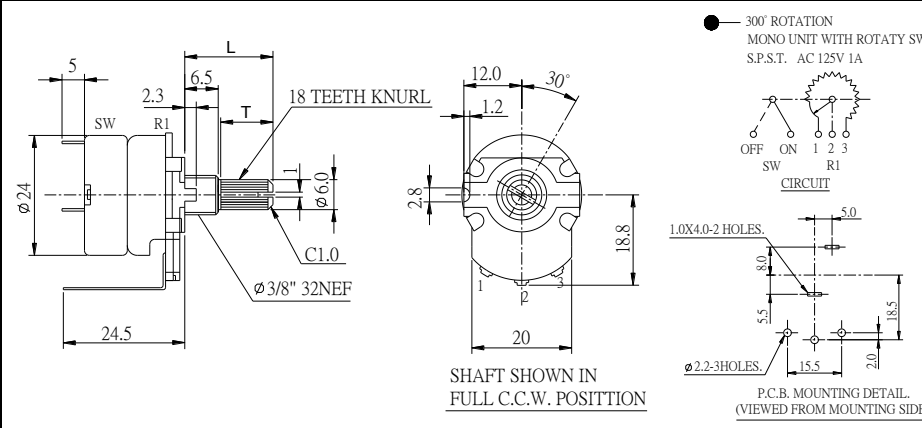
■Model Description

Model	Number of Unit	Switch Function	Terminal Type	With Sleeve or Bushing	Rotational Angle
RV24A01F-10	Single unit	S.P.S.T. Rotary SW	Solder lug	Metal bushing	300°±5°
RV24A01F-22	Single unit	S.P.S.T. Rotary SW	Horizontal	Metal bushing	300°±5°
RV24A01F-30	Single unit	S.P.S.T. Rotary SW	Vertical (Front)	Metal bushing	300°±5°
RV24A01F-40	Single unit	S.P.S.T. Rotary SW	Vertical	Metal bushing	300°±5°
RV24A02F-10	Single unit	S.P.D.T. Rotary SW	Solder lug	Metal bushing	300°±5°
RV24A03F-40D2	Single unit	S.P.S.T. Rotary SW	Vertical	Plastic bushing	300°±5°

Order Code	Outline Drawing
RV24A01F-10	  ● 300° ROTATION MONO UNIT (SW ROTARY SWITCH) S.P.S.T. A.C 125V 1A OFF ON 1 2 3 SW R1 CIRCUIT SHAFT SHOWN IN FULL C.C.W POSITION.
RV24A01F-22	  ● 300° ROTATION MONO UNIT (SW ROTARY SWITCH) S.P.S.T. A.C 125V 1A OFF ON 1 2 3 SW R1 CIRCUIT

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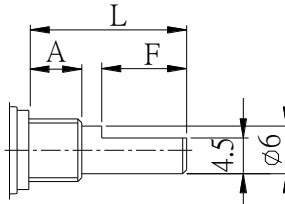
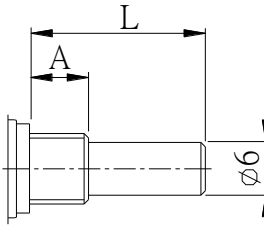
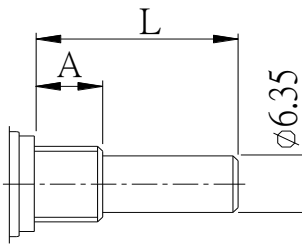
24mm Rotary Type with Rotary Switch

Order Code	Outline Drawing
RV24A01F-30	  ● 300° ROTATION MONO UNIT (SW ROTARY SWITCH) S.P.S.T. A.C 125V 1A CIRCUIT SHAFT SHOWN IN FULL C.C.W. POSITION P.C.B. MOUNTING HOLE DETAIL VIEWED FROM MOUNTING SIDE
RV24A01F-40	  ● 300° ROTATION MONO UNIT (SW ROTARY SWITCH) S.P.S.T. A.C 125V 1A CIRCUIT SHAFT SHOWN IN FULL C.C.W. POSITION P.C.B. MOUNTING DETAIL VIEWED FROM MOUNTING SIDE
RV24A02F-10	  ● 300° ROTATION MONO UNIT (SW ROTARY SWITCH) S.P.D.T. A.C 125V 1A CIRCUIT SHAFT SHOWN IN FULL C.C.W. POSITION P.C.B. MOUNTING DETAIL VIEWED FROM MOUNTING SIDE
RV24A03F-40D2	  ● 300° ROTATION MONO UNIT WITH ROTARY SW S.P.S.T. AC 125V 1A CIRCUIT SHAFT SHOWN IN FULL C.C.W. POSITION P.C.B. MOUNTING DETAIL (VIEWED FROM MOUNTING SIDE)

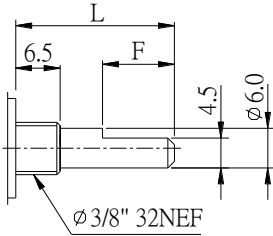
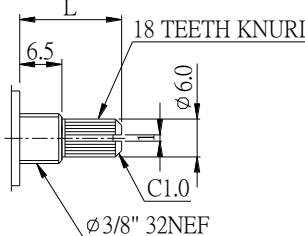
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24mm Rotary Type with Rotary Switch

■ Metal Shaft Type

RV24A01F & RV24A02F																								
F Type A : 6.5mm	R Type A : 6.5mm	R1 Type A : 6.5mm																						
																								
<table><tr><th>Order Code</th><th>L</th></tr><tr><td>15F</td><td>15</td></tr><tr><td>20F</td><td>20</td></tr><tr><td>30F</td><td>30</td></tr></table>	Order Code	L	15F	15	20F	20	30F	30	<table><tr><th>Order Code</th><th>L</th></tr><tr><td>15R</td><td>15</td></tr><tr><td>20R</td><td>20</td></tr><tr><td>30R</td><td>30</td></tr><tr><td>40R</td><td>40</td></tr></table>	Order Code	L	15R	15	20R	20	30R	30	40R	40	<table><tr><th>Order Code</th><th>L</th></tr><tr><td>15R1</td><td>15</td></tr></table>	Order Code	L	15R1	15
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40R	40																							
Order Code	L																							
15R1	15																							

■ Plastic Shaft Type

RV24A03F-40D2											
F Type		B Type									
A : 6.5mm		A : 6.5mm									
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Order Code	L										
25F	25										
Order Code	L										
16B	16										

Design and specifications presented here are for the standard parts only. Please kindly contact us for your special requests and ask for the current technical specifications before purchase and/or use.

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