

# 12 mm Carbon Potentiometers

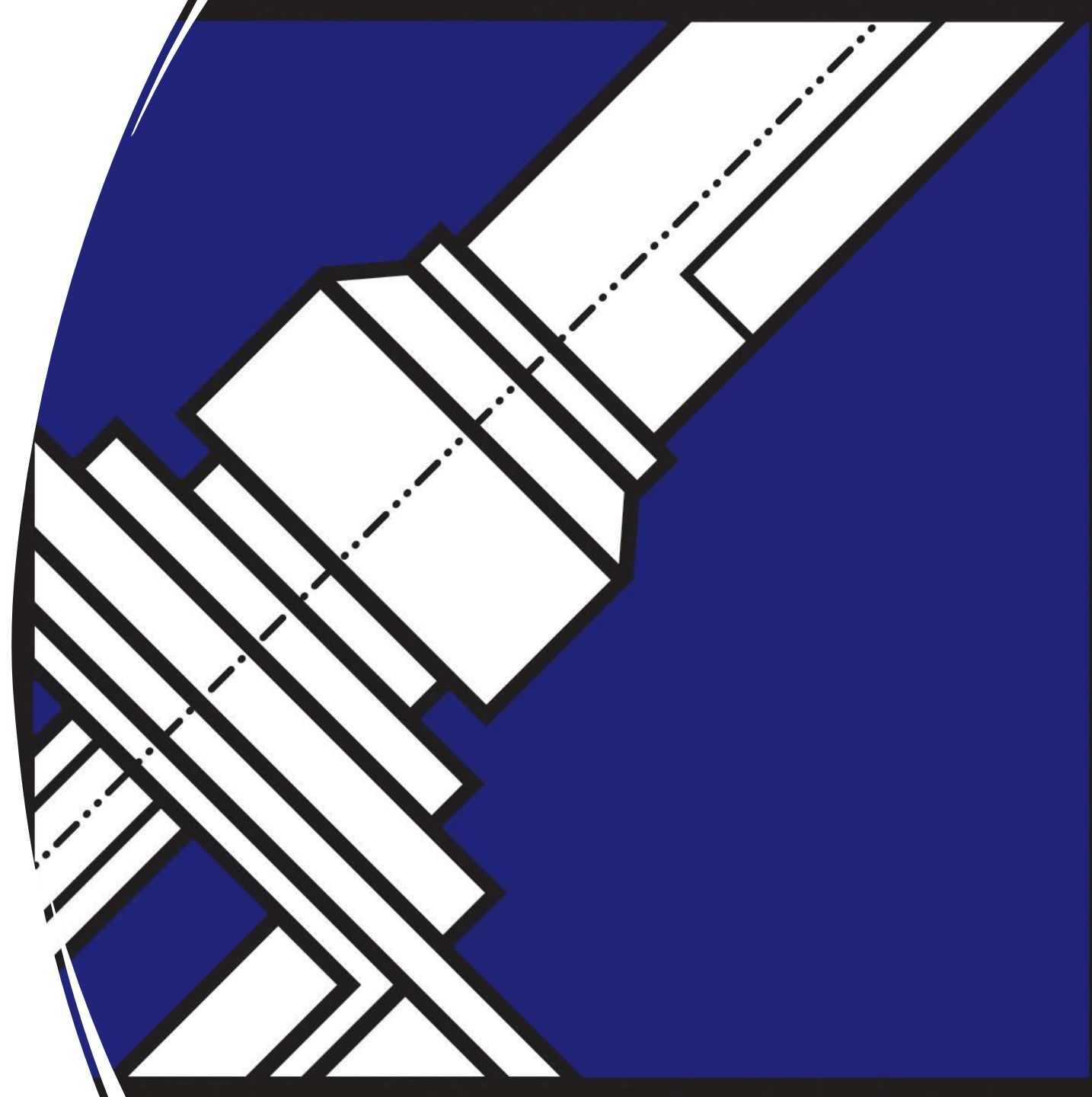
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Types of 12mm carbon pots:

- Metal Shaft Potentiometers
- Hollow Shaft Potentiometers
- Snap-in Insulated Shaft Potentiometers
- RGB LED Potentiometers
- Insert LED Potentiometers

These will be further classified as :-

Single/dual unit, horizontal/vertical mount, centre detent/centre tap



# ROTARY POTENTIOMETERS

## 12mm Hollow Shaft Potentiometers



### ◆Feature

- Hollow on the bottom of shaft ,insert LED is available.
- Outset molding with resin around the resistor prevents flux build-up.

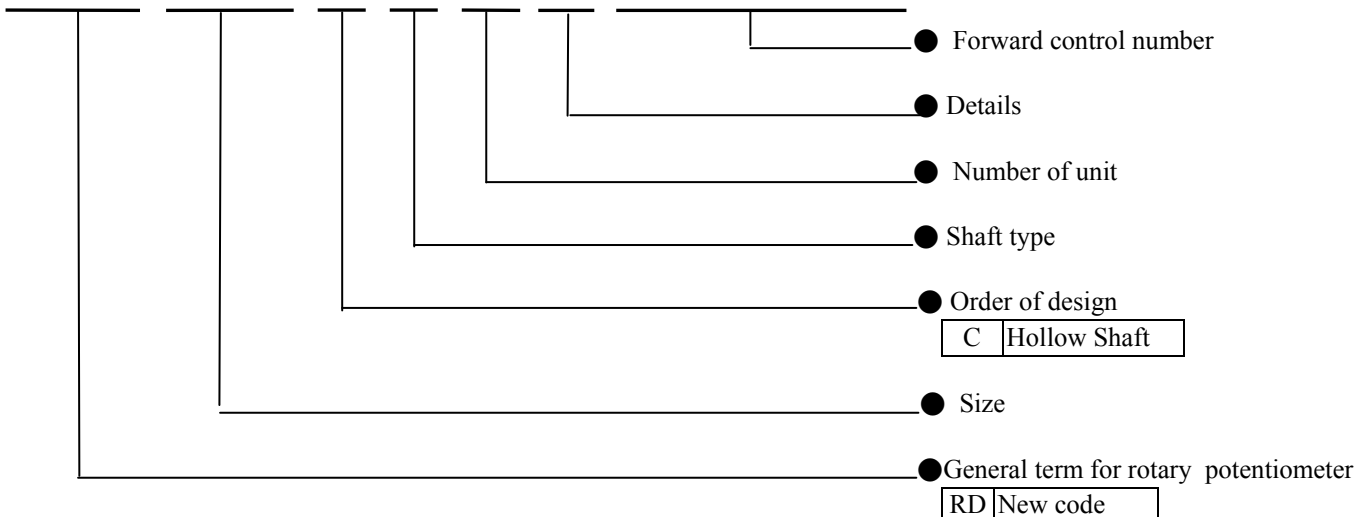
### ◆Applications

- Ideal for volume, tone and balance control of car audio equipment.

## Products Numbering System

### ◆Products Numbering System

R	D	1	2	C	F	1	4	0	0	0	1
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### ◆Common specification

Characteristics	Specification
Total rotational angle	300±5°
Rotational torque	10~80gf.cm
Rotation stopper strength	3Kgf.cm
Push pull strength	8kgf max
Total resistance	5,10,20,50,100,250(KΩ)
Total resistance tolerance	±20%
Rated power	0.05W
Maximum operating	50V AC 10V DC
Resistance taper	A,B,C,D,E,K,W
Insulation resistance	100mΩ min. 250V DC
Withstand voltage	1 minute 100V AC
Rotation life	15,000 cycles

# ROTARY POTENTIOMETERS

## 12mm Hollow Shaft Potentiometers

### ◆ Shaft type

Unit: mm

Shaft dimensions	Shaft angle
	<p>SHAFT SHOWN IN CENTER POSITION</p>

### ◆ Dimensions

Unit: mm

Model	Dimensions
<p>Single shaft, single unit <b>RD12CF14</b></p>	<p>Ø3.3 DEPTH 5mm HOLES</p> <p>MOUNTING SURFACE</p> <p>(Ø3 LED)</p> <p>CIRCUIT DIAGRAM</p>

# ROTARY POTENTIOMETERS

## 12mm Size Snap-in Insulated Shaft Potentiometers



### ◆Applications

- Various potentiometers for radios, radios-cassette recorders, amplifier-mixers, etc

### ◆Features

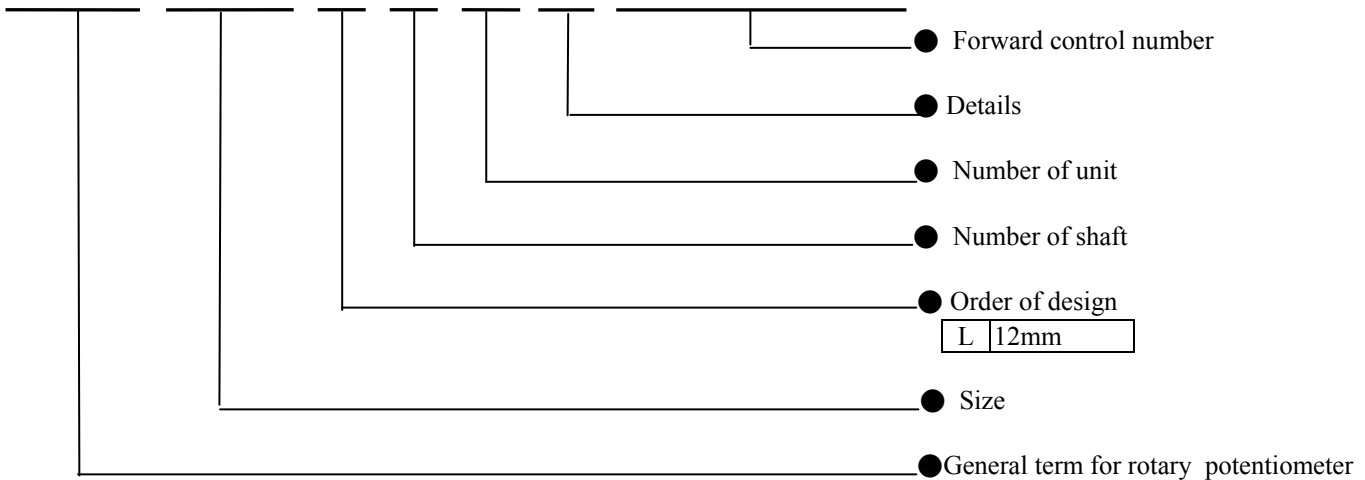
- Insert-molding with resin applied around the resistor assures high flux resistance.
- Since a variety of types are available, they can be used for a wide range of products including audio equipment.
- Units can be provided with bushing, tap and detent

### ◆Common specifications

Application	12mm size Dual-unit
Total Rotational angle	300±5°
Operating torque	30~200gf-cm
Bushing nut tightening strength	10Kgf-cm min.
Total resistance (KΩ)	5,10,20,50,100,250,500
Total resistance Tolerance	±20%
Resistance taper	A, B, C, D, E, K, M, N, W
Power rating	0.05W
Max operating Voltage	50V A.C For A.C only
Rotational Life	15,000 cycles

### ◆Products Numbering System

R	D	1	2	L	1	2	A	0	0	0	1
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RD | New code

# ROTARY POTENTIOMETERS

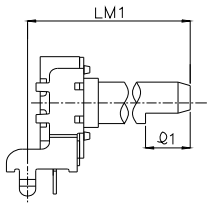
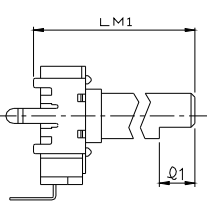
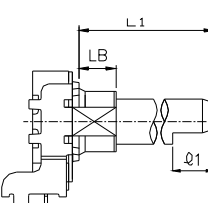
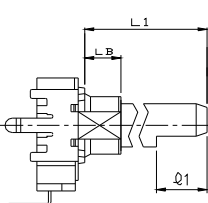
## 12mm Size Snap-in Insulated Shaft Potentiometers

### ◆Products Line

Size (mm)	Type	Type	Model	Bushing	Center Detent	Center Tap	Mounting Height (mm)	Applications	For DC Use
12	Dual-unit	Horizontal	RD12L121	—	✓	—	10, 12.5	Tone control	—
			RD12L122	✓	✓	—			
		Vertical	RD12L123	—	✓	—	—		
			RD12L124	✓	✓	—			
		Horizontal	RD12L12A	—	✓	—	10, 12.5	Volume control	
			RD12L12B	✓	✓	—			
		Vertical	RD12L12C	—	✓	—	—		
			RD12L12D	✓	✓	—			

### ◆Shaft type

unit: mm


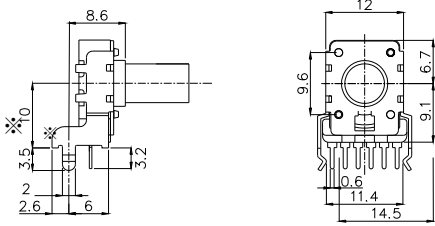
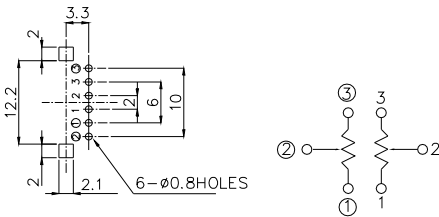

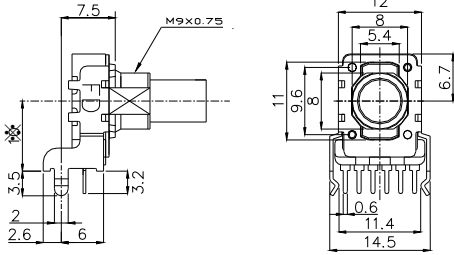
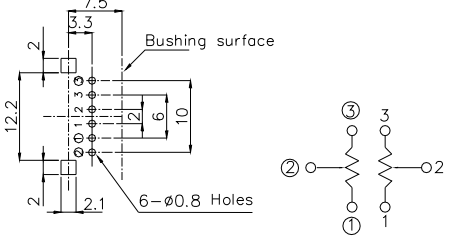

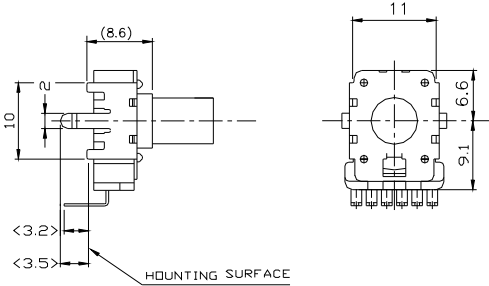
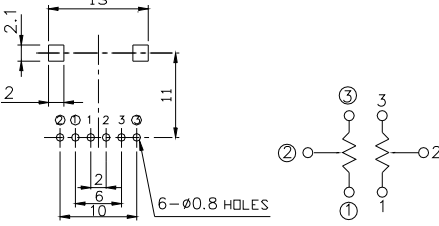

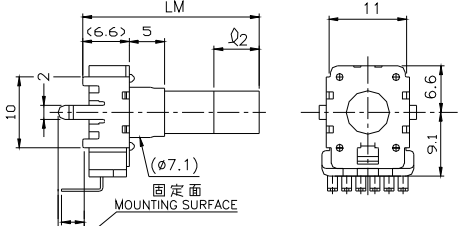
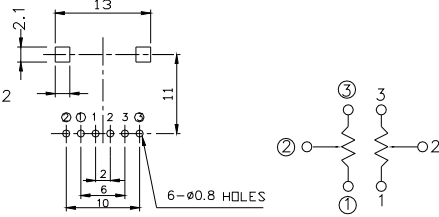

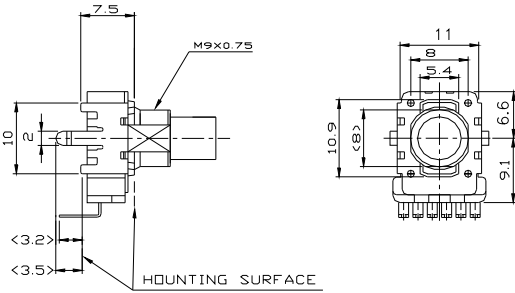
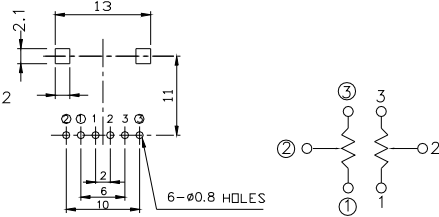
Application		Without Bushing					With Bushing							
		Horizontal		Vertical			Horizontal				Vertical			
														
Dual-unit	Flat type	LM1	15	20	25	30	L1	12.5	15	17.5	20	22.5	25	30
		Q1	4.5	7	12	12	Q1	7	7	12	12	12	12	12
		-	-	-	-	-	LB	5	5	5	5	5	5	5
	Knurl type	LM1	15	20	25	30	L1	12.5	15	27.5	20	22.5	25	30
		Q1	-	7	12	12	Q1	7	7	7	12	12	12	12
		-	-	-	-	-	LB	5	5	5	5	5	5	5

# ROTARY POTENTIOMETERS

## 12mm Size Snap-in Insulated Shaft Potentiometers

### ◆Dimensions

Unit: mm

Model	Dimensions	Mounting hole details																					
RD12L121 RD12L12A 	 <p>※Available mounting height(H):12.5mm</p>																						
RD12L122 RD12L12B 	 <p>※Available mounting height(H):12.5mm</p>																						
RD12L123 RD12L12C 																							
RD12L123Z RD12L12CZ 	 <table border="1" data-bbox="624 1581 911 1659"> <thead> <tr> <th>Shaft type</th> <th colspan="3">Flat type</th> <th colspan="3">Knurl type</th> </tr> </thead> <tbody> <tr> <td>LM</td> <td>20</td> <td>25</td> <td>30</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>ø2</td> <td>7</td> <td>12</td> <td>12</td> <td>7</td> <td>12</td> <td>12</td> </tr> </tbody> </table>	Shaft type	Flat type			Knurl type			LM	20	25	30	20	25	30	ø2	7	12	12	7	12	12	
Shaft type	Flat type			Knurl type																			
LM	20	25	30	20	25	30																	
ø2	7	12	12	7	12	12																	
RD12L124 RD12L12D 																							

# ROTARY POTENTIOMETERS

## With RGB LED Potentiometers



### ◆ FEATURE

- Outset molding with resin around the resistor prevents flux build-up.
- Red 、 green 、 blue 3 color LED colors .

### ◆ APPLICATIONS

- Ideal for volume, tone and balance control of car audio equipment.

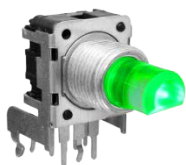
### ◆ Common Specification

Characteristics	Specification
Total rotational angle	300±5°
Rotational torque	10~80gf.cm
Rotation stopper strength	3Kgf.cm
Push pull strength	8kgf max
Total resistance	5,10,20,50,100,250(KΩ)
Total resistance tolerance	±20%
Rated power	0.05W
Maximum operating	50V AC 10V DC
Resistance taper	A,B,C,D,E,K,W
Insulation resistance	100mΩ min. 250V DC
Withstand voltage	1 minute 300V AC
Rotation life	15,000 cycles

### ◆ Dimensions

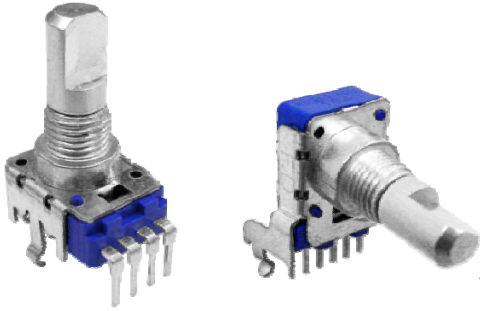
Unit: mm

Model	Dimensions
Single unit with R.G.B LED & push on switch -0.5sw horizontal type <b>RD12S1FH1</b>	<p>             (8.2) 15 7 0.5 7 0.3 SW STROKE 60° 12.4 (8.2) 13.2 8 10.8 2 6.7 3.8 5-Ø1 HOLES 10.8 8 4 2 2.1 3-Ø1.1 HOLES 1 2 3 0.9 10              M9×0.75 C0.8 MOUNTING SURFACE              SHAFT SHOWN IN FULL CCW POSITION              CIRCUIT DIAGRAM           </p>



# ROTARY POTENTIOMETERS

## 12mm Size Metal Shaft Potentiometers



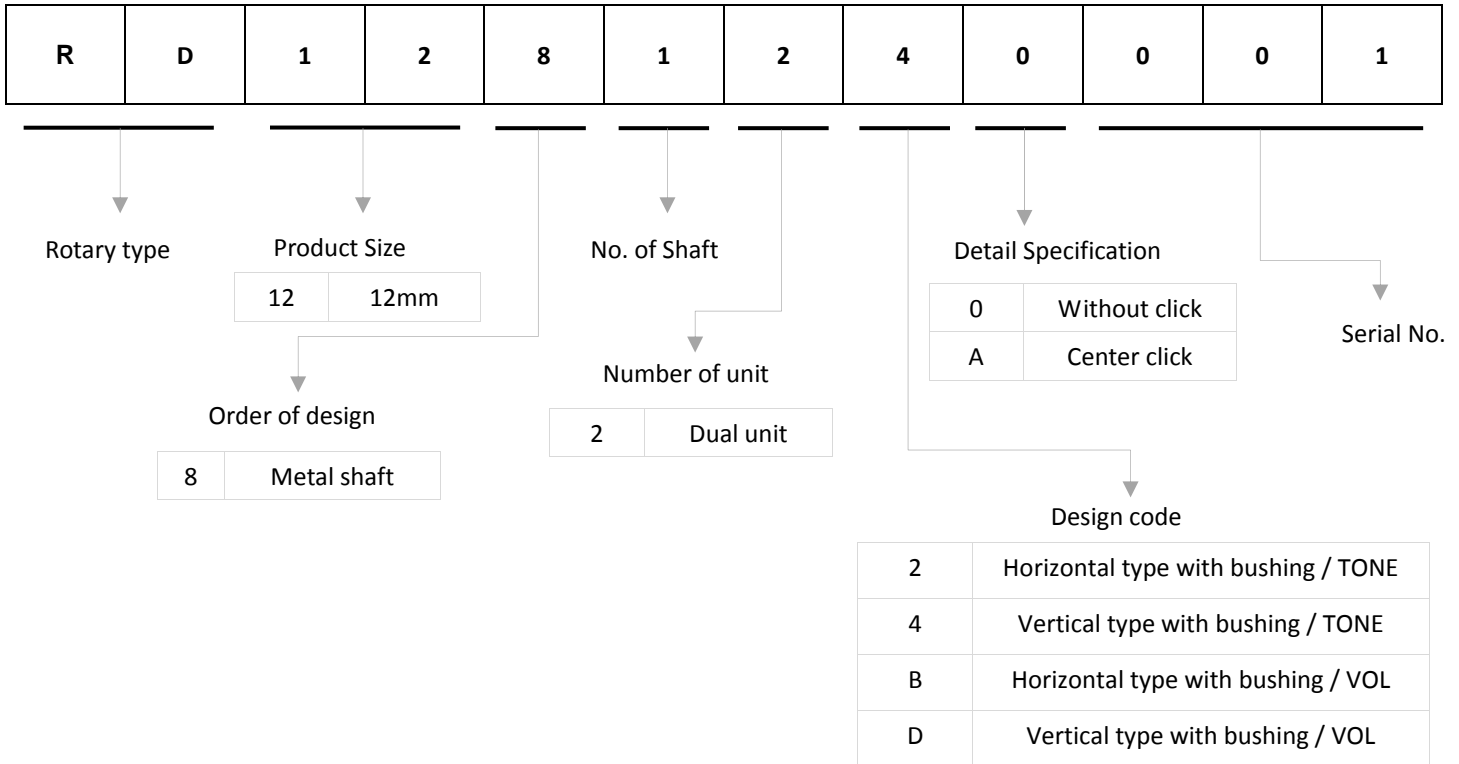
### ◆ FEATURE

- Insert-molding with resin applied around the resistor assures high flux resistance.
- Since a variety of types are available, they can be used for a wide range of products including audio equipment.
- Units can be provided with bushing, tap and detent

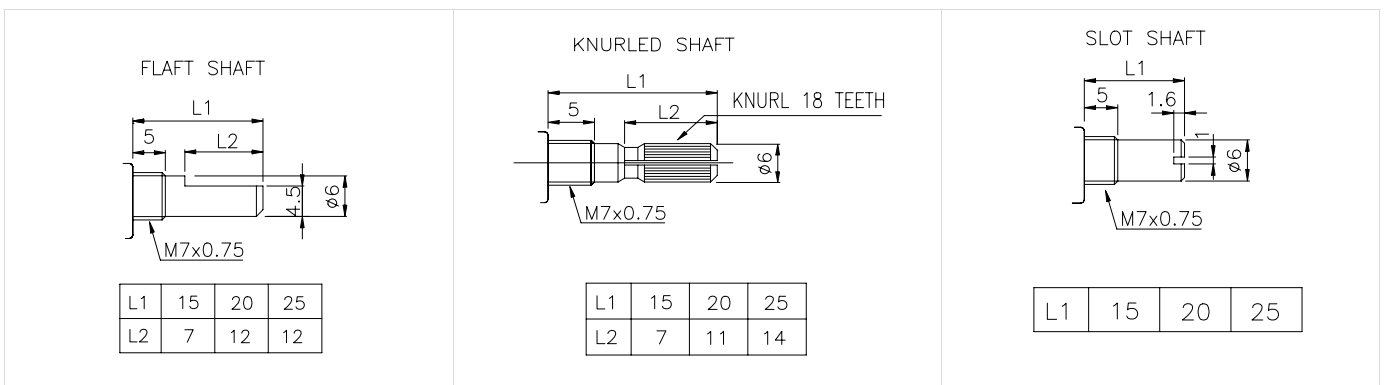
### ◆ APPLICATIONS

- Ideal for volume, tone and balance control of car audio equipment.

### ◆ PRODUCTS NUMBERING SYSTEM



### ◆ DIMENSIONS OF SHAFT





# ROTARY POTENTIOMETERS

## 12mm Size Metal Shaft Potentiometers

### ◆ COMMON SPECIFICATION

Characteristics		Specification
Total rotational angle	General	300±5°
Rotational torque		20~250gf.cm
Detent torque	center detent	Rotational torque+ ( 30~200) gf.cm
Rotation stopper strength	General	3.5Kgf · cm
Push pull strength		10Kgf Max
Total resistance (KΩ)		5,10,20,50,100,250,500
Total resistance tolerance		±20%
Rated power		0.05W
Resistance taper		A,B,C,D,E,K,W,RD,M,N
Maximum operating Voltage	50V AC R ≤ 10	10V DC 20Ω Max
Residual resistance	10 < R < 50 R ≤ 10	30Ω Max 0.1% Max of total resistance
Slider noise		100 mV Max
Insulation resistance		100MΩ Min. 250V DC
Withstand voltage		1 minute 300V AC

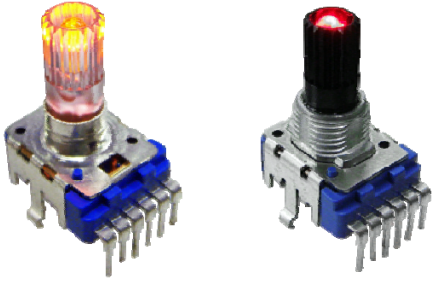
### ◆ DIMENSIONS

Unit: mm

Model	Dimensions
Single shaft, quad unit RD128124 (For tone) RD12812D (For vol.)	
Single shaft, dual unit RD128122 (For tone) RD12812B (For vol.)	

# ROTARY POTENTIOMETERS

## 12mm Insert LED Potentiometers



### ◆ FEATURE

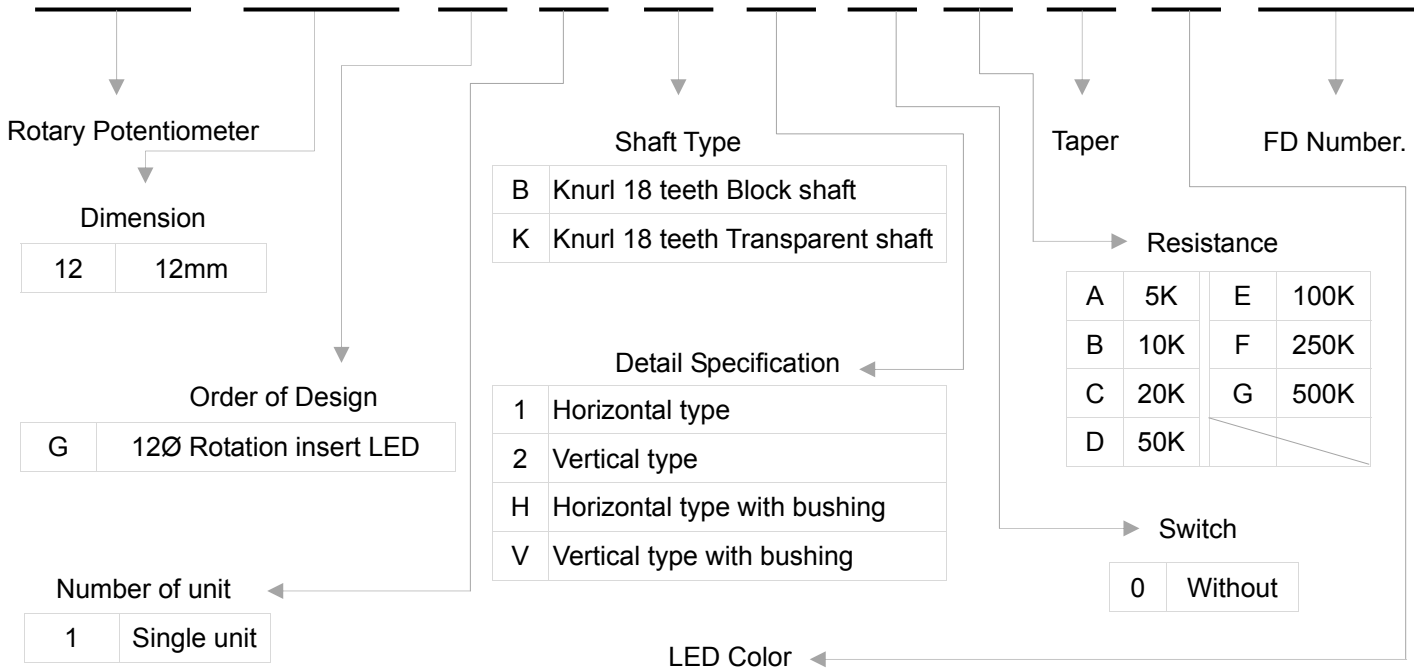
- Outset molding with resin around the resistor prevents flux build-up.
- Red 、 green 、 blue and orange LED colors are available.

### ◆ APPLICATIONS

- Ideal for volume, tone and balance control of car audio equipment.

### ◆ PRODUCTS NUMBERING SYSTEM

R	D	1	2	G	1	K	V	0	B	B	2	0	1
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Single Color		Two Colors	
0	Red	A	Blue / Orange
1	Lawngreen	G	Red / Lawngreen
2	Blue	H	Blue / Lawngreen
3	Orange		
4	White		
6	Dark orange		

# ROTARY POTENTIOMETERS

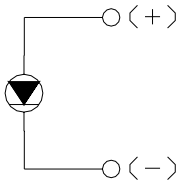
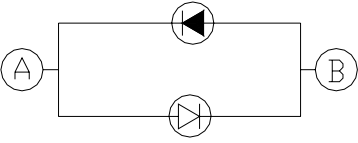
## 12mm Insert LED Potentiometers

### ◆ COMMON SPECIFICATION

Characteristics	Specification
Model	RD12G
Total rotational angle	300±5°
Rotational torque	30~250gf.cm
Rotation stopper strength	5Kgf.cm
Push pull strength	8kgf max
Total resistance	5, 10, 20, 50, 100, 250(KΩ)
Total resistance tolerance	±20%
Rated power	0.05W
Maximum operating	50V AC    10V DC
Resistance taper	A, B, C, D, E, K, W
Insulation resistance	100mΩ min. 250V DC
Withstand voltage	1 minute 300V AC
Rotation life	15,000 cycles

### DIMENSIONS

Unit : mm

Emitted color	
	
Single color LED	Two colors LED
Red	Blue / Orange
Lawngreen	Red / Lawngreen
Blue	Blue / Lawngreen
Orange	
White	
Dark orange	

# ROTARY POTENTIOMETERS

## 12mm Insert LED Potentiometers

### STANDARD DIMENSION OF SHAFT AND BUSHING

Unit: mm

Knurled Shaft	Knurled Shaft With Bushing	Shaft angle
		<p>SHAFT SHOWN IN CENTER POSITION</p>

### DIMENSIONS

Unit: mm

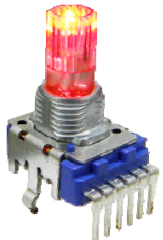
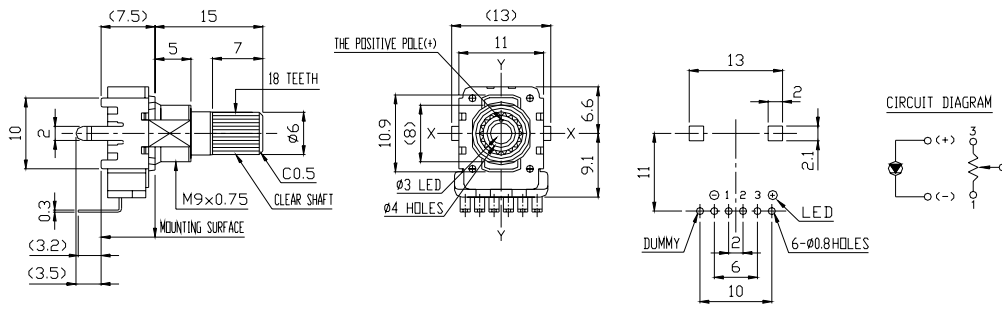

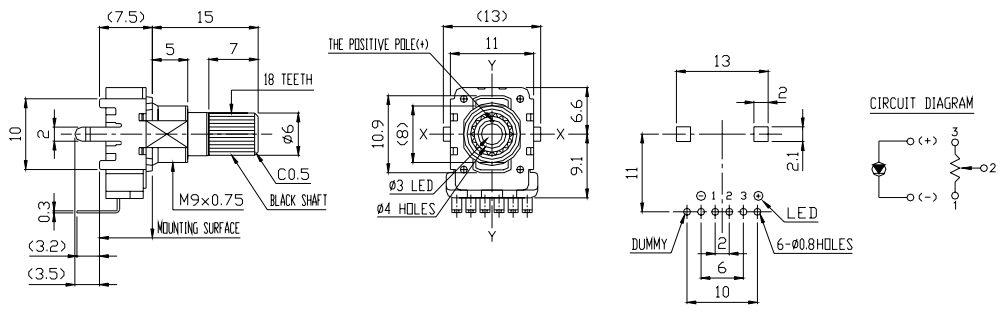
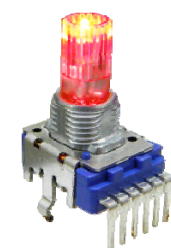
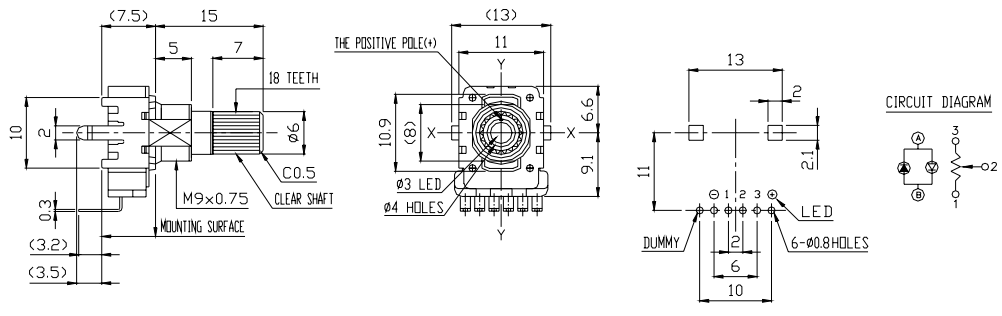
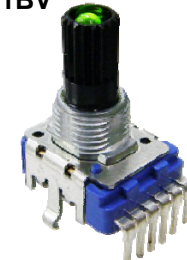
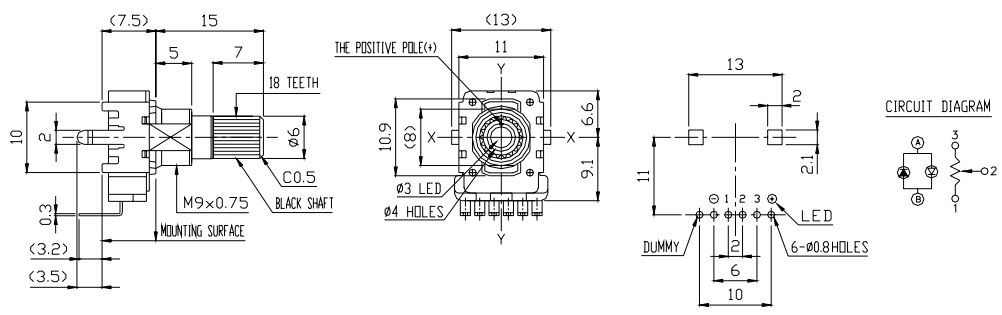
Model	Dimensions		
Clear shaft, single unit With single color LED <b>RD12G1KV</b>			<p>CIRCUIT DIAGRAM</p>
Black shaft, single unit With single color LED <b>RD12G1BV</b>			<p>CIRCUIT DIAGRAM</p>
Clear shaft, single unit With dual color LED <b>RD12G1KV</b>			<p>CIRCUIT DIAGRAM</p>
Black shaft, single unit With dual color LED <b>RD12G1BV</b>			<p>CIRCUIT DIAGRAM</p>

# ROTARY POTENTIOMETERS

## 12mm Insert LED Potentiometers

### DIMENSIONS

Unit: mm

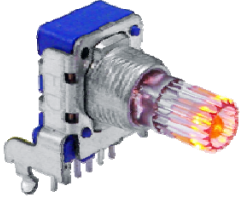
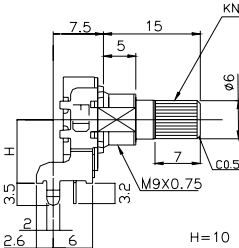
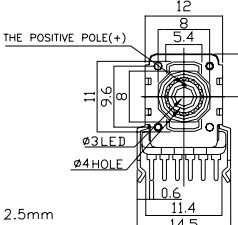
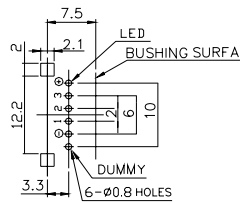
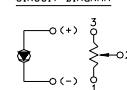

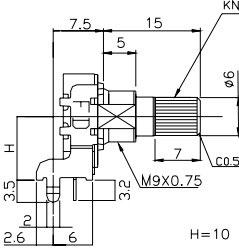
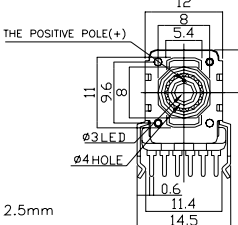
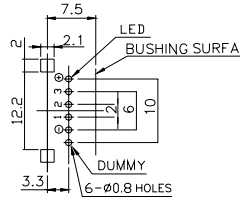
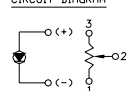
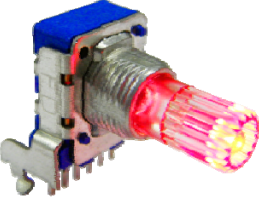
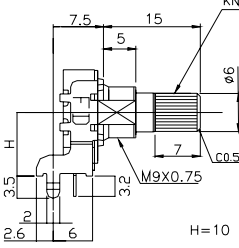
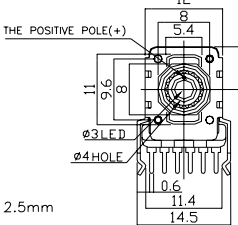
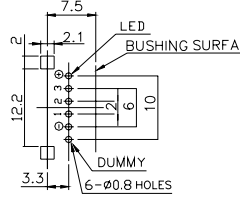
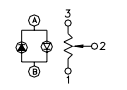
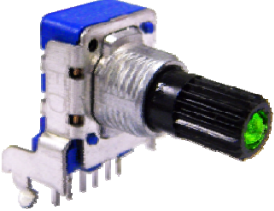
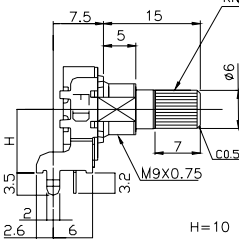
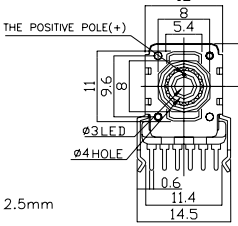
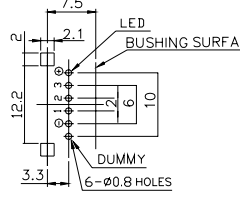
Model	Dimensions		
<p>Clear shaft, single unit With Bushing and single color LED <b>RD12G1KV</b></p> 			
<p>Black shaft, single unit With Bushing and single color LED <b>RD12G1BV</b></p> 			
<p>Clear shaft, single unit With Bushing and dual color LED <b>RD12G1KV</b></p> 			
<p>Black shaft, single unit With Bushing and dual color LED <b>RD12G1BV</b></p> 			

# ROTARY POTENTIOMETERS

## 12mm Insert LED Potentiometers

### DIMENSIONS

Unit: mm

Model	Dimensions		
<p>Clear shaft, single unit With Bushing and single color LED <b>RD12G1KH</b></p> 	 <p>KNURL 18 TEETH 7.5 15 5 7 0.5 M9X0.75 H=10 or 12.5mm</p>	 <p>THE POSITIVE POLE(+) 12 8 5.4 6.7 11 9.6 8 Ø3 LED Ø4 HOLE 0.6 11.4 14.5</p>	 <p>7.5 2 2.1 LED BUSHING SURFACE 12.2 10 6 3.31 6-Ø0.8 HOLES DUMMY</p> <p>CIRCUIT DIAGRAM</p> 
<p>Black shaft, single unit With Bushing and single color LED <b>RD12G1BH</b></p> 	 <p>KNURL 18 TEETH 7.5 15 5 7 0.5 M9X0.75 H=10 or 12.5mm</p>	 <p>THE POSITIVE POLE(+) 12 8 5.4 6.7 11 9.6 8 Ø3 LED Ø4 HOLE 0.6 11.4 14.5</p>	 <p>7.5 2 2.1 LED BUSHING SURFACE 12.2 10 6 3.31 6-Ø0.8 HOLES DUMMY</p> <p>CIRCUIT DIAGRAM</p> 
<p>Clear shaft, single unit With Bushing and dual color LED <b>RD12G1BH</b></p> 	 <p>KNURL 18 TEETH 7.5 15 5 7 0.5 M9X0.75 H=10 or 12.5mm</p>	 <p>THE POSITIVE POLE(+) 12 8 5.4 6.7 11 9.6 8 Ø3 LED Ø4 HOLE 0.6 11.4 14.5</p>	 <p>7.5 2 2.1 LED BUSHING SURFACE 12.2 10 6 3.31 6-Ø0.8 HOLES DUMMY</p> <p>CIRCUIT DIAGRAM</p> 
<p>Black shaft, single unit With Bushing and dual color LED <b>RD12G1BH</b></p> 	 <p>KNURL 18 TEETH 7.5 15 5 7 0.5 M9X0.75 H=10 or 12.5mm</p>	 <p>THE POSITIVE POLE(+) 12 8 5.4 6.7 11 9.6 8 Ø3 LED Ø4 HOLE 0.6 11.4 14.5</p>	 <p>7.5 2 2.1 LED BUSHING SURFACE 12.2 10 6 3.31 6-Ø0.8 HOLES DUMMY</p> <p>CIRCUIT DIAGRAM</p> 