

Low-profile Master Slide Potentiometer (N Fader)

RS□□N Series

The low-profile design with excellent operability contributes to greater degree of freedom in unit design.

- Rotary Potentiometers
- Slide Potentiometers**
- Trimmer Potentiometers
- Multi Control Devices
- Position Sensors



Features

- Excellent operational feel by less lever wobble.
- Allows the maximum attenuation of 110dB.(The local resistance value is 10K min.)

Applications

- Fader control of mixers
- Light console faders

General-use

Mixer

Typical Specifications

Items		Specifications
Total resistance tolerance		±20%
Maximum operating voltage		350V AC, 20V DC
Operating force	Single-unit	0.05 to 0.8 N
	Dual-unit	0.05 to 0.9 N
Operating life		30,000 cycles
Operating temperature range		-10°C to +60°C

Recommended Products List

Number of resistor elements	Travel (mm)	Products No.	Lever type	Length of lever (mm)	Total resistance (kΩ)	Resistance taper	Terminal style	Minimum packing unit (pcs.)	Drawing No.
Single-unit	60	RS60N111900H	9-T (T-Bar)	8.2	10	15A	For printed wiring PC board	100	1
	100	RSA0N111900Q							2
Dual-unit	60	RS60N1219A04							3
	100	RSA0N1219A03							4

Note

Additional product specifications in response to those not included in the above recommended products are also available.

For product specifications, see P.139
 For details of lever types, see P.139
 For other detailed specifications, see P.156

Product Specifications

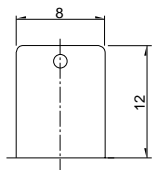
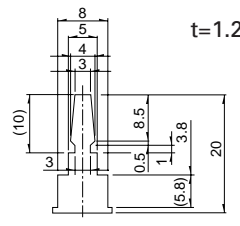
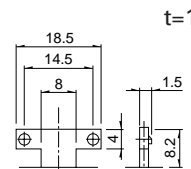
In addition to the recommended products, the following specifications can also be accommodated.

Low-profile Master Slide Potentiometers (N fader) Specifications

Type	Travel (mm)	Model	Dust cover	Terminal
Single-unit	60	RS60N11	Available	For printed wiring For lead wiring
	100	RSA0N11		
Dual-unit	60	RS60N12		
	100	RSA0N12		

Lever types

Unit : mm

Configuration code	1	4	9-T (T-Bar)
Dimensions	 <p>t=1.2</p>	 <p>t=1.2</p>	 <p>t=1.2</p>

Electrical Characteristics

Total resistance (kΩ)	10	50	100	250
Total resistance tolerance	±20%			
Resistance taper	15A	1B	15C	10A

Note

Additional product specifications not included in the above list are also available. Contact us for details.

Rotary Potentiometers

Slide Potentiometers

Trimmer Potentiometers

Multi Control Devices

Position Sensors

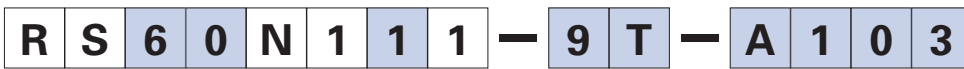
General-use

Mixer

Orders other than recommended products

Specify orders for varieties that are not listed in the Recommended Product List, referring to the following example.

Sample part number



Travel

60	60mm
A0	100mm

Number of resistor elements

Single	1
Dual	2

Type of operation unit

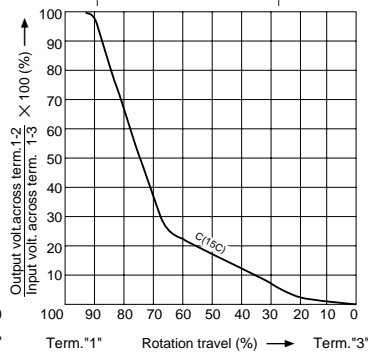
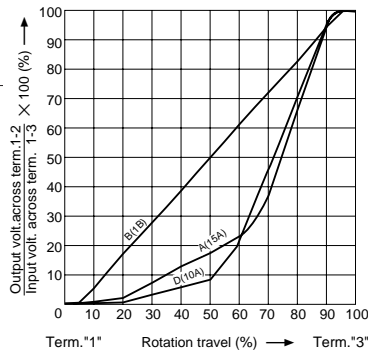
See page P139.

1 : 01、4 : 04、9-T : 9T
(T-Bar)

For "9-T", omit "-" (hyphen) when making the entry.

Resistance taper

Code	Resistance taper
A	15A
B	1B
C	15C
D	10A



Total resistance

Code	Total resistance (kΩ)	Code	Total resistance (kΩ)
103	10	104	100
503	50	254	250

- Rotary Potentiometers
- Slide Potentiometers**
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General-use

Mixer

Dimensions

Unit : mm

No.	Style	PC board mounting hole dimensions
1		
2		
3		
4		

Products Specifications

Item	Master type	Low-profile master type	Motor-driven master type
Model	RS□□K□□	RS□□N1 RS□□N11S RS6011□Y	RS□□N1□M RSA0K1□V RSA0K1□W

Mechanical Characteristics

Operating temperature range	-10 °C to +60°C		
Solder heat resistance	Manual soldering	350°C or less and within 3 seconds	
	Dip soldering	260°C or less and within 5 seconds RSA0K1□W, RSA0K1□V : not available	
Operating force	Standard : 0.1 to 0.6N	RS□□N1□ Single-unit : 0.05 to 0.8N Dual-unit : 0.05 to 0.9N RS6011□Y 0.1 to 0.2N RS□□N11S 0.05 to 0.8N	RS□□N1□M 0.3 to 1.3N RSA0K1□V, RSA0K1□W Single-unit : 0.15 to 0.65N Dual-unit : 0.25 to 0.9N
Stopper strength	100N		
Lever push-pull strength	100N	50N	
Lever wobble (mm) ※Both side	$2\left(\frac{2 \times L}{25}\right)$		
Lever deviation	0.5mm max. (One side)		
Solderability	230±5°C、3±0.5s		

Electrical Characteristics

Total resistance (kΩ)	10, 50, 100, 250	RS□□N1 : 10, 50, 100, 250 RS□□N11S : 10, 50, 100, 250 RS6011□Y : 10, 20, 50	RS□□N1□M : 10, 50, 100, 250 RSA0K1□V : 10 RSA0K1□W : 10
Total resistance tolerance	±20%		
Resistance taper	15A, 1B, 15C	RS□□N1 : 15A, 1B, 15C, 10A RS□□N1□S : 15A, 1B, 15C, 10A RS6011□Y : 15A, 1B, 10A	Single-unit : 1B Dual-unit : Servo 1B Audio 15A, 1B, 10A

Durability

Sliding life	Standard : 100,000 cycles C P : 300,000 cycles	30,000 cycles RSA0K1□V : 300,000 cycles RSA0K1□W : 100,000 cycles
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Environmental test

Cold	-25°C for 16h
Long-term heat resistance	+70°C for 240h
Moisture resistance	+40°C、90 to 95%RH for 96h

Notes

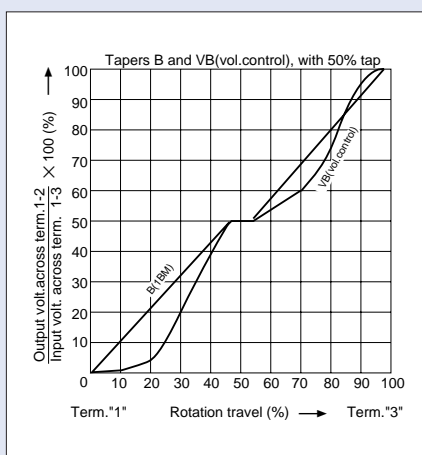
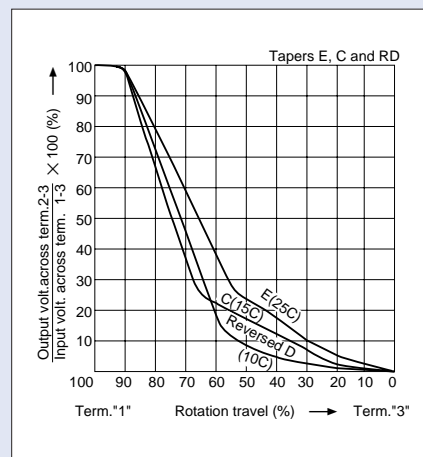
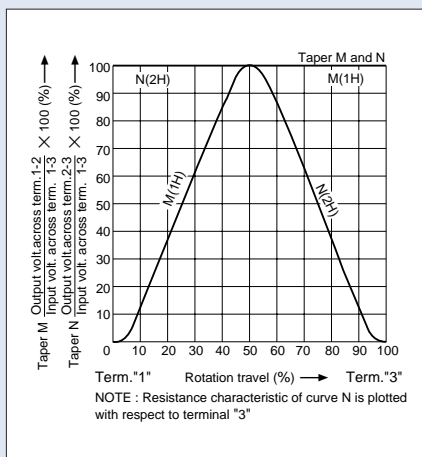
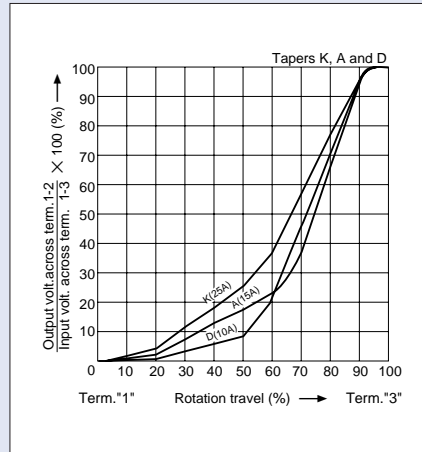
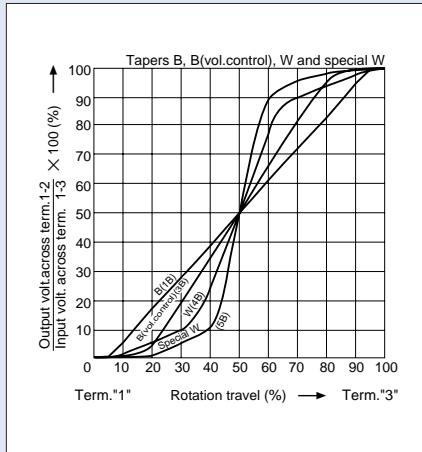
- "L" in the "Lever Wobble" column of the above table indicates the length of lever.
- Specifications other than those listed above can be customized.

Resistance Taper

[Resistance Taper]

With the shaft (lever) placed in the specified position, resistance taper shall be determined by measuring the voltage between the specified terminals (between terminals 1 and 2 or between terminals 2 and 3) and calculating the percentage in reference to the voltage between terminals 1 and 3.

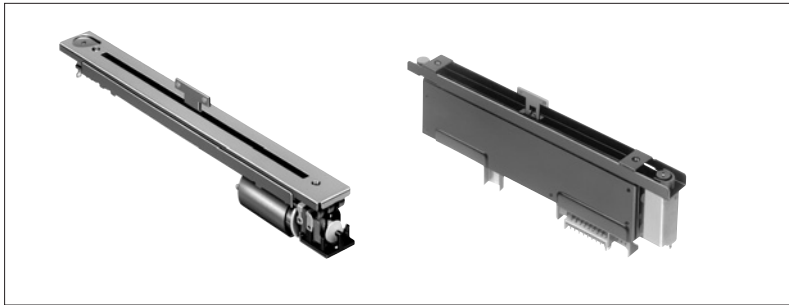
Reference: Standard resistance tapers in reference to rotational angles (travels) are as shown below.



Motor-driven Master Slide Potentiometer (Motor N Fader, Motor K Fader)

RS□□N1□M/RSAOK1□V/RSAOK1□W Series

Provides a superior operational feel and high-speed tracking at motor driving.



Features

- Motor driven, low-profile type with a thickness of 22mm.
- Timing belt drive ensures superior trackability at motor driving and an excellent feel in manual mode.
- Available with a touch sensing function.

Applications

- Fader control for mixing console

Typical Specifications

Items	Specifications	
Total resistance tolerance	±20%	
Maximum operating voltage	20V DC	
Operating force	Motor N fader 0.3 to 1.3 N	Motor K fader 0.15 to 0.65 N
Operating life	Motor N fader 30,000 cycles	Motor K fader CP type 300,000 cycles Standard type 100,000 cycles
Operating temperature range	-10°C to +60°C	
Rated voltage of motor	10V DC	
Maximum current of motor	800mA or less (at 10V DC)	

Recommended Products List

Number of resistor elements	Travel (mm)	Type	Products No.	Lever type	Length of lever (mm)	Total resistance (kΩ)	Resistance taper	Terminal style	Touch sense track	Minimum packing unit (pcs.)	Drawing No.
Single-unit	60	Motor N fader	RS60N11M9A05	9-T (T-bar)	8.2	10	1B	Lead wiring	With	100	1
			RS60N11M9A08					Printed wiring for auto dipping			2
	RSA0N11M9A06		Lead wiring					3			
	RSA0N11M9A07		Printed wiring for auto dipping					4			
	Motor K fader CP type		RSA0K11V900C					Connector			5
	Motor K fader Standard type		RSA0K11W9001					Lead wiring			6

Notes

1. Additional product specifications in response to those not included in the above recommended products are also available.
2. For products ready for use with RoHS, contact our sales division.

For product specifications, see **P.151**
For other detailed specifications, see **P.156**

Rotary Potentiometers
Slide Potentiometers
Trimmer Potentiometers
Multi Control Devices
Position Sensors

General-use
Mixer

Product Specifications

In addition to the recommended products, the following specifications can also be accommodated.

Motor-driven Master Slide Potentiometer (Motor N Fader, Motor K Fader) Specifications

Type		Travel (mm)	Model	Touch sense track	Terminal
Single-unit	Motor N fader	60	RS60N11M	Available	Printed wiring for auto dipping For lead wiring
	Motor K fader CP type	100	RSA0N11M		Fader Terminal : Connector Motor Terminal : Lead wiring
	Motor K fader Standard type		RSA0K11V		For lead wiring
Dual-unit (Servo+ Audio track)	Motor N fader	60	RS60N12M		Printed wiring for auto dipping For lead wiring
	Motor K fader CP type	100	RSA0N12M		Fader Terminal : Connector Motor Terminal : Lead wiring
	Motor K fader Standard type		RSA0K12W		For lead wiring

Rotary Potentiometers

Slide Potentiometers

Trimmer Potentiometers

Multi Control Devices

Position Sensors

General-use

Mixer

Electrical Characteristics

Total resistance (k Ω)	10※	50	100	250
Total resistance tolerance	$\pm 20\%$			
Resistance taper	Servo	1B		
	Audio	15A	1B	10A

※ Motor K fader : Only 10k Ω

Note

Additional product specifications not included in the above list are also available. Contact us for details.

Orders other than recommended products

Specify orders for varieties that are not listed in the Recommended Product List, referring to the following example.

Sample part number



Travel (mm)

60	60mm
A0	100mm

Number of resistor elements

Single	1
Dual	2

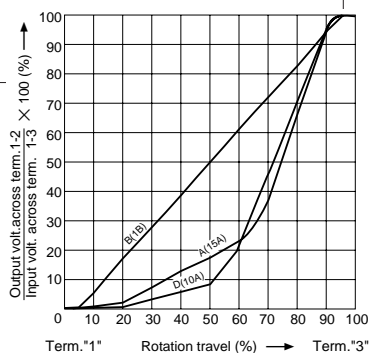
Touch sense track

Code	Touch sense track
T0	Without
T1	With

Resistance taper

Code	Resistance taper
B	1B
A	15A
D	10A

Appoint the taper of audio track in the case of dual-unit.
Servo track is surely 1B taper.



Total resistance

Code	Total resistance (kΩ)
103	10
503	50
104	100
254	250

Note

Shows the specification recommended by us.

Rotary Potentiometers
Slide Potentiometers
 Trimmer Potentiometers
 Multi Control Devices
 Position Sensors

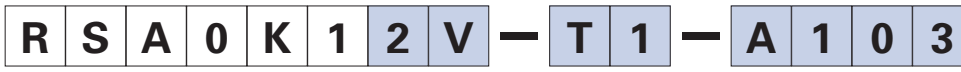
General-use

Mixer

Orders other than recommended products

Specify orders for varieties that are not listed in the Recommended Product List, referring to the following example.

Sample part number



Number of resistor elements

Single	1
Dual	2

Type

CP type	V
Standard type	W

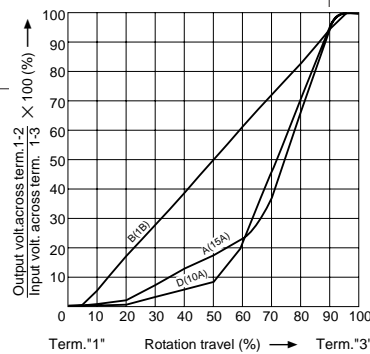
Touch sense track

Code	Touch sense track
T0	Without
T1	With

Resistance taper

Code	Resistance taper
B	1B
A	15A
D	10A

For two-ganged models, please specify the resistance of the audio track.



Total resistance

Code	Total resistance (kΩ)
103	10

Note

Shows the specification recommended by us.

Rotary Potentiometers

Slide Potentiometers

Trimmer Potentiometers

Multi Control Devices

Position Sensors

General-use

Mixer

Dimensions

Unit : mm

- Rotary Potentiometers
- Slide Potentiometers**
- Trimmer Potentiometers
- Multi Control Devices
- Position Sensors

General-use

Mixer

No.	Style	
1		
2		<p>PC board mounting hole dimensions</p>
3		

Dimensions

Unit : mm

No.	Style	PC board mounting hole dimensions
4	<p>t=1.2</p>	
5	<p>t=1.2</p>	
6	<p>t=1.2</p>	

Rotary Potentiometers

Slide Potentiometers

Trimmer Potentiometers

Multi Control Devices

Position Sensors

General-use

Mixer

Products Specifications

Item	Master type	Low-profile master type	Motor-driven master type
Model	RS□□K□□	RS□□N1 RS□□N11S RS6011□Y	RS□□N1□M RSA0K1□V RSA0K1□W

Mechanical Characteristics

Operating temperature range	-10 °C to +60°C		
Solder heat resistance	Manual soldering	350°C or less and within 3 seconds	
	Dip soldering	260°C or less and within 5 seconds RSA0K1□W, RSA0K1□V : not available	
Operating force	Standard : 0.1 to 0.6N	RS□□N1□ Single-unit : 0.05 to 0.8N Dual-unit : 0.05 to 0.9N RS6011□Y 0.1 to 0.2N RS□□N11S 0.05 to 0.8N	RS□□N1□M 0.3 to 1.3N RSA0K1□V, RSA0K1□W Single-unit : 0.15 to 0.65N Dual-unit : 0.25 to 0.9N
Stopper strength	100N		
Lever push-pull strength	100N	50N	
Lever wobble (mm) ※Both side	$2\left(\frac{2 \times L}{25}\right)$		
Lever deviation	0.5mm max. (One side)		
Solderability	230±5°C、3±0.5s		

Electrical Characteristics

Total resistance (kΩ)	10, 50, 100, 250	RS□□N1 : 10, 50, 100, 250 RS□□N11S : 10, 50, 100, 250 RS6011□Y : 10, 20, 50	RS□□N1□M : 10, 50, 100, 250 RSA0K1□V : 10 RSA0K1□W : 10
Total resistance tolerance	±20%		
Resistance taper	15A, 1B, 15C	RS□□N1 : 15A, 1B, 15C, 10A RS□□N1□S : 15A, 1B, 15C, 10A RS6011□Y : 15A, 1B, 10A	Single-unit : 1B Dual-unit : Servo 1B Audio 15A, 1B, 10A

Durability

Sliding life	Standard : 100,000 cycles C P : 300,000 cycles	30,000 cycles RSA0K1□V : 300,000 cycles RSA0K1□W : 100,000 cycles
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Environmental test

Cold	-25°C for 16h
Long-term heat resistance	+70°C for 240h
Moisture resistance	+40°C、90 to 95%RH for 96h

Notes

- "L" in the "Lever Wobble" column of the above table indicates the length of lever.
- Specifications other than those listed above can be customized.