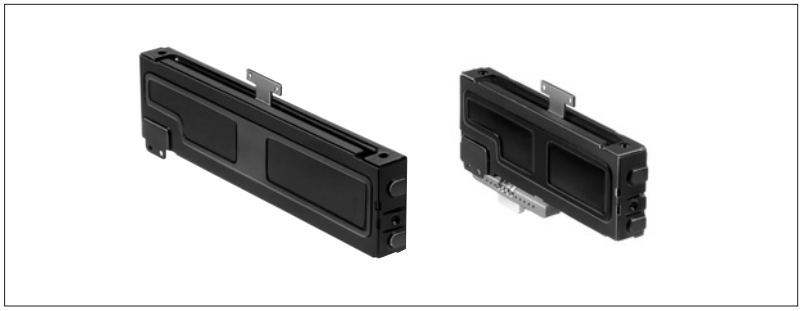
Master Type Slide Potentiometer (K Fader)

RS□□K Series

This series achieves a good operational feel with minimum lever wobble and high precision characteristics.



Features

- A small lever wobble provides an excellent operational feel and high precision characteristics.(gang, error, taper, etc.)
- Blind structure using a crank lever.
- Available with a micro switch.
- CP(inconductive plastic) type provides the sliding life of 300,000 cycles.

Applications

- Master volume control in high-grade audio equipment, fader for studio mixer, etc.

Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	350V AC, 20V DC
Operating force	0.1 to 0.6 N
Operating life	100,000 cycles
Operating temperature range	−10℃ to +60℃

Recommended Products List

Number of resistor elements	Travel (mm)	Products No.	Lever type	Length of lever (mm)	Total resistance (kΩ)	Resistance taper	Minimum packing unit (pcs)	Drawing No.
Single-unit	60	RS60K11A9000	9-T (T-Bar)	8.2	10	15A	100	1
	100	RSA0K11A900L						2
Dual-unit		RSA0K12A1003	1	12				3

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.135**
For details of lever types, see **P.135**
For other detailed specifications, see **P.156**

Product Specifications

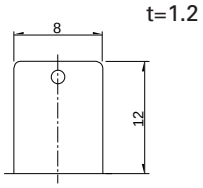
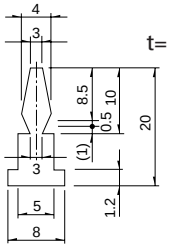
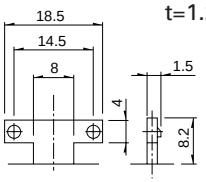
In addition to the recommended products, the following specifications can also be accommodated.

Master Type Slide Potentiometers

Specifications

Type		Travel	Model	Terminal style		Sliding life	Micro switch
Standard type	Single- unit	60,100mm	RS60K11	Lead type		100,000 cycles	Available
			RSA0K11				
	Dual-unit		RS60K12				
			RSA0K12				
CP type	Single- unit		RS60K11	Connector type	JST S4B-EH	300,000 cycles	
			RSA0K11				
	Dual-unit		RS60K12		JST S9B-EH		
			RSA0K12				

Lever Types

Configuration code	1	4	9-T (T-Bar)
Dimensions			

Mechanical Characteristics

Operating force	CP Single-unit : 0.05 to 0.35N CP Dual-unit : 0.1 to 0.5N

Electrical Characteristics

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

※CP type : Only 10 kΩ

Note

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

For resistance taper, see **P.136**

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

R	S	6	0	K	1	1	A	–	9	T	–	A	1	0	3

Travel

60	60mm
A0	100mm

Number of resistor elements

Single	1
Dual	2

Resistor element type, and presence of micro switch.

Code	Resistor elements Standard type	Code	Resistor elements CP type
A	Without micro switch	**K**	Without micro switch
B	With micro switch	**L**	With micro switch

Type of operation unit

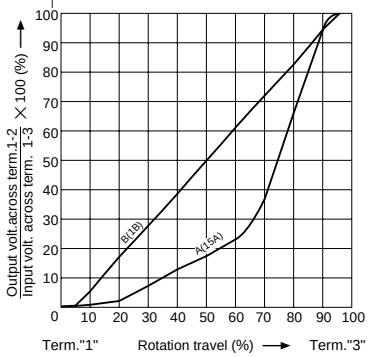
See page P135.

1：01、4：04、9-T（T-Bar）：9T

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

Resistance taper

Code	Resistance taper
A	15A
B	1B



Total resistance

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

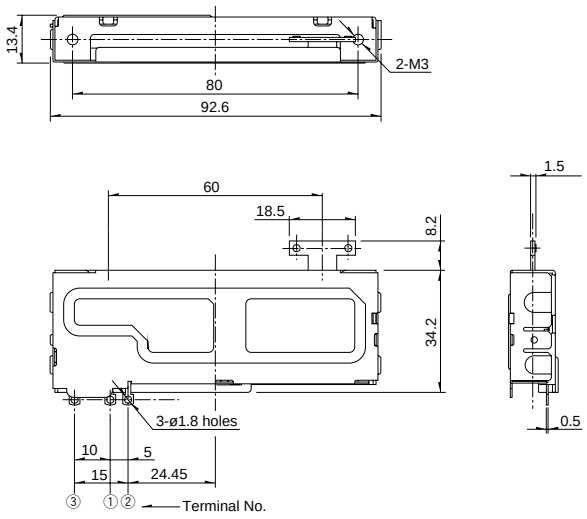
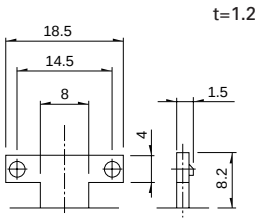
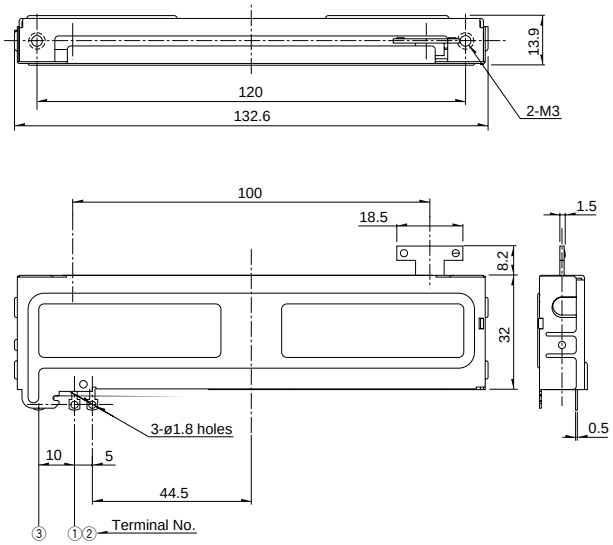
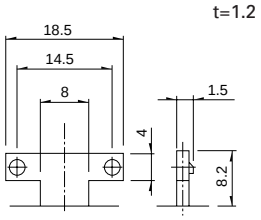
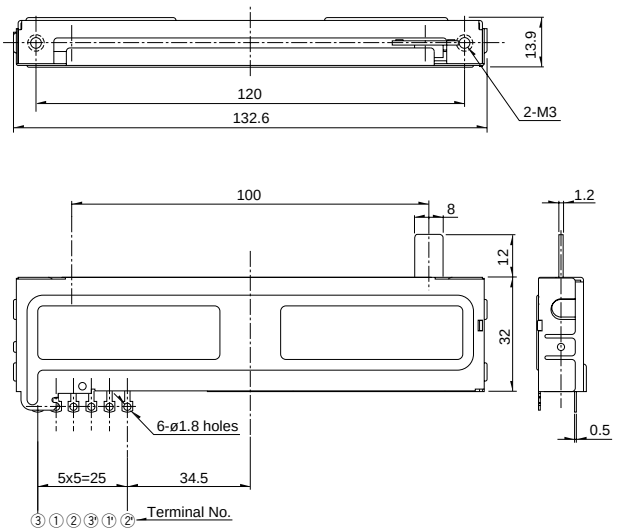
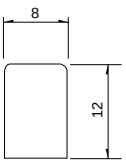
※CP type ：Supports 10 kΩ only.

Note

Shows the specification recommended by us.

Dimensions

Unit : mm

No.	Style	
1		
2		
3		

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 ℃ to +60℃		
Solder heat resistance	Manual soldering	350℃ or less and within 3 seconds		
	Dip soldering	————	260℃ 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℃、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

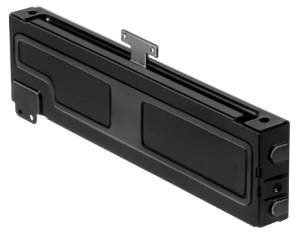
Environmental test

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

Notes

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

マスタスライドボリューム
Master Type Slide Potentiometers



電即納 3DAYS DELIVERY
BOX NO.5454-52
詳細は、P19とP20を参照願います。

最小包装単位　Minimum packing unit　100pcs.
（電即納の最小包装単位ではありません。）

■ 特長
- スタジオミキサ用フェーダとして、レバーガタが極めて小さく優れた操作フィーリング、高精度の特性（相互偏差、抵抗変化特性など）を有しています。
- クランクレバーの採用で、目隠し構造が標準対応です。
- マイクロスイッチ付きが対応可能です。
- ＣＰ（コンダクティブプラスティック）タイプは、しゅう動寿命30万回を実現しています。

■ 用途
- 高級オーディオ機器のマスタボリューム、スタジオミキサ用フェーダ

■ Features
- A small back lash provides an excellent operation feeling and high-precision characteristics (gang error, taper, etc.).
- Blind construction by crank lever.
- Version with micro switch available.
- CP (conductive plastic) type has realized for 300,000 times sliding life.

■ Applications
- Master volume control in high-grade audio equipment, fader for studio mixer, etc.

■ 製品一覧　Products Line

タイプ Type		移動量 Travel	製品名 Model	端子形状 Terminal style		レバー形状 Lever style	マイクロSWの可否 Micro SW
標準タイプ Standard type	単連 Single- unit	60,100mm	RS60K11	リードタイプ Lead type		1 4 9-2(8.2L)	対応可 Available
			RSA0K11				
	2連 Dual-unit		RS60K12				
			RSA0K12				
CPタイプ CP type	単連 Single- unit		RS60K11	コネクタタイプ Connector type	JST S4B-EH		
			RSA0K11				
	2連 Dual-unit		RS60K12		JST S9B-EH		
			RSA0K12				

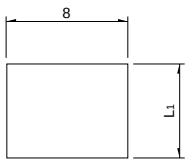
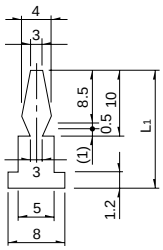
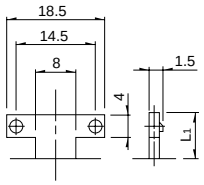
注記 Notes

1. 残留抵抗は減衰量規定となっています。
2. 仕様の詳細については、P122以降の共通仕様をご参照ください。

1. Attenuation is specified for residual resistance.
2. For the specification details, see the common specifications on page and the following pages 122 and after.

■ レバーの種類　Type of Lever

Unit : mm

形状記号 Configuration code	1	4	9-2 (T字レバー)
寸法 Dimensions	t =1.2 	t = 1.2 	t = 1.2 
長さL1 Length	12	20	8.2

注記 Note

※□ 部が当社推奨仕様です。
※□ shows the specification recommended by ALPS.

■ 最大減衰量／挿入損失　Maximum attenuation level/Insertion loss

最大減衰量 Maximum attenuation level (dB)		挿入損失 (dB) Insertion loss
Taper B	Except B	
70 min.	100 min.	0.1 max.

■ マスタ形CPタイプ 抵抗変化特性(dB規定) Resistance taper of master CP type (dB regulated)

Taper A	RS60K	測定位置 (mm)	9.6 ± 0.5	14.4±0.5	25.2±0.5	40.8±0.5		
		減 衰 量 (dB)	40 ± 3	30±2	20±1.5	10±1		
	RSA0K	測定位置 (mm)	16 ± 0.5	24±0.5	42±0.5	68±0.5		
		減 衰 量 (dB)	40 ± 3	30±2	20±1.5	10±1		
Taper D	RS60K	測定位置 (mm)	12 ± 0.5	20±0.5	30±0.5	43±0.5		
		減 衰 量 (dB)	40 ± 3	30±2	20±1.5	10±1		
	RSA0K	測定位置 (mm)	16.4±0.5	24.3±0.5	50±0.5	62±0.5	75±0.5	87±0.5
		減 衰 量 (dB)	50 ± 4.5	40±3	20±1.5	15±1.5	10±1	5±1

注記 Notes

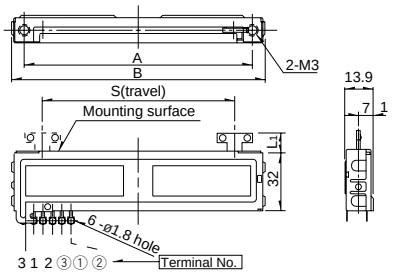
1. 測定位置は端子1側を起点となります。
2. 標準タイプの抵抗変化特性は、P.123の共通仕様をご参照ください。

1. Measuring position with terminal 1 side as a starting point.
2. For the resistance taper for the standard type, please confirm P.123 common specifications.

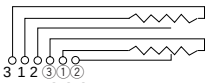
■ 外形図および端子配置図 Dimensions and terminal layout

Unit : mm

標準タイプ Standard type RS□□K



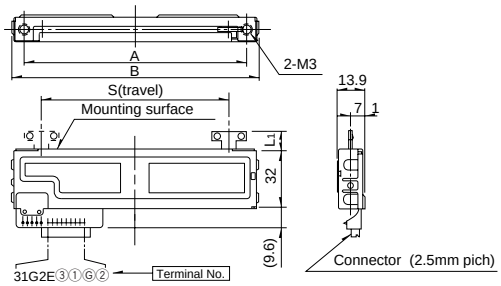
回路図 Circuit diagram



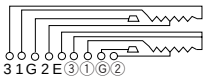
単連は①②③端子がなくなります。
The single unit is not provided with terminals (1)(2)(3).

Dimensions / Model	S	A	B
RS60K	60	80	92.6
RSA0K	100	120	132.6

CP (Conductive plastic) タイプ RS□□K



回路図 Circuit diagram



単連はE③①G②端子がなくなります。
The single unit is not provided with terminals E(3)(1)(G)(2) .

Dimensions / Model	S	A	B
RS60K	60	80	92.6
RSA0K	100	120	132.6

5

軽作動形スライドボリューム共通仕様

Common Specifications for Slide Potentiometers for Soft Feeling Type

機械的特性　Mechanical characteristics

項目 Item	マスタタイプ Master type	薄形マスタタイプ Low-profile master type	モータ駆動薄形マスタタイプ Motor-driven Low-profile master type
製品名 Model	RS□□K□□	RS□□N1□ RS6011S1 RSA0N11S	RS□□N1□M RS□□N1□J
作動力 Operating force	標準 : 1 to 6mN Standard ＣＰ単連 : 0.5 to 3.5mN CP Single-unit CP 2 連 : 1 to 5mN CP Dual-unit	RS□□N1□ 単連 : 0.5 to 8mN Single-unit 2連 : 0.5 to 9mN Dual-unit RS□□N□□B 1 to 11mN RS6011S1 RSAON11S 0.5 to 0.8mN	RS□□N1□□M 3 to 13mN RS□□N1□J 1 to 11mN
作動止め強度 Stopper strength	100N {10kgf}		
レバーの押引き強度 Lever push-pull strength	100N {10kgf}	50N {5kgf}	
レバーの横振れ Lever wobble (mm) ※両側　Both side	$2\left(\frac{2\times L}{25}\right)$	$2\left(\frac{2\times L}{25}\right)$	ホリゾンタルタイプ Horizontal type $2\left(\frac{5\times L}{25}\right)$
レバーの偏心 Lever deviation	0.5mm max.（片側） (One side)	0.5mm max. (片側　One side) ホリゾンタルタイプ (horizontal type) : 1mm max. (片側　One side)	

電気的特性　Electrical characteristics

全抵抗値 (KΩ) Total resistance	10, 50, 100, 250 ※CPタイプ：10kΩのみ標準対応 CP type : Only the 10kΩ standard is available for the CP type.		
全抵抗値許容差 Total resistance tolerance	±20%		
抵抗変化特性 Resistance taper	A, B, C	A, B, C, D	サーボB　Servo B オーディオ　A,B,D　AudioA, B, D

耐久性能　Durability

しゅう動寿命 Sliding life	標準 Standard : 100,000 cycles CP : 300,000 cycles	30,000 cycles

注記 Notes

1. レバーの横振れのLは測定点を表します。
2. 上記以外の仕様は個別仕様書によります。
1. L in the horizontal oscillation of the lever refers to a measuring point.
2. Detailed specifications other than what are listed above should be according to the individual specifications.

軽作動形スライドボリューム共通仕様
Common Specifications for Slide Potentiometers for Soft Feeling Type

■ 抵抗変化特性　Taper

抵抗変化特性 Taper	端子1,2間出力電圧 / 端子1,3間印加電圧 ×100% Output voltage across terminals 1-2 / Input voltage across terminals 1-3 ×100%	測定点 移動量（%） Test point Sliding ratio (%)	適用 60（mm） Applications 60 (mm)	 100（mm） 100 (mm)
A	15 to 30	60	●	●
	10 to 25	50	●	—
	5 to 35	50	—	●
B	40 to 60	50	●	●
C	※15 to 30	※60	●	●
	※10 to 25	※50	●	—
	※5 to 35	※50	—	—
D	2 to 15	50	●	●

注記 Notes

1. 移動量は端子1側を起点とします。
2. ※印を付記したものは端子3側を起点とします。

1. Travel from terminal 1.
2. ※Denotes terminal 3 as reference point.

■ 相互偏差　Gang error

用途 Applications	測定範囲 Measuring range	規格 Specifications
音量用 Volume control	−40 to 0dB	3dB max.
音質用 Tone control	抵抗変化特性の測定点にて（ただしWカーブは50%のみ） At taper measuring point (Only 50% for taper W)	2dB max.

■ 定格電力および最高使用電圧　Ratings power and maximum operating voltage

①マスタ形　Master type

大きさ Size / 抵抗変化特性 Taper	60mm, 100mm 定格電力 Ratings power (W)	 最高使用電圧 Maximum operating voltage (AC.V)
B	0.5	200
Except B	0.25	150

②薄形マスタ、モータ駆動薄形マスタ　Low-profile master, Motor-driven Low-profile master type

大きさ Size / 抵抗変化特性 Taper	60mm 定格電力 Ratings power (W)	 最高使用電圧 Maximum operating voltage (AC.V)	100mm 定格電力 Ratings power (W)	 最高使用電圧 Maximum operating voltage (AC.V)
B	0.2	200	0.5	200
Except B	0.1	150	0.25	150

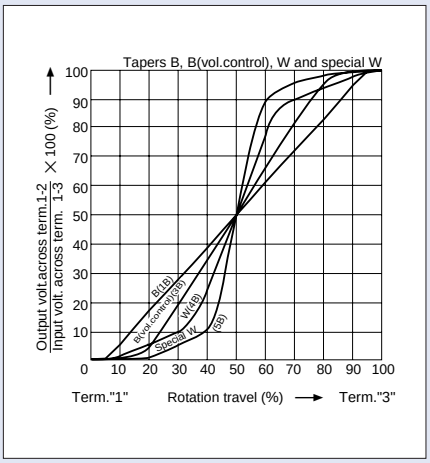
5

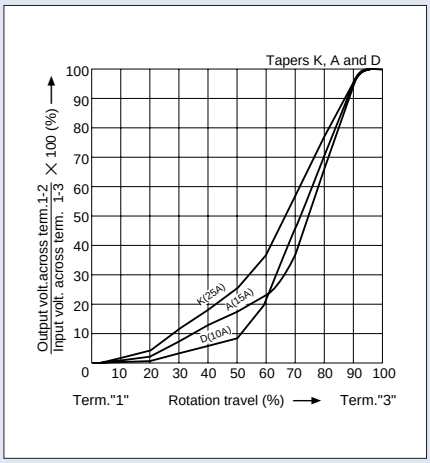
Resistance Taper

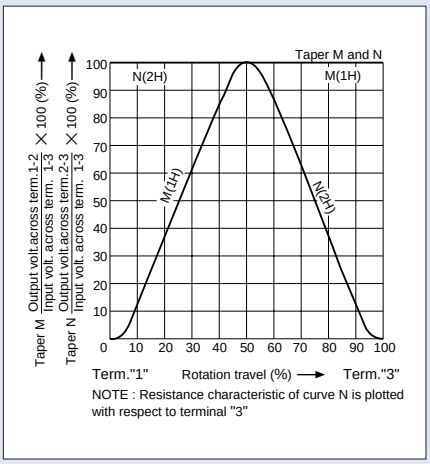
〔**Resistance Taper**〕

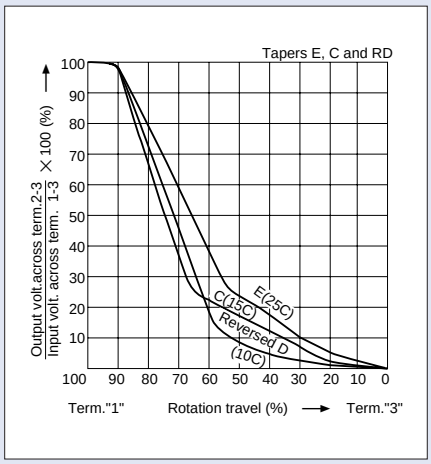
With the shaft (lever) placed in the specified position, resistance taper shall be determined by measuring the voltage between the specified terminals (between terminals 1 and 2 or between terminals 2 and 3)and calculating the percentage in reference to the voltage between terminals 1 and 3.

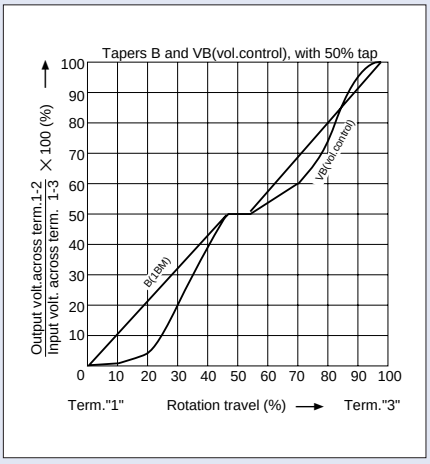
Reference: Standard resistance tapers in reference to rotational angles (travels) are as shown below.











ALPS