

Customer: ALPS EUROPE DISTRIBUTION

No. SP-2010-4464

Date: May. 21, 2010

Attention:

Your ref. No.:

Your Part No.:

## SPECIFICATIONS

ALPS ;

MODEL: RK16312A0  
( 50kA X2 )

Spec. No.:

Sample No.: G 0 1 0 4 3 9 5 M

### RECEIPT STATUS

RECEIVED

By Date

Signature

Name

Title

**ALPS**<sup>®</sup>  
ALPS ELECTRIC CO., LTD.

DSG'D

*K. Abe*

APP'D

*S. Sato*

ENG. DEPT.

Sales

Head Office  
1-7, Yukigaya-otsuka-machi, Ota-ku, Tokyo, 145-8501 Japan  
Phone,+81(3)3726-1211

B6523

Q1003#03A (EA)

# S P E C I F I C A T I O N S

1. THIS SPECIFICATIONS APPLY TO RK16312AO POTENTIOMETER.

2. CONTENTS OF THIS SPECIFICATIONS.

GO104395M

## 3. MARKING

- MARKING ON ALL UNITS  
EIA DATE CODE, RESIST. VALUE, TAPER

## 4. REMARKS

- FURNISH PACKAGE  
NUT:1 WASHER:1
- NOTES  
Electrostatic noise free.

## • CAUTION

There is a possibility that might be affected by contact resistance of resistive element and wiper in case of low impedance of output side in voltage regulation circuit.  
For this reason, we require that you adjust to impedance of output side more than 100 times of total resistance.

1. For the export of products which are controlled items subject to foreign and domestic export laws and regulations, you must obtain approval and/or follow the formalities of such laws and regulations.

2. Products must not be used for military and/or antisocial purposes such as terrorism, and shall not be supplied to any party intending to use the products for such purposes.

3. Unless provided otherwise, the products have been designed and manufactured for application to equipment and devices which are sold to end-users in the market, such as AV (audio visual) equipment, home electric equipment, office and commercial electronic equipment, information and communication equipment or amusement equipment. The products are not intended for use in, and must not be used for, any application of nuclear equipment, driving control equipment for aerospace or any other unauthorized use.

With the exception of the above mentioned banned applications, for applications involving high levels of safety and liability such as medical equipment, burglar alarm equipment, disaster prevention equipment and undersea equipment, please contact an Alps sales representative and/or evaluate the total system on the applicability. Also, implement a fail-safe design, protection circuit, redundant circuit, malfunction protection and/or fire protection into the complete system for safety and reliability of the total system.

4. Before using products which were not specifically designed for use in automotive applications, please contact an Alps sales representative.

5. 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 later than 6 months from the date of delivery.

Once product packaging is opened, the complete quantity of such products shall be promptly used.

# SPECIFICATIONS

## ELECTRICAL

1. Total resistance : 50kΩ(nominal) ± 20%
2. Rated power : 0.05 W
3. Rated voltage :

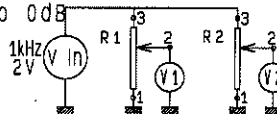
The rated voltage shall be the voltage of D.C. or A.C. (commercial frequency, effective value) corresponding to the rated power (dissipation), and be obtained from the following formula. When the obtained rated voltage exceeds the maximum working voltage given in the following, however, the maximum working voltage of the following shall be the rated voltage.

$$E = \sqrt{P \cdot R} \quad (V)$$

where E : Rated voltage (V)  
 P : Rated power (dissipation) (W)  
 R : Nominal total resistance (Ω)

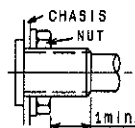
Maximum working voltage : 150V A.C., 5V D.C.

4. Resistance taper : A
5. Maximum attenuation level on full C.C.W. position : 90dB min.
6. Insertion loss on full C.W. position : 0.1dB max.
7. Sliding noise : Less than 47mV ( Measured by JIS C 6443. )  
 ( Except click position. )
8. Insulation resistance : More than 100MΩ at 500V D.C.
9. Withstand voltage : 500V A.C. for 1 minute.
10. Gang error : 3dB max. between -40dB to 0dB



## MECHANICAL

1. Total rotational angle : 300° ± 3°
2. Rotational torque : \_\_\_\_\_ ( Rotational speed : 60°/sec. )
3. Stopper strength : no damage with application of 0.9N·m.
4. Resistance to soldering heat :  
 After soldering ( Less than 350°C and within 5sec ), there shall be no evidence of poor contact between resistance element and terminals, or any physical damages as a result of the test.
5. Bushing nut tightening strength : Tightening torque to be no greater than 1.2N·m.  
 Pay attention to tighten as shown right. Otherwise, the strength may not be assured.
6. Push / pull strength :  
 No damages with an application of push or pull force 100N for 10 sec.
7. Click position : 7.5° ± 2° (except both ends of 7.5° ± 3°) (41 clicks)
8. Click torque : 10 - 50mN·m ( Rotational speed : 60°/sec )



## ENDURANCE

1. Rotational life : 15,000 cycles min.

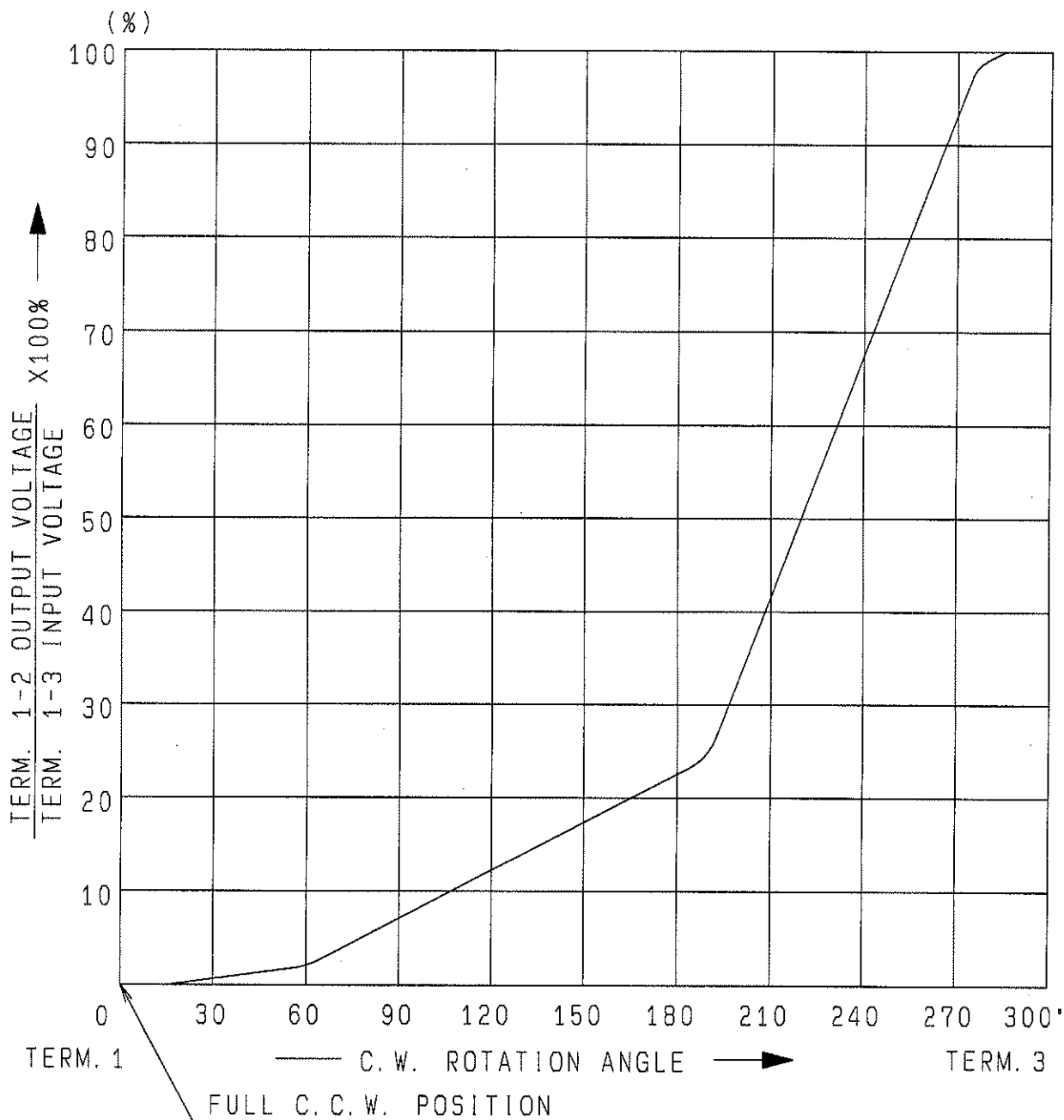
## NOTE

1. Operating temperature range : -10°C ~ +70°C
2. Storage temperature range : -20°C ~ +80°C
3. The items except above mentioned items shall meet or exceed JIS C 6443.
4. This type is protected against sulfides.

<b>ALPS ELECTRIC CO., LTD.</b>					
					APPD.    CHKD.    DSGD.    TITLE <i>Mar. 08, '93</i> <i>Mar. 08, '93</i> <i>Mar. 08, '93</i> G0104395M
					DOCUMENT NO.
SYMB	DATE	APPD	CHKO	DSGD	
		<i>S. Aizawa</i>	<i>M. Satoh</i>	<i>Y. Saitoh</i>	

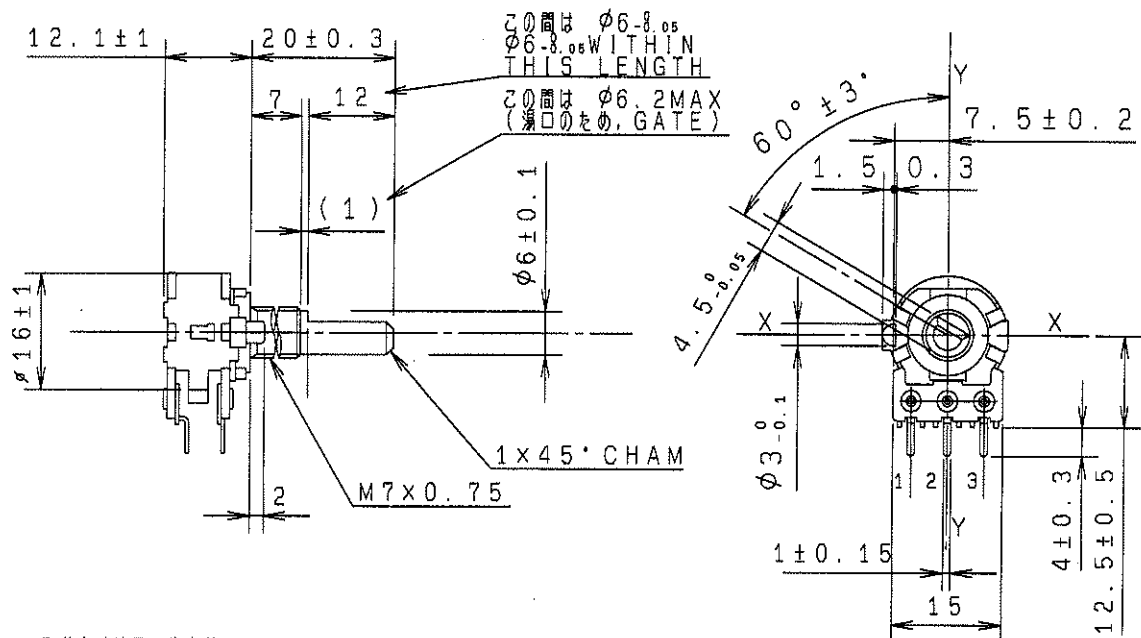


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1-7 YUKIGAYA OTSUKA-CHO OTA-KU TOKYO JAPAN



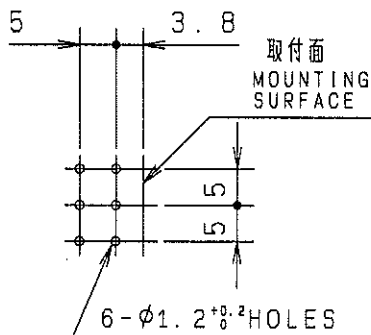
AT 180° C.W. SHAFT ROTATION FROM FULL C.C.W. POSITION VOLTAGE PERCENT SHALL FALL WITHIN THE LIMITS OF 15~30 PERCENT.

					APPD.	CHKD.	DSGD.	NAME
					Apr. 27, '93	Apr. 27, '93	Apr. 27, '93	RESISTANCE TAPER ( A )
SYMB	DATE	APPD	CHKD	DSGD	K. Magami	K. Sasaki	T. Kumagai	DOCUMENT NO.
								G0104395M

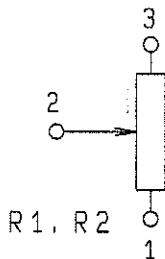


取付穴寸法図 許容差 $\pm 0.1$   
 (挿入図が5見を図)  
 P.W.B. MOUNTING DETAIL  
 TOLERANCE  $\pm 0.1$   
 VIEWED FROM MOUNTING SIDE

上図は、軸を反時計方向に  
 回しまった状態を示す  
 SHAFT SHOWN IN FULL  
 C.C.W. POSITION



回路図  
 CIRCUIT



指定なき部分の許容差 TOLERANCES UNLESS OTHERWISE SPEC.	
$L \leq 10$	$\pm 0.3$
$10 < L < 100$	$\pm 0.5$
$100 \leq L$	$\pm 0.8$
角度 ANGULAR DIMENSION	$\pm 5'$

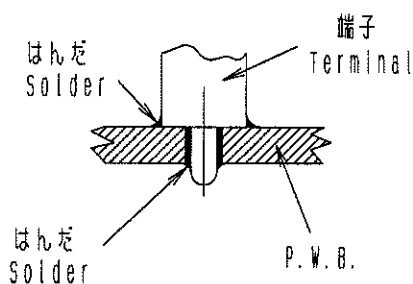
				41 CLICKS	
PART NO.	NAME	MATERIAL NAME / CODE	FINISH		
<b>ALPS ELECTRIC CO., LTD.</b>					
DSGD. 設計1課 Y. Saitoh 93-03-05			SCALE	NO. K162B0D51G G0104395M	
CHKD. M. Satoh 93-03-05				TITLE FIGURE 16形2連ボリュウ-4組立図	
APPD.			UNIT	DOCUMENT NO. F01	
SYMB	DATE	APPD	CHKD	DSGD	S. Aizawa 93-03-05
			M	mm ス-パ-2連	

< はんだ付け時の注意事項 >

図のようにP.W.B.の上面に はんだ付けをする配線は、  
お避け下さい。

Caution for soldering

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



基板に挿入される金属足ははんだ付けしてご使用願います。  
Solder all metal inserted fixing including terminals & metal  
lugs into a substrate.

					<b>ALPS ALPS ELECTRIC CO., LTD.</b>			
					APPD.	CHKD.	DSGD.	TITLE
					Apr. 14, '93	Apr. 14, '93	Apr. 14, '93	
					S. Aizawa	M. Satoh	Y. Saitoh	DOCUMENT NO.
SYMB	DATE	APPD	CHKD	DSGD				G0104395M