

Customer : **albs-Alltronic**

No. KK-98-4424

Date : Oct. 22, 1998

Attention :

Your ref. No :

Your Part. No : 401722

SPECIFICATIONS

ALPS :

MODEL RK27112MC
(100k AX2)

Spec. No. :

Sample No. : G3296473M

RECEIPT STATUS RECEIVED <u>By. Date</u> <u>Signature</u> Name Title
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ALPS ELECTRIC CO., LTD.

HEAD OFFICE
1-7, YUKIGAYA-OHTSUKA-CHO,
OHTA-KU, TOKYO 145-8501 JAPAN

DSG'D *y. Saitoh*

APP'D *y. Ohya*

Sales

SPECIFICATIONS

1. THIS SPECIFICATIONS APPLY TO RK27112MC POTENTIOMETERS.

2. CONTENTS OF THIS SPECIFICATIONS.

4K272AMS-4, 4K16M-1, 4K-1
K272AMC02C

3. MARKING

·MARKING ON ALL UNITS
DATE CODE, RESIST. VALUE, TAPER

4. REMARKS

·FURNISH PACKAGE
NUT: 1, WASHER: 1
·NOTES

·Silver printed patterns are coated with carbon as a protection against sulphur-
ation.
·Marking ⇒ in specifications shows standard and condition for application.

Electrical specifications **100 K-2**
 1. Total resistance : Nominal total resistance $\pm 20\%$ ($10k\Omega \leq R \leq 2M\Omega$)
 2. Rated voltage : 30V A.C. This potentiometer is designed for A.C. voltage only.
 3. Resistance taper : See (HSA0.2.) Δ ~~See separate drawing~~
 4. Maximum attenuation level at full C.C.W. position :

Total resistance	Attenuation level
$R \geq 100k\Omega$	100 dB min.
$100k\Omega > R \geq 50k\Omega$	90 dB min.
$50k\Omega > R \geq 10k\Omega$	80 dB min.

5. Insertion loss at full C.W. position : 0.1 dB max. (measure between (n1, r2) term 1-2 output V term 1-3 in out V)
 6. Gang error :

Total resistance	Gang error
$R \geq 50k\Omega$	3 dB max. between -70 dB less than -60 dB
	2 dB max. between -60 dB ~ 0 dB
$50k\Omega > R \geq 20k\Omega$	3 dB max. between -60 dB less than -40 dB
	2 dB max. between -40 dB ~ 0 dB
$20k\Omega > R \geq 10k\Omega$	3 dB max. between -60 dB ~ 0 dB

7. Sliding noise : Less than 47mV measured by JIS C 6443.
 (Neglected a impulsive noise at the C.W. and C.C.W. ends of position.)
 8. Insulation resistance
 Potentiometer section : More than $100M\Omega$ at 500V D.C.
 Motor section : More than $1M\Omega$ at 100V D.C.
 9. Withstand voltage
 Potentiometer section : 500V A.C. for 1 minute.
 10. Supply voltage of motor : 4~6V D.C.
 11. Motor current (at 4.5V D.C. applied to motor)
 Normal operation : 100mA max.
 Slipping operation
 at both ends : 150mA max.
 4.5V D.C.
 Endurance specifications
 1. Rotational life : 15,000 cycles min.

SYMB.	DATE	APPD.	CHKD.	DSGD.	APPD.	CHKD.	DSGD.	TITLE
MI	1974.10.18	Y.S.	Nov. 10 '73	Nov. 10 '73	Y.S.	Nov. 10 '73	Nov. 10 '73	ALPS ELECTRIC CO., LTD.
Original	1974.11.11	M.Y.	R.K.T.Y.K.					DOCUMENT NO. 4K272AMS-4

Feature
 This is a potentiometer with D.C. magnet motor and it is adjustable by both manual shaft and motor.
 Temperature for operating and storage
 1. Dimensions : See attached drawing
 2. Operating temperature : $-10^{\circ}C \sim +70^{\circ}C$
 3. Storage temperature : $-20^{\circ}C \sim +80^{\circ}C$
 4. Motor : D.C. magnet motor (With 6V Disk Varistor)

Mechanical specifications
 1. Operation : manual operation and motor drive
 2. Total rotational angle : $300^{\circ} \pm 5^{\circ}$
 3. Rotational speed : 12 ± 3 sec/300' (at 4.5V D.C. applied to motor)
 4. Direction of rotation : C.W. rotation at normal polarity. (When the potentiometer is looked at from the shaft side.)
 5. Mechanical noise : Continuous, monotonous, not unpleasant sound to be heard. To be mutually discussed when questionable.

6. Rotational torque : 150 ~ 450 gf.cm (Rotational speed 60' /sec.)
 7. Stopper strength of shaft with manual operation No damage with an application of 9 kgf.cm. with motor drive : Shaft must be slipped at the CHASSIS NUT both ends of manual rotation.
 8. Bushing nut tightening strength : Tightening torque to be no greater than 15 kgf.cm. *Pay attention otherwise the strength may not be assured.
 9. Push / pull strength : No damages with an application of push or pull force 10 kgf for 10 sec.
 10. Resistance to soldering heat : After soldering there shall be no evidence of poor contact between resistance element and terminals, or any physical damage as a result of the test.
 The terminal of the potentiometer less than $350^{\circ}C$ and within 5 sec.
 The terminal of the motor less than $350^{\circ}C$ and within 2 sec.



3. Power supply

Regulated D.C. power supply shall be used.

(ripple to be 1% max.) Motor terminal shall not be connected with fixed resistors in series.

And supply current is to be 350mA min.

4. Knob

The material of the knob shall be insulation material.

As potentiometer is not grounded, conductive material of the knob may cause a earth noise.

5. The items except above mentioned items shall meet or exceed

JIS C 6443.

Note

1. The standard test shall be subject to a temperature from 5°C to 35°C and relative humidity from 45% to 85%. Test shall be done under environmental requirements of a temperature of 20 ± 2°C and relative humidity of 65 ± 5% if a decision is in question.

2. Notice on motor

1) Motor terminals shall not be bent more than twice.
 2) Soldering to the motor terminals shall be within a few second, not to cause the transformation of terminal base plastics. And, avoid that the flux flows into the motor. Pay special attention to the terminals when they are wave soldered.

If the flux flows into the motor, it may cause a poor contact.
 3) Motor terminal should not be pressed inside the motor. It may cause a poor contact in the motor.
 4) Pay attention that a piece of iron and an alien substance are not crept into the motor.

5) In operation, temperature around the motor produce an effect on the performance and life. Pay special attention in high temperature and humidity. Storage in high temperature and humidity, and in corrosive gas, shall be avoided.

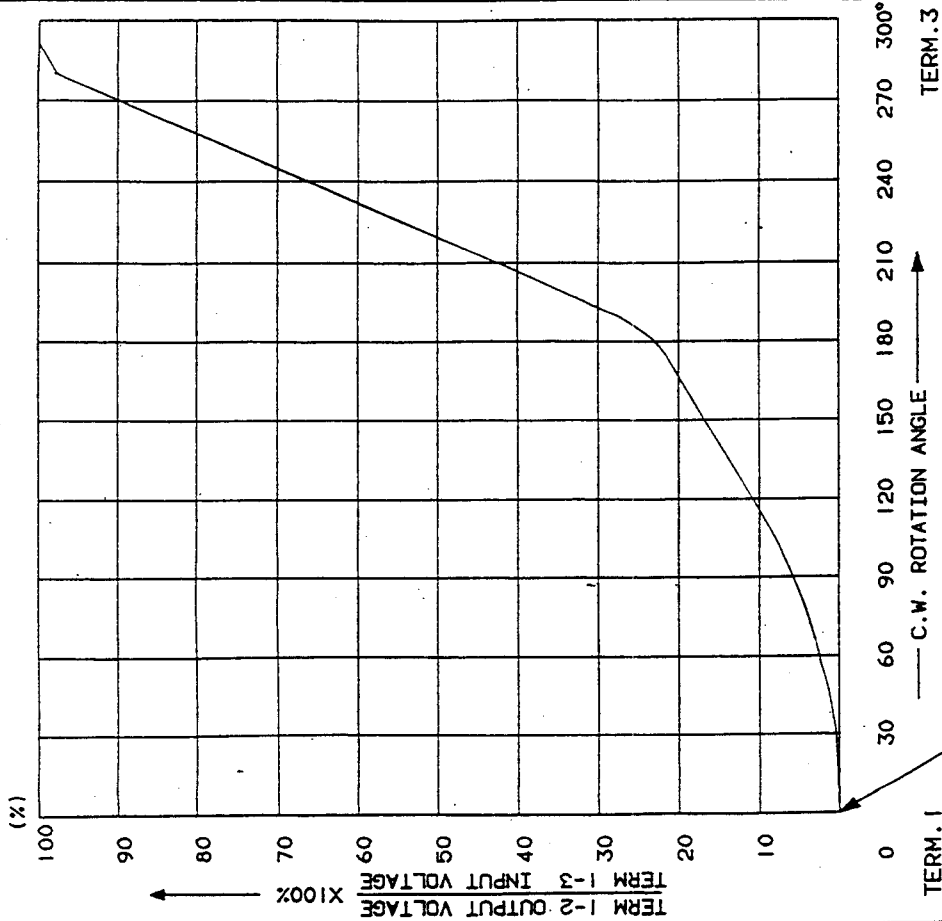
6) In case, using the adhesive agent and the seal agent etc. for fit up, make sure that there is no generation of the harmful gas for motor. (including all chemicals around the motor.) Pay special attention to cyanogen system adhesive agent and organically system silicone.

ALPS ELECTRIC CO., LTD.	
APPD. 10/10/80	CHKD. 10/10/80
DSGD. 10/10/80	TITLE
DATE	APPD.
SYMB	CHKD.
	DSGD.
DOCUMENT NO. 4K16M-1	



ALPS ELECTRIC CO., LTD

1-7 YUKIGAYA OTSUKA-CHO OTA-KU TOKY. JAPAN



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

SYMB	DATE	APPD	CHKD	DSGD	SCALE
M11	15-05-31	T.K.	S.S.	APPD	1/1
DATE	15-05-31	CHKD	S.S.	DSGD	UNIT
					m m
					TITLE
					RESISTANCE TAPER
					DOCUMENT NO.
					H S A 0 2

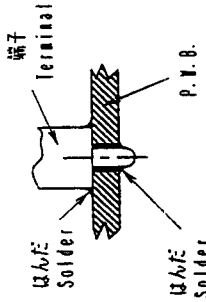
FOR

< 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

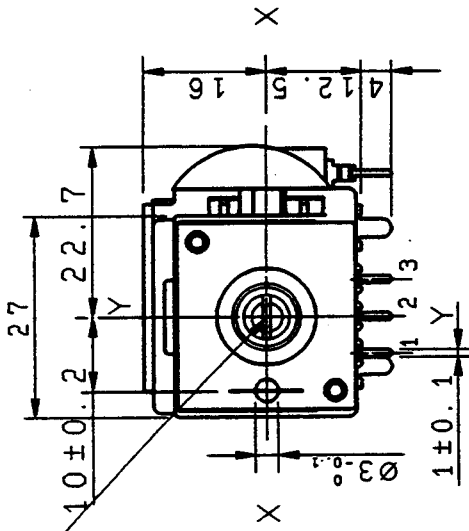
Please avoid soldering on upper surface of P.W.B. as shown



SYMB	DATE	APPD	CHKD	DSGD	TITLE
					ALPS ELECTRIC CO., LTD.
					DOCUMENT NO. 4K-1

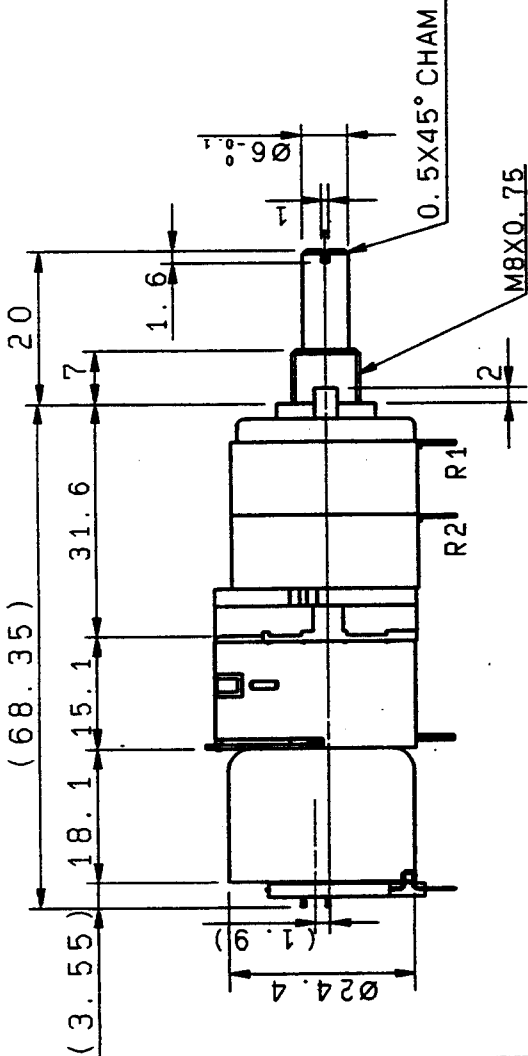
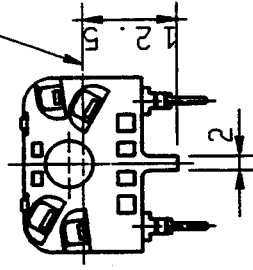
FOR

スリ割り角度は任意とする
SHAFT SLOT IS OPTIONAL ANGLE

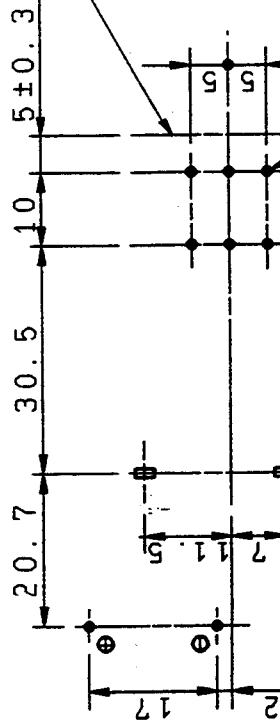


背面図
BACK VIEW

ボリウム軸センター
SHAFT CENTER



取付面
MOUNTING SURFACE



8-φ1.2⁺2⁻角穴 SQUARE HOLES
2-2.6x1.2⁺2⁻角穴 SQUARE HOLES

取付寸法図許容差±0.1
算入値よりみ図

P. W. B. MOUNTING DETAIL
TOLERANCE 0.1
VIEWED FROM MOUNTING SIDE

指定なき部分の許容差 TOLERANCES UNLESS OTHERWISE SPEC	
L ≤ 10	±0.3
10 < L < 100	±0.5
100 ≤ L	±0.8
角度 ANGULAR DIMENSION	±5°

PART NO.	MATERIAL NAME / CODE		FINISH	
モータ基板付				
ALPS ELECTRIC CO., LTD.				
DSGN. 8741-906011	SCALE			
Y. SAITOH 94-04-21	1:1			
CHKD.			TITLE	
<i>Dr. Satoh</i> 94-04-22			27形1輪2速モータ-VR組立図	
APPD.	UNIT	DOCUMENT NO.		
<i>K. Yamazaki</i> 94-04-22	m m	K272AMC02C		

89.3g. | OR