

Customer : AEE-DS

No. KK-98-4472

Date : Oct. 28, 1998

Attention :

Your ref. No :

Your Part. No : 401720

SPECIFICATIONS

ALPS :

MODEL RK27114MC
(10k AX4)

Spec. No. :

Sample No. : G3308064M

RECEIPT STATUS

RECEIVED

By. Date

Signature

Name

Title

ALPS ELECTRIC CO., LTD.

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

DSG'D

APP'D

Sales

y. Saitoh
y. Ohya

SPECIFICATIONS

1. THIS SPECIFICATIONS APPLY TO RK27114MC POTENTIOMETERS.

2. CONTENTS OF THIS SPECIFICATIONS.

4K274AMS-3, 4K16M-1, 4K-1
K274AMC00F

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 sulphuration.
· Marking $\Rightarrow$ in specifications shows standard and condition for application.

CLASSNO.	TITLE	SPECIFICATION
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℃ ~+70℃		
3.Storage temperature : -20℃ ~+80℃		
4.Motor : D.C. magnet motor (With 6V Disk Varistor)		
Mechanical specifications		
1.Operation : manual operation and motor drive		
2.Total rotational angle : 300° ± 5'		
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℃ and within 5 sec.		
The terminal of the motor less than 350℃ and within 2 sec.		

CLASSNO.	TITLE	SPECIFICATIONS																																				
Electrical specifications (R1~R4) 10kΩ																																						
1.Total resistance : Nominal total resistance ± 20%(10kΩ ≤ R ≤ 2MΩ)																																						
2.Rated voltage : 30V A.C.This potentiometer is designed for A.C. voltage only.																																						
3.Resistance taper : See (HSA02)																																						
4.Maximum attenuation level at full C.C.W. position :																																						
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5.Insertion loss at full C.W. position : 0.1 dB max.Measure between (a1,a2)(a3,a4)																																						
6.Gang error : (R1-R2)(R3-R4) (term 1-2 output V term 1-3 input V)																																						
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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 100MΩ at 500V D.C. Motor section : More than 1MΩ 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.																																						
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CLASSNO	TITLE	SPECIFICATION
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.

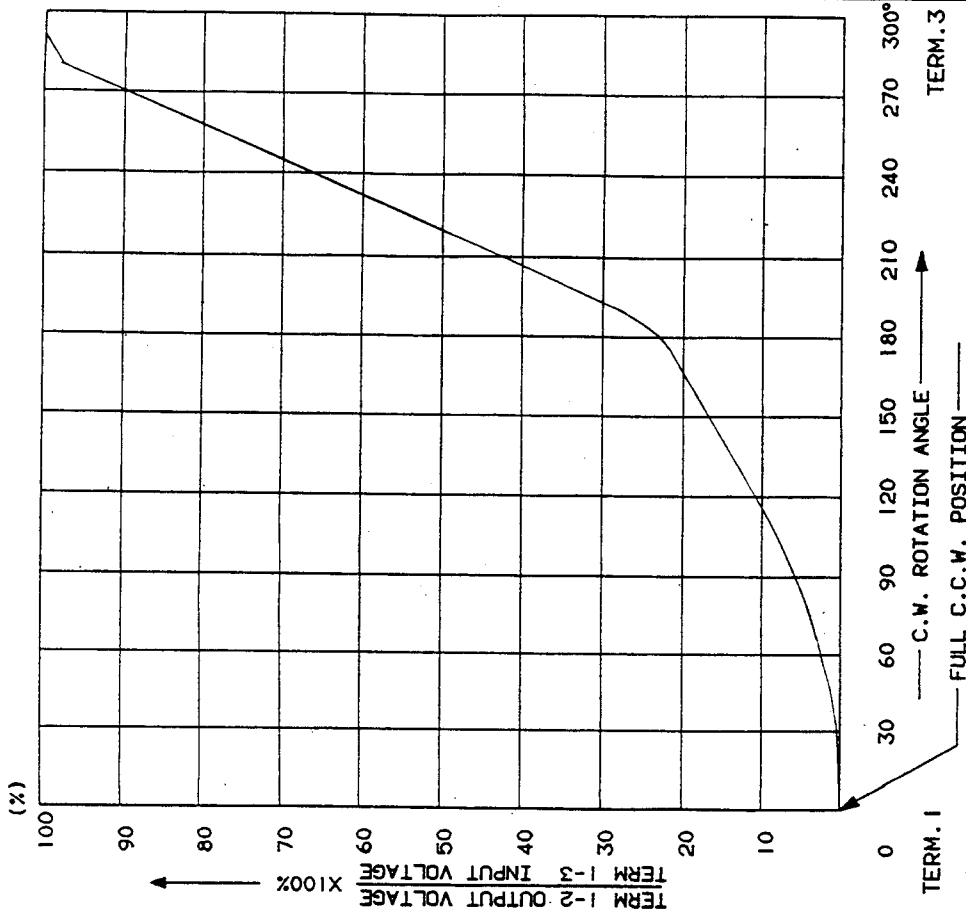
CLASSNO	TITLE	SPECIFICATIONS
3.Power supply		Regulated D.C. power supply shall be used. (ripple to be 1% max.)Motor terminal shall not be connected with fixed resistors in series. And supply current is to be 350mA min.
4.Knob		The material of the knob shall be insulation material. As potentiometer is 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.

ALPS ELECTRIC CO., LTD.	
APPRO. CHKD.	DSGD. TITLE
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APPRO. CHKD.	DSGD. TITLE
APPRO. CHKD.	DSGD. TITLE
SYMB	DATE
APPRO.	CHKD.
DSGD.	DSGD.
DOCUMENT NO. 4K16M-1	



ALPS ELECTRIC CO.,L^T

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 - 30PERCENT.

SYMB	DATE	APPD	CHKD	DSGD	SCALE	TITLE
85-05-31	11.1	T.K.	S.S.	APPD	22'96	RESISTANCE TAPER
SYMB	DATE	APPD	CHKD	DSGD	UNIT	DOCUMENT NO.
					mm	HSA02

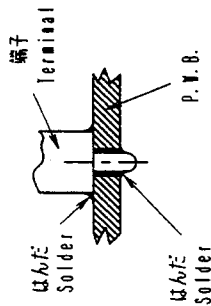
OR

< 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



ALPS ELECTRIC CO., LTD.

SYMB	DATE	APPD	CHKD	DSGD	TITLE
					4K-1

OR

albs
ALLTRONIC

Customer :

Zentrale:
Max-Eyth-Straße 1
D-75443 Otisheim
Telefon 070 41/96 16 0
Telefax 070 41/96 16 16
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Büro München
Forstenrieder Str. 2a
D-82061 Neuried
Telefon 089/75 07 07 01
Telefax 089/75 07 07 03
ralle.albs@t-online.de

Autorisierter
Bauelemente
Distributor von

ALPS®

No. KK-98-4472

Date : Oct. 28, 1998

Attention :

Your ref. No :

Your Part. No : 401720

SPECIFICATIONS

ALPS :

MODEL RR27114MC
(10k AX4)

Spec. No. :

Sample No. : G3308064M

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ALPS ELECTRIC CO., LTD.

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

DSG'D

APP'D

Sales

SPECIFICATIONS

1. THIS SPECIFICATIONS APPLY TO RK27114MC POTENTIOMETERS.

2. CONTENTS OF THIS SPECIFICATIONS.

4K274AMS-3, 4K16M-1, 4K-1
K274AMC00F

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 sulphuration.
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This is a potentiometer with D.C. magnet motor and it is adjustable by both manual shaft and motor.		
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2. Operating temperature : -10 °C ~+70 °C		
3. Storage temperature : -20 °C ~+80 °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° ± 5°		
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 °C and within 5 sec.		
The terminal of the motor less than 350 °C and within 2 sec.		

CLASSNO.	TITLE	SPECIFICATIONS								
Electrical specifications (R1~R4) 10kΩ										
1. Total resistance : Nominal total resistance ± 20% (10kΩ ≤ R ≤ 2MΩ)										
2. Rated voltage : 30V A.C. This potentiometer is designed for A.C. voltage only.										
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5. Insertion loss at full C.W. position : 0.1 dB max. Measure between (R1, R2) (R3, R4) (term 1-2 output V)										
6. Gang error : (R1-R2) (R3-R4) (term 1-3 input V)										
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8. Insulation resistance										
Potentiometer section : More than 100MΩ at 500V D.C.										
Motor section : More than 1MΩ at 100V D.C.										
9. Withstand voltage										
Potentiometer section : 500V A.C. for 1 minute.										
10. Supply voltage of motor : 4~6V D.C.										
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Endurance specifications										
1. Rotational life : 15,000 cycles min.										
APPS ALPS ELECTRIC CO., LTD.										
APPD. CHKD. DSCD. TITLE										
Jan. 7 '94 Jan. 7 '94 Jan. 6 '94										
K. Yamazaki Saitoh										
DOCUMENT NO. 4K274 AMS-3										

CLASSNO	TITLE	SPECIFICATION
	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 crepted 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.

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	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.

SYMB	DATE	APPD	CHKD	DSGD

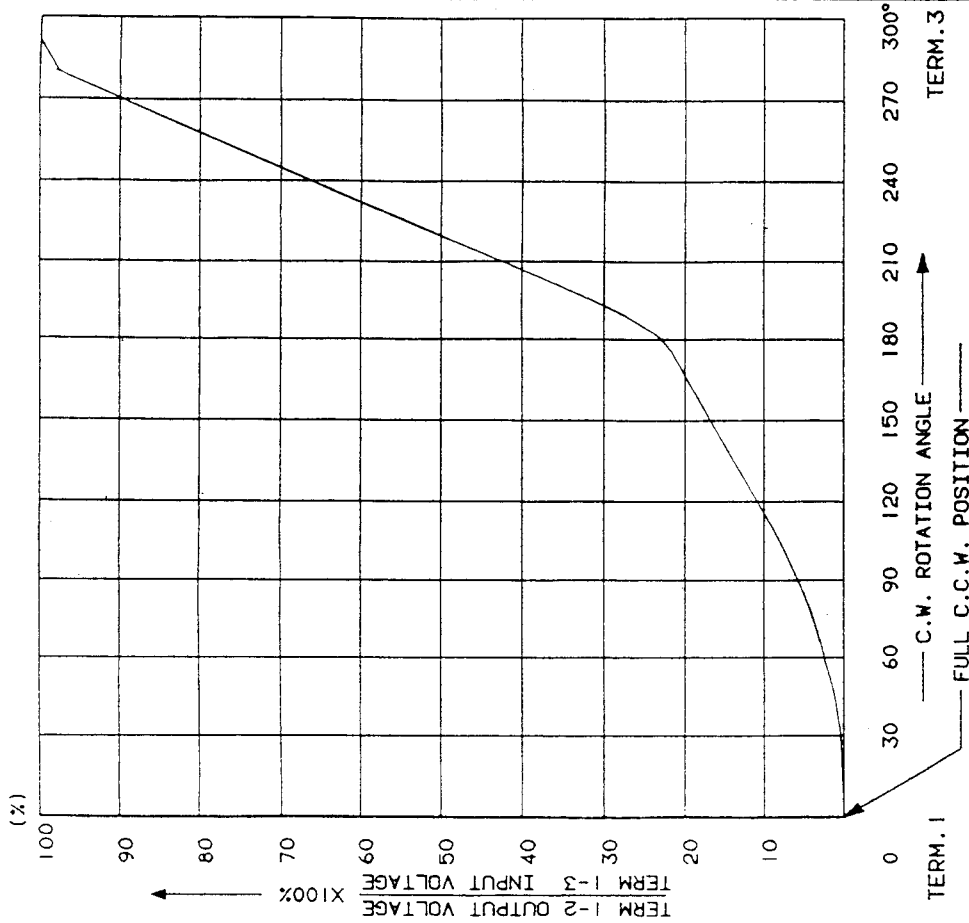
APPS		ALPS ELECTRIC CO., LTD.	
APPD	CHKD	DSGD	TITLE
Apr 19 '90	Apr 18 '90		
DOCUMENT NO.		4 K 1 6 M - 1	

(規格・仕様書用紙) W7306 A 4 63.7 2.000



ALPS ELECTRIC CO., LTD.

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.

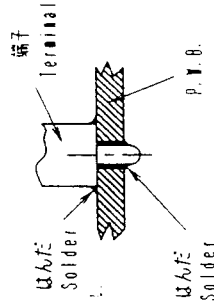
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85-05-31	7.2	K. Chonan Jan. 22 '96	RESISTANCE TAPER	DOCUMENT NO. HSA02
CHKD.	18.2	K. Sasaki Jan. 22 '96	UNIT	
APPD.	17.2	T.K. S.S. Jan. 22 '96	m m	
DSGD	17.2	Ohno Jan. 22 '96		

< 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



ALPS ELECTRIC CO., LTD.

TITLE

DSGD

CHKD.

APPD.

DOCUMENT NO.

4K-1

SYMB DATE APPD CHKD DSGD

OR