

Customer : albs-Alltronic

No. _____

Date : Apr. 9. 1991

Attention : _____

Your ref. No. : _____

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SPECIFICATIONS

PURPOSE OF THIS DOCUMENT;

- PRELIMINARY copy.
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 New, Engineering Change)
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APPROVED BY, Date: _____

X

Name _____

Title _____

- For PRODUCTION.

ALPS' ;

RK27112MC009A

MODEL: (10KA x 2)

Spec. No. : 4K272AMS-1

Fig.No. : K272AMC002

REMARKS:

MARKING

ON ALL UNITS

DATE CODE
RESIST, VALUE
TAPER
TRADE MARK
JAPAN

FURNISH PACKAGE

NUT	1
WASHER	1



ALPS ELECTRIC CO., LTD.

HEAD OFFICE

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OHTA-KU, TOKYO 145 JAPAN

DSG'D

T. Yamaguchi

APP'D

M. Sato

ENG. DEPT. WAKUYA DIVISION

CLASS NO.	TITLE	SPECIFICATION
		<p>Feature</p> <p>This is a potentiometer with D.C. magnet motor and it is adjustable by both manual shaft and motor.</p> <p>Temperature for operating and storage</p> <p>1. Dimensions : See attached drawing</p> <p>2. Operating temperature : -10 °C ~ +70 °C</p> <p>3. Storage temperature : -20 °C ~ +80 °C</p> <p>4. Motor : D.C. magnet motor (With 5V Disk Varistor)</p> <p>Mechanical specifications</p> <p>1. Operation : manual operation and motor drive</p> <p>2. Total rotational angle : 300° ± 5°</p> <p>3. Rotational speed : 12 ± 3 sec/300° (at 3V D.C. applied to motor)</p> <p>4. Direction of rotation : C.W. rotation at normal polarity. (When the potentiometer is looked at from the shaft side.)</p> <p>5. Mechanical noise : Continuous, monotonous, not unpleasant sound to be heard. To be mutually discussed when questionable.</p> <p>6. Rotational torque : 150 ~ 450 gf·cm</p> <p>7. Stopper strength of shaft with manual operation : 9 kgf·cm min. with motor drive : Shaft must be slipped at the both ends of manual rotation.</p> <p>8. Bushing nut tightening strength : 15 kgf·cm min. (Pay attention otherwise the strength may not be assured.)</p> <p>9. Push / pull strength : No damages with an application of push or pull force 10 kgf for 10 sec.</p> <p>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.</p>

CLASS NO.	TITLE	SPECIFICATIONS																				
		<p>Electrical specifications</p> <p>1. Total resistance : Nominal total resistance ± 20% (10kΩ or 2MΩ)</p> <p>2. Maximum operating voltage : 30V A.C.</p> <p>3. Resistance taper : See taper figure</p> <p>4. Maximum attenuation level at full C.C.W. position :</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Total resistance</th> <th>Attenuation level</th> </tr> </thead> <tbody> <tr> <td>R ≥ 100kΩ</td> <td>100 dB min.</td> </tr> <tr> <td>100kΩ > R ≥ 50kΩ</td> <td>90 dB min.</td> </tr> <tr> <td>50kΩ > R ≥ 10kΩ</td> <td>80 dB min.</td> </tr> </tbody> </table> <p>5. Insertion loss at full C.W. position : 0.1 dB max. (between 100V and 10V)</p> <p>6. Gang error :</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Total resistance</th> <th>Gang error</th> </tr> </thead> <tbody> <tr> <td>R ≥ 50kΩ</td> <td>3 dB max. between -70 dB less than -60 dB</td> </tr> <tr> <td></td> <td>2 dB max. between -60 dB ~ 0 dB</td> </tr> <tr> <td>50kΩ > R ≥ 20kΩ</td> <td>3 dB max. between -60 dB less than -40 dB</td> </tr> <tr> <td></td> <td>2 dB max. between -40 dB ~ 0 dB</td> </tr> <tr> <td>20kΩ > R ≥ 10kΩ</td> <td>3 dB max. between -60 dB ~ 0 dB</td> </tr> </tbody> </table> <p>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.)</p> <p>8. Insulation resistance Potentiometer section : More than 100MΩ at 500V D.C. Motor section : More than 1MΩ at 100V D.C.</p> <p>9. Withstand voltage Potentiometer section : 500V A.C. for 1 minute.</p> <p>10. Supply voltage of motor : 2 ~ 6V D.C.</p> <p>11. Rated voltage for Motor : 3V D.C.</p> <p>12. Motor current (at 3V applied to motor) Normal operation : 100mA max. Slipping operation : 150mA max. at both ends : 150mA max.</p> <p>Endurance specifications</p> <p>1. Rotational life : 15,000 cycles min.</p>	Total resistance	Attenuation level	R ≥ 100kΩ	100 dB min.	100kΩ > R ≥ 50kΩ	90 dB min.	50kΩ > R ≥ 10kΩ	80 dB min.	Total resistance	Gang error	R ≥ 50kΩ	3 dB max. between -70 dB less than -60 dB		2 dB max. between -60 dB ~ 0 dB	50kΩ > R ≥ 20kΩ	3 dB max. between -60 dB less than -40 dB		2 dB max. between -40 dB ~ 0 dB	20kΩ > R ≥ 10kΩ	3 dB max. between -60 dB ~ 0 dB
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(株) Alps Electric Co., Ltd.

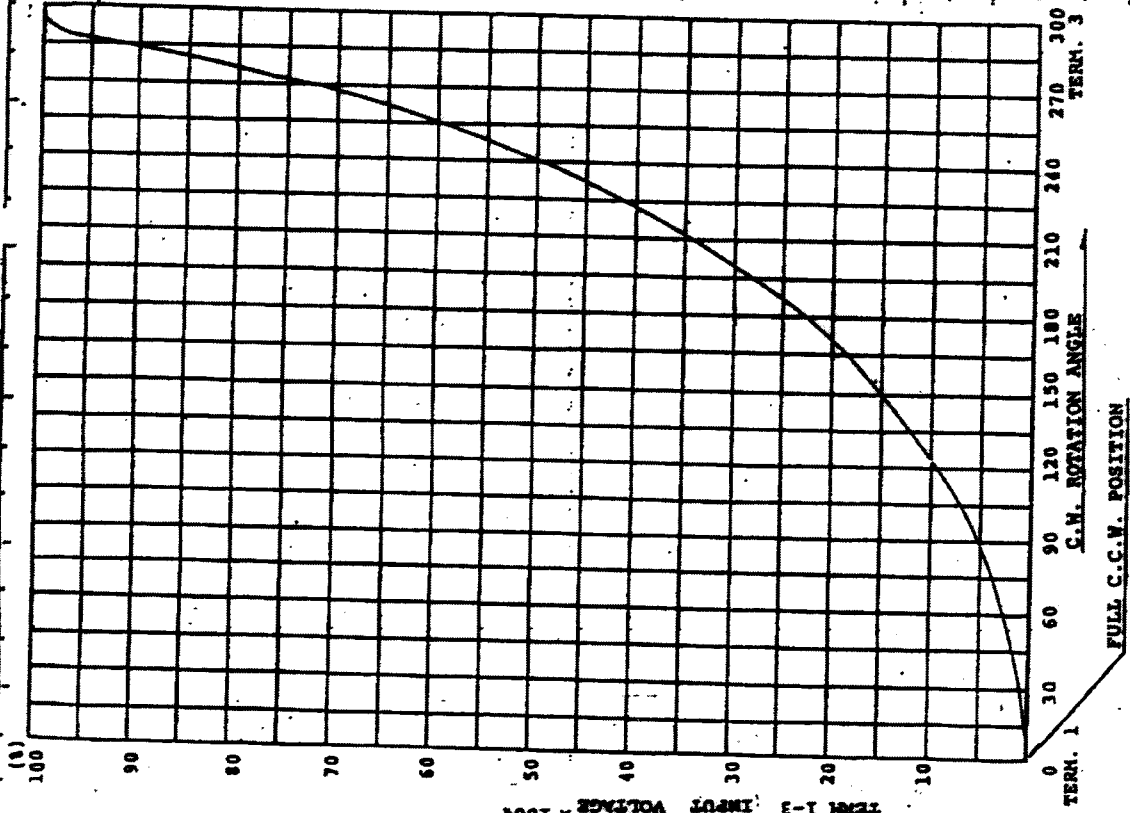
DATE	APPROV.	DESIGN	CHG.	REVISION	TITLE
1970.11.15	S. K. I. Y.				ALPS ELECTRIC CO., LTD.
					DOCUMENT NO.
					4K272AMS-1

(株) Alps Electric Co., Ltd. W7204 A 1 13.7 1.000 15A

CLASSNO.	TITLE	SPECIFICATIONS
		<p>Note</p> <ol style="list-style-type: none"> 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. Notice on motor <ol style="list-style-type: none"> Motor terminals shall not be bent more than twice. 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. Motor terminal should not be pressed inside the motor. It may cause a poor contact in the motor. Pay attention that a piece of iron and an alien substance are not crept into the motor. 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. 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
		<ol style="list-style-type: none"> Power supply <p>Regulated D.C. power supply shall be used. (ripple to be 1% max.) Motor terminal shall not be connected with fixed resistors in series.</p> <p>And supply current is to be 350mA min.</p> Knob <p>The material of the knob shall be insulation material.</p> <p>As potentiometer is not grounded, conductive material of the knob may cause a earth noise.</p> The items except above mentioned items shall meet or exceed JIS C 6443.

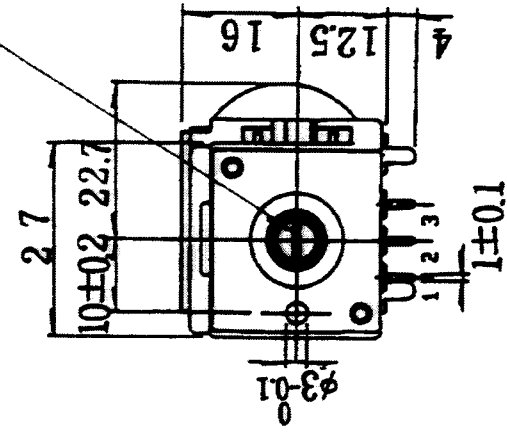
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DATE	APPROVED
DATE	CHNG.
DATE	DESD.
DRAWING TITLE: <i>ALPS-1100-1100</i> DRAWING NO.: <i>1100-1100</i> DOCUMENT NO.: <i>1100-1100</i>	



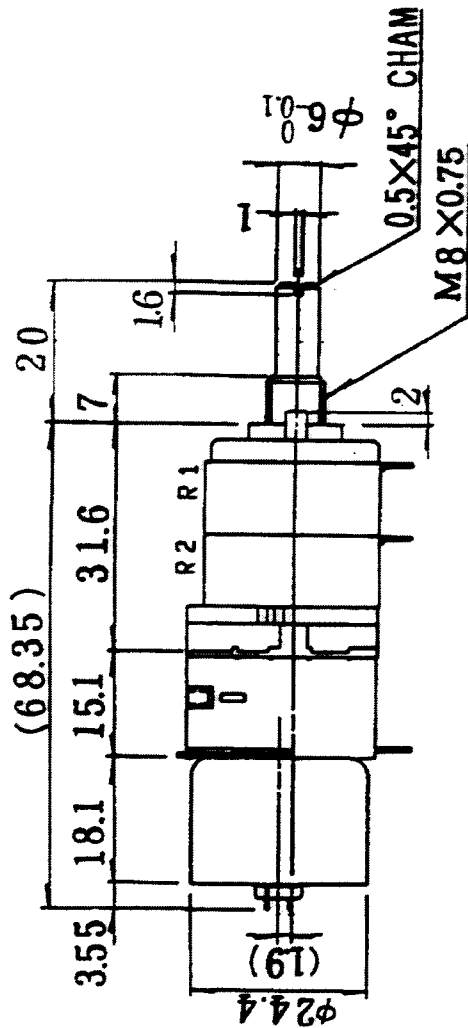
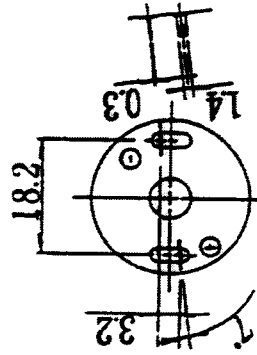
At 180° C.W shaft rotation from full C.C.W position voltage percent shall fall within the limits of 15 ~ 30 percent.

DATE	APPD.	CHKD.	DSGD.	NAME
1954.08.11	TK	TK	TK	RESISTANCE TAPER
				HSA 02

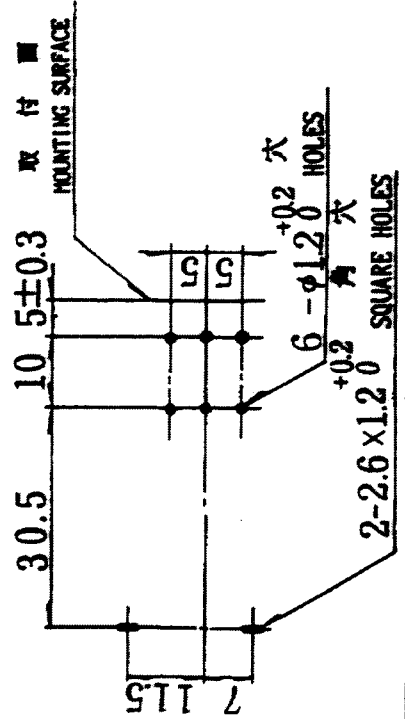
スリ割角度は任意とする。
SHAFT SLOT IS OPTIONAL ANGLE



背面図
BACK VIEW



取付穴寸法図 許容差±0.1
P.W.B.MOUNTING DETAIL
TOLERANCE±0.1
VIEWED FROM MOUNTING SIDE
挿入側より



片寸法の指定なき寸法の公差	
TOLERANCES UNLESS OTHERWISE SPEC	
BASIC DIMENSIONS TOLERANCE	±0.3
10 < L < 100	±0.5
100 < L	±0.8
角の寸法 DIMENSION	±0.1

PART NO.	NAME	MATERIAL NAME & CODE	FINISH
ALPS ELECTRIC CO., LTD.			
		UNIT: mm	SCALE: :
APPD. 90.5.19	CHKD. 90.5.18	DSCD. 90.5.18	TITLE 27形1軸2速 モータ駆動ボリューム組立図
SYMB.	DATE	APPD.	DOCUMENT NO. K272AMC002

FOR!

CLASS.NO.

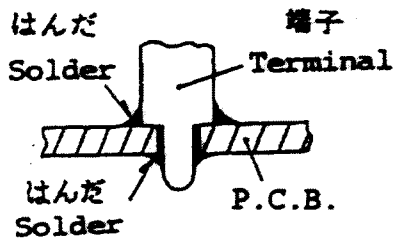
TITLE

〈はんだ付け時のご注意事項〉

Caution for soldering

図のようにP.C.B.の上面に はんだ付けをする配線は、
お避け下さい。

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



					ALPS ELECTRIC CO., LTD.			
					APPD.	CHKD.	DSGD.	TITLE
								DOCUMENT NO.
SYMB.	DATE	APPD.	CHKD.	DSGD.				