

Customer :

No. _____

Date : _____

Attention : _____

Your ref. No. : _____

Your Part No. : _____

SPECIFICATIONS

PURPOSE OF THIS DOCUMENT:

- ☐ PRELIMINARY copy.
☒ Request for your APPROVAL.
(☒ New, ☐ Engineering Change)

Please sign and return one copy.

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

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

DSG'D

T. Yamaguchi

APP'D

M. Sato

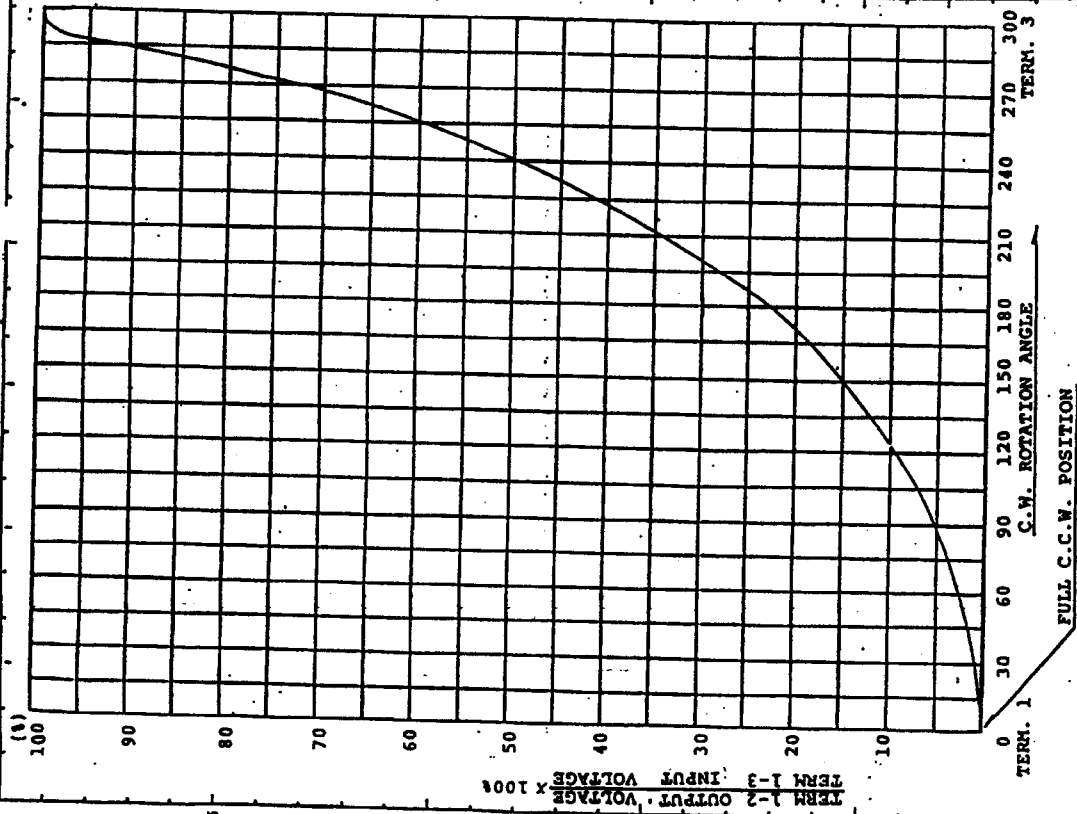
ENG. DEPT. WAKUYA DIVISION

CLASS NO.	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 °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 3V 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		
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.		
8. Bushing nut tightening strength : 15 kgf·cm min. (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.		

CLASS NO.	TITLE	SPECIFICATIONS								
Electrical specifications										
1. Total resistance : Nominal total resistance ± 20% (10kΩ ≤ R ≤ 2MΩ)										
2. Maximum operating voltage : 30V A.C.										
3. Resistance taper : See taper figure										
4. Maximum attenuation level at full C.C.W. position :										
<table><tr><td>Total resistance</td><td>Attenuation level</td></tr><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></table>			Total resistance	Attenuation level	R ≥ 100kΩ	100 dB min.	100kΩ > R ≥ 50kΩ	90 dB min.	50kΩ > R ≥ 10kΩ	80 dB min.
Total resistance	Attenuation level									
R ≥ 100kΩ	100 dB min.									
100kΩ > R ≥ 50kΩ	90 dB min.									
50kΩ > R ≥ 10kΩ	80 dB min.									
5. Insertion loss at full C.W. position : 0.1 dB maximum between K1K2 6. Gang error : (K1K2 100dB V K1K3 100dB V)										
<table><tr><td>Total resistance</td><td>Gang error</td></tr><tr><td>R ≥ 50kΩ</td><td>3 dB max. between -70 dB less than -60 dB 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 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></table>			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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20kΩ > R ≥ 10kΩ	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 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 : 2 ~ 6V D.C.										
11. Rated voltage for Motor : 3V D.C.										
12. Motor current (at 3V applied to motor)										
Normal operation : 100mA max.										
Slipping operation : 150mA max.										
at both ends :										
Endurance specifications										
1. Rotational life : 15,000 cycles min.										
<table><tr><td>APPRO.</td><td>CHKD.</td><td>INSGD.</td><td>TITLE</td></tr><tr><td>APPRO.</td><td>CHKD.</td><td>INSGD.</td><td>TITLE</td></tr></table>			APPRO.	CHKD.	INSGD.	TITLE	APPRO.	CHKD.	INSGD.	TITLE
APPRO.	CHKD.	INSGD.	TITLE							
APPRO.	CHKD.	INSGD.	TITLE							
ALPS ELECTRIC CO., LTD.										
DOCUMENT NO. 4K272AMS-1										



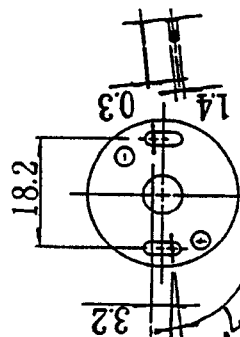
ALPS ELECTRIC CO., LTD.
1-1 THE DATA CENTER - ONE 871-01 1000



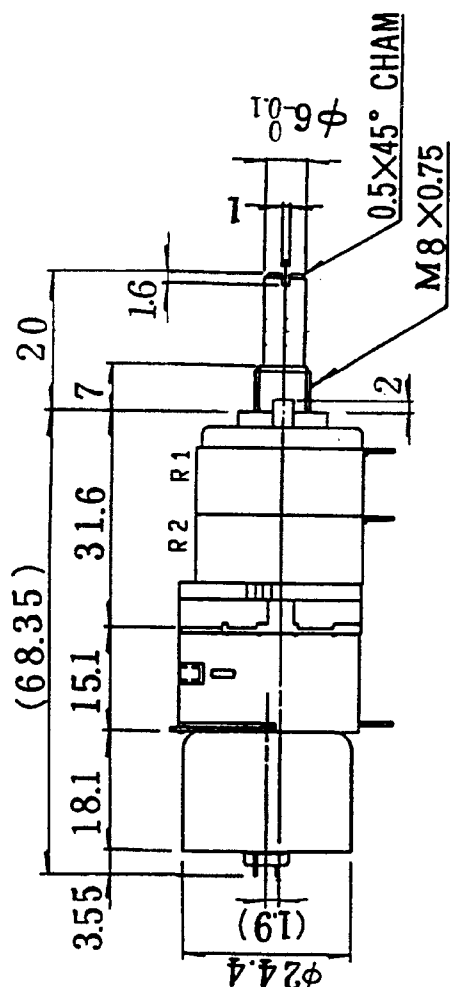
At 180° C.W shaft rotation from full C.C.W position voltage percent shall fall within the limits of 15~30 percent.

DATE	APPRO	CHKD.	DSGD.	NAME
Aug 31 '85	15	15	15	RESISTANCE TAPER
Aug 31 '85	15	15	15	.. HSA02

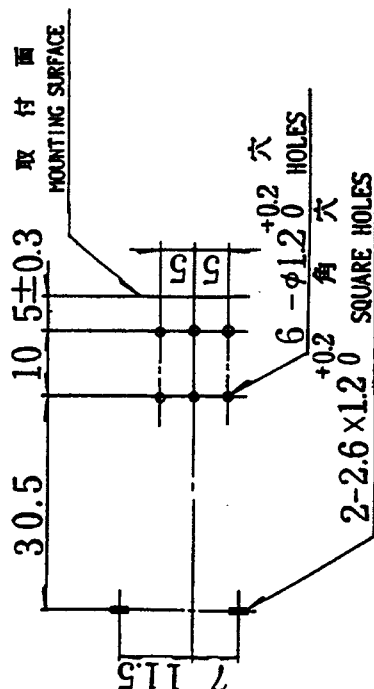
背面图
BACK VIEW

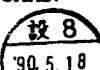
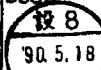


許容差の指定なき寸法の公差	
TOLERANCES UNLESS OTHERWISE SPEC	
BASIC DIMENSIONS	TOLERANCE
$L \leq 10$	± 0.3
$10 < L < 100$	± 0.5
$100 \leq L$	± 0.8
ANGLE	DIMENSION
	$\pm 5^\circ$



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



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

Q R