

REV. NO. 1	TITLE	CONT ON SHEET 2	SH NO 1
P3K-AL-0696-A01	BOARD TEST SPECIFICATION - VOLTAGE SENSOR, 22 VDC 1P2-E003, SCHEMATIC 148D4316; 169C2770		
CONT ON SHEET 2	FIRST MADE FOR EHC MARK IIA		

1. PURPOSE

- A. The purpose of this specification is to convey the proper information needed to test the referenced circuit board for its correct function.
- B. To enable the skilled Test Engineer to produce the detailed Test Procedure for the referenced circuit board.

2. DOCUMENTS PERTAINING TO THIS SPECIFICATION

- A. Voltage Sensor - 22 VDC - 148D4316; 169C2770
- B. AC/DC Power Ground System - MPL 2NA

3. EQUIPMENT NEEDED TO TEST

- A. DC Power Supply - 24 VDC nominal, 2 ampere rating.
- B. DC Power Supply - 0 to 50 VDC nominal, 1 ampere rating.
- C. 2 Switches - SPST - 1 ampere rating, 24 VDC nominal.
- D. 3 Pushbutton Switches - SPST - 1 ampere rating, 24 VDC nominal each.
- E. 3 Indicating Devices - 24 VDC nominal, 80 ma rating each.

4. CIRCUIT DESCRIPTION

This board consists of a Voltage Sensor and associated components that monitor the output voltage of the 22 VDC Power Supply. The outputs of the board logic are brought out for indication and control functions.

5. CIRCUIT INTEGRATION

The Voltage Sensor continuously monitors the output voltage of the Power Supply. Whenever this voltage exceeds a pre-set limit, a latching relay energizes, sending a signal to an indicator and the Malfunction Bus. If the voltage falls to within the pre-set value, this signal can be overridden.

If the voltage falls below a pre-set limit, a different relay will send a signal to another indicator and the Malfunction Bus. As before, if the voltage rises above the pre-set value, logic circuitry can be activated to override the signal.

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6. TEST SPECIFICATION

- A. Connect the board as shown in Figure 1. Set VR1 and VR2 fully CCW.
- B. With PS1 set at 0 volts and 24 VDC set on PS2, close S1 and S2. Indicators 1 and 2 shall indicate, indicator 3 shall not. (If indicator 3 indicates, press and release PB3, it should then not indicate). DS1 and DS2 shall not indicate.
- C. Press in succession PB1, PB2, and PB3. No change shall occur in the indicators.
- D. Set PS1 to 20.5 ± 0.05 VDC. Press and hold PB1 while adjusting VR1 CW until indicators 1 and 2 just cease to indicate and DS1 indicates. Release PB1.
- E. Press and release PB1. Indicators 1 and 2 shall not re-indicate.
- F. Reduce the PS1 voltage.
- G. Indicators 1 and 2 shall indicate ^{when} where the voltage between Pin 3 (-) and Pin 5 (+) is 20.5 ± 0.1 VDC. Increase the voltage to 22 ± 0.05 volts.
- H. Press and release PB2. Indicators 1 and 2 shall cease to indicate.
- I. Press and release PB3. There shall be no change in the status of the indicators.
- J. Increase the voltage between Pin 3 (-) and Pin 5 (+) to 24.5 ± 0.5 VDC.
- K. Adjust VR2 CW until indicators 2 and 3 and DS2 indicate. Reduce the voltage between Pin 3 (-) and Pin 5 (+) to $22. \pm 0.1$ VAC. ~~DS2 CEASES TO INDICATE.~~
- L. Press and release PB3. Indicators 2 and 3 shall cease indicating.
- M. Reduce PS1 and PS2 to 0 VDC. Open S1 and S2.

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7. REPORT SHEET

	<u>ACTION</u>	<u>RECAUTION</u>	<u>YES</u>	<u>NO</u>
A.	Close S1 & S2 Ind. 3 not indicate		Ind. 1, 2 indicate	
B.	PB1, PB2, PB3 pressed		Ind. 1, 2, 3, no change	
C.	PS1: Increase Ind. 3 not indicate		Ind. 1, 2, not indicate	
D.	Adjust VR1 Ind. 1, 2, 3 not indicate Press PB1 DS1 indicate			
E.	PS1: Decrease 22 to 19.5 VDC		Ind. 1, 2 indicate Ind. 3 not indicate	
F.	PB2 pressed. Ind. 3 no change		Ind. 1, 2 de-indicate	
G.	PB3 pressed.		Ind. 1, 2, 3, no change	
H.	PS1: Increase 22 to 23 VDC		Ind. 1, not indicate	
I.	Adjust VR2 Ind. 2, 3 de-indicate DS2 indicate			
J.	PB3 pressed Ind. 2, 3 de-indicate Ind. 1, no change			
K.	PB2 pressed Ind. 2, 3 de-indicate Ind. 1, no change			

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8. NOTES

1. If any indicator does not indicate as described, the board shall be rejected.

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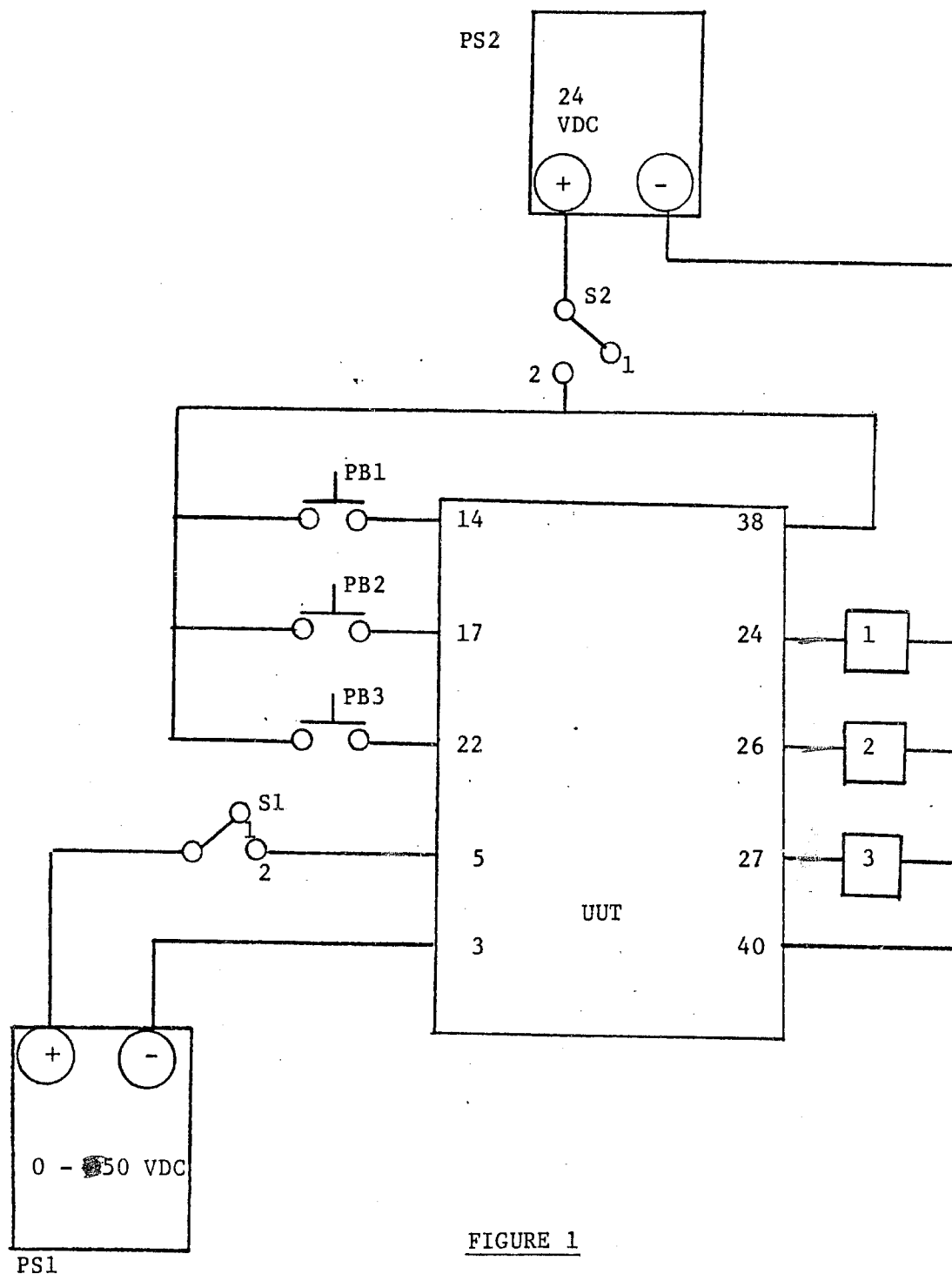


FIGURE 1

WIRING FOR SENSOR TESTING

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