GENERAL ELECTRIC

REV NO.	TITLE	277A3826
277A3826 CONT ON SHEET 2 SH NO. 1	Test Specifications	CONT ON SHEET 2 SH NO. 1
	FIRST MADE FOR 44C331871	

REVISIONS

STANDING INSTRUCTIONS

FOR

PHASE UNBALANCE OUTPUT

PRINTED CIRCUIT BOARD

44C331871G01

TEST & NOTES Work OK 4-20-00 DAL

Distribution:

1 QC Test
1 QC Engineering
1 Engineering

3EL1
4QA1
1RA2
4EK1
DL13

PRINTS TO

MADE BY	APPROVALS	DIV OR DEPT.	277A3826
RK Gerlitz 790108	F.K. Price 1/10/79	Drive Systems	
ISSUED 1-12-79		Salem, VA. USA LOCATION	CONT ON SHEET 2 SH NO. 1

CODE IDENT NO.

FF-803 WF (11-77)
PRINTED IN U.S.A.

REVISIONS

I. Test Equipment Required

A. Printed Circuit Board Test Setup - 44C931365.

B. Adaptor - Any Mod. II 30 Pin.

C. Patchboard Generrex PB-2.

D. Drawings 44C307401 Elementary Rev. 2 (1) 3 (2)
1- 28v LAMP 44C331871 Assembly
2- 10K RESISTORS 44C931365 Test Fixture
1- 100K RESISTOR 1- 2.7K RESISTOR

II. Connection

A. Connect the Amp. Mod. II adaptor cable to PL-1 on the Universal Tester (UT).

B. Connect the power supply cable to "PL3" on the UT, to PL1 on the Universal Power Supply (UPS), and to the power supplies per markings.

C. Insert patchboard into carrier of UT and close.

D. Connect a DC voltmeter to "BJ-1", red (+) and black (-).

E. Install 28 volt 0.04 Dialco lamp in "L27" on the UT.
CONN LAMP PIN 9 TO PIN 27

III. Wire Check

Pin to Test Point		Resistance (Ohms)
3	1TP	0
Pin to Pin		
27	28	0
29	30	0

Visual Check

1P, 3P	20K
2R	1K
11R	1K
4R	100K
13R	100K
6R	15K
15R	15K

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Adjust

2P	CCW
1P	CW
3P	CW
4TB	2-3
5TB	2-3

IV. Setup

A. Turn all switches to OFF or Normal on the Universal Tester (UT), and the Universal Power Supply (UPS).

B. Turn all power supplies to zero on the UT and all variacs to zero on the UPS.

C. Apply main power to the test stand.

D. Install board under test (BUT) into amp. Mod. II adaptor.

9.459K

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PRINTS TO

SW 6 = RL connects PIN 29 to 24V

SW9 = 10KΩ from 17 to 24V com

SW32 10Kw from 19 to 3

SW28 = PIN 27 thru light to 24V COM

SW19 = PIN 19 to PS4(+) (Note conn. PS4
AND 3 to PS4(−) thru sw. to PIN 19/20 for timing)

PB4 = 14 to +24V

PB1 = 2.7KΩ from PIN 12 to PIN 10

See back of Sh. 3 for Notes on SWs

V. Electrical Test

A. Close "SW-1", "SW-2", and "SW-10" on the Universal Tester (UT). Depress "LPB-1" and adjust PS-1 to 24 ± 0.5 VDC at "BJ-1".

B. NOTE: Should it become necessary to remove all voltage from the P.C. Board, open "SW-1".

C. Depress "LPB-2" and adjust PS-2 to 15 ± 0.05 VDC at "BJ-1".

D. Depress "LPB-3" and adjust PS-3 to 15 ± 0.05 VDC at "BJ-1".

Place "SW-6", "SW-7", and "SW-28" down. SW-32

Close "SW-19". PS4 +19 (-) 27V to 9

Depress "LPB-7".

Adjust PS4 to 1.5 ± 0.005 VDC at "BJ-1". PIN 19

PIN 29 TO 24V (PIN 7)

SW7 CONN 10K PIN 17 to PIN 9

SW32 CONN 10K PIN 19 TO PIN 3

E. Connect an oscilloscope to 4TP (+) and 1TP (-). Adjust 1P CCW until 4TP just goes to 14.4 ± 0.4 VDC.

Remove PS4

F. Open "SW-19".

G. 4TP = -13 ± 1 VDC.

STB 2-3 of PS4 JUMPER TO PIN 3

SCOPE

G. Connect a time interval meter

		Trigger	Slope
Start	4TP	5 ± 1 VDC	+
Stop	8TP	5 ± 1 VDC	+
Common	1TP		

4TP EXT TRIS. 8TP VERT IN

H. Depress and release 2PB on PC Board.

Connect PS4

Close "SW-19".

Counter shall start then stop as follows:

2P	Time
CW	.05 ± 0.005 seconds
CCW	.95 ± 0.1 seconds
Set	.1 ± 0.005 seconds

Note alarm light shall energize and remain energized when counter stops.

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To repeat timing: Open "SW-19". DISCONNECT PS-4
Wait approximately 20 seconds.
Depress and release reset 2PB on PC Board.
(Alarm light deenergizes).

I. Open "SW-19". DISCONNECT PS-4
Move 5TB jumper to terminals 1-2.
Close "SW-19".
Counter should start then stop .9 ± .1 seconds later.
~~Open "SW-19".~~ (1)

J. Connect a time interval meter

		Trigger	Slope
Start	5TP	5 ± 1 VDC	+
Stop	9TP	5 ± 1 VDC	+
Common	1TP		

Adjust PS-4 to 7.5 ± 0.005 VDC at "BJ-1" (2)

K. Connect an oscilloscope to 5TP (+) and 1TP (-).
Adjust 3P CCW until 5TP just goes to 14.4 ± 0.4 VDC.
Open "SW-19". (3) and release

L. Depress 1PB on the P.C. Board.
Close "SW-19".
Counter shall start then stop as follows:

(1) 4P

	Time
CW	.05 ± 0.005 Seconds
CCW	.95 ± 0.1 Seconds
Set	.5 ± 0.05 Seconds

Note TRIP light shall energize and remain energized when counter stops.

To repeat timings: Open "SW-19".
Wait approximately 20 seconds.
Depress and release 1PB on P.C. Board.
(Trip light deenergizes).

M. Open "SW-19".
Move 4TB jumper to terminals 1-2.
Close "SW-19".
Counter should start then stop 1.26 ± .1 seconds later.
Open "SW-19".

PB4 → Connect 7 Pin 14 to N. (1) ~~Depress and release 1PB on P.C. Board.~~ Close trip lockout sw on PCB.
Depress ~~and release~~ "PB-4". DELETE
(1) Trip lockout light, TRIP light and ALARM light shall deenergize.
Release "PB-4".
(1) Trip lockout light, TRIP light and ALARM light shall energize.

ALL 3 LITES OFF

MUST DO STEPS "M" AND "N" IN ORDER

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PRINTS TO

REVISIONS

O. Open TRIP LOCKOUT sw. on the PCB, Trip LOCKOUT light deenergize. L27 ENERGIZES
Depress and release 1PB on PC Board.
TRIP light shall deenergize.

P. Depress and release 2PB on PC Board.
ALARM light shall deenergize.

Q. Close "SW-19". 12-10 → CONN. 100K from 12-10 Also meter 12-10
Place "RS1" to position 1. "BJ-13" = ~~23.5~~ ± 0.3 VDC. ② 21.2
Connect 2.7K (12 to 10) → Depress "PB-1". "BJ-13" = 5 ± 0.5 VDC.
Release "PB-1". "BJ-13" = ~~23.5~~ ± 0. VDC. ② 21.2

R. Close ALARM LOCKOUT SW. on P.C. Board. "BJ-13" = 0.5 VDC or Less
Open ALARM LOCKOUT SW. on P.C. Board "BJ-13" = ~~23.5~~ ± 0.3 VDC. ② 21.2

S. Place "RS1" to position 3. 16-10 "BJ-13" = .5 VDC or less. Meter 16-10 21.2 ② → 23.5V Is Correct
Close TRIP LOCKOUT SW. on P.C. Board. "BJ-13" = ~~23.5~~ ± 0.3 VDC
Open TRIP LOCKOUT SW. on P.C. Board. "BJ-13" = .5 VDC or less.

T. Place "RS1" to position 4. 18-10
Open "SW-19".
Depress and release 1PB and 2 PB on PC Board.
TRIP light shall be deenergized.
"BJ-13" = 0 ± 0.2 VDC. — Meter PIN 18 To 10

U. Close "SW-19".
"BJ-13" = 11.6 ± 0.3 VDC.

V. Open "SW-19".
Depress and release 1PB on PC Board.
"BJ-13" = 0 ± 0.2 VDC. 18-10

W. Close "SW-19".
Close TRIP LOCKOUT SW on P.C. Board.
"BJ-13" = 0 to .5 VDC. 18-10
"L27" shall energize.

X. Open TRIP LOCKOUT SW. on P.C. Board.
① 11.6 ← "BJ-13" = ~~11~~ ± .0.3 VDC. 18-10
"L27" shall deenergize.

Y. Open "SW-1". Then open or return to NORMAL all remaining switch

3EL1
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1RA2
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PRINTS TO

Retyped