

REV NO. 002

TITLE

CONT ON SHEET

4

SH NO.

3

224X448AA

OPTION CARD
ENGINEERING SPEC & TEST INSTRUCTIONS

CONT ON SHEET

4

SH NO.

3

FIRST MADE FOR 193X391AAG01 & G02

For a current input, $V_{pn} = I_{pn} \cdot R_L$ where I_{pn} is the input current in milliamperes and R_L is the loading resistance in K ohms as listed in the jumper table.

The MAX AUTO adjust will cover a Max. output limit range of 15V to 5V while the MIN AUTO adjust will cover a Min. output limit range of 0 to 10V (with MAX AUTO > MIN AUTO).

2.3 The +10V midpoint voltage is regulated to $10 \pm .1$ volts measured at card test post +10V.

3.0 TEST INSTRUCTIONS (G01 Only)

Apply $20 \pm .1$ V between +20V, pin 1 and COM, pin 2. Connect the grounded side of a 115V AC supply to AC2, pin 49

JUMPER
IS ON
BOARD

Jumper CP -10V

Connect pin 62 to pin 31
and pin 61 to a 0 to 10 volt source

Turn Offset (P1) - CW
Gain (P2) - CCW
Max Auto (P3) - CW
Min Auto (P4) - CCW
Max Man (P5) - CCW
Min Man (P6) - CW

3.1 +10V Midpoint Power Supply

The voltage at test post +10V should measure $10 \pm .1$ volt with a $20 \pm .1$ V power supply.

3.2 Connect pin 61 to pin 51 With the Gain CCW and the Offset CW, the voltage at pin 20 should be $13.9 \pm .6$ volts.

3.3 Adjust the Offset such that the OFS test post voltage equals the +10V test post voltage (i.e., zero offset). The voltage at pin 20 should measure 0 to .1 volts.

REMOVE JUMPER 61 TO 51 6-24-83

Apply 10 volts to pin 61 The pin 20 voltage should measure $3.6 \pm .2$ volts.

3.4 Turn the Gain pot fully CW. Reduce the pin 61 voltage until pin 20 = 15 volts. The pin 61 voltage should measure $1.7 \pm .5$ volts.

3.5 Apply 10 volts to pin 61 and adjust the gain until pin 20 = 15 volts. Turn the MAX AUTO in the CCW direction. The pin 20 voltage should be reduced to less than 5 volts.

REMOVE 10V FROM PIN 61 6/25/82

Reset MAX AUTO fully CW and connect pin 61 to pin 31. Turn the MIN AUTO in the CW direction. Pin 20 should increase to 10 volts or more. 12.6V
Reset MIN AUTO fully CCW.

4.0 TEST INSTRUCTIONS (G01 and G02 Versions)

Connect a 10.0K resistor between pin 63 and pin 64 The voltage at pin 63 should measure 15 ± 1.5 volts and at pin 64 should measure $5 \pm .5$ volts.

4.1 Insert plug-in relays in the relay sockets:

FLT - 104X166AA060, 24V DC coil
REV, MA (G02) - 104X166AA059, 115V AC coil
RUN - 104X166AA061, 24V DC coil

REVIS

6/25/81

Chg 3.3

AW(BK

5B(8)

5D(CC

5E(3)

5R(2)

PRINTS

MADE BY

H.O.Loberg

1/17/80

APPROVALS

SVPO

DIV OR

DEPT.

224X448AA

ISSUED

Erie, PA

LOCATION

CONT ON SHEET

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SH NO.

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REV NO. 2

TITLE

CONT ON SHEET

FL

SH NO.

4

224X448AA

OPTION CARD

ENGINEERING SPEC & TEST INSTRUCTIONS

CONT ON SHEET FL

SH NO. 4

FIRST MADE FOR 193X391AAG01 & G02

4.2 MA Relay - Normally closed contacts connect pin 20 to pin 23 and pin 46 to pin 22.

Apply 115V AC (fused) to pin 43. The MA relay should pick up, the "MAN" light should turn on and pin 47 should connect through open contact to pin 23.

4.3 IS Relay - N.C. contact connects pin 25 to pin 51.

Apply 115V AC to pin 44. The IS relay should pick up the "START" light should turn on, and N.O. contacts should connect pin 50 to 115V AC, pin 26 to pin 51 and pin 24 to pin 48.

4.4 RUN Relay - N.C. contacts connect pin 54 to pin 52. REMOVE +20V FOR THIS STEP 6-25-82

Connect pin 48 to pin 51 and apply the unregulated power supply, +30V, to pin 27. The RUN relay should pick up, the "RUN" light should turn on a N.O. contact should connect pin 54 to pin 53.

4.5 REV Relay - Apply 115V AC to pin 45. The REV relay should pick up, the "REV" light should turn on and a N.O. contact should connect pin 30 to +20V.

4.6 MSR Relay - N.C. contact connects pin 60 to pin 59.

Connect pin 29 to pin 31. The MSR relay should pick up, the "MIN SPEED" light should turn on and the N.O. contacts should connect pin 60 to pin 58.

4.7 FLT Relay - N.C. contact connects pin 57 to pin 55.

Connect pin 28 to pin 31. The FLT relay should pick up, the "FAULT" light should turn on and a N.O. contact should connect pin 57 to pin 56.

5.0 FINAL ADJUSTMENTS

After the above test is completed, make final potentiometer adjustments as follows:

POT. ADJ.	G01	G02
OFFSET	OFS=10 ± .1V	-
GAIN	CCW	-
MAX AUTO	CW	-
MIN AUTO	CCW	-
MAX MAN	CCW	CCW
MIN MAN	CCW	CCW

REVISIO

2/26/80
6/10/80

Chg 4.5
Add 5.0

AW(BW)

5B(8)M

5D(CD)

5E(3)BK

5R(2)BW

PRINTS TC

MADE BY H.O.Loberg

1/17/80

APPROVALS

SVPO

DIV OR DEPT.

224X448AA

ISSUED

1-17-77

Erie, PA

LOCATION

CONT ON SHEET FL

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