CIMCO ELECTRONICS, INC.
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Model 21-40P - Operator Instruction Manual

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Model 21-40P with Microcontroller

STANDARD INSTRUCTIONS
FACE-PLATE

OPERATING STATUS

Power on light is green.
Fans-on light is amber (yellow).
Alarm-on light is red.
Trip-on light is red.

DISPLAY CONTROLS

MAXIMUM TEMPERATURE MEMORY (MTM)
PRESS READ to display MTM since last reset.
PRESS RESET to erase MTM.
MTM is retained indefinitely with loss of power.

SYSTEM TEST
PRESS AND HOLD bottom left button.
PRESS AND RELEASE bottom right button to advance test mode.
TEST MODE SEQUENCE is described on face-plate.
Local alarm can be silenced if desired.
Trip relay will not turn on.
Trip relay turns on only with input signal.
RELEASE bottom left button when test is complete.

OPERATION CONTROLS

FAN MODE CONTROL LED's indicate auto or manual control of fan power.
START-UP condition is **AUTO**.
PRESS MANUAL ON to energize fans for continuous running.
PRESS AUTO to return to automatic mode.
FAN EXERCISER (PROGRAMMABLE) will energize fans once per week.

FAIL- SAFE START-UP DEFINITION

1. At start-up, alarm and fan contacts are in "on-state".
2. Alarm and fan contacts change to "off-state" when power is applied or,
3. Alarm and fan relays revert to "on-state" if thermocouple is open or,
4. Alarm and fan contacts revert to "on-state" if power is lost.

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Series 21-40P with Microprocessor (continued)

STANDARD CONNECTION INSTRUCTIONS BACK-PLATE

INPUT POWER CONNECT LAST TO T-9 & T-10

1. Connect either 120 or 240 VAC to Terminals 9 and 10.
2. Fan power selection is 120/240 VAC.
3. No additional connections are required for Cimco instrument.

FAN POWER CONTROL (CONNECT FIRST) TWO OUTPUTS TOTAL

1. Fan power relays are Fail-safe.
2. Fans one output power use T-7 and T-8.
3. Each circuit rating if used alone is 15 amps, 1 HP at 120 VAC, 2 HP at 240 VAC
4. Total rating for both circuits together is 15 amps, 2 HP at 120 VAC, 4 HP at 240 VAC
5. Instrument is supplied with 30 amp fuse. Maximum fuse rating is 30 amps.

TEMPERATURE SENSORS - CONNECT SECOND

1. Non-magnetic Type E thermocouple is standard.
2. Red lead is always negative.
3. Cut thermocouples to length.
4. Never form loop with the thermocouple leads
5. Strip approximately 0.4 inch insulation from metal leads.
6. Use clamp on terminal block to connect thermocouple to terminal blocks on back of instrument.
7. Do not use crimp lugs.
8. Clamp leads firmly in place.

SYSTEM GROUND

1. Instrument ground is isolated from system ground.
2. Connect system ground to T-11.

TRIP AND ALARM RELAYS

1. Form C relays.
2. Contacts are dry.
3. Alarm relay is Fail-safe
4. Trip relay is NOT Fail-safe

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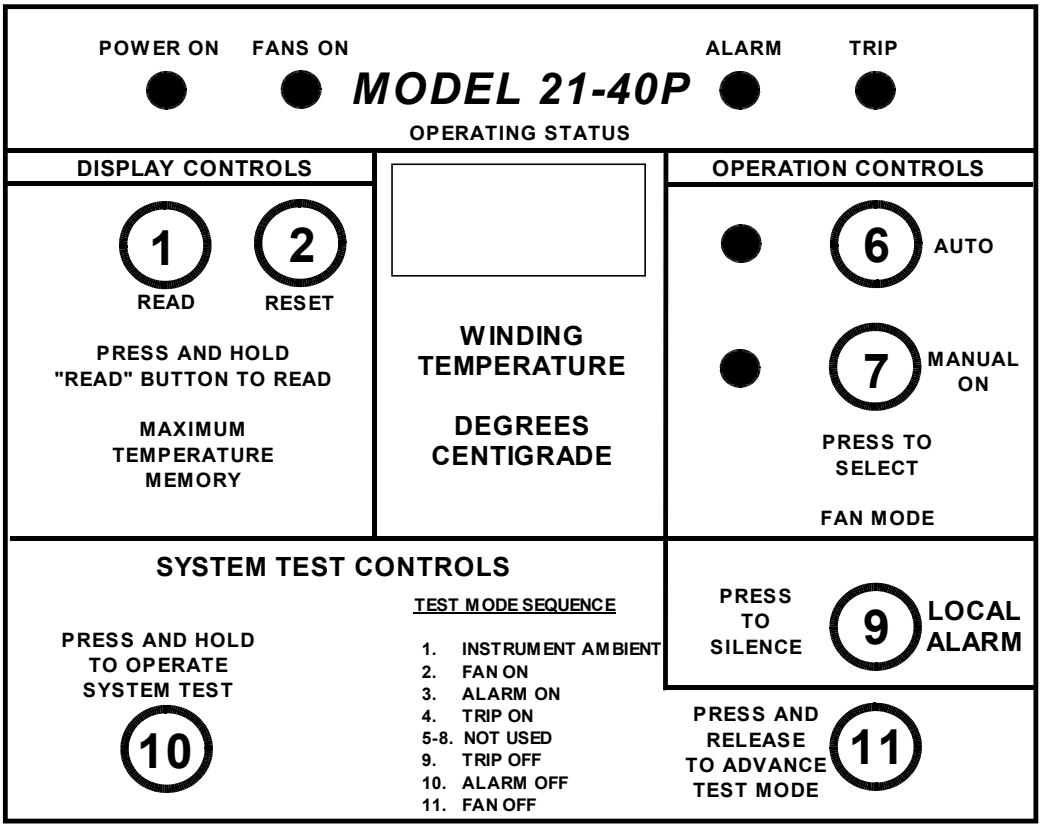
FIGURE 1

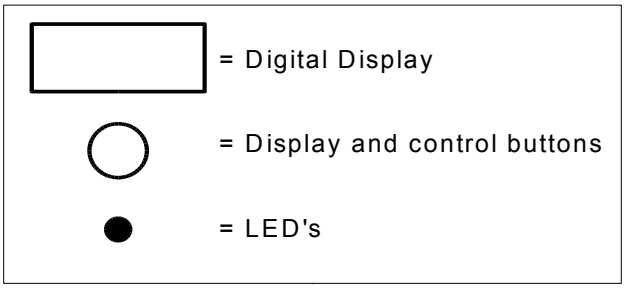


OPERATOR CONTROL PANEL

TABLE 1

STEP MODE

1.	INSTRUMENT AMBIENT
2.	FANS ON
3.	ALARM ON
4.	TRIP ON
5 - 8.	NOT USED
9.	TRIP OFF
10.	ALARM OFF
11.	FAN OFF



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Operating Instructions for Monitoring Features

1. First time (as shipped) start-up status
   1. Fan mode is automatic
   2. Fan exerciser is off.

2. Check instrument fuse if Power on status light is "OFF".

3. Future "start-up's" use customer's choice of programmed operations.
   1. Reference *Programming Instructions*, pages 2-4.
   2. Access code is required for all programmable features.

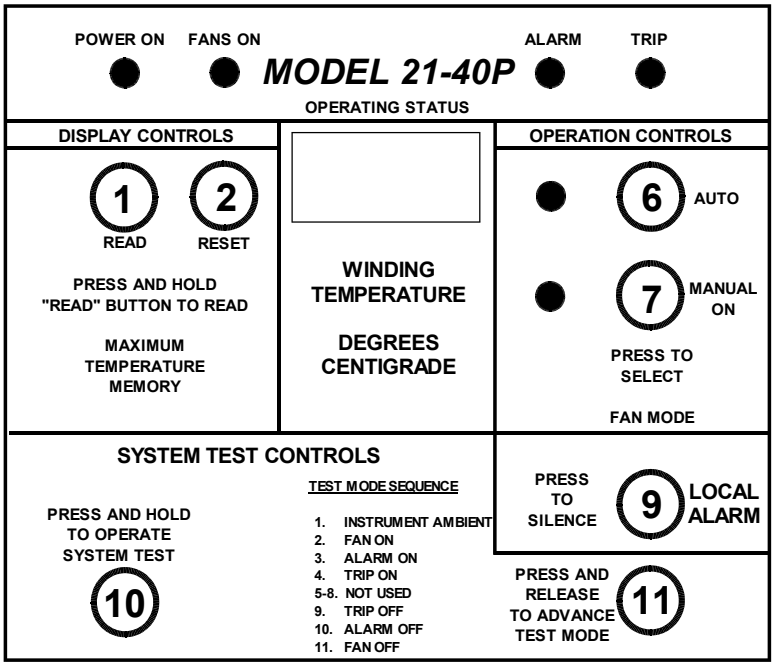
4. Reset or restart software (if instrument does not respond to commands)
   1. Press and hold buttons 1 and 6 and 9
   2. All lights except for "POWER ON" will turn off.
   3. Release 1 and 6 and 9 buttons.
   4. Instrument software will reset to normal start-up mode.

5. Display maximum temperature memory.
   1. Press button 1.
   2. Display will indicate highest temperature in memory.
   3. Phase LED's will indicate which phase temperature is displayed.

6. Erase maximum temperature memory.
   1. Press button 2 to reset MTM to zero.

7. Automatically displays current operating temperature

FIGURE 1



8. Fan Mode
   1. Start-up is always in automatic mode.
   2. Press button 7 for manual-on mode.
   3. Press button 6 for automatic mode.

9. Alarm control
   1. Press button 9 to silence local alarm.
   2. Remote alarm relay remains "on" until alarm condition clears.

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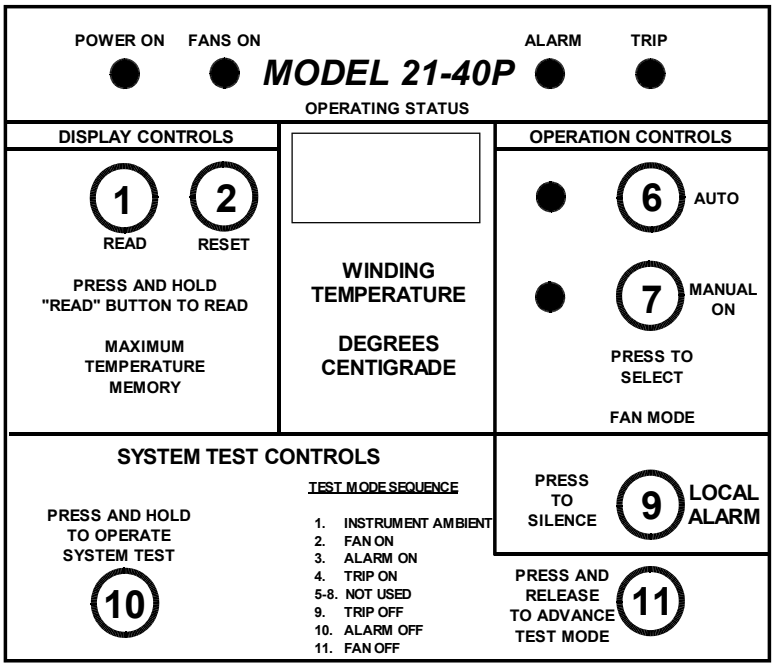
Operating Instructions for Monitoring Features (continued)

10. SYSTEM TEST (general description)
    (for start-up test or check set-points and relays)
    1. Reference Table 1 for test mode sequence
    2. Press and hold button 10 then (NOTE: User must hold button 10 until desired steps in TABLE 1 are complete.)
    3. Press and release button 11 to advance TEST MODE one step.

11. SYSTEM TEST sequential actions of test mode are:
    1. Instrument ambient temperature is displayed and all other LED's turn on.
    2. Fans on set-point temperature is displayed.
        1. Fans on LED is turned on.
        2. Fans relays are turned on.
    3. Alarm on set-point temperature is displayed.
        1. Alarm on LED is turned on.
        2. Alarm relay is turned on.
        3. Local alarm is turned on.
        4. Local alarm can be silenced if desired.
    4. Trip on set-point temperature is displayed.
        1. Trip on LED is turned on.
        2. Trip relay will not turn on.
        3. Trip relay turns on only with input signal.
    5. N/A Step
    6. N/A Step
    7. N/A Step
    8. N/A Step
    9. Trip-off set-point temperature is displayed and trip-on LED will blink.
    10. Alarm-off set-point temperature is displayed.
        1. Alarm-on LED will blink.
        2. Alarm relay will turn off or
        3. Local alarm will turn off if not previously silenced.
    11. Fans off set-point temperature is displayed.
        1. Fans on LED will blink.
        2. Fan relays will turn off.

FIGURE 1



12. Standard default settings are:
    1. Fans set-point on 190 degrees C
    2. Alarm set-point on 200 degrees C
    3. Trip set-point on 210 degree C
    4. N/A Step
    5. N/A Step
    6. N/A Step
    7. N/A Step
    8. Trip set-point off 200 degree C
    9. Alarm set-point off 190 degree C
    10. Fans set-point off 180 degree C
13. Cimco Electronics can program special defaults setting upon request.

*** Reference Test Mode Sequence on Overlay.***