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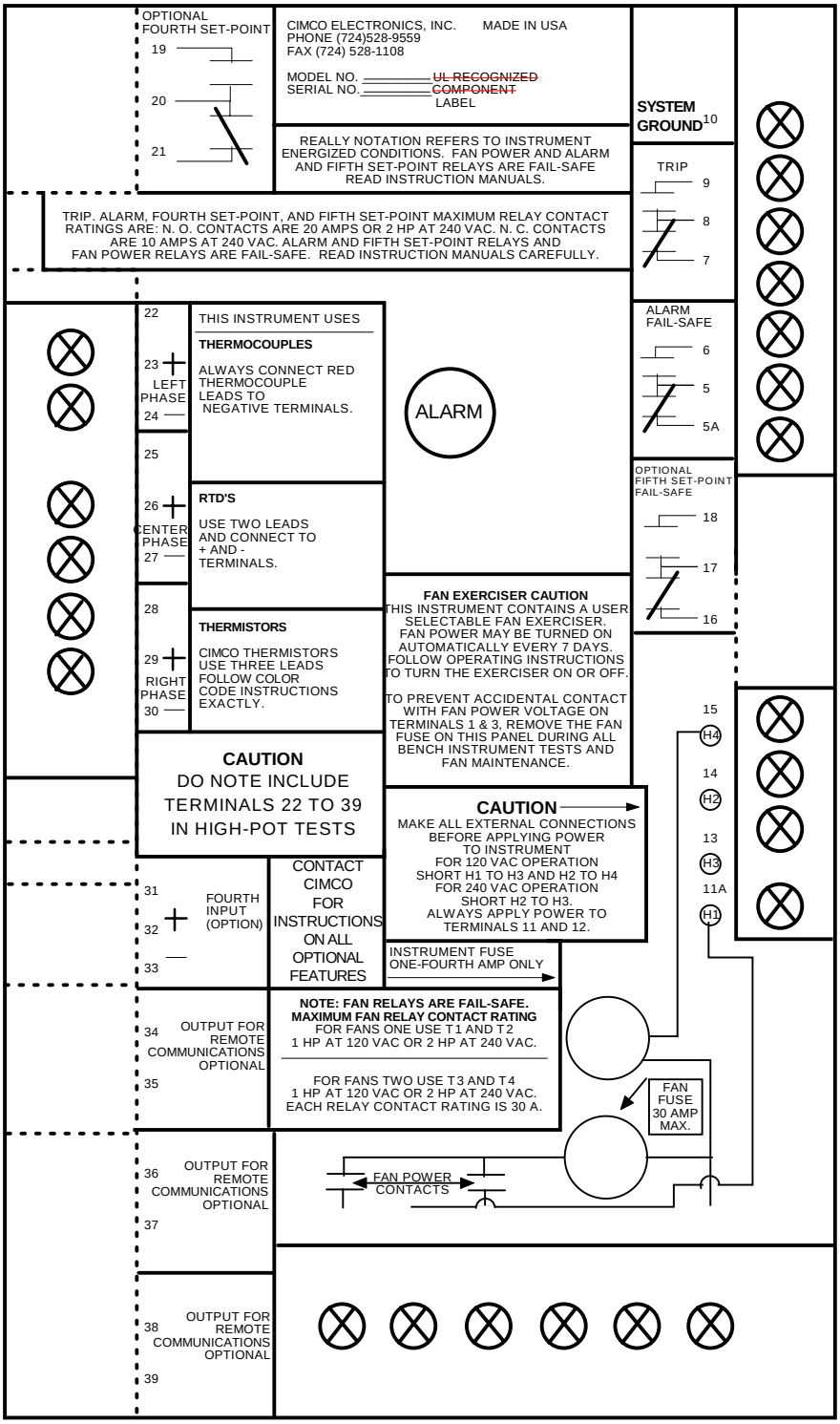
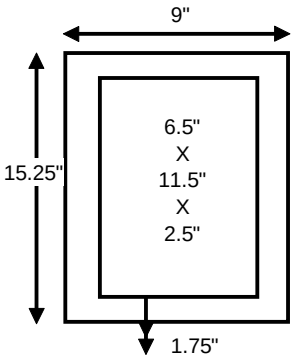
# Series 21 - Field Installation
# Instruction Manual
## INDEX




BOX POSITION
ON FACE-PLATE
BOX IS 2.5" DEEP
WEIGHT APPROX. 5.0 LBS

## CAUTION

1. MODEL A21 INSTRUMENTS USE MICRO-CONTROLLERS FOR SIGNAL PROCESSING AND LOGIC CONTROL.

2. MODEL A21 INSTRUMENTS THEREFORE MUST BE SHIELDED FROM MAGNETIC FIELDS GENERATED BY TRANSFORMERS.

3. MODEL A21 INSTRUMENTS ARE SHIPPED FROM CIMCO INSTALLED IN A HINGED CARBON STEEL CABINET WHICH IS ADEQUATE SHIELDING IN "STANDARD" POWER CENTER AND SUBSTATION INSTALLATIONS.

4. CALL CIMCO FOR ADVICE ON NON-STANDARD INSTALLATIONS WITH ABNORMAL MAGNETIC OR ELECTRIC FIELDS.

5. CALL CIMCO IF MODEL A21 IS NOT INSTALLED IN CIMCO'S BARRIER CABINET.

6. ALWAYS CONNECT SYSTEM GROUND TO TERMINAL 10 AND THE BARRIER CABINET.

7. BACKPLATE DESIGN MAY DIFFER TO REFLECT DIFFERENT OPTIONS

RTD'S AND THERMISTORS
ARE OPTIONAL
TEMPERATURE SENSORS

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## START-UP SEQUENCE FOR SERIES 21 SOFTWARE

1. THE SOFTWARE USED ON CIMCO's NEW SERIES 21 INSTRUMENTS REQUIRES A SPECIFIC START-UP PROCEDURE.

2. THIS SOFTWARE START-UP PROCEDURE IS SIMILAR TO BUT IS NOT EXACTLY THE SAME AS SYSTEM TEST SEQUENCE.

3. ALL LIGHTS ARE TURNED ON FOR A SHORT PERIOD OF TIME.

4. THE FAN POWER RELAYS AND THE ALARM RELAY AND THE OPTIONAL FIFTH SET-POINT RELAY ARE TURNED ON FOR A SHORT PERIOD OF TIME (LESS THAN 2 SECONDS).

5. THE ALARM IS USUALLY TURNED ON FOR LESS THAN ONE SECOND. IF THE ALARM DOES NOT TURN ON THE OPERATOR SHOULD CHECK THE ALARM USING THE SYSTEM TEST PROCEDURES.

6. THE TRIP RELAY IS NOT TURNED ON DURING SOFTWARE START-UP OR SYSTEM TEST.

7. THE TRIP-ON LIGHT IS TURNED ON FOR A SHORT PERIOD OF TIME (LESS THAN 2 SECONDS).

8. THE OPERATOR SHOULD ALWAYS USE THE SYSTEM TEST FEATURE TO VERIFY COMPLETE OPERATION OF THE INSTRUMENT.

9. NOTIFY CIMCO IF THERE ARE ANY QUESTIONS OR CONCERNS.

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# FIELD CONNECTIONS FOR POWER INPUTS TO SERIES 21 INSTRUMENTS STANDARD CONFIGURATION

## WARNING! INSTRUCTIONS DIFFER FOR AC/DC INPUT CAPABLE INSTRUMENTS! REFERENCE FEATURES DOCUMENT FOR INSTALLATION INSTRUCTIONS!

1. STANDARD CONNECTIONS FOR INPUT POWER TO SERIES 21 INSTRUMENTS MUST BE TERMINALS 11 AND 12.

2. CONNECTION VOLTAGE CAN BE 120 VAC OR 240 VAC AND CAN BE 50 OR 60 HERTZ.

3. THE POWER SUPPLY CONNECTED TO THE INSTRUMENT SHOULD BE DIFFERENT FROM THE TRANSFORMER MANAGED BY THE TRIP RELAY ON THE INSTRUMENT.

4. IF THE INSTRUCTIONS IN ITEM 3 (ABOVE) ARE NOT FOLLOWED, UNEXPECTED OR ABNORMAL TRIP OPERATIONS MAY OCCUR.

5. THIS WARNING APPLIES TO ALL DEVICES WITH TRIP RELAYS CONNECTED AS DESCRIBED IN ITEM 3 (ABOVE).

6. BE ESPECIALLY CAREFUL IF THE TRANSFORMER MONITORED BY THE SERIES 21 INSTRUMENT IS THE ONLY SOURCE OF POWER.

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# OPTIONAL CURRENT LOOP INSTRUCTIONS

1. GENERAL INFORMATION FOR OPTIONAL CURRENT LOOPS
   1. CURRENT LOOP SIGNALS ARE LINEAR FROM ZERO TO 250 DEGREES C.
   2. CURRENT LOOP SIGNALS ARE INTENDED FOR LOW IMPEDANCE LOADS.
   3. CIMCO's STANDARD CURRENT LOOP CALIBRATION IS WITH 100 OHM LOAD.
   4. CALIBRATION WITH DIFFERENT LOADS IS AVAILABLE UPON REQUEST.
   5. FIELD CALIBRATION IS NORMALLY AVAILABLE WITH REMOTE MONITOR NOT SUPPLIED BY CIMCO.
   6. IF ONE CURRENT LOOP IS SPECIFIED, THE OUTPUT SIGNAL IS PROPORTIONAL WITH THE HIGHEST CURRENT OPERATING TEMPERATURE.
   7. IF THREE CURRENT LOOPS ARE SPECIFIED, THE THREE CURRENT LOOP OUTPUT SIGNALS ARE PROPORTIONAL WITH THE THREE INPUT TEMPERATURES.

2. ONE CURRENT LOOP
   1. SIGNAL IS PROPORTIONAL WITH CURRENT HIGHEST OPERATING TEMPERATURE.
   2. OUTPUT CONNECTION IS A TWO POINT TERMINAL BLOCK ON THE BACK, LOWER LEFT SIDE OF THE INSTRUMENT.
   3. CONNECTION CABLE AND REMOTE METER ARE NOT INCLUDED.
   4. FOR ONE 0-1 milli-amp CURRENT LOOP; SPECIFICATION IDENTIFICATION IS "D".
   5. FOR ONE 0-10 milli-amp CURRENT LOOP; SPECIFICATION IDENTIFICATION IS "E".
   6. FOR ONE 0-20 milli-amp CURRENT LOOP; SPECIFICATION IDENTIFICATION IS "F".
   7. FOR ONE 4-20 milli-amp CURRENT LOOP; SPECIFICATION IDENTIFICATION IS "G".
      1. ZERO DEGREES C IS EQUAL TO 4 MILLI-AMPS.
      2. 250 DEGREES C IS EQUAL TO 20 MILLI-AMPS.

3. THREE CURRENT LOOPS
   1. THE THREE OUTPUT SIGNALS ARE PROPORTIONAL WITH THE THREE INPUT TEMPERATURES.
   2. OUTPUT CONNECTIONS ARE THREE SETS OF TWO POINT TERMINAL BLOCKS ON THE BACK, LOWER LEFT SIDE OF THE INSTRUMENT.
   3. CONNECTION CABLES AND REMOTE METERS ARE NOT INCLUDED.
   4. FOR THREE 0-1 milli-amp CURRENT LOOPS; SPECIFICATION IDENTIFICATION IS "H".
   5. FOR THREE 0-10 milli-amp CURRENT LOOPS; SPECIFICATION IDENTIFICATION IS "I"
   6. FOR THREE 0-20 milli-amp CURRENT LOOPS; SPECIFICATION IDENTIFICATION IS "J".
   7. FOR THREE 4-20 milli-amp CURRENT LOOPS; SPECIFICATION IDENTIFICATION IS "K".
      1. ZERO DEGREES C IS EQUAL TO 4 MILLI-AMPS.
      2. 250 DEGREES C IS EQUAL TO 20 MILLI-AMPS.

4. FORMULA FOR 4-20 MILLI-AMP CURRENT LOOP: $= \left( \frac{\text{DISPLAY TEMPERATURE X 16}}{250} \right) + 4$