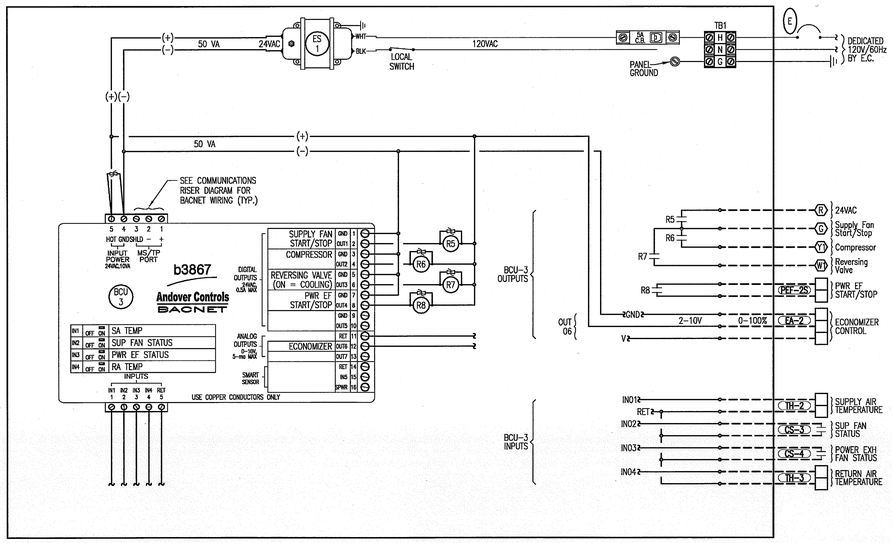
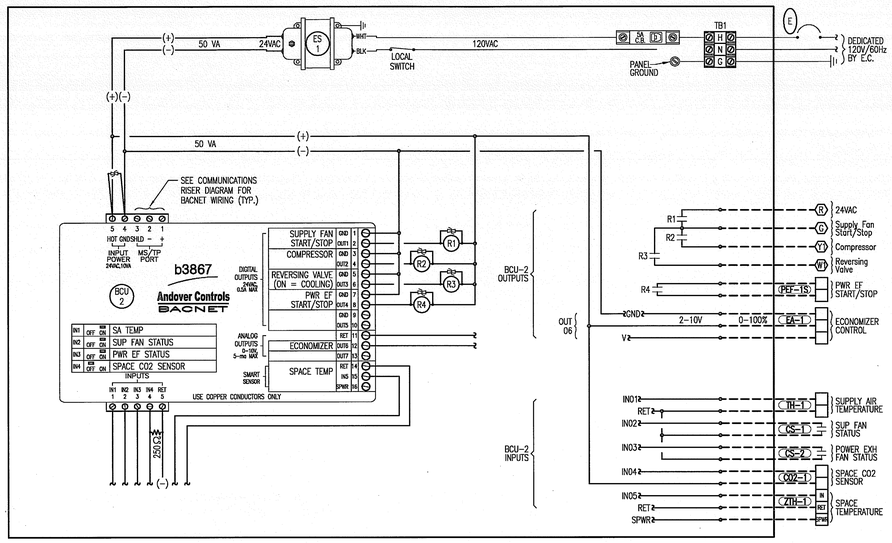


NOTES:

1. PROVIDE NEMA3R ENCLOSURE FOR FIELD INSTALLED INTERFACE PANEL TO BE LOCATED DIRECTLY ATTACHED TO EXTERIOR OF EACH AC UNIT. ALTERNATELY, EMS PANEL MAY BE LOCATED WITHIN THE AC UNIT CONTROL PANEL.
2. ALL 120 VOLT POWER AND CONDUIT BY DIV. 16.

2 CONTROL PANEL WIRING DIAGRAM (TYPICAL AC-2S, 3S, 4S, & 5S)

SCALE: NONE

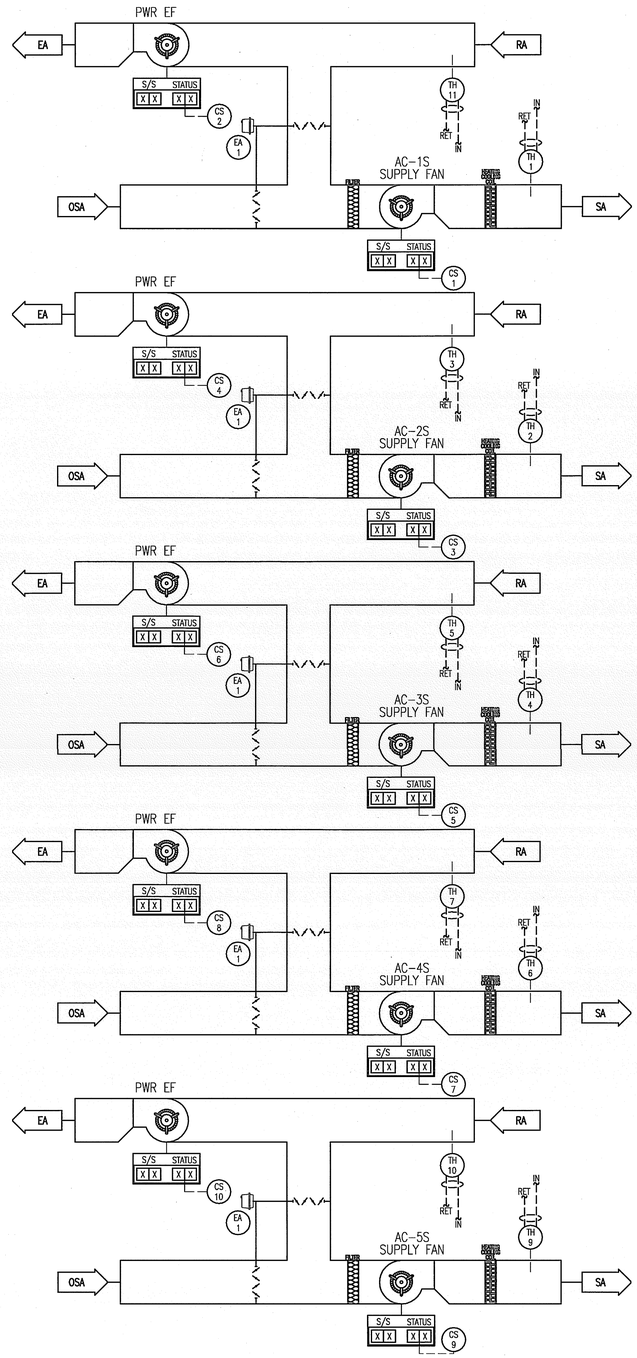


NOTES:

1. PROVIDE NEMA3R ENCLOSURE FOR FIELD INSTALLED INTERFACE PANEL TO BE LOCATED DIRECTLY ATTACHED TO EXTERIOR OF AC UNIT. ALTERNATELY, EMS PANEL MAY BE LOCATED WITHIN THE AC UNIT CONTROL PANEL.
2. ALL 120 VOLT POWER AND CONDUIT BY DIV. 16.

3 AC-1S CONTROL PANEL WIRING DIAGRAM

SCALE: NONE



1 AIR FLOW SCHEMATIC (TYPICAL AC-1S, 2S, 3S, 4S, & 5S)

SCALE: NONE

SEQUENCE OF OPERATION

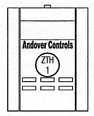
AIR HANDLING UNIT

A. UNOCCUPIED MODE:
   1. SUPPLY FAN & POWER EXHAUST FAN WILL BE OFF.
   2. OUTSIDE AIR DAMPER WILL BE CLOSED.
   3. DX COOLING WILL BE DISABLED.
   4. GAS HEATING WILL BE DISABLED.

B. OCCUPIED MODE:
   1. WHEN THE AIR HANDLING UNIT IS INDEXED TO OPERATE, THE SUPPLY FAN WILL START. UPON PROOF OF FAN RUNNING THE POWER EXHAUST FAN WILL START; THE ECONOMIZER DAMPERS, DX COOLING AND GAS HEATING WILL BE ENABLED.
   2. ECONOMIZER WILL PROVIDE FREE COOLING WHEN THE OUTSIDE AIR TEMPERATURE IS 5°F (ADJ.) BELOW THE SUPPLY AIR TEMPERATURE.
      a. THE ECONOMIZER DAMPERS WILL MAINTAIN A MINIMUM OUTSIDE AIR DAMPER POSITION.
      b. WHEN THE OUTSIDE AIR TEMPERATURE RISES ABOVE THE SPACE TEMPERATURE, THE OUTSIDE AIR DAMPER WILL BE RESET TO MAINTAIN THE MINIMUM AIR FLOW POSITION.
   3. GAS HEATING WILL BE ENERGIZED WHEN THE SPACE TEMPERATURE FALLS 2°F BELOW THE SPACE TEMPERATURE SETPOINT..
   4. DX COOLING WILL BE ENERGIZED WHEN THE SPACE TEMPERATURE RISES 2°F ABOVE THE SPACE TEMPERATURE SETPOINT.

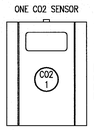
C. SAFETIES AND ALARMS:
   1. FAN FAILURE: IF THE SUPPLY FAN FAILS TO OPERATE, THE UNIT WILL SHUT DOWN AND AN ALARM WILL BE ANUNCIATED. DAMPERS WILL BE INDEXED TO THEIR UNOCCUPIED MODE CONDITIONS.
   2. SENSOR FAILURE: UPON FAILURE OF AN ANALOG SENSOR, ASSOCIATED DAMPERS WILL REMAIN AT THEIR LAST POSITION AND AN ALARM WILL BE ANNUNCIATED.
   3. AVERAGE ALL RETURN AIR TEMPERATURES ALONG WITH THE SPACE TEMPERATURE AND COMMAND ALL UNITS BASED ON THIS DEMAND TO MAINTAIN A SPACE SETPOINT TEMPERATURE.
   4. THESE UNITS WILL BE STAGGERED STARTED WHEN COMMANDED ON TO PREVENT A POWER SURGE.

ONE SPACE TEMP



NOTE:
TEMPERATURE SENSOR TO BE MOUNTED AT 48" ABOVE FINISHED FLOOR.

ONE CO2 SENSOR



NOTE:
CO2 SENSOR TO BE MOUNTED AT 48" ABOVE FINISHED FLOOR.

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SHEET TITLE
ENERGY MANAGEMENT SYSTEM CONTROL DIAGRAMS

100% CONSTRUCTION DOCUMENT

DATE	REVISIONS

STAMP

Production Dept.	Project Manager	Project Engineer

REGISTERED PROFESSIONAL ENGINEER RICHARD WOLZEN No. 22941 ELECTRICAL STATE OF CALIFORNIA

CHECKED BY	DATE
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SCALE