



<div> <div>6</div> <div>UNIT HEATER UH CONTROL DIAGRAM</div> </div> <div> </div>	<div> <div>7</div> <div>SPLIT AIR CONDITIONING UNIT ACU CONTROL DIAGRAM</div> </div> <div> </div>	<div> <div>10</div> <div>UNIT HEATER UH SEQUENCE OF OPERATIONS</div> </div> <div> <p>GENERAL</p> <ol style="list-style-type: none"> THIS CONTROL SEQUENCE APPLIES TO THE UNIT HEATER SYSTEMS. THE ECS SHALL CONTROL AND MONITOR OPERATION OF THE UNIT HEATERS, INCLUDING ENABLING OF SUPPLY FANS, CONTROL OF ELECTRIC HEAT AND SAFETIES AND ALARMS AS DESCRIBED BELOW. CONTROL AND STARTUP <ol style="list-style-type: none"> UPON A DECREASE IN SPACE TEMPEARTURE OF MORE THAN 2°F BELOW THE ADJUSTABLE SETPOINT AT (SP-T), THE CONTROLLER SHALL ENABLE THE SUPPLY FAN AND THE ELECTRIC HEATING COIL TO MAINTAIN SPACE TEMPERATURE. UPON AN INCREASE IN SPACE TEMPERATURE OF MORE THAN 2°F ABOVE THE ADJUSTABLE SETPOINT AT (SP-T), THE CONTROLLER SHALL DISABLE THE SUPPLY FAN AND THE ELECTRIC HEATING COIL. PROVIDE THE SCHEDULE FOR ADJUSTABLE OCCUPIED AND UNOCCUPIED SPACE TEMPERATURE SETPOINTS. <p>ALARMS</p> <ol style="list-style-type: none"> THE CONTROL SYSTEM SHALL ANNUNCIATE AN ALARM TO THE BCS IF ANY OF THE FOLLOWING SAFETIES OCCUR: <ol style="list-style-type: none"> SPACE TEMPERATURE IS BELOW SETPOINT (-2°F), DELAY: 15 MINUTES. UNITS COMMANDED TO START AND INTERNAL CURRENT SWITCH DOES NOT DETECT CURRENT, DELAY: NONE. </div> <div> <table> <tr> <th colspan="2">UNIT HEATER POINTS SCHEDULE</th> </tr> <tr> <th>POINT</th> <th>DESCRIPTION</th> </tr> <tr> <td>EH-EN</td> <td>ENABLE UNIT HEATER</td> </tr> <tr> <td>EH-ED</td> <td>SPACE TEMPERATURE</td> </tr> <tr> <td>EH-ET</td> <td>UNIT HEATER CURRENT SWITCH</td> </tr> <tr> <td></td> <td>DIGITAL INPUT</td> </tr> </table> </div>	UNIT HEATER POINTS SCHEDULE		POINT	DESCRIPTION	EH-EN	ENABLE UNIT HEATER	EH-ED	SPACE TEMPERATURE	EH-ET	UNIT HEATER CURRENT SWITCH		DIGITAL INPUT	<div> <div>8</div> <div>SPLIT AIR CONDITIONING UNIT ACU SEQUENCE OF OPERATIONS</div> </div> <div> <p>GENERAL</p> <ol style="list-style-type: none"> THIS CONTROL SEQUENCE APPLIES TO DEDICATED SPLIT SYSTEMS. THE BUILDING CONTROL SYSTEM (BCS) SHALL MONITOR OPERATION OF UNIT. PROVIDE ADEQUATE DIAGRAMS TO PREVENT SHORT-CIRCUITING OF UNIT. BCS OVER AN OPEN-PROTOCOL NETWORK. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. <p>CONTROL SEQUENCE</p> <ol style="list-style-type: none"> THE UNIT SHALL RUN CONTINUOUSLY. UNIT OPERATES ON INTERNAL CONTROLS TO MAINTAIN SPACE TEMPERATURE SETPOINT. <p>ALARMS</p> <ol style="list-style-type: none"> THE FOLLOWING SAFETIES SHALL SHUT DOWNS RESPECTIVE UNIT AND INMATE AN ALARM TO THE BCS: <ol style="list-style-type: none"> UNIT CONTROLLER OR INTERNAL SAFETIES INDICATE A "FAULT" - DELAY: NONE. UNIT SHALL SHUT DOWN AND REPORT THROUGH THE BCS. <p>ALARMS</p> <ol style="list-style-type: none"> THE CONTROL SYSTEM SHALL ANNUNCIATE AN ALARM TO THE BCS IF ANY OF THE FOLLOWING SAFETIES OCCUR: <ol style="list-style-type: none"> SPACE TEMPERATURE IS OFF SETPOINT (-2°F), DELAY: 9 MINUTES. UNITS COMMANDED TO START AND INTERNAL SAFETIES INDICATE FAULT, DELAY: NONE. </div> <div> <table> <tr> <th colspan="2">SPLIT AIR CONDITIONING UNIT POINT SCHEDULE</th> </tr> <tr> <th>POINT</th> <th>DESCRIPTION</th> </tr> <tr> <td>EH-EN</td> <td>HEATER STATUS</td> </tr> <tr> <td>EH-ED</td> <td>TEMPERATURE SETPOINT</td> </tr> <tr> <td>EH-ET</td> <td>SPACE TEMPERATURE</td> </tr> <tr> <td>EH-ET</td> <td>SUPPLY FAN ENABLE</td> </tr> <tr> <td>EH-ET</td> <td>SUPPLY FAN STATUS</td> </tr> <tr> <td>EH-ET</td> <td>NO "UNIT TROUBLE"</td> </tr> <tr> <td></td> <td>DIGITAL INPUT (UNIT CIRCUITS)</td> </tr> </table> </div>	SPLIT AIR CONDITIONING UNIT POINT SCHEDULE		POINT	DESCRIPTION	EH-EN	HEATER STATUS	EH-ED	TEMPERATURE SETPOINT	EH-ET	SPACE TEMPERATURE	EH-ET	SUPPLY FAN ENABLE	EH-ET	SUPPLY FAN STATUS	EH-ET	NO "UNIT TROUBLE"		DIGITAL INPUT (UNIT CIRCUITS)	<div> <div>11</div> <div>NOT USED</div> </div>	<div> <div>5</div> <div>KITCHEN EXHAUST FAN EF SEQUENCE OF OPERATIONS</div> </div> <div> <p>GENERAL</p> <ol style="list-style-type: none"> THIS SEQUENCE APPLIES TO EXHAUST FANS SERVING THE KITCHEN HOODS. <p>CONTROL AND STARTUP</p> <ol style="list-style-type: none"> THE EXHAUST FAN SHALL BE COMMANDED ON AND OFF BY A SWITCH AT THE KITCHEN EXHAUST HOOD. THE MAKEUP AIR DAMPER SHALL BE COMMANDED OPEN AND THE GENERAL EXHAUST DAMPERS SHALL COMMANDED CLOSED WHEN THE HOOD IS OPERATING. THE MAKEUP AIR DAMPER SHALL BE COMMANDED CLOSED AND THE GENERAL EXHAUST DAMPERS SHALL BE COMMANDED OPEN WHEN THE HOOD IS NOT OPERATING. </div> <div> <table> <tr> <th colspan="2">EXHAUST FAN POINTS SCHEDULE</th> </tr> <tr> <th>POINT</th> <th>DESCRIPTION</th> </tr> <tr> <td>EH-EN</td> <td>EXHAUST FAN STATUS</td> </tr> <tr> <td>EH-ED</td> <td>EXHAUST FAN ENABLE</td> </tr> <tr> <td>EH-ET</td> <td>MAKEUP AIR DAMPER POSITION</td> </tr> <tr> <td>EH-ET</td> <td>EXHAUST DAMPER POSITION</td> </tr> <tr> <td></td> <td>DIGITAL OUTPUT</td> </tr> </table> </div>	EXHAUST FAN POINTS SCHEDULE		POINT	DESCRIPTION	EH-EN	EXHAUST FAN STATUS	EH-ED	EXHAUST FAN ENABLE	EH-ET	MAKEUP AIR DAMPER POSITION	EH-ET	EXHAUST DAMPER POSITION		DIGITAL OUTPUT	<div> <div>4</div> <div>KITCHEN EXHAUST FAN EF CONTROL DIAGRAM</div> </div> <div> </div>	<div> <div>1</div> <div>ELECTRIC ROOM EXHAUST FAN EF CONTROL DIAGRAM</div> </div> <div> </div>	<div> <div>2</div> <div>ELECTRIC ROOM EXHAUST FAN EF SEQUENCE OF OPERATIONS</div> </div> <div> <p>FAN</p> <p>GENERAL:</p> <ol style="list-style-type: none"> THIS SEQUENCE APPLIES TO EXHAUST FANS EF-S & EF-S. <p>THE EXHAUST FAN SHALL RUN CONTINUOUSLY, UNLESS SHUTDOWN ON SAFETIES. THE FAN SPEED SHALL BE INDEXED AS FOLLOWS:</p> <ol style="list-style-type: none"> LOW SPEED OPERATION SHALL RUN ANYTIME THE OUTDOOR AIR TEMPERATURE RISES ABOVE 82°F OR BELOW 55°F TO MAINTAIN SUPPLY OF THE MINIMUM OUTDOOR HIGH SPEED OPERATION SHALL RUN ANYTIME THE OUTDOOR AIR TEMPERATURE FALLS BETWEEN 55°F AND 82°F TO PROVIDE ECONOMIZER COOLING TO THE SPACE. </div> <div> <table> <tr> <th colspan="2">EXHAUST FAN POINTS SCHEDULE</th> </tr> <tr> <th>POINT</th> <th>DESCRIPTION</th> </tr> <tr> <td>EH-EN</td> <td>EXHAUST FAN STATUS</td> </tr> <tr> <td>EH-ED</td> <td>EXHAUST FAN LOW SPEED ENABLE</td> </tr> <tr> <td>EH-ET</td> <td>EXHAUST FAN HIGH SPEED ENABLE</td> </tr> <tr> <td>EH-ET</td> <td>OUTDOOR AIR TEMPERATURE</td> </tr> <tr> <td></td> <td>DAMPER INPUT</td> </tr> </table> </div>	EXHAUST FAN POINTS SCHEDULE		POINT	DESCRIPTION	EH-EN	EXHAUST FAN STATUS	EH-ED	EXHAUST FAN LOW SPEED ENABLE	EH-ET	EXHAUST FAN HIGH SPEED ENABLE	EH-ET	OUTDOOR AIR TEMPERATURE		DAMPER INPUT	<div> <div>3</div> <div>NOT USED</div> </div>	<div> <div>6</div> <div>NOT USED</div> </div>	<div> <div>9</div> <div>NOT USED</div> </div>	<div> <div>1</div> <div>NOT USED</div> </div>
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