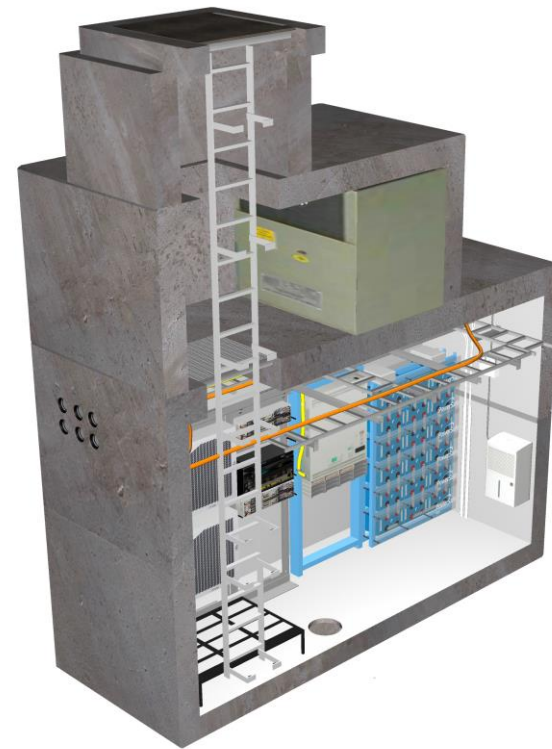


# PROJECT: AT&T CEV's (Controlled Environmental Vaults)



**DRAWINGS PROVIDED FOR**



**DRAWINGS PROVIDED BY**



**CONTROLLED ENVIRONMENTAL VAULT – AT&T SITES**

Table of Contents

SYSTEM VIEW..... P.3

GAS DETECTION CONTROLLER & SENSORS..... P.4

LEGEND..... P.5

SEQUENCE OF OPERATIONS – SINGLE/DOUBLE COOL..... P.6

SEQUENCE OF OPERATIONS – HATCHPACK..... P.7

COMFORT MODE BUTTON AND GROUND CONNECTIONS – FIELD INSTALLATION..... P.8

PANEL LAYOUT - TERMINAL BLOCK IDENTIFICATION..... P.9

PANEL LAYOUT – INTERNAL WIRING HIGH VOLTAGE INPUTS & OUTPUTS..... P.10

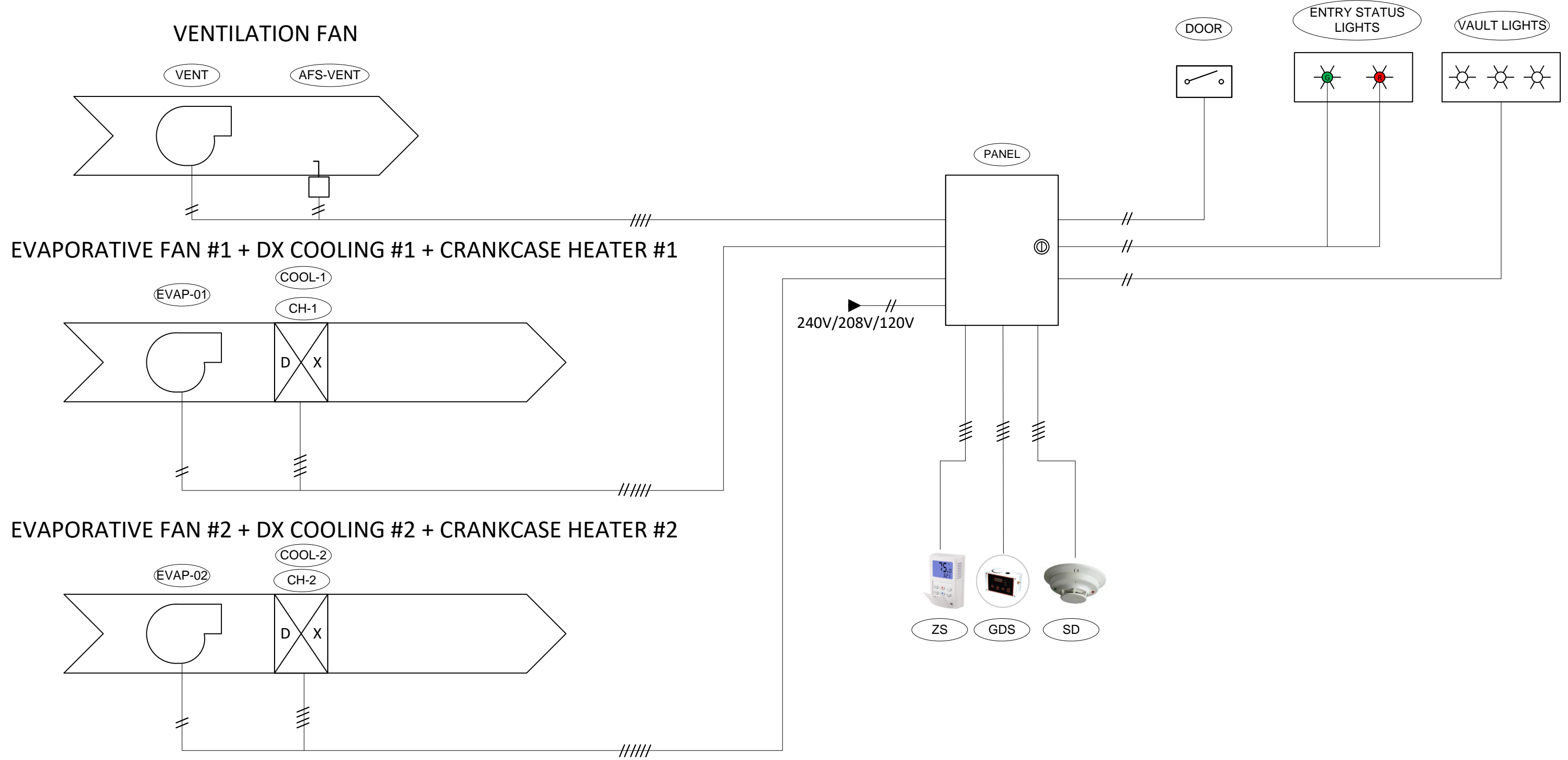
PANEL LAYOUT – INTERNAL WIRING LOW VOLTAGE INPUTS & OUTPUTS..... P.11

© Copyright 2022 ProLon. All rights reserved. No part of this document may be photocopied or reproduced by any means, or translated to another language without prior written consent of ProLon. All specifications are nominal and may change as design improvements are introduced. ProLon shall not be liable for damages resulting from misapplication or misuse of its products. All trademarks are the property of their respective owners.

PROJECT NAME: AT&T CEV'S	DRAWING TITLE: Table of contents	<b>PROLON</b> controls
PROJECT NUMBER:	SYSTEM NAME:	CUSTOMER: <b>PEARCE</b> SERVICES
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER 2

# CONTROLLED ENVIRONMENTAL VAULT – AT&T SITES

System View



PROJECT NAME: <p style="text-align: center;">AT&amp;T CEV'S</p>	DRAWING TITLE: <p style="text-align: center;">System View</p>	
PROJECT NUMBER:	SYSTEM NAME:	CUSTOMER: 
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER <p style="text-align: center;">3</p>

## CONTROLLED ENVIRONMENTAL VAULT – AT&T SITES

### Gas Detection Controller & Sensors - Wiring

**Mounting height recommendations:**

Carbon Monoxide (CO) = 4 to 5 feet above floor level  
 Hydrogen Sulfide (H<sub>2</sub>S) = 12 inches above floor level  
 Methane (CH<sub>4</sub>) = 12 inches below ceiling level

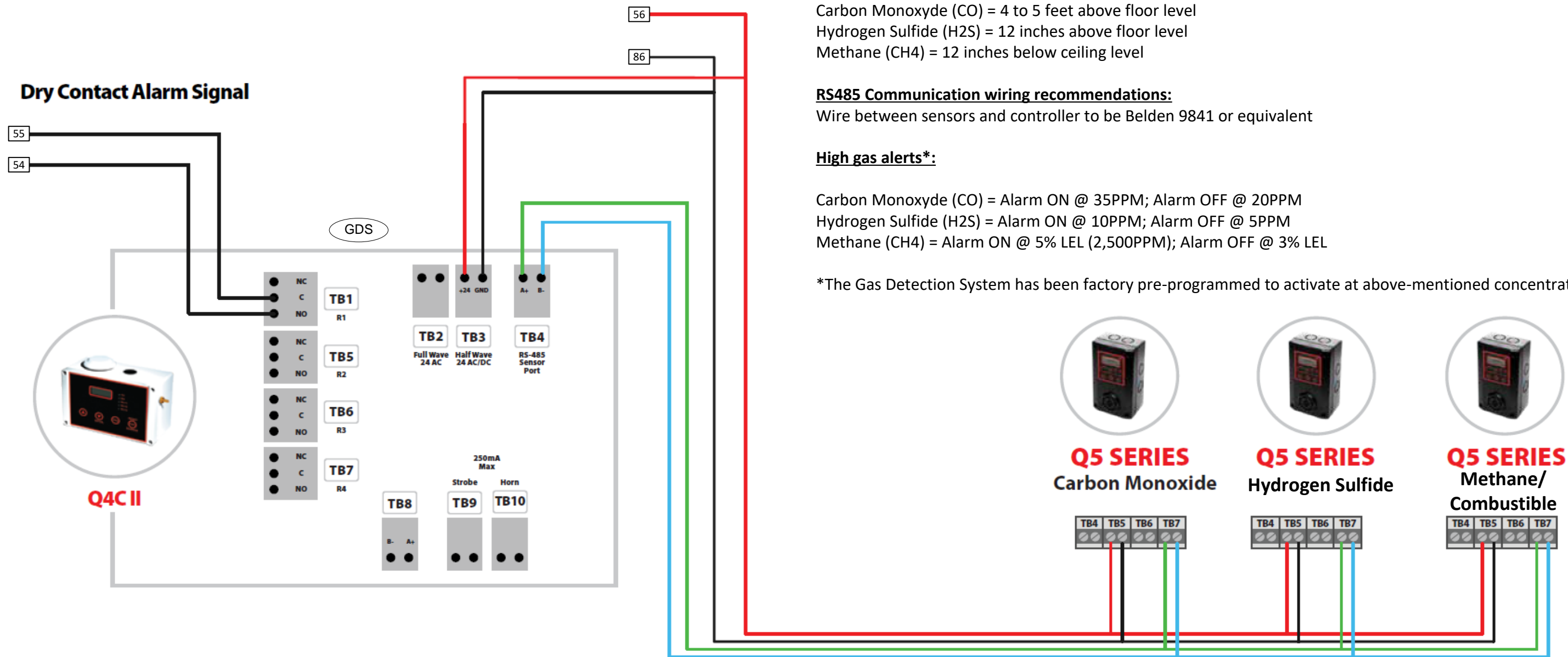
**RS485 Communication wiring recommendations:**

Wire between sensors and controller to be Belden 9841 or equivalent

**High gas alerts\*:**

Carbon Monoxide (CO) = Alarm ON @ 35PPM; Alarm OFF @ 20PPM  
 Hydrogen Sulfide (H<sub>2</sub>S) = Alarm ON @ 10PPM; Alarm OFF @ 5PPM  
 Methane (CH<sub>4</sub>) = Alarm ON @ 5% LEL (2,500PPM); Alarm OFF @ 3% LEL

\*The Gas Detection System has been factory pre-programmed to activate at above-mentioned concentrations.



**FOR TECHNICAL SUPPORT ON THE GAS DETECTION SYSTEM, CONTACT ACI**


**DAVE WEISE**  
**dweise@workaci.com**  
**888-967-5224**

PROJECT NAME: AT&T CEV'S	DRAWING TITLE: Gas Detection Controller & Sensors	 CUSTOMER: 
PROJECT NUMBER:	SYSTEM NAME:	
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER 4

## CONTROLLED ENVIRONMENTAL VAULT – AT&T SITES

### Legend

TAG	NAME	PART NUMBER	MANUFACTURER
CT-VENT	CURRENT SWITCH - VENT FAN STATUS	PL-MSCS-A	PROLON
CH-1	CRANKCASE HEATER 1	-	BY OTHERS
CH-2	CRANKCASE HEATER 2	-	BY OTHERS
COOL-1	DX COMPRESSOR - COOL 1	-	BY OTHERS
COOL-2	DX COMPRESSOR - COOL 2	-	BY OTHERS
DOOR	HATCH DOOR SWITCH	-	BY OTHERS
EVAP-01	EVAPORATIVE FAN UNIT 01	-	BY OTHERS
EVAP-02	EVAPORATIVE FAN UNIT 02	-	BY OTHERS
GDS	GAS DETECTION SYSTEM - (CO, CH4, H2S)	PL-PGDS-CEV-3	PROLON
PANEL	PREWIRED PANEL & CONTROLLER	PL-PN1-M2-CEV	PROLON
PL-485-BT	CONNECTION TOOL FOR LAPTOP OR MOBILE DEVICE	PL-485-BT	PROLON
SD	SMOKE DETECTOR	PL-C4WTBA	PROLON
VENT	VENTILATION FAN	-	BY OTHERS
ZS	ZONE SENSOR W/ LCD SCREEN (TEMPERATURE AND RH)	PL-TUCH2	PROLON

PROJECT NAME: AT&T CEV'S	DRAWING TITLE: Legend	
PROJECT NUMBER:	SYSTEM NAME:	
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER 5

# SEQUENCE OF OPERATION – SINGLE/DOUBLE COOL UNITS

In the case of Single/Double Cool units, the Evaporator Fan and Ventilation Fan are separate pieces of equipment, therefore they shall be identified as such in the following sequence.

## TEMPERATURE CONTROL

### UNOCCUPIED & COMFORT MODES:

- IF THE SPACE TEMPERATURE RAISES ABOVE 75°F (ADJUSTABLE), THE EVAPORATOR FAN(S) SHALL TURN ON AND THE DX COOLING STAGE(S) SHALL TURN ON. WHEN THE SPACE TEMPERATURE RETURNS BELOW ITS SETPOINT, THE EVAPORATOR FAN(S) AND DX COOLING STAGE(S) SHALL TURN OFF.

### OCCUPIED

- IF THE SPACE TEMPERATURE RAISES ABOVE 75°F (ADJ), THE EVAPORATOR FAN(S) SHALL TURN ON AND THE DX COOLING STAGE(S) SHALL TURN ON. WHEN THE SPACE TEMPERATURE RETURNS BELOW ITS SETPOINT, THE EVAPORATOR FAN(S) AND DX COOLING STAGE(S) SHALL TURN OFF.  
 - THE DX COOLING SHALL BE PERMITTED FOR A MAXIMUM OF 30 MINUTES

## VENTILATION FAN, VAULT LIGHTS AND ENTRY STATUS LIGHTS:

### UNOCCUPIED:

- THE VAULT LIGHTS SHALL BE OFF
- THE VENTILATION FAN SHALL TURN ON 2 MINUTES (ADJ) EVERY 2 HOURS (ADJ).
- THE ENTRY STATUS LIGHT SHALL BE RED

### REQUEST TO ENTER:

UPON OPENING OF THE HATCH:

- THE VAULT LIGHTS SHALL BE OFF
- THE ENTRY STATUS LIGHT SHALL BE RED
- THE VENTILATION FAN SHALL TURN ON
  - UPON PROOF OF VENTILATION FAN, A 5 MINUTE (ADJ) TIMER SHALL BEGIN. ONCE THE TIMER HAS EXPIRED, THE ENTRY STATUS LIGHT SHALL BE GREEN AND THE SYSTEM WILL ENTER OCCUPIED MODE.

### OCCUPIED:

- THE VAULT LIGHTS SHALL BE ON
- THE VENTILATION FAN SHALL TURN ON 2 MINUTES (ADJ) EVERY 15 MINUTES (ADJ)

UPON A TRANSITION FROM OCCUPIED TO UNOCCUPIED (THE HATCH CLOSES):

- THE VAULT LIGHTS SHALL BLINK 2 TIMES TO INDICATE 2 MINUTES REMAINING BEFORE REVERTING TO UNOCCUPIED MODE

### COMFORT MODE:

COMFORT MODE MAY ONLY BE ACTIVATED IF THE HATCH DOOR IS CLOSED. UPON HOLDING THE COMFORT MODE BUTTON FOR 3 SECONDS:

- THE VAULT LIGHTS SHALL BLINK ONCE
  - COMFORT MODE SHALL BE ENABLED FOR 120 MINUTES (ADJ)
  - THE VAULT LIGHTS SHALL BLINK 2 TIMES TO INDICATE 2 MINUTES REMAINING BEFORE REVERTING TO UNOCCUPIED MODE
  - THE VENTILATION FAN SHALL TURN ON 2 MINUTES (ADJ) EVERY 15 MINUTES (ADJ)
- IN COMFORT MODE, IF THE HATCH OPENS, THE SYSTEM RE-ENTERS OCCUPIED MODE

## SMOKE DETECTION



UPON SMOKE DETECTION:

- IF THE HATCH IS OPEN, THE VENTILATION FAN SHALL TURN ON, THE COOLING SHALL BE PERMITTED.
- IF THE HATCH IS CLOSED, THE VENTILATION FAN SHALL REMAIN OFF, THE COOLING SHALL BE PERMITTED.
- AN ALARM SHALL BE SENT TO AT&T SMOKE MONITORING SYSTEM

## HIGH GAS ALARM MODE

UPON DETECTION OF HIGH LEVELS OF GAS:

- THE VENTILATION FAN SHALL TURN ON UNTIL GAS LEVELS RETURN TO SAFE LEVELS
- THE ENTRY STATUS LIGHT SHALL BE RED
- AN ALARM SHALL BE SENT TO AT&T GAS MONITORING SYSTEM

PROJECT NAME: <p style="text-align: center;">AT&amp;T CEV'S</p>	DRAWING TITLE: Sequence of Operation - Single/Double Cool	
PROJECT NUMBER:	SYSTEM NAME:	CUSTOMER: 
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER <p style="text-align: center;">6</p>

# SEQUENCE OF OPERATION – HATCHPACK UNITS

In the case of Hatchpack units, the Evaporator Fan and Ventilation Fan are one and the same. For simplicity, the term ‘Fan’ will be used in the following sequence.

Each hatchpack unit can have 1 or 2 dampers, their position will be referred to as:

- **Cooling Mode:** The damper directs the air across the cooling coil
- **Ventilation Mode:** The damper directs the air to bypass the cooling coil

## TEMPERATURE CONTROL

### UNOCCUPIED & COMFORT MODES:

- IF THE SPACE TEMPERATURE RAISES ABOVE 75°F (ADJUSTABLE), THE FAN(S) SHALL TURN ON, THE DX COOLING STAGE(S) SHALL TURN ON AND THE DAMPER(S) SHALL BE IN COOLING MODE. WHEN THE SPACE TEMPERATURE RETURNS BELOW ITS SETPOINT, THE EVAPORATOR FAN(S) AND DX COOLING STAGE(S) SHALL TURN OFF, AND THE DAMPER(S) SHALL BE IN VENTILATION MODE.

### OCCUPIED

- IF THE SPACE TEMPERATURE RAISES ABOVE 75°F (ADJ), THE FAN(S) SHALL TURN ON, THE DX COOLING STAGE(S) SHALL TURN ON AND THE DAMPER(S) SHALL BE IN COOLING MODE. WHEN THE SPACE TEMPERATURE RETURNS BELOW ITS SETPOINT, THE EVAPORATOR FAN(S) AND DX COOLING STAGE(S) SHALL TURN OFF, AND THE DAMPER(S) SHALL BE IN VENTILATION MODE.
- THE DX COOLING SHALL BE PERMITTED FOR A MAXIMUM OF 30 MINUTES

## VENTILATION FAN, VAULT LIGHTS AND ENTRY STATUS LIGHTS:

### UNOCCUPIED:

- THE VAULT LIGHTS SHALL BE OFF
- THE VENTILATION FAN SHALL TURN ON 2 MINUTES (ADJ) EVERY 2 HOURS (ADJ).
- THE ENTRY STATUS LIGHT SHALL BE RED

### REQUEST TO ENTER:

UPON OPENING OF THE HATCH:

- THE VAULT LIGHTS SHALL BE OFF
- THE ENTRY STATUS LIGHT SHALL BE RED
- THE FAN SHALL TURN ON AND THE DAMPER SHALL BE IN VENTILATION MODE
- UPON PROOF OF FAN, A 5 MINUTE (ADJ) TIMER SHALL BEGIN. ONCE THE TIMER HAS EXPIRED, THE ENTRY STATUS LIGHT SHALL BE GREEN AND THE SYSTEM WILL ENTER OCCUPIED MODE.

### OCCUPIED:

- THE VAULT LIGHTS SHALL BE ON
- THE FAN SHALL TURN ON 2 MINUTES (ADJ) EVERY 15 MINUTES (ADJ)
- UPON CLOSING OF THE HATCH, THE VAULT LIGHTS SHALL BLINK 2 TIMES TO INDICATE 2 MINUTES REMAINING BEFORE REVERTING TO UNOCCUPIED MODE

UPON A TRANSITION FROM OCCUPIED TO UNOCCUPIED (THE HATCH CLOSES):

- THE VAULT LIGHTS SHALL BLINK 2 TIMES TO INDICATE 2 MINUTES REMAINING BEFORE REVERTING TO UNOCCUPIED MODE

### COMFORT MODE:

COMFORT MODE MAY ONLY BE ACTIVATED IF THE HATCH DOOR IS CLOSED. UPON HOLDING THE COMFORT MODE BUTTON FOR 3 SECONDS:

- THE VAULT LIGHTS SHALL BLINK ONCE
  - COMFORT MODE SHALL BE ENABLED FOR 120 MINUTES (ADJ)
  - THE VAULT LIGHTS SHALL BLINK 2 TIMES TO INDICATE 2 MINUTES REMAINING BEFORE REVERTING TO UNOCCUPIED MODE
  - THE VENTILATION FAN SHALL TURN ON 2 MINUTES (ADJ) EVERY 15 MINUTES (ADJ)
- IN COMFORT MODE, IF THE HATCH OPENS, THE SYSTEM RE-ENTERS OCCUPIED MODE

## SMOKE DETECTION



UPON SMOKE DETECTION:

- IF THE HATCH IS OPEN, THE FAN SHALL TURN ON, COOLING SHALL NOT BE PERMITTED, THE DAMPER SHALL BE IN VENTILATION MODE.
- IF THE HATCH IS CLOSED, THE FAN SHALL REMAIN OFF, COOLING SHALL BE PERMITTED, THE DAMPER SHALL BE IN COOLING MODE IF COOLING IS INITIATED.
- AN ALARM SHALL BE SENT TO AT&T SMOKE MONITORING SYSTEM

## HIGH GAS ALARM MODE

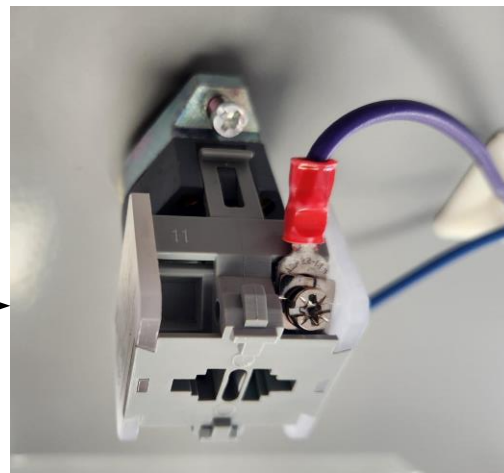
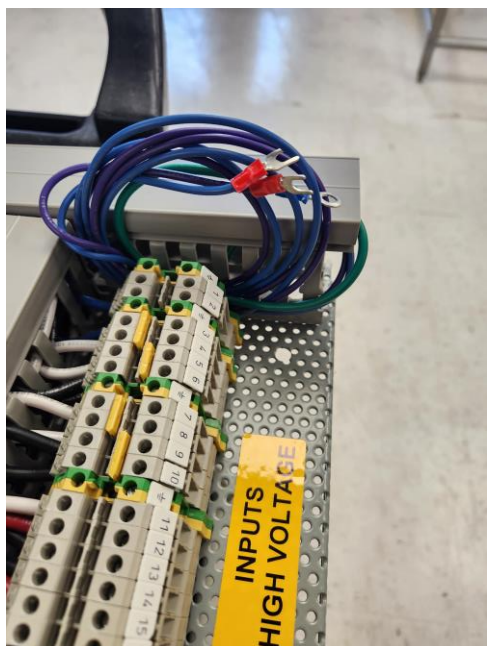
UPON DETECTION OF HIGH LEVELS OF GAS:

- THE FAN SHALL TURN ON AND THE DAMPER SHALL BE IN VENTILATION MODE UNTIL GAS LEVELS RETURN TO SAFE LEVELS
- THE ENTRY STATUS LIGHT SHALL BE RED
- AN ALARM SHALL BE SENT TO AT&T GAS MONITORING SYSTEM

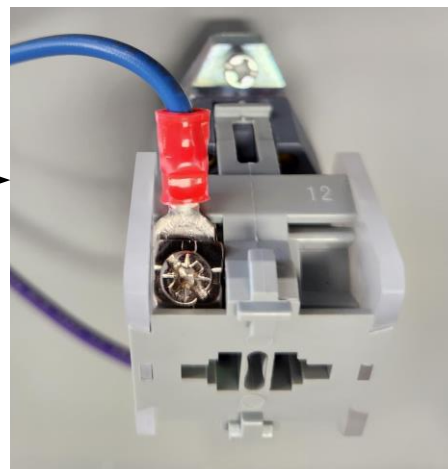
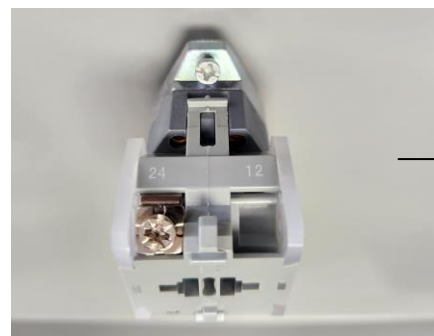
PROJECT NAME:  AT&T CEV'S	DRAWING TITLE: Sequence of Operation - Hatchpack	
PROJECT NUMBER:	SYSTEM NAME:	CUSTOMER: 
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER  7

## COMFORT MODE BUTTON AND GROUND CONNECTIONS FIELD INSTALLATION

LOOSE WIRES IN PANEL  
BLUE + PURPLE WIRES → COMFORT MODE PUSHBUTTON  
GREEN WIRE → GROUND



CONNECT PURPLE TO TERMINAL 23





CONNECT BLUE TO TERMINAL 24



CONNECT GROUND CABLE  
(GREEN CABLE) TO INSIDE OF  
PANEL ENCLOSURE, INSTALL ON  
TOP OF EXISTING GREEN CABLE  
AND FASTEN SECURELY

PANEL DOOR - FINAL VIEW



PROJECT NAME: AT&T CEV'S	DRAWING TITLE: COMFORT MODE BUTTON AND GROUND CONNECTIONS	 CUSTOMER: 
PROJECT NUMBER:	SYSTEM NAME:	
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER 8



# PANEL LAYOUT – TERMINAL BLOCK IDENTIFICATION

## HATCHPACK UNITS

### OUTPUTS – HIGH VOLTAGE

CEV LIGHTS - N	45
CEV LIGHTS – 120V	44
ENTRY STATUS LIGHTS - N	43
ENTRY STATUS LIGHTS RED – 120V	42
ENTRY STATUS LIGHTS GREEN – 120V	41
DAMPER 2 – N	40
Not used	39
DAMPER 2 – 120V	38
DAMPER 1 – 120V	37
Not used	36
DAMPER 1 - N	35
EVAP/VENT FAN 2 – N/208V	34
EVAP/VENT FAN 2 – 120V/208V	33
COOL 2 – N/208V	32
COOL 2- 120V/208V	31
CRANKCASE HEAT 2 - N/208V	30
CRANKCASE HEAT 2 - 120V/208V	29
EVAP/VENT FAN 1 – N/208V	28
EVAP/VENT FAN 1 – 120V/208V	27
COOL 1 – N/208V	26
COOL 1- 120V/208V	25
CRANKCASE HEAT 1 - N/208V	24
CRANKCASE HEAT 1 - 120V/208V	23

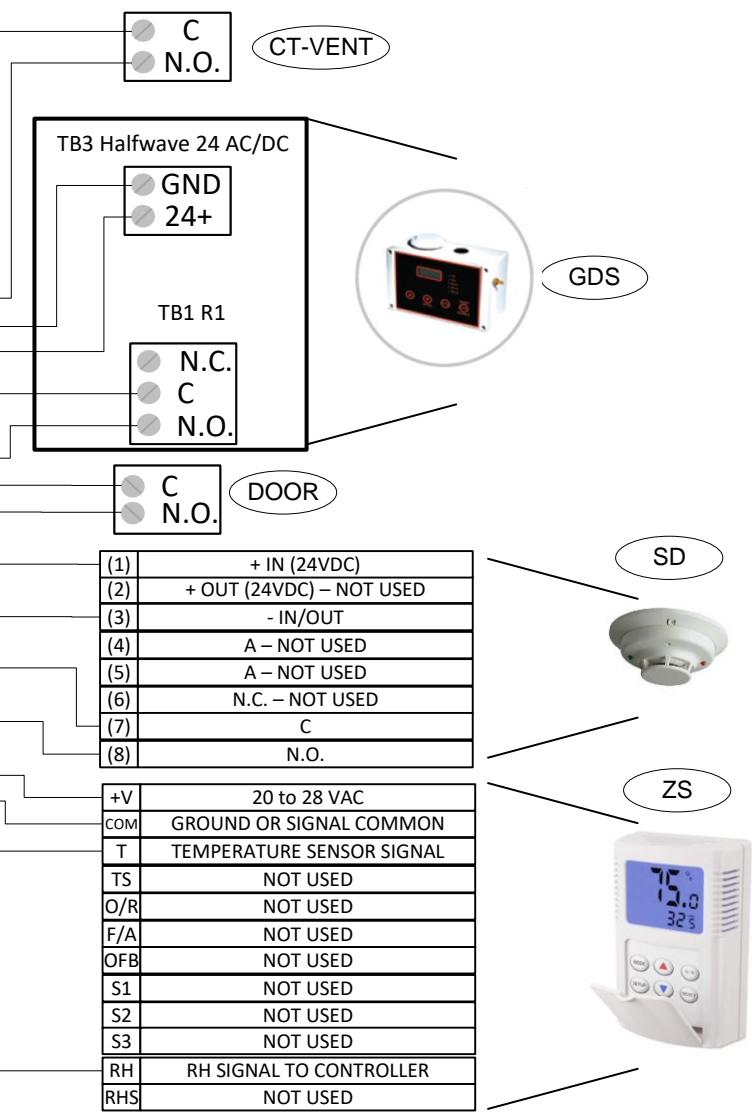
## SINGLE/DOUBLE COOL

### OUTPUTS – HIGH VOLTAGE

CEV LIGHTS - N	45
CEV LIGHTS – 120V	44
ENTRY STATUS LIGHTS - N	43
ENTRY STATUS LIGHTS RED – 120V	42
ENTRY STATUS LIGHTS GREEN – 120V	41
Not used	40
VENT FAN – N/208V	39
Not used	38
Not used	37
VENT FAN – 120V/208V	36
Not used	35
EVAP FAN 2 – N/208V	34
EVAP FAN 2 – 120V/208V	33
COOL 2 – N/208V	32
COOL 2- 120V/208V	31
CRANKCASE HEAT 2 - N/208V	30
CRANKCASE HEAT 2 - 120V/208V	29
EVAP FAN 1 – N/208V	28
EVAP FAN 1 – 120V/208V	27
COOL 1 – N/208V	26
COOL 1- 120V/208V	25
CRANKCASE HEAT 1 - N/208V	24
CRANKCASE HEAT 1 - 120V/208V	23

### INPUTS – PERIPHERALS – LOW VOLTAGE

VENT FAN STATUS C	87
VENT FAN STATUS N.O.	57
GAS DETECTION SYSTEM – 24VAC COM	86
GAS DETECTION SYSTEM – 24VAC SUPPLY	56
NOT USED	85
GAS DETECTION SYSTEM – CONTACT C.	55
NOT USED	84
GAS DETECTION SYSTEM – CONTACT N.O.	54
DOOR CONTACT - C	83
DOOR CONTACT – N.O.	53
NOT USED	82
SMOKE DETECTOR -24VDC (SUPPLY)	52
NOT USED	81
SMOKE DETECTOR – 24VDC (COMMON)	51
NOT USED	80
SMOKE DETECTOR – CONTACT C	50
NOT USED	79
SMOKE DETECTOR – CONTACT N.O.	49
NOT USED	78
TEMP & RH – 24VAC (SUPPLY)	48
TEMP & RH – 24VAC (COMMON)	77
TEMP & RH - TEMPERATURE SENSOR	47
NOT USED	76
TEMP & RH – RH SIGNAL 0-5VDC	46



### OUTPUTS – ALARMS – LOW VOLTAGE

POWER FAIL (A)	75
POWER FAIL (B)	74
HIGH TEMP ALARM OUT (A)	73
HIGH TEMP ALARM OUT (B)	72
HIGH WATER ALARM OUT (A)	71
HIGH WATER ALARM OUT (B)	70
INTRUSION ALARM OUT (A)	69
INTRUSION ALARM OUT (B)	68
GAS ALARM OUT (A)	67
GAS ALARM OUT (B)	66
SMOKE ALARM (A)	65
SMOKE ALARM (B)	64

### INPUTS – ALARMS – LOW VOLTAGE

HIGH TEMP ALARM IN (A)	63
HIGH TEMP ALARM IN (B)	62
HIGH WATER ALARM IN (A)	61
HIGH WATER ALARM OUT (B)	60
INTRUSION ALARM IN (A)	59
INTRUSION ALARM IN (B)	58

FIELD INSTALLED JUMPER(S) TO PROVIDE POWER TO DAMPER(S) IN HATCHPACK CONFIGURATION

## HATCHPACK UNITS

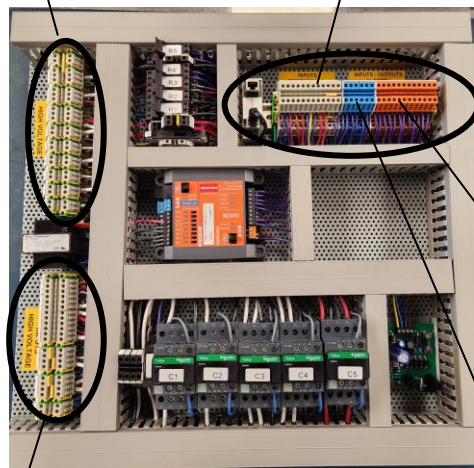
### INPUTS – HIGH VOLTAGE

TRANSFORMER – 240V	22
TRANSFORMER – 208V	21
TRANSFORMER – 120V	20
TRANSFORMER - NEUTRAL	19
LIGHTING CIRCUIT – 120V	18
LIGHTING CIRCUIT - N	17
DAMPER 1 CIRCUIT – N	16
Not used	15
DAMPER 1 CIRCUIT – 120V	14
DAMPER 2 CIRCUIT – 120V	13
Not used	12
DAMPER 2 CIRCUIT – N	11
Jumper for damper 2 – 120V	10
EVAP/VENT FAN 2 + COOL 2 CIRCUIT – 120V/208V	9
EVAP/VENT FAN 2 + COOL 2 CIRCUIT – N/208V	8
Jumper for damper 2 - N	7
Jumper for damper 1 – 120V	6
EVAP/VENT FAN 1 + COOL 1 CIRCUIT – 120V/208V	5
EVAP/VENT FAN 1 + COOL 1 CIRCUIT – N/208V	4
Jumper for damper 1 - N	3
POWER FAIL CIRCUIT – 208V/240V	2
POWER FAIL CIRCUIT – 208V/240V	1

## SINGLE/DOUBLE COOL

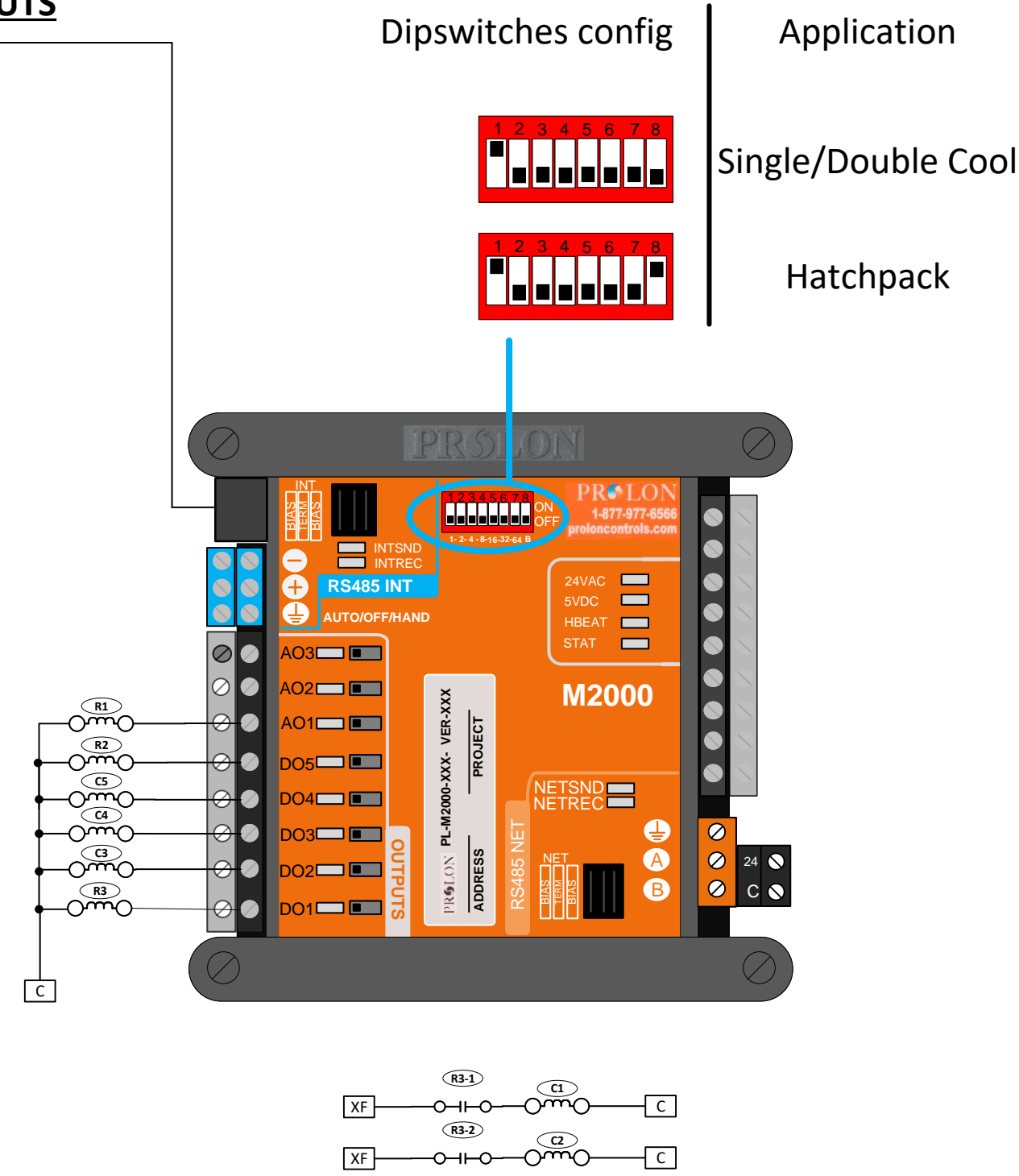
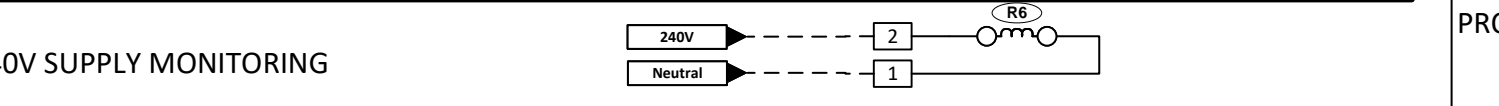
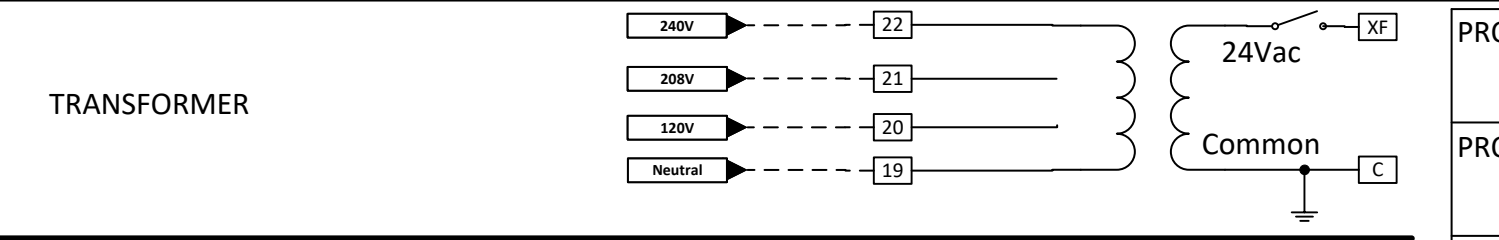
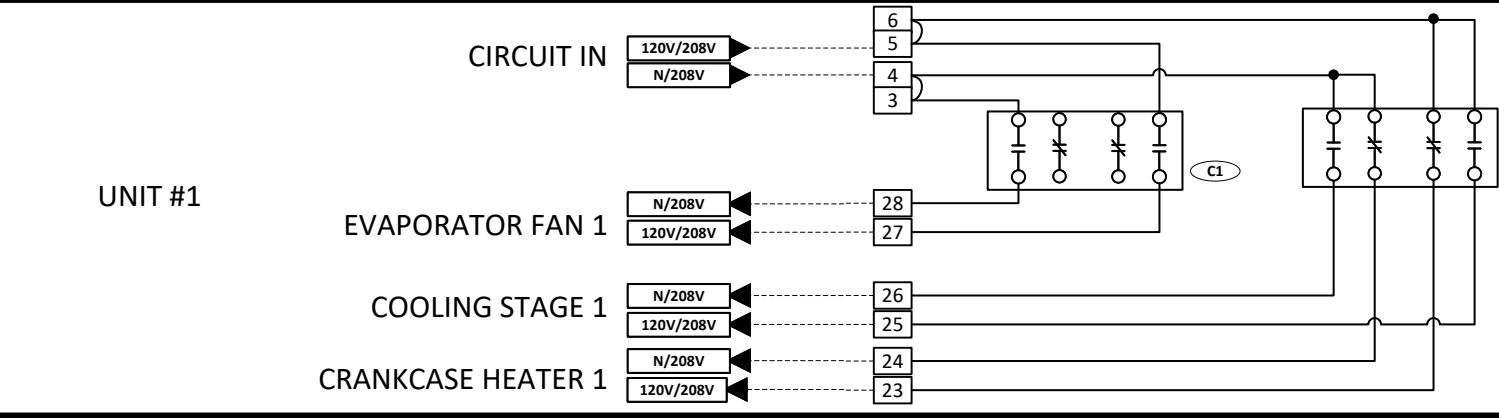
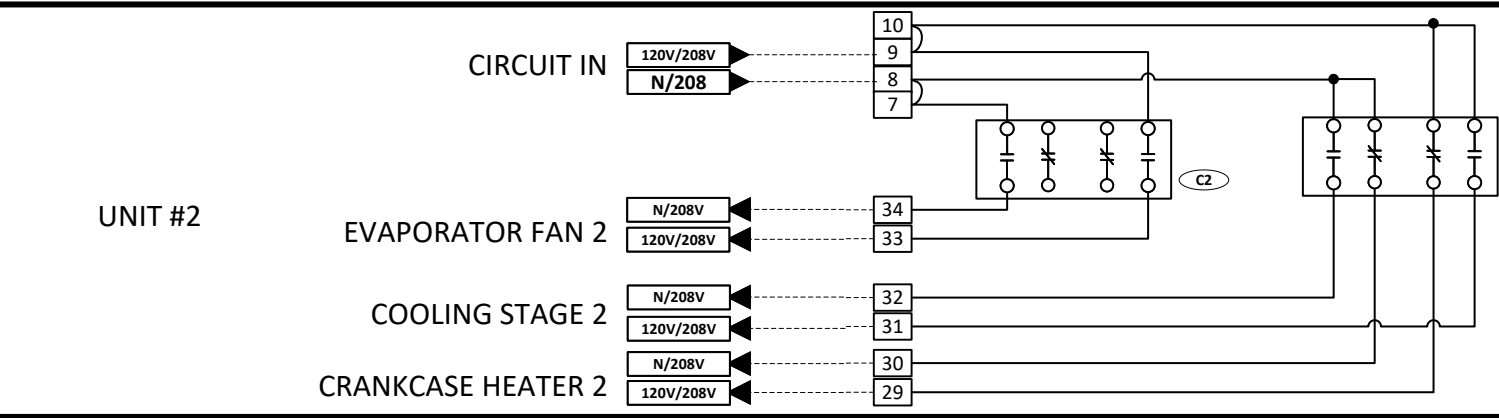
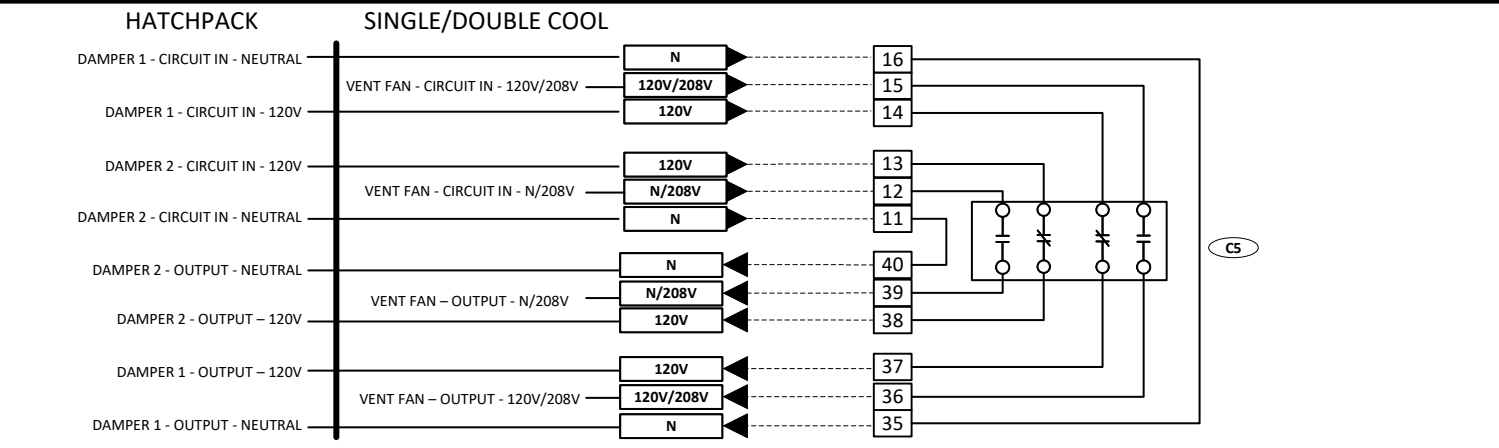
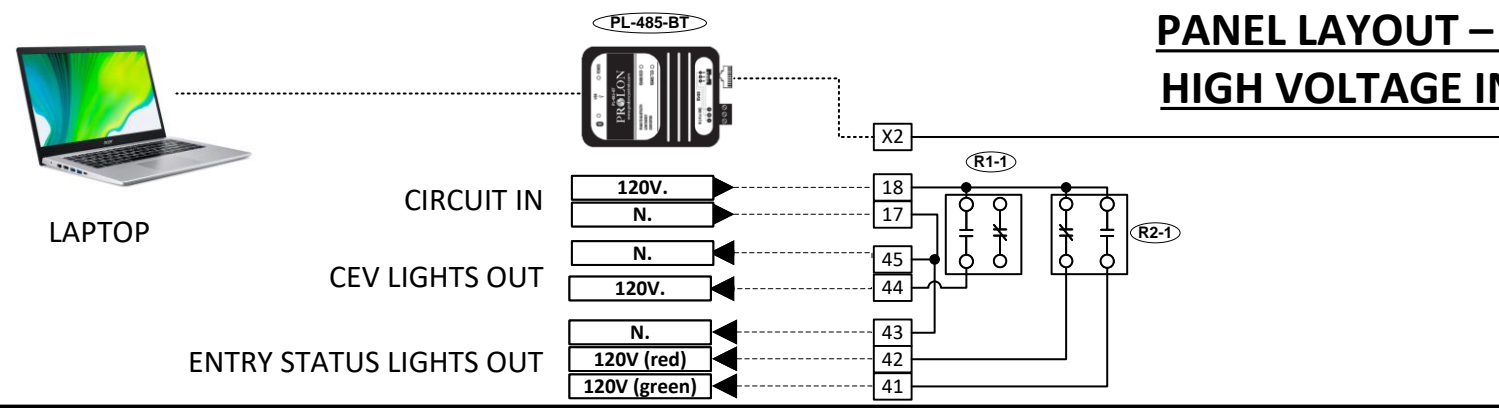
### INPUTS – HIGH VOLTAGE

TRANSFORMER – 240V	22
TRANSFORMER – 208V	21
TRANSFORMER – 120V	20
TRANSFORMER - NEUTRAL	19
LIGHTING CIRCUIT – 120V	18
LIGHTING CIRCUIT - N	17
Not used	16
VENT FAN CIRCUIT – 120V/208V	15
Not used	14
Not used	13
VENT FAN CIRCUIT – N/208V	12
Not used	11
Not used	10
EVAP FAN 2 + COOL 2 CIRCUIT – 120V/208V	9
EVAP FAN 2 + COOL 2 CIRCUIT – N/208V	8
Not used	7
Not used	6
EVAP FAN 1 + COOL 1 CIRCUIT – 120V/208V	5
EVAP FAN 1 + COOL 1 CIRCUIT – N/208V	4
Not used	3
POWER FAIL CIRCUIT – 208V/240V	2
POWER FAIL CIRCUIT – 208V/240V	1



PROJECT NAME: <p style="text-align: center;">AT&amp;T CEV'S</p>	DRAWING TITLE: TERMINAL BLOCK IDENTIFICATION	<b>PROLON</b> controls
PROJECT NUMBER:	SYSTEM NAME:	CUSTOMER: <b>PEARCE</b> SERVICES
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER <p style="text-align: center;">9</p>

# PANEL LAYOUT – INTERNAL WIRING HIGH VOLTAGE INPUTS & OUTPUTS



PROJECT NAME:  
AT&T CEV'S

PROJECT NUMBER:

PROJECT ADDRESS:

DRAWING TITLE:  
HIGH VOLTAGE INPUTS & OUTPUTS

SYSTEM NAME:

DESIGNED BY:

**PROLON**  
controls

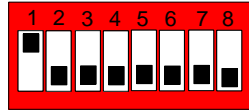
CUSTOMER:  
**PEARCE**  
SERVICES

PAGE NUMBER  
10

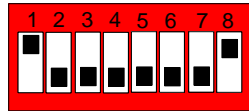
# PANEL LAYOUT – INTERNAL WIRING LOW VOLTAGE INPUTS & ALARM OUTPUTS

Dipswitches config

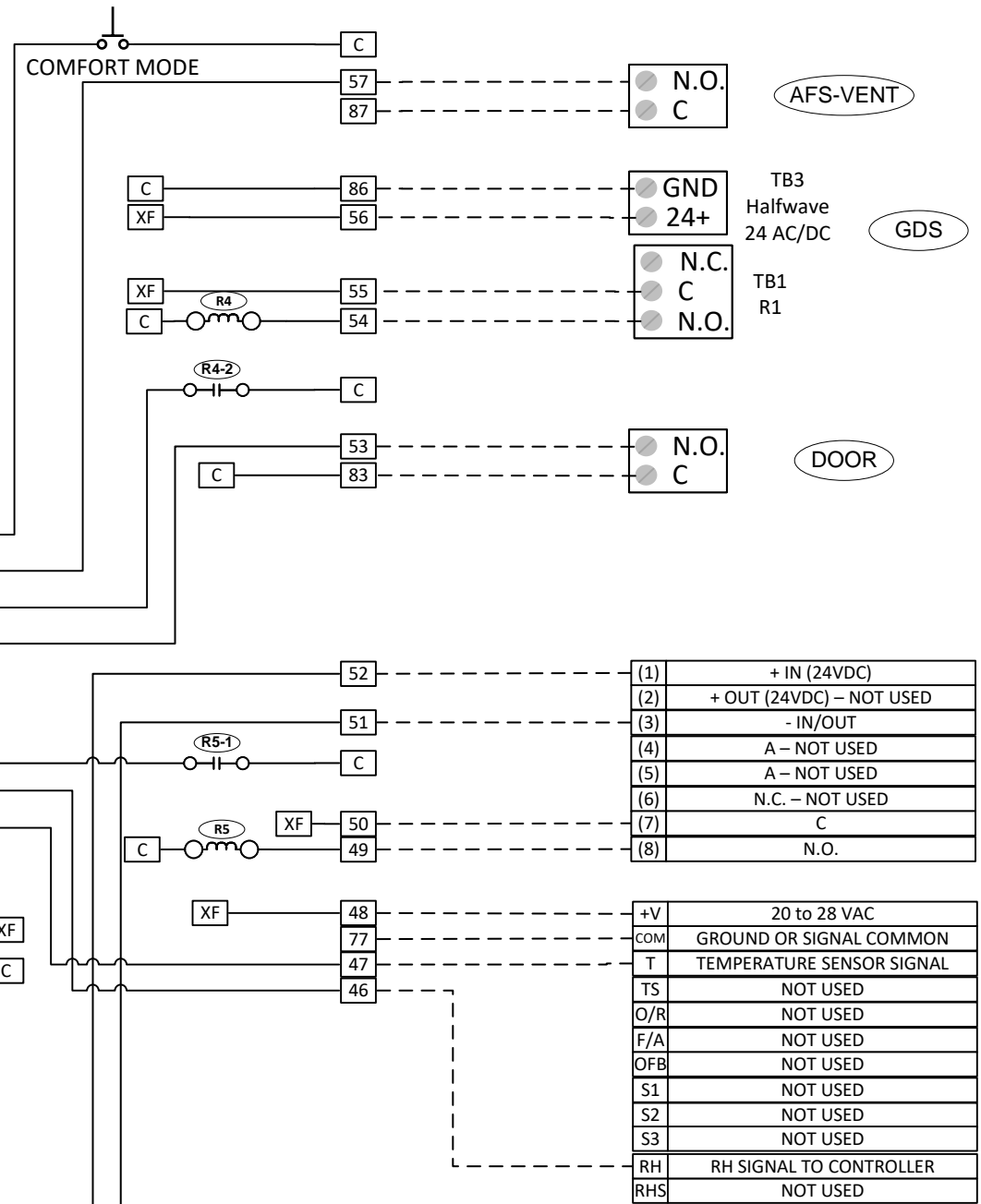
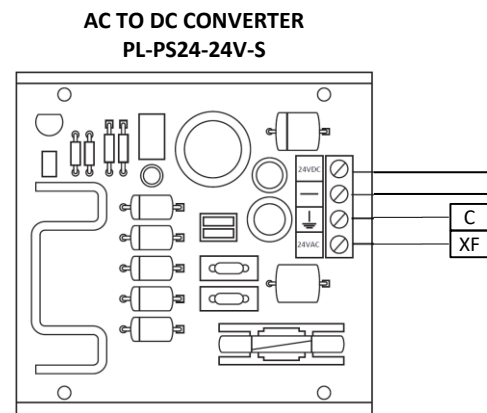
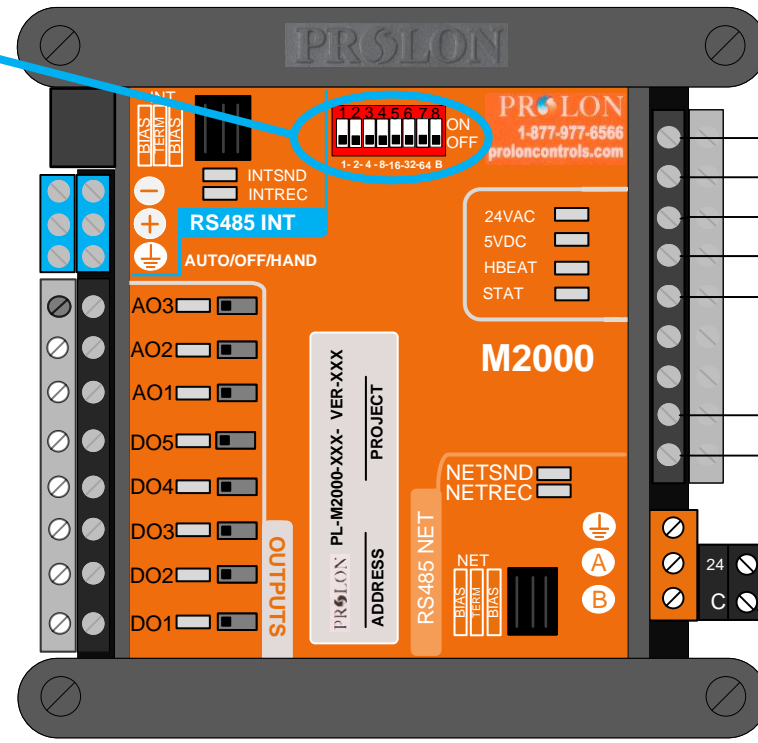
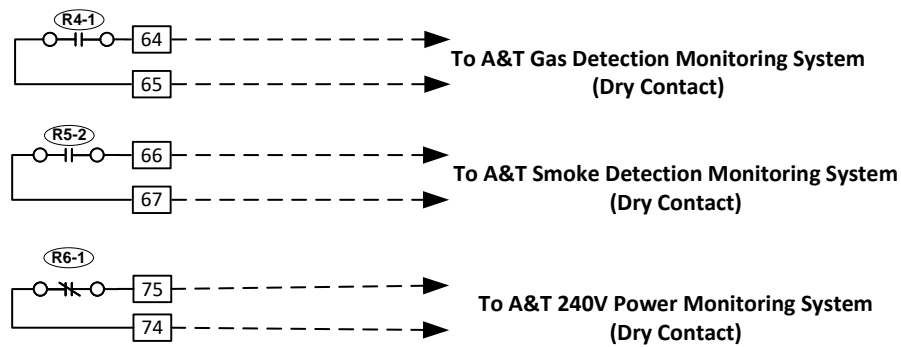
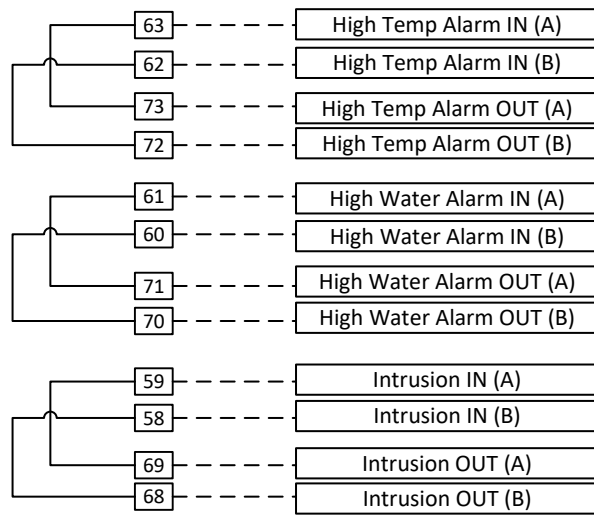
Application



Single/Double Cool



Hatchpack



PROJECT NAME: AT&T CEV'S	DRAWING TITLE: LOW VOLTAGE INPUTS	 CUSTOMER: 
PROJECT NUMBER:	SYSTEM NAME:	
PROJECT ADDRESS:	DESIGNED BY:	PAGE NUMBER 11