

AEHD-500 NEMA-4 ELECTRICAL SCHEMATICS

WIRING METHODS

POWER 460V = BLACK THHN
 120VAC = RED 16AWG
 NEUTRAL = WHITE 16AWG
 24VDC = BLUE 16AWG
 24V COMMON = WHITE/BLUE 16AWG
 GROUND = GREEN

SCHEMATIC TYPICAL INDEX

POWER DISTRIBUTION/BRANCH CIRCUITS
 PLC BASE UNIT INPUT/OUTPUTS
 PLC OUTPUT CARD
 PLC THERMOCOUPLE CARD
 TERMINAL LAYOUTS
 ENCLOSURE

Test Wire Size Installed In Connector AWG or MCM (mm ²)		Tightening Torque, Pound-Inches (N.m)			
		Slotted Head No. 10 and Larger ¹		Hexagonal Head - External Drive Socket Wrench	
		Slot Width - 0.047 Inch (1.2 mm) or Less and Slot Length - 1/4 Inch (6.4 mm) or Less	Slot Width - Over 0.047 Inch (1.2 mm) or Slot Length - Over 1/4 Inch (6.4 mm)	Split-Bolt Connectors	Other Connectors
18-10	(.082-5.3)	20 (2.3)	35 (4.0)	80 (9.0)	75 (8.5)
8	(8.4)	25 (2.8)	40 (4.5)	80 (9.0)	75 (8.5)
6-4	(13.3-21.2)	35 (4.0)	45 (5.1)	165 (18.6)	110 (12.4)
3	(26.7)	35 (4.0)	50 (5.6)	275 (31.1)	150 (16.9)
2	(33.6)	40 (4.5)	50 (5.6)	275 (31.1)	150 (16.9)
1	(42.4)	-	50 (5.6)	275 (31.1)	150 (16.9)
1/0-2/0	(53.5-67.4)	-	50 (5.6)	385 (43.5)	180 (20.3)
3/0-4/0	(85.0-107.2)	-	50 (5.6)	500 (56.5)	250 (28.2)
250-350	(127-177)	-	50 (5.6)	650 (73.4)	325 (36.7)
400	(203)	-	50 (5.6)	825 (93.2)	325 (36.7)
500	(253)	-	50 (5.6)	825 (93.2)	375 (42.4)
600-750	(304-380)	-	50 (5.6)	1000 (113.0)	375 (42.4)
800-1000	(406-508)	-	50 (5.6)	1000 (124.3)	500 (56.5)
1250-2000	(635-1010)	-	-	1100 (124.3)	600 (67.8)

TABLE 7.4:

¹ For values of slot width or length not corresponding to those specified, select the largest torque value associated with the conductor size. Slot width is the nominal design value. Slot length is measured at the bottom of the slot.

MAX VOLTAGE 460

TOTAL FLA 11.7

LARGEST MOTOR FLA NA

NUMBER OF PHASES 3

FREQUENCY 60HZ

CUSTOMER SERIAL

NO.

UNDERWRITERS LAB SERIAL

NO.



R



NOTES:

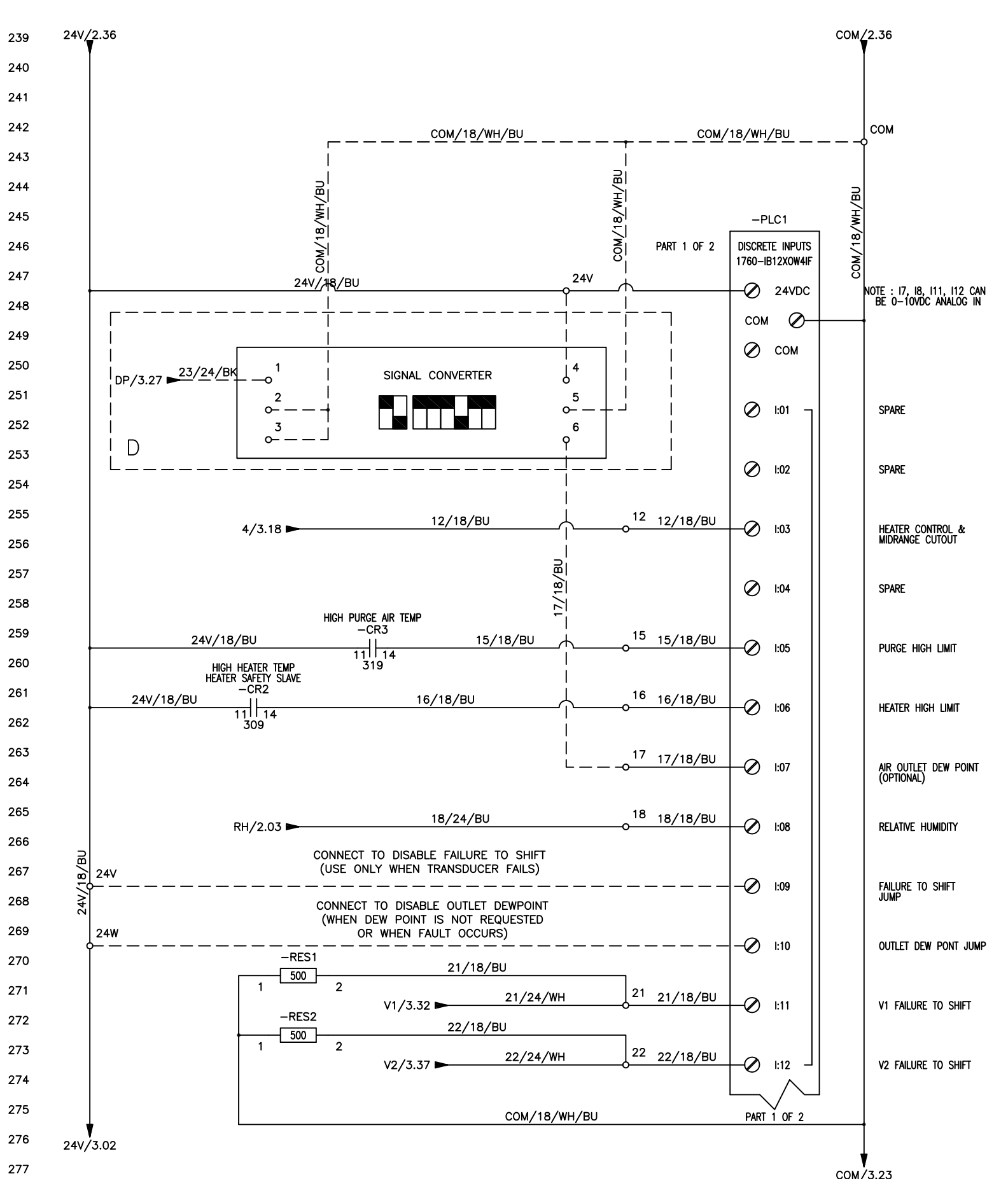
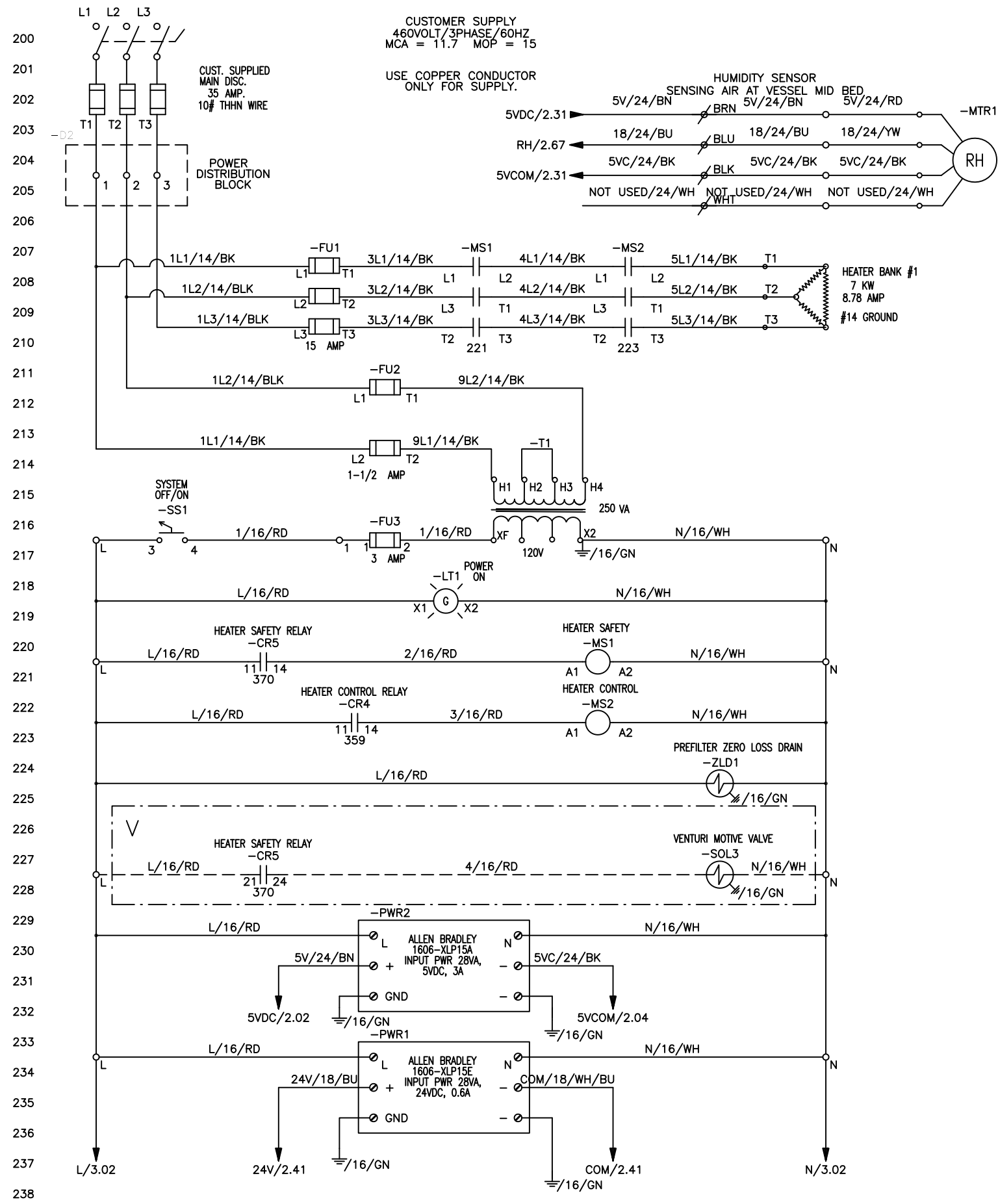
REV	REVISION DESCRIPTION	APPROVAL/DATE
1	PRODUCTION REDLINES	08/14/2015
2	ADDED VENTURI OPTION	03/29/2016
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PAGE DESCRIPTION	WIRING SCHEMATICS	JOB No.	AEHD-E4	DRAWING No.	AG3945133 - 1 of 6
PAGE DESCRIPTION	INDEX				



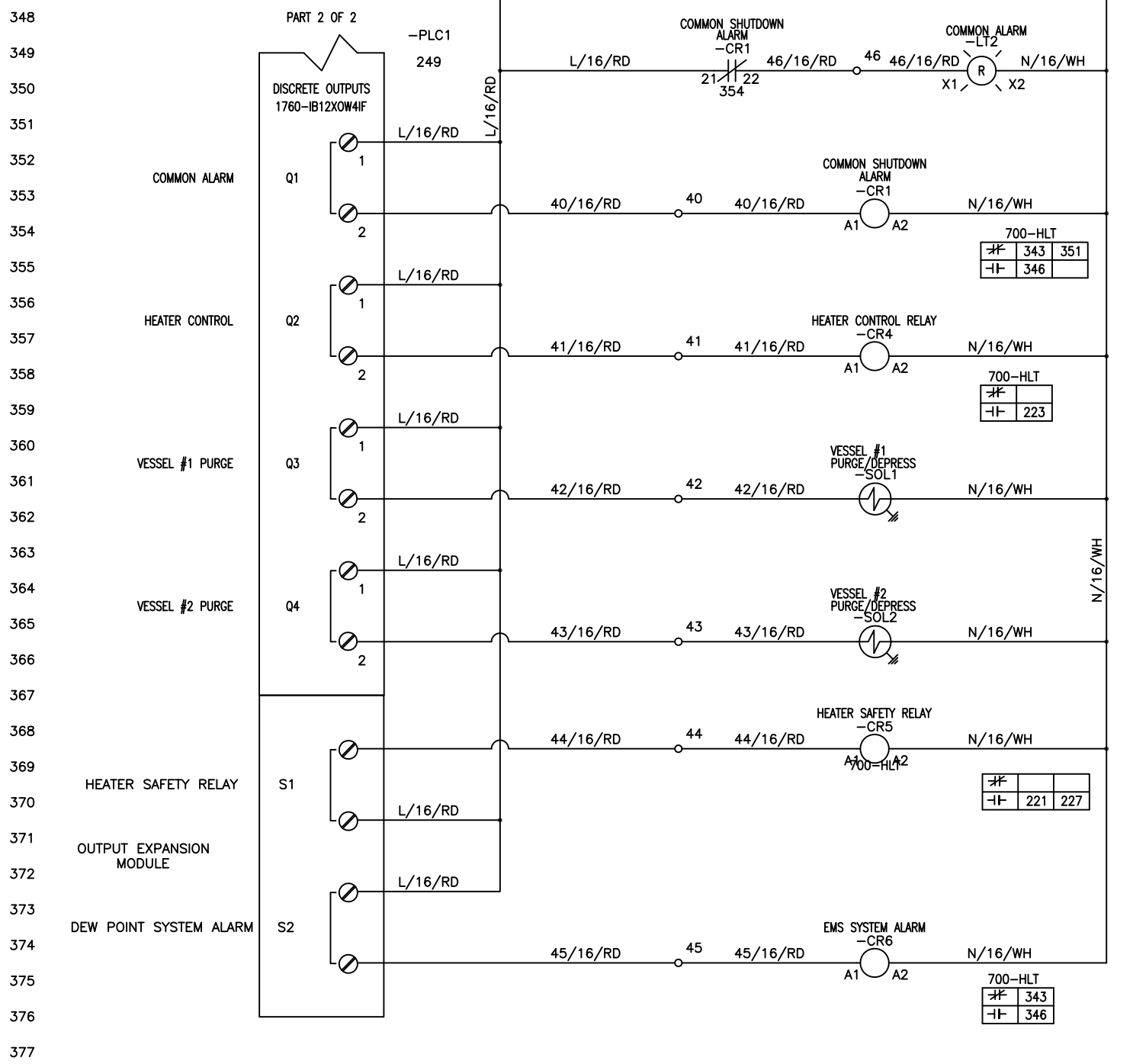
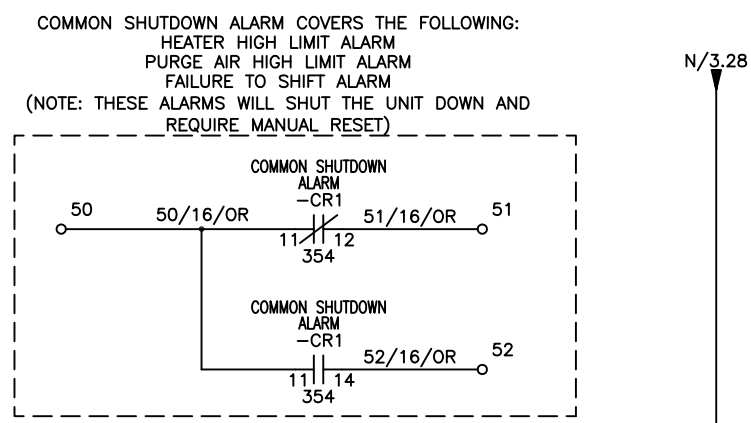
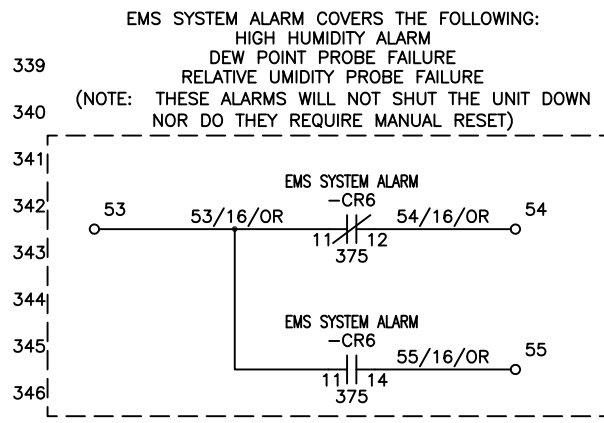
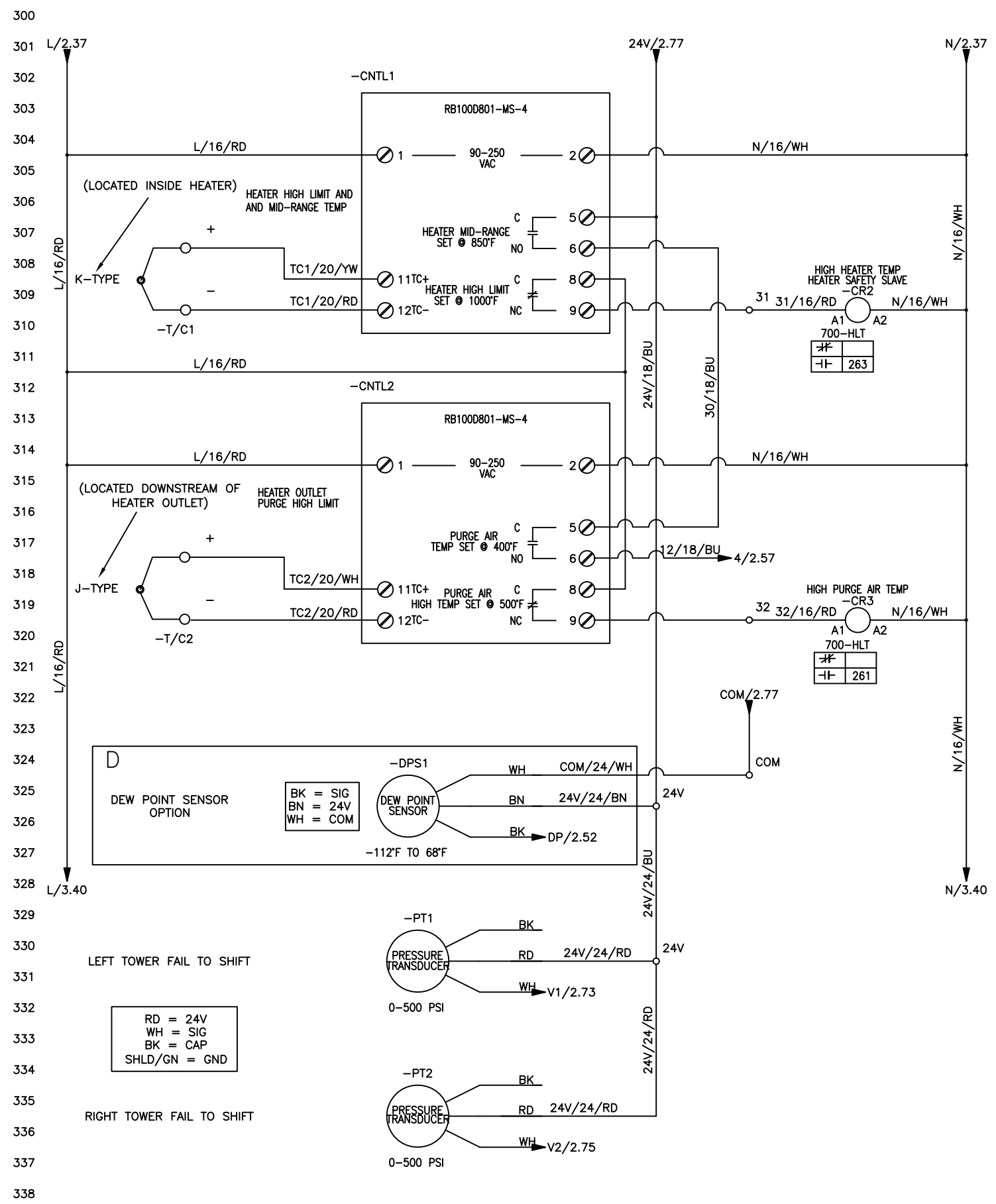
NOTES: "D" = DEW POINT ADDER OPTION
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PAGE DESCRIPTION	POWER DISTRIBUTION	JOB No.	AEHD-E4	DRAWING No.	AG3945133 - 2 of 6
PAGE DESCRIPTION	PLC INPUTS				



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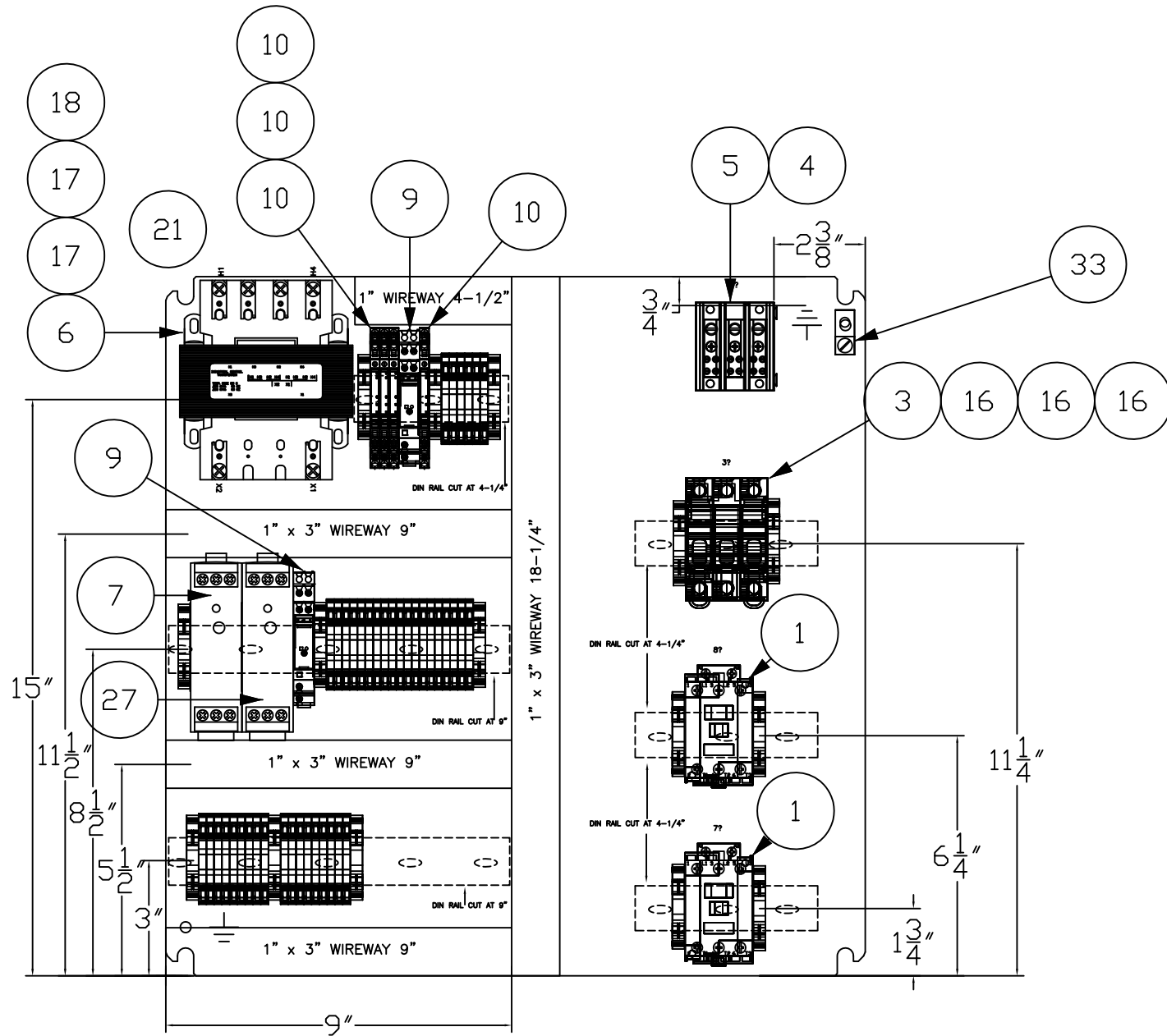
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TITLE DESCRIPTION	ELECTRICAL ASSEMBLY	CHK'D BY	MICHAEL.SCHWEER	DATE	04/08/2013
PAGE DESCRIPTION	TEMP CONTROLLERS	JOB No.	AEHD-E4	DRAWING No.	AG3945133 - 3 of 6
PAGE DESCRIPTION	PLC OUTPUTS				

END ANCHOR
RELAY - CR2
RELAY - CR3
RELAY - CR4
RELAY - CR5
RELAY - CR6
END ANCHOR
50
51
52
53
54
55
END ANCHOR

TOP ROW



ITEM #	AIRCEL#	DESCRIPTION	QTY
1	AG3948888	CONTACTOR, 10HP @ 460V, 16A (AC-3)	2
2	AG3251901	END ANCHORS, STD 35MM DIN RAIL	17
3	AG3948870	FUSE HOLDER, 3-POLE	1
4	AG3933257	POWER DISTRIBUTION BLOCK COVER	1
5	AG3933256	POWER DISTRIBUTION BLOCK	1
6	AG3948911	TRANSFORMER, 250 VA	1
7	AG3948924	POWER SUPPLY, 24VDC	1
9	AG3948855	RELAY, SCREW TYPE, DPDT	2
10	AG3948856	RELAY, SCREW TYPE, SPDT	4
14	AG3480590	COVER, WHITE DUCT, 1"	6
15	AG3480591	DUCT, WHITE, NARROW SLOT 1 X 3"	6
16	AG3106801	FUSE, 15 AMP	3
17	AG3480363	FUSE, 1-1/2 AMP	2
18	AG3329701	FUSE, 3 AMP	1
21	AG3934747	SUB PANEL FOR 20x20x8 ENCLOSURE	1
27	AG3934769	PWR SUPPLY, INPUT 100..240VAC, OUTPUT 3A @ 5VDC, PLASTIC, DIN-RAIL	1
30	AG3933345	TERMINAL BLOCK, GRAY, J3	33
31	AG3933672	TERMINAL BLOCK, BLUE, J3	6
32	AG3933346	TERMINAL BLOCK, GREEN/YELLOW, JG3	4
33	AG3481252	GROUND LUG	1

END ANCHOR
24V PWR
5V PWR
RELAY - CR1
END ANCHOR
N
1
12
15
16
17
18
21
22
31
32
40
41
42
43
44
45
46
GND
END ANCHOR

MIDDLE ROW

END ANCHOR
N
N
N
N
N
L
L
L
L
END ANCHOR
24V
24V
24V
24V
COM
COM
GND
GND
GND
END ANCHOR

BOTTOM ROW

BOND, N's

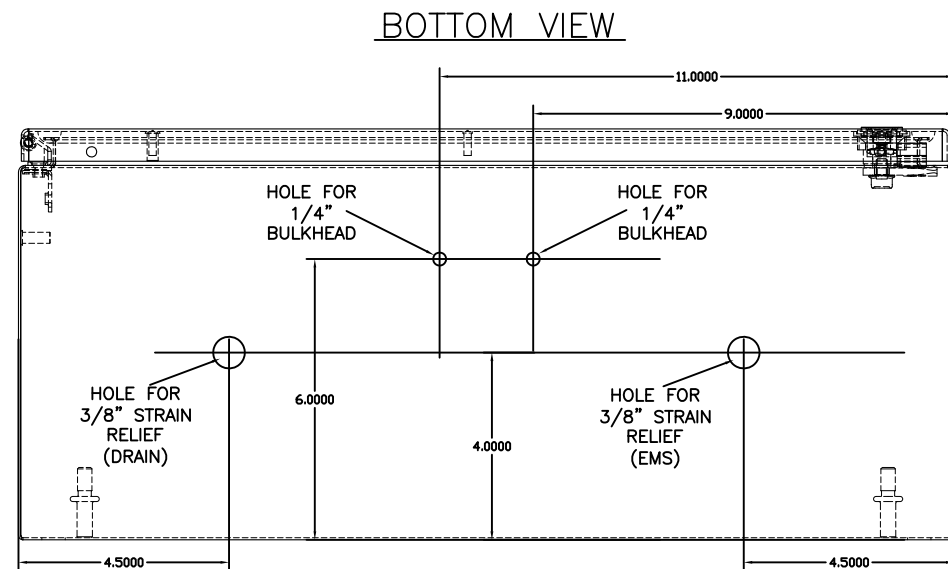
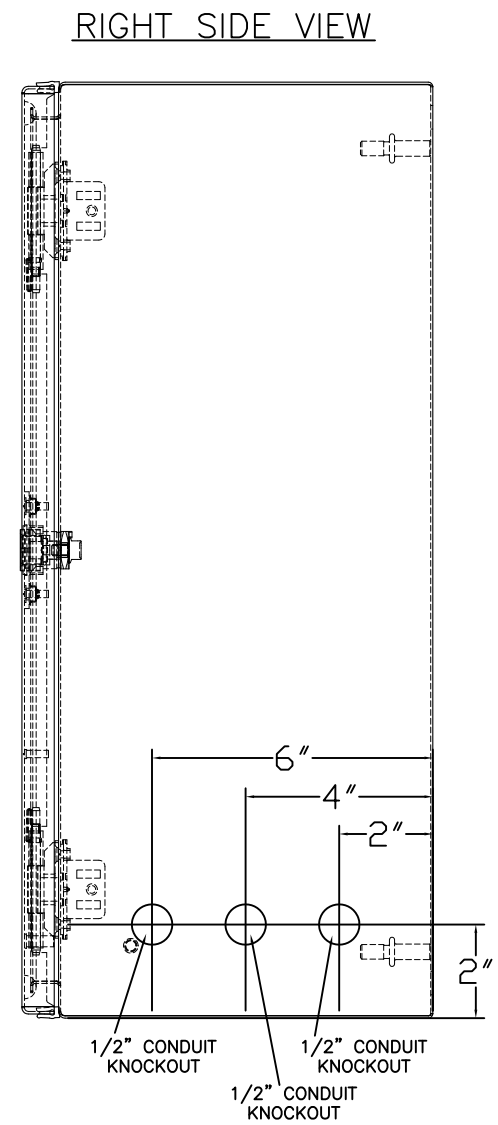
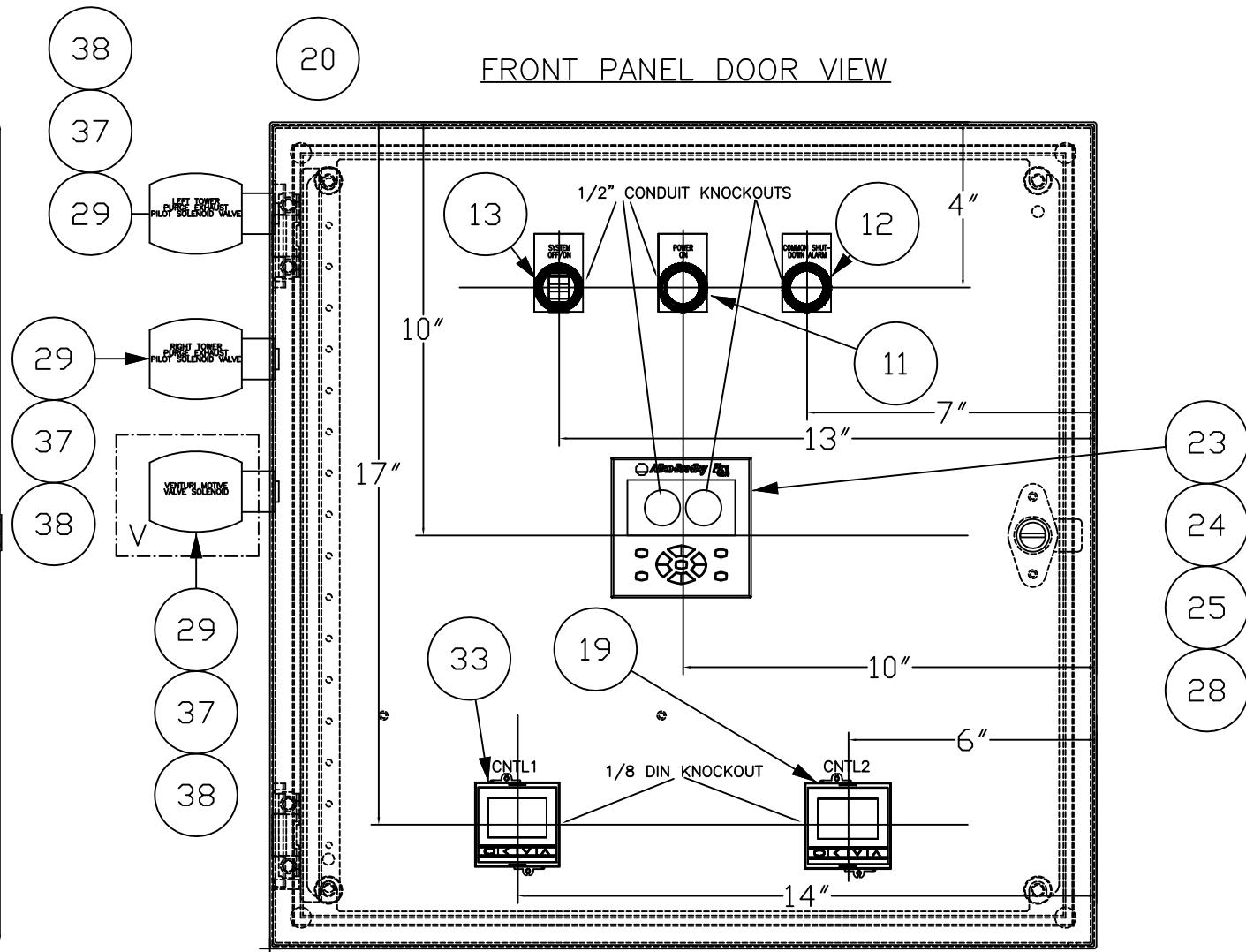
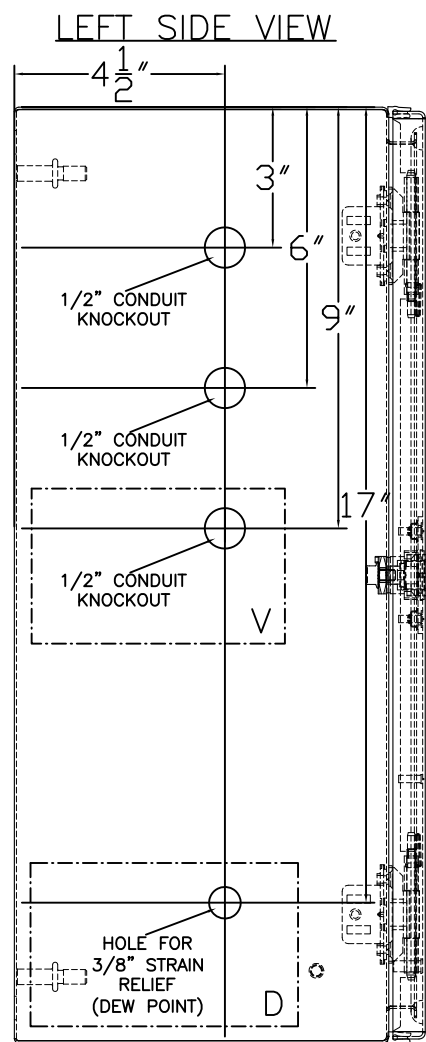
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TITLE DESCRIPTION	ELECTRICAL ASSEMBLY	CHK'D BY	MICHAEL.SCHWEER	DATE	04/08/2013
PAGE DESCRIPTION	PANEL LAYOUT	JOB No.	AEHD-E4	DRAWING No.	AG3945133 - 4 of 6
PAGE DESCRIPTION					



ITEM #	AIRCEL#	DESCRIPTION	QTY
11	AG3939623	LIGHT, GREEN, PLASTIC, 120VAC INTEGRATED LED, PLASTIC LATCH MOUNT, TYPE 4X/13 IP66	1
12	AG3939624	LIGHT, RED, PLASTIC, 120VAC INTEGRATED LED, PLASTIC LATCH MOUNT, TYPE 4X/13 IP66	1
13	AG3939622	SWITCH 2-POS, PLASTIC, MAINTAINED, BK, STD KNOB, 1 N.O. CONTACT, TYPE 4X/13 IP66	1
19	AG3934780	TEMPERATURE CONTROLLER FOR J-TYPE THERMOCOUPLE	1
20	AG3934746	ENCLOSURE, 20x20x8 CONCEPT	1
23	AG3934775	PROCESSOR, 12 DC INPUTS, 4 RELAY OUTPUTS	1
24	AG3934777	CPU, STANDARD	1
25	AG3934778	DISPLAY WITH BUTTONS	1
28	AG3934785	MODULE, EXPANSION, 2 RELAY	1
29	AG3101501	SOLENOID, 3-WAY, NEMA-4X, 1/4"	2
33	AG3934781	TEMPERATURE CONTROLLER FOR K-TYPE THERMOCOUPLE	1
34	AG3481164	STARIN RELIEF, 3/8"	2
35	AG3481159	RING SEAL, 3/8"	2
36	AG3481158	LOCK NUT, 3/8"	2
37	AG3288701	HUB, MYERS, 1/2"	2
38	AG3342801	NIPPLE, CONDUIT, 1/2" x CLOSE	2
39	AG3287701	CONNECTOR, CONDUIT, 90, LIQUID TIGHT, 3/8"	2
40	AG3313601	CONNECTOR, CONDUIT, 90, LIQUID TIGHT, 1/2"	1

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PAGE DESCRIPTION	ENCLOSURE LAYOUT	JOB No.	AEHD-E4	DRAWING No.	AG3945133 - 5 of 6

QTY	AIRCEL#	DESCRIPTION	SPARE PARTS
2	AG3948888	CONTACTOR, 10HP @ 460V, 16A (AC-3)	Y
17	AG3251901	END ANCHORS, STD 35MM DIN RAIL	N
1	AG3948870	FUSE HOLDER, 3 POLE	N
1	AG3933257	POWER DISTRIBUTION BLOCK COVER	N
1	AG3933256	POWER DISTRIBUTION BLOCK	N
1	AG3948911	TRANSFORMER, 250 VA	Y
1	AG3948924	POWER SUPPLY, 24VDC	Y
1	AG3934769	POWER SUPPLY, 5VDC	Y
2	AG3948855	RELAY, SCREW TYPE, DPDT	Y
4	AG3948856	RELAY, SCREW TYPE, SPDT	Y
1	AG3939623	LIGHT, GREEN, 120 VAC, NEMA-4X	Y
1	AG3939624	LIGHT, RED, 120 VAC, NEMA-4X	Y
1	AG3939622	SWITCH, 2-POS, MAINTAINED, NEMA-4X	Y
33	AG3933345	TERMINAL BLOCK, GRAY, J3	N
6	AG3933672	TERMINAL BLOCK, BLUE, FEED THROUGH, J3	N
4	AG3933346	TERMINAL BLOCK, GREEN/YELLOW, JG3	N
4.5	AG3480590	COVER, WHITE DUCT, 1"	N
4.5	AG3480591	DUCT, WHITE, NARROW SLOT 1 X 3"	N
3	AG3106801	FUSE, 15 AMP	Y
2	AG3480363	FUSE, 1-1/2 AMP	Y
1	AG3329701	FUSE, 3 AMP	Y
1	AG3934746	ENCLOSURE, 20x20x8 CONCEPT	N
1	AG3934747	SUB PANEL FOR 20x20x8 ENCLOSURE	N
1	AG3934775	PLC INPUT MODULE, 8 DC INPUTS, 4 ANALOG INPUTS	Y
1	AG3934777	PLC PROCESSOR MODULE, CPU	Y
1	AG3934785	PLC EXPANSION MODULE, 2 RELAY OUTPUTS	Y
1	AG3934778	PLC DISPLAY MODULE WITH BUTTONS	Y
2	AG3936238	TRANSDUCER,PRESS,0-500PSI,	Y
2	AG3101501	SOLENOID, 3-WAY, NEMA-4X, 1/4"	Y

QTY	AIRCEL#	DESCRIPTION	SPARE PARTS
1	AG3934781	TEMPERATURE CONTROLLER FOR K-TYPE THERMOCOUPLE	Y
1	AG3934780	TEMPERATURE CONTROLLER FOR J-TYPE THERMOCOUPLE	Y
2	AG3481901	CONDUIT, CONNECTOR, 1/2", ELBOW, 90°	N
5	AG3287701	CONNECTOR, ELBOW, 90 DEGREE, 3/8"	N
2	AG3342801	NIPPLE, CONDUIT, 1/2" X CLOSE,	N
1	AG3481252	TERMINAL LUG, ALUMINUM MECH,	N
2	AG3288701	HUB, MYERS, 1/2"	N
10	AG3480861	CONDUIT, SEAL TITE, 3/8"	N
2	AG3481168	STRAIN RELIEF, 3/8"	N
2	AG3481159	SEAL RING, 3/8", FOR NYLON	N
2	AG3481158	LOCK NUT, 3/8", FOR NYLON	N
2	AG3934918	RESISTOR, 500 OHMS, HIGH	Y
2	AG3480860	CONDUIT, FLEXIBLE METAL, GRAY, 3/8"	N
1	AG3301501	BOLT, HEX, 5/16"-18 X 1/2"	N
16	AG3275301	WIRE #14 BLACK	N
107	AG3374201	WIRE #16 RED	N
34	AG3374901	WIRE #16 WHITE	N
18	AG3372301	WIRE #16 MTW GREEN	N
72	AG3480463	WIRE #18 BLUE	N
11	AG3480991	WIRE #18 WHITE W/BLUE STRIPE	N
9	AG3373901	WIRE #16 ORANGE	N
8	AG3284101	WASHER, FLAT, 3/8"	N
8	AG3465601	WIRE, 3 CONDUCTOR, 24 AWG	N
4	0900806	BOLT, HEX, 3/8"-16 X 1-1/2"	N
4	AG3344601	NUT, KEP, 3/8"-16	N
1	AG3296601	BUSHING, CONDUIT, REDUCING,	N
15	AG3374301	WIRE, THERMOCOUPLE, J TYPE	N
8	AG3462801	WIRE ,THERMOCOUPLE, K-TYPE, 20	N
1	AG3353001	STRAP EMT 1-HOLE 1/2"	N

NOTES:
AEHD-500 NEMA-4 ELECTRICAL ASSEMBLY

REV	REVISION DESCRIPTION	APPROVAL/DATE
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