

# HEATLESS DESICCANT AIR DRYER ELECTRICAL SCHEMATICS

**WIRING METHODS**  
 POWER 460V = BLACK THHN  
 120VAC = RED 16AWG  
 NEUTRAL = WHITE 16AWG  
 24VDC = BLUE 18AWG  
 24V COMMON = WHITE/BLUE 18AWG  
 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<br>Size Installed<br>In Connector<br>AWG or MCM (mm <sup>2</sup> ) |              | Tightening Torque, Pound-Inches (N.m)   |  |  |                     |
|--|--------------|---|--|--|---------------------|
|  |              | Slotted Head No. 10 and Larger <sup>1</sup>   |  | Hexagonal Head -<br>External Drive Socket Wrench |                     |
|  |              | Slot Width -<br>0.047 Inch (1.2 mm) or Less<br>and Slot Length<br>1/4 Inch (6.4 mm) or Less | Slot Width -<br>Over 0.047 Inch (1.2 mm) or<br>Slot Length -<br>Over 1/4 Inch (6.4 mm) | Split-Bolt<br>Connectors                         | Other<br>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:**  
<sup>1</sup> 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\_\_\_\_\_115\_\_\_\_\_

TOTAL MCA\_\_\_\_\_1.6 AMP\_\_\_\_\_

LARGEST MOTOR FLA\_\_\_\_N/A\_\_\_\_

NUMBER OF PHASES\_\_\_\_\_1\_\_\_\_\_

FREQUENCY\_\_\_\_\_60HZ\_\_\_\_\_

CUSTOMER SERIAL

NO.\_\_\_\_\_

UNDERWRITERS LAB SERIAL

NO.\_\_\_\_

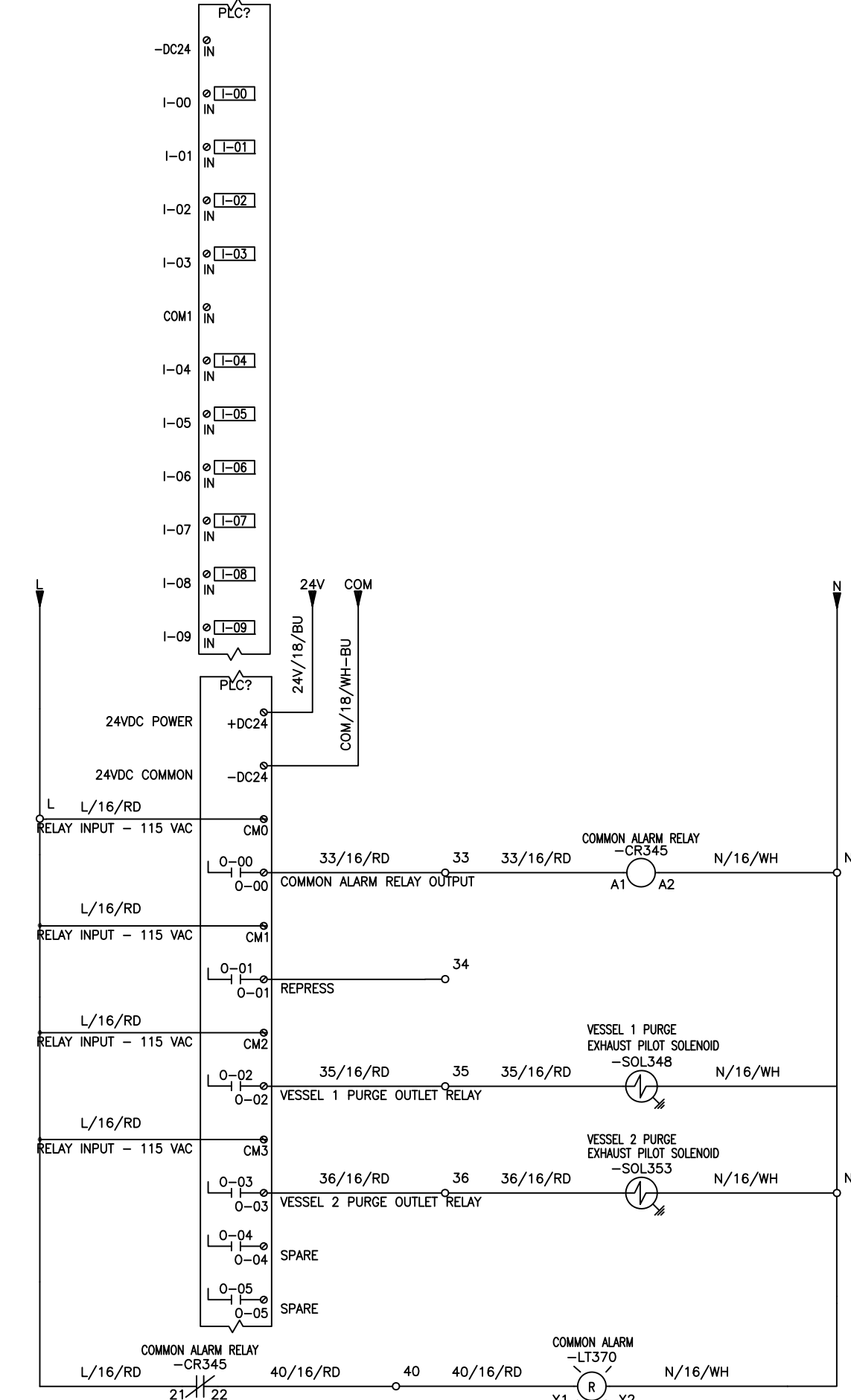
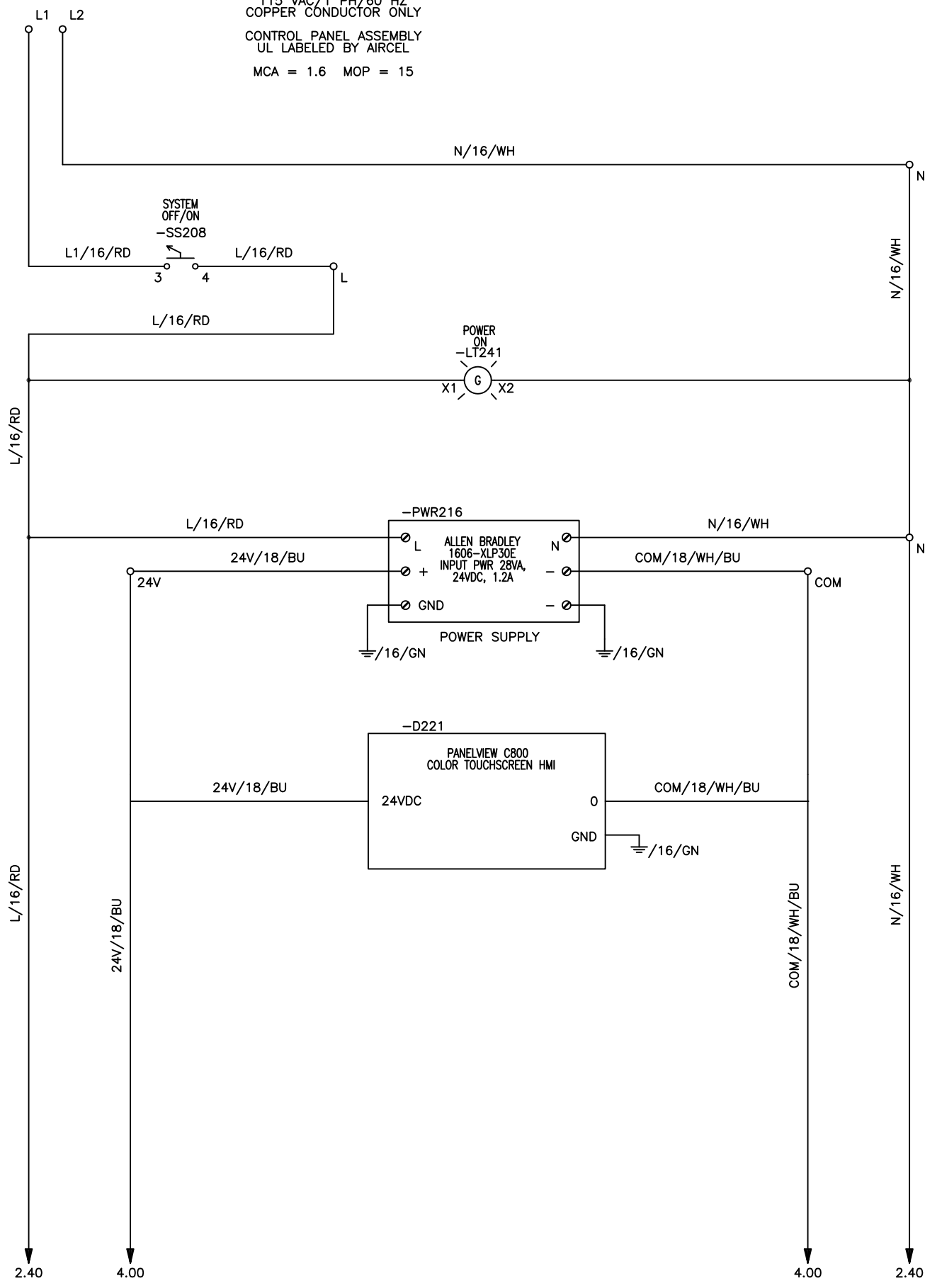


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| PAGE DESCRIPTION<br>ELECTRICAL SCHEMATICS | JOB NO.                  | DRAWING NUMBER:<br>AG3956009-1 OF 7 |
| PAGE DESCRIPTION<br>TORQUE TABLE          |                          |                                     |

CUSTOMER SUPPLY  
 115 VAC/1 PH/60 HZ  
 COPPER CONDUCTOR ONLY  
 CONTROL PANEL ASSEMBLY  
 UL LABELED BY AIRCEL  
 MCA = 1.6 MOP = 15



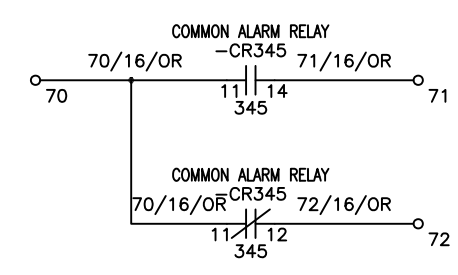
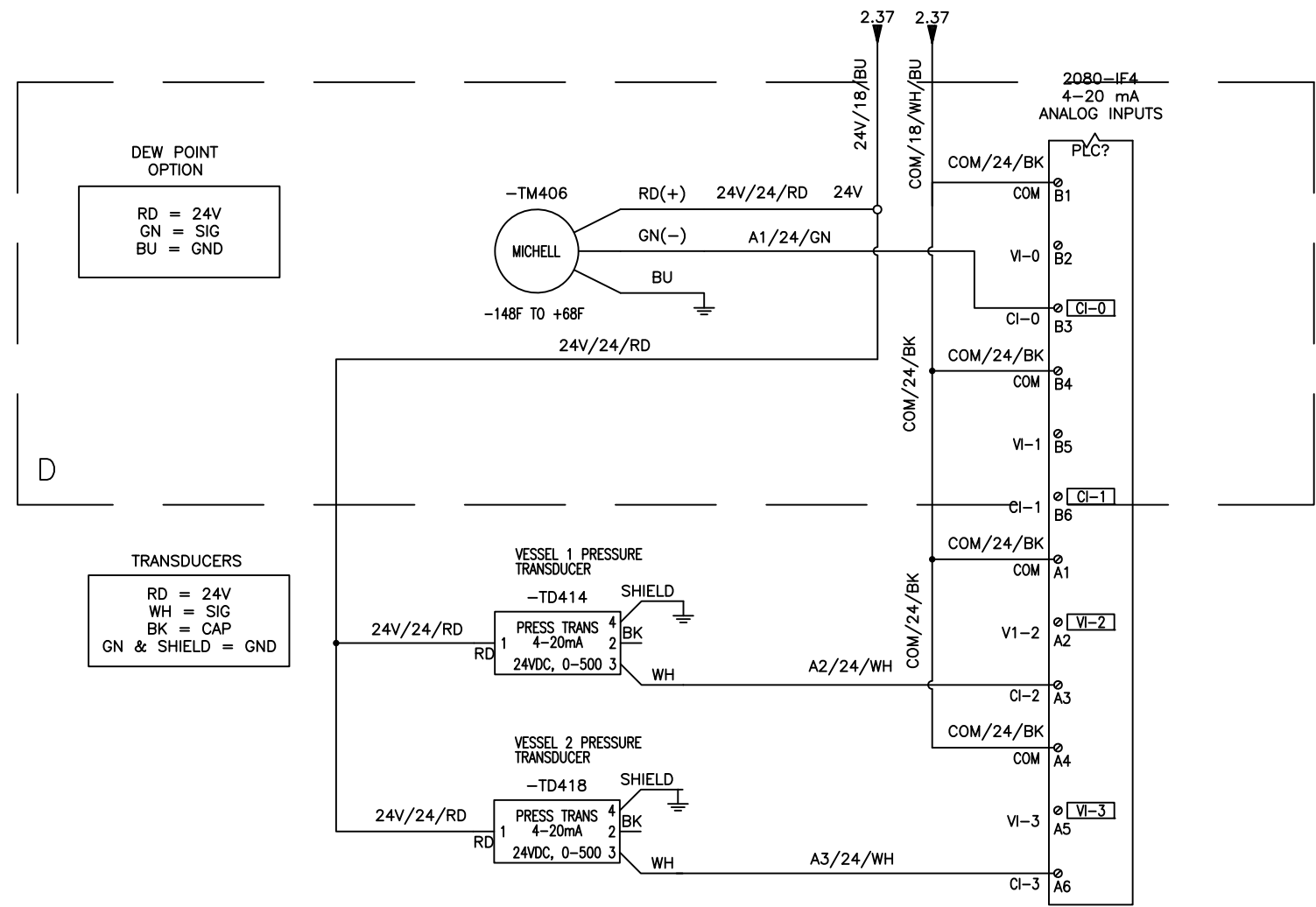
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|---------|-----|-----|
| 700-HLT |     |     |
| #       | 376 | 370 |
| -I-     | 373 |     |

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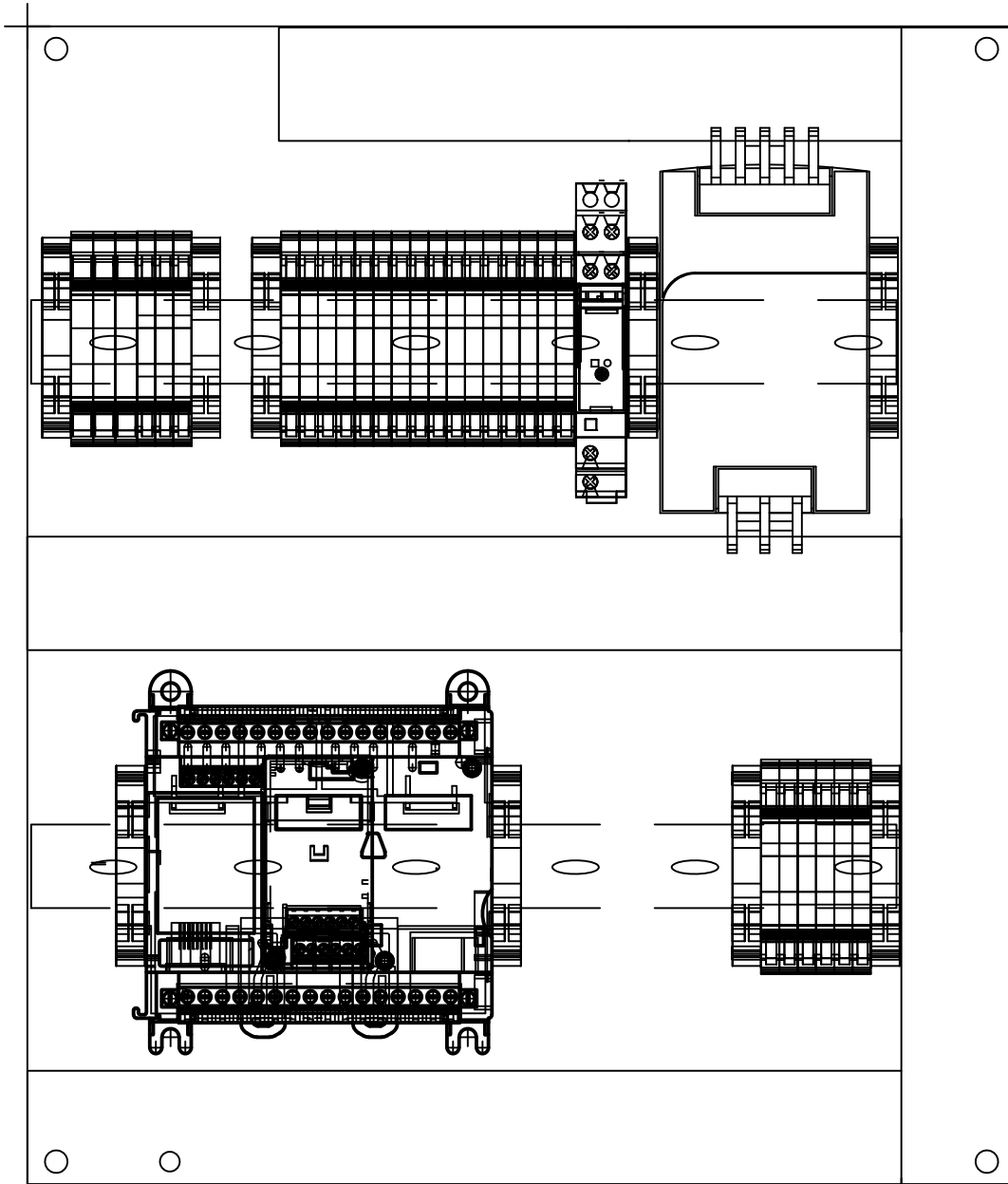
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| PAGE DESCRIPTION<br>ELECTRICAL SCHEMATICS | JOB NO.                  | DRAWING NUMBER:<br>AG3956009-2 OF 7 |
| PAGE DESCRIPTION<br>POWER DIST/PLC I/O    |                          |                                     |



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| TITLE DESCRIPTION                         | CHK'D BY:                | DATE:               |
| PAGE DESCRIPTION<br>ELECTRICAL SCHEMATICS | JOB NO.                  | DRAWING NUMBER:     |
| PAGE DESCRIPTION<br>ANALOG INPUTS         |                          | AG3956009-3 OF 7    |



| Description for BOM              | Line Number | Stock Number | QTY |
|----------------------------------|-------------|--------------|-----|
| PLC, MICRO-820                   | 10          | AG3942710    | 1   |
| PLC, ANALOG CARD                 | 20          | AG3942710    | 1   |
| RELAY, SCREW TYPE, DPDT          | 30          | AG3948855    | 1   |
| ANCHOR, SCREW END, GRAY          | 40          | AG3251901    | 6   |
| TERMINAL BLOCK,GRAY, J3          | 50          | AG3933345    | 14  |
| TERMINAL BLOCK, BLUE, J3         | 60          | AG3933672    | 4   |
| TERMINAL BLOCK, GREEN/YELLOW, J3 | 70          | AG3933346    | 2   |
| TERMINAL BLOCK, GRAY, J4         | 80          | AG3253101    | 2   |
| TERMINAL BLOCK, GREEN/YELLOW, J4 | 90          | AG3253001    | 1   |
| POWER SUPPLY, 24VDC              | 100         | AG3934654    | 1   |
| PANEL, BACKPLATE, FITS 14x12     | 110         | AG3197201    | 1   |
| COVER, WHITE DUCT, 1"            | 120         | AG3480590    | 7.5 |


|            |
|------------|
| END ANCHOR |
| L1 - J4    |
| L2 - J4    |
| GND - J4   |
| 50         |
| 51         |
| 52         |
| END ANCHOR |

|              |
|--------------|
| END ANCHOR   |
| N            |
| N            |
| N            |
| N            |
| N            |
| N            |
| L            |
| L            |
| L            |
| L            |
| L            |
| L            |
| GND          |
| GND          |
| GND          |
| GND          |
| RELAY DPDT   |
| END ANCHOR   |
| 24V PWR SPLY |
| END ANCHOR   |
| END ANCHOR   |

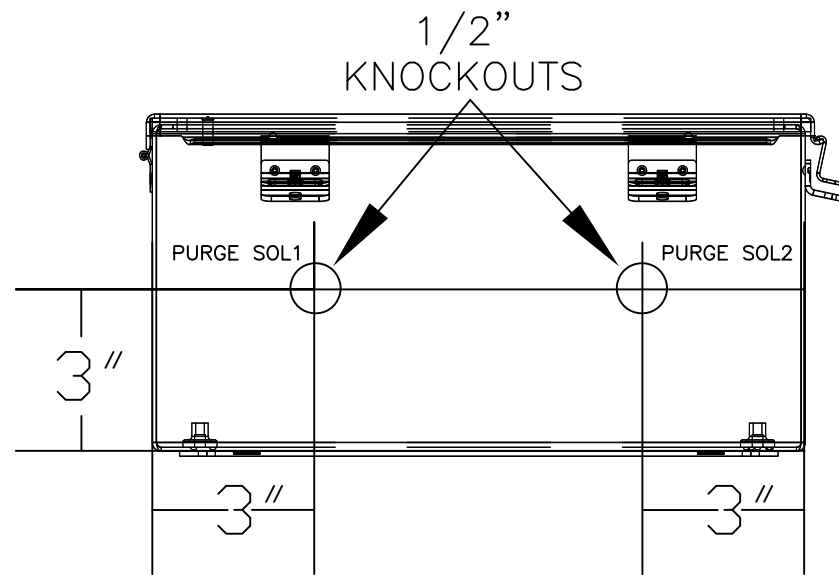
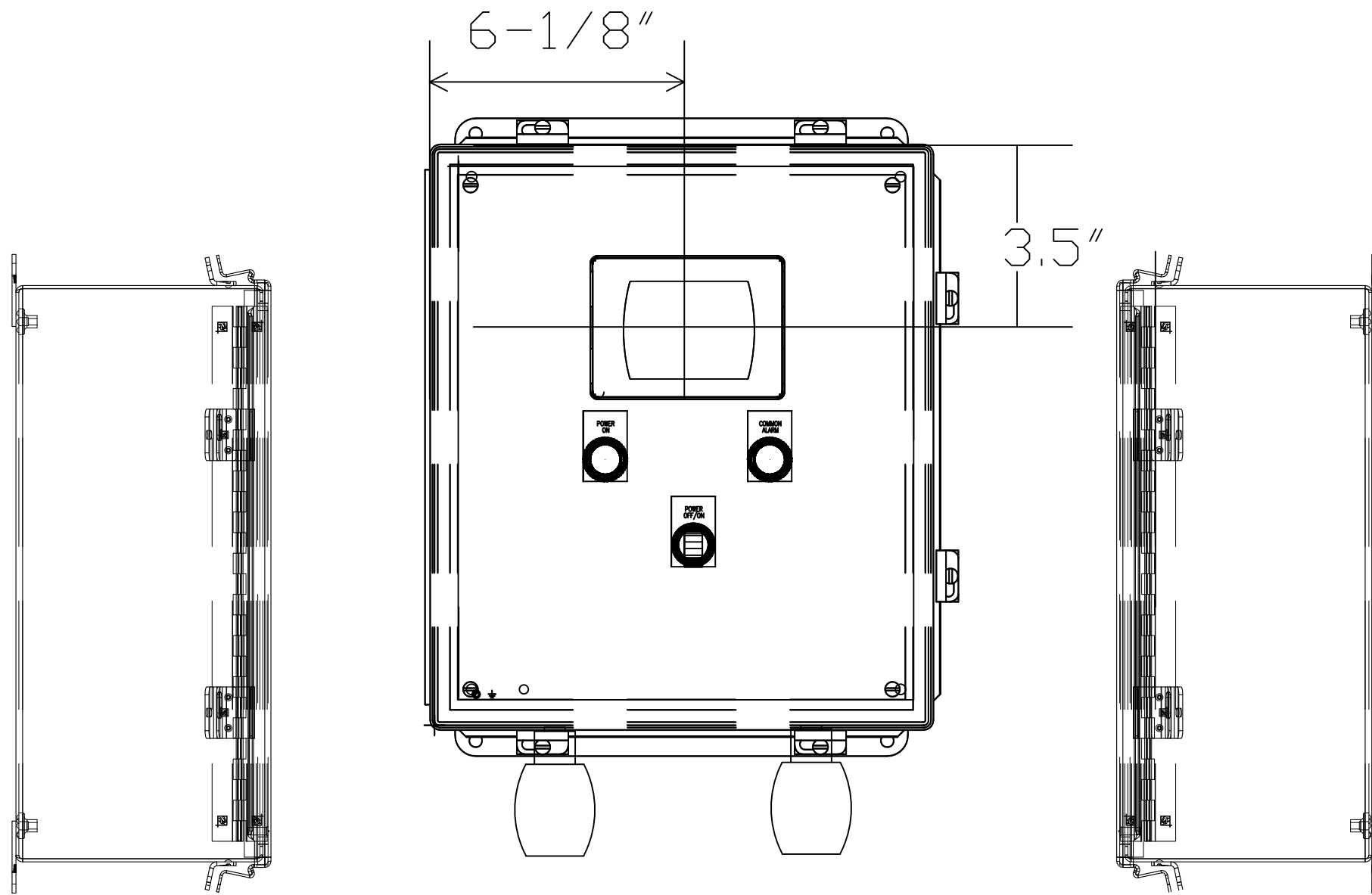
|             |
|-------------|
| END ANCHOR  |
| 24V         |
| 24V         |
| 24V         |
| COM         |
| COM         |
| COM         |
| END ANCHOR  |
| 5V PWR SPLY |
| END ANCHOR  |

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| PAGE DESCRIPTION ELECTRICAL SCHEMATICS | JOB NO.               | DRAWING NUMBER: AG3956009-4 OF 6 |
| PAGE DESCRIPTION BACKPLATE LAYOUT      |                       |                                  |



| Description for BOM                  | Line Number | Stock Number | QTY |
|--------------------------------------|-------------|--------------|-----|
| ETHERNET PATCH CABLE, 5'             | 130         | AG3935891    | 1   |
| HMI, PANELVIEW C800 - 4"             | 140         | AG3992107    | 1   |
| LIGHT, LED, GREEN, PILOT             | 150         | AG3956015    | 1   |
| LIGHT, LED, RED, PILOT               | 160         | AG3956016    | 1   |
| SWITCH, 2-POSITION                   | 170         | AG3956014    | 1   |
| ENCLOSURE, 14X12, POLYCARB           | 180         | AG3956011    | 1   |
| VALVE, SOLENOID, 3 WAY, NEMA 4, 1/4" | 190         | AG3101501    | 2   |
| HUB, MYERS, 1/2"                     | 200         | AG3288701    | 2   |
| NIPPLE, CONDUIT, 1/2" x CLOSE        | 210         | AG3342801    | 2   |

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| PAGE DESCRIPTION ELECTRICAL SCHEMATICS | JOB NO.               | DRAWING NUMBER: AG3956009-5 OF 6 |
| PAGE DESCRIPTION DOOR LAYOUT           |                       |                                  |

| Description for BOM               | Stock Number | Quantity per Dryer |
|-----------------------------------|--------------|--------------------|
| PLC, MICRO-820                    | AG3942710    | 1                  |
| ETHERNET PATCH CABLE, 5'          | AG3935891    | 1                  |
| HMI, PANELVIEW C800 - 4"          | AG3992107    | 1                  |
| RELAY, SCREW TYPE, SPDT           | AG3948856    | 1                  |
| ANCHOR, SCREW END, GRAY           | AG3251901    | 6                  |
| TERMINAL BLOCK, GRAY, J3          | AG3933345    | 14                 |
| TERMINAL BLOCK, BLUE, J3          | AG3933672    | 4                  |
| TERMINAL BLOCK, GREEN/YELLOW, J3  | AG3933346    | 2                  |
| TERMINAL BLOCK, GRAY, J4          | AG3253101    | 2                  |
| TERMINAL BLOCK, GREEN/YELLOW, J4  | AG3253001    | 1                  |
| POWER SUPPLY, 24VDC               | AG3934654    | 1                  |
| PANEL, BACKPLATE, FITS 14x12      | AG3197201    | 1                  |
| COVER, WHITE DUCT, 1"             | AG3480590    | 7.5                |
| DUCT, WHITE, NARROW, SLOT, 1"x 3" | AG3480591    | 7.5                |

| Description for BOM                  | Stock Number | Quantity per Dryer |
|--------------------------------------|--------------|--------------------|
| PLC, ANALOG CARD                     | AG3942716    | 1                  |
| LIGHT, LED, GREEN, PILOT             | AG3956015    | 1                  |
| LIGHT, LED, RED, PILOT               | AG3956016    | 1                  |
| SWITCH, 2-POSITION                   | AG3956014    | 1                  |
| ENCLOSURE, 14X12, POLYCARB           | AG3956011    | 1                  |
| VALVE, SOLENOID, 3 WAY, NEMA 4, 1/4" | AG3101501    | 2                  |
| HUB, MYERS, 1/2"                     | AG3288701    | 2                  |
| NIPPLE, CONDUIT, 1/2" x CLOSE        | AG3342801    | 2                  |
| WIRE #18, BLUE                       | AG3480463    | 80                 |
| WIRE #18, RED                        | AG3480947    | 98                 |
| WIRE #18, WHITE                      | AG3480948    | 17                 |
| WIRE #18, WHITE/BLUE                 | AG3480991    | 9.5                |
| WIRE #16, ORANGE                     | AG3373901    | 6                  |
| WIRE #16, GREEN                      | AG3372301    | 12                 |
| TRANSDUCER, 0-500 PSI                | AG3936238    | 2                  |

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| PAGE DESCRIPTION EBOM                  |                       |                                  |