

## TS Series

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### TS... Touchscreen Kits

for use with LMV3, LMV5 and RWF... Controls



Touchscreen

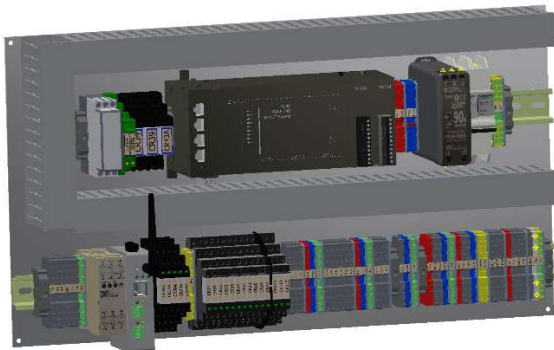


Plate Kit



Enclosure

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### Description

TS... series touchscreen kits provide a human machine interface (HMI) with a Siemens LMV3 or LMV5 linkageless control. Each kit provides data collection and trending for a hot water or steam boiler. An optional RWF55 control for load or water level modulation easily interfaces with TS... series touchscreen kit.

Each TS... touchscreen kit includes a 3", 6", 10", 12" or 15" touchscreen along with a plate kit. The touchscreen and plate kit can be pre-mounted in an enclosure, or mounted by others in a control panel.

A PLC first-out annunciator provides additional analog, digital, temperature, and/or draft controls inputs and outputs.

Flexible communication interface options to the building management system (BMS) provide streamlined data collection, monitoring and control.

## Standard Features

- Local touchscreen interface with Siemens LMV/RWF controllers
- Schneider touchscreens available in 3", 6", 10", 12" or 15"
- Field configurable graphics and tags
- Complete lockout and error history in plain text.
- Fuel-air ratio control curve displayed
- Alarm history stored for most recent 100 faults/alarms
- Detailed annunciation of LMV... digital inputs and outputs
- Remote setpoint, firing rate and/or enable of the LMV... or RWF... via BMS
- Water level control option and status via RWF55, or PLC
- Single or three elements drum level control
- Circulating pump VFD control hot water boilers
- Metric or Standard units displayed
- English, Spanish, and Portuguese languages
- English, Spanish, and Portuguese text for alarms
- Circulating pump/isolation valve control outputs for hydronic boilers (option with expanded annunciator)
- Expanded annunciator options include:
  - Four analog inputs with field configurable label, span and type (0-10V, 2-10V, 0-20mA or 4-20mA), low and high alarm setpoints, with auto or manual reset. Totalization available per minute or per hour.
  - Two analog outputs with field configurable span and type (0-10V, 2-10V, 0- 20mA or 4-20mA); low and high alarm setpoints, with auto or manual reset. Totalization available per minute or per hour.
  - Two dedicated analog outputs for either circulating pump VFD control, or water level control, with field configurable span (4-20mA); low and high alarm setpoints, with auto or manual reset.
  - Twelve universal inputs to be field configured for either 1000 or 100 ohm RTD, or thermocouples type K, or J, analog inputs 4-20mA, with field configurable label, low and high alarm setpoints, with auto or manual reset.
  - Two digital outputs with field configurable logic, including on and off delays. Manual or automatic reset.
  - First-out annunciation option, including fourteen 120 VAC inputs with field labeling capability
  - Eight data logging variables stored

- Four selectable variables for trending up to seven days
- Economizer temperature monitoring
- Draft control
- Connection of two additional RWF55 controllers
- Variable Speed Drive information and setup when preprogrammed VFD (Yaskawa) provided by SCC Inc.
- Variable speed Drive information and setup when preprogrammed VFD (ABB, AB Power Flex, or Danfoss), when provided by others.
- Screen saver with PV, setpoint, demand and status
- Standard Modbus TCP/IP to BMS communications
  - Additional BMS communication options available
- Email communications and text messaging for up to six recipients including alarms, faults and screen shots (screen shot viewer via USB)
- Remote monitoring via smart phone or tablet
- Compatible with SCC Master Panel Lead Lag system

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## Application

TS... touchscreen kits are suited for hydronic boiler, steam boiler, and other applications utilizing an LMV3 or LMV5 linkageless control system.

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## Components

All TS... touchscreen kits include the following components:

- 3", 6", 10", 12", or 15" touchscreen
- Plate kit including power supply and branch circuit protection
- Cables for quick connections between the plate kit, touchscreen, and LMV... system
- Interconnect terminals for field wiring

The following optional features are available:

- Draft Control
- Annunciation Options Including:
  - 14/16 digital 120 VAC alarm annunciation inputs.
  - 4 analog inputs (0-20mA - 4-20mA - 0-10V - or 2-10V)
  - 2 analog outputs (0-20mA - 4-20mA - 0-10V - or 2-10V)
  - UP to 12 universal inputs field configured for (4-20ma, RTD1000- RTD100 Ohms, Thermocouple Type K, Thermocouple type J, for general purpose
  - 2 analog outputs for circulating pump VFD control, and or steam boilers water level control

- 4 output relays for:
  - Starting circulating pump on Hot water boilers
  - Monitoring a digital value (2 outputs)
  - Annunciation alarms
  - PLC normal operation indication
- Additional 8 output relays
- BMS communication other than standard Modbus
- Open plate kit, or in enclosure

## Product Part Numbers

|  | TS | - | KT | 0 | X | D | 6 | - | H | B | 1 | - | X | Y | X | X |
|--|----|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>Touchscreen Kit</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Touchscreen Size</b>  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3 = 3" touchscreen   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 6 = 6" touchscreen   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 0 = 10" touchscreen  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 2 = 12" touchscreen  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5 = 15" touchscreen  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| A = 6" touchscreen w/bezel for future 10" TS (10" TS ordered separately)   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| B = No touchscreen, bezel for future 10" TS (10" TS ordered separately)  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Touchscreen is 15 Feet or More Away from AZL/LMV5 Only</b>  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Y = Yes  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Draft Control</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No draft control included  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| D = Draft control  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>PLC Circulating Pump VFD/Water Level Control/Additional Digital Inputs Outputs (Touchscreen/Annunciation Selection Required)</b>                  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No feedwater or circulating pump VFD control included  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3 = PLC three elements feedwater and level control (Steam boilers only)  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4 = PLC single element feedwater and level control (Steam boilers only)  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5 = PLC circulating pump VFD, and water level control  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 6 = PLC circulating pump VFD/Water level control, and additional 2 digital inputs/8 digital outputs (Coil Boilers)                                   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7 = Additional (2) digital Inputs and (8) digital outputs  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Annunciations and Monitoring (Touchscreen Selection Required)</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No annunciation inputs   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| A = Standard annunciation, (14) 120 VAC inputs   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| B = (14) 120 VAC inputs, (4) analog inputs with totalization, and (2) analog outputs   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| C = (14) 120 VAC inputs and (4) universal inputs* (AI, RTD, or TC)   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| D = (14) 120 VAC inputs and (8) universal inputs* (AI, RTD, or TC)   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| E = (14) 120 VAC inputs and (12) universal inputs* (AI, RTD, or TC)  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| F = (14) 120 VAC inputs, (4) analog inputs with totalization, (4) universal inputs* (AI, RTD, or TC), and (2) analog outputs                         |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| G = (14) 120 VAC inputs, (4) analog inputs with totalization, (8) universal inputs* (AI, RTD, or TC)*, and (2) analog outputs                        |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| H = (14) 120 VAC inputs, (4) analog inputs with totalization, (12) universal inputs* (AI, RTD, or TC)*, and (2) analog outputs                       |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Building Management Interface (BMS)</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| S = Standard, Modbus TCP/IP  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| B = BACnet / IP, or Ethernet / IP  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| M = BACnet MS/TP, Modbus RTU, or Metasys N2  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| N = Profinet   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| P = Profibus   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Enclosure Option</b>  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = None - din rail kit on plate to be mounted into enclosure (Mounted by others)  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1 = NEMA 1   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 2 = NEMA 12, includes cover over touchscreen and AZL/RWF   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4 = NEMA 4X (indoor), includes cover over touchscreen and AZL/RWF (if applicable)<br>Cover will not be included if an AZL/RWF option is not selected |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Cooling Fan (Option with enclosure)</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No cooling fan   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Y = Yes cooling fan (Stainless Steel cover for NEMA 4X selection above)<br>filters only for NEMA 12 no cover   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Warrick Manual Reset Relay (Option with enclosure)</b>  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No manual reset Warrick relay  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Y = Yes manual reset Warrick relay   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>AZL (Option with enclosure)</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No AZL included (Must be selected with din rail kit on plate)  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3 = AZL23.00A9 mounted to front of enclosure   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5 = AZL52.40B1 mounted to front of enclosure   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>RWF (Option with enclosure)</b>   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| X = No RWF included  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| L = RWF55.50A9 for external load control   |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| W = RWF55.50A9 for water level control with transformer  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 2 = (2) RWF55.50A9 for external load control and water level control - includes 1 transformer  |    |   |    |   |   |   |   |   |   |   |   |   |   |   |   |   |

Date: 1/30/2024

**\*Universal inputs:**

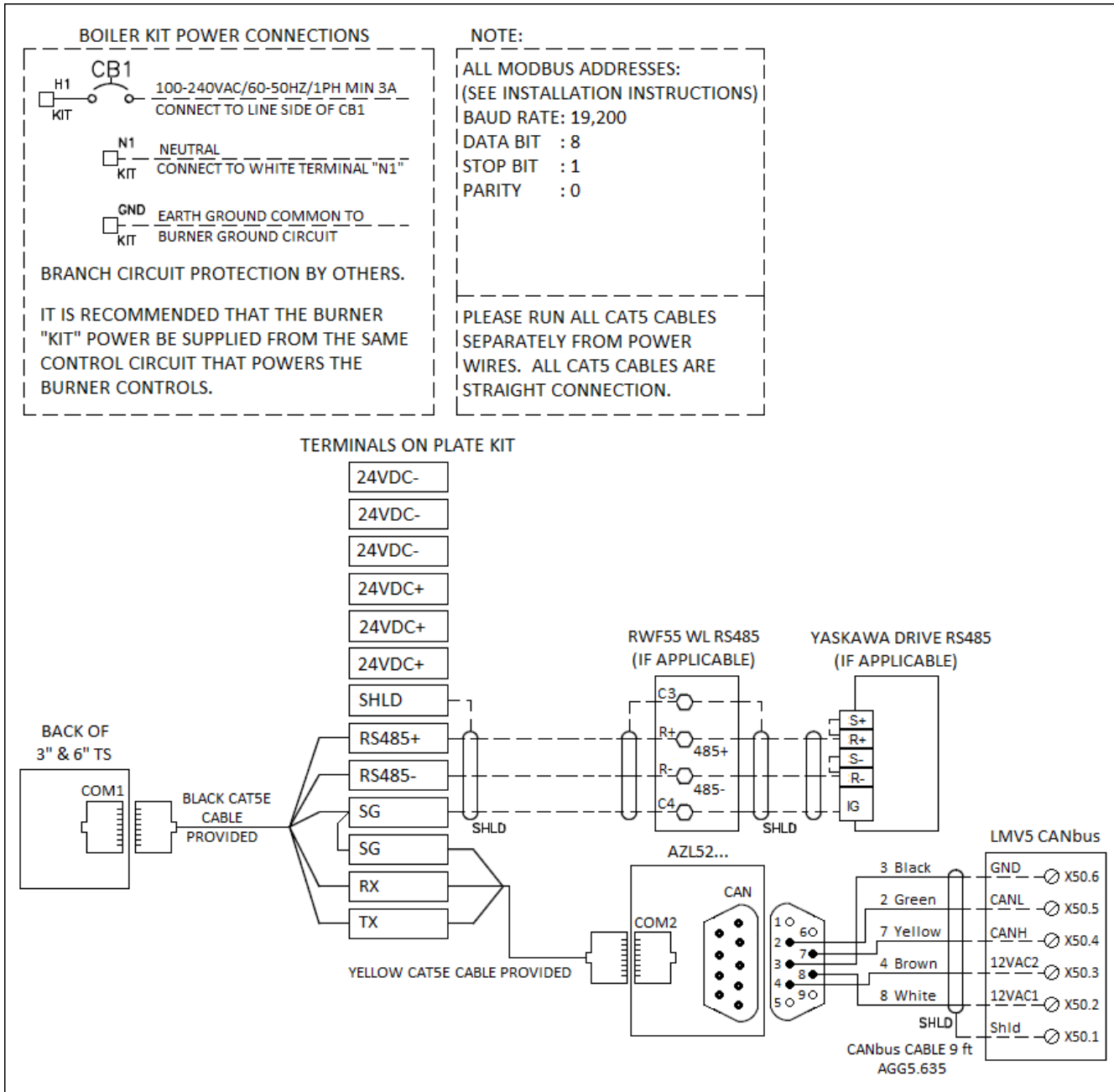
There are four universal inputs per input module. Each module must be configured for the same input, either 4-20 mA, Thermocouple type K or J, or RTD 1000 or 100 ohms. If the maximum of three universal modules are included, the first and second modules may each be configured for a different input type, and the third module will automatically be the same as the second universal module.

**Specifications**

|                            |   | <b>3"/6" TS</b>              | <b>10" TS</b>                | <b>12" TS</b>                | <b>15" TS</b>                |
|----------------------------|---|------------------------------|------------------------------|------------------------------|------------------------------|
| Physical<br>Characteristic | Main power                              | 110-240 VAC                  | 110-240 VAC                  | 110-240 VAC                  | 110-240 VAC                  |
|                            | Frequency                               | 60-50 Hz                     | 60-50 Hz                     | 60-50 Hz                     | 60-50 Hz                     |
|                            | Touchscreen Power                       | 24 VDC                       | 24 VDC                       | 24 VDC                       | 24 VDC                       |
|                            | Power Consumption                       | ≤ 205 W                      | ≤ 205 W                      | ≤ 205 W                      | ≤ 205 W                      |
|                            | Power Consumption With PLC Annunciation | ≤ 460 W                      | ≤ 460 W                      | ≤ 460 W                      | ≤ 460 W                      |
|                            | Dry Contacts                            | 2 Amps                       | 2 Amps                       | 2 Amps                       | 2 Amps                       |
| Operating<br>Environment   | Operating Temperature                   | 32 to 122 °F<br>[0 to 50 °C] | 32 to 131 °F<br>[0 to 55 °C] | 32 to 131 °F<br>[0 to 55 °C] | 32 to 131 °F<br>[0 to 55 °C] |
|                            | Humidity                                | Max. 80%, No condensation    | Max. 85%, No condensation    | Max. 85%, No condensation    | Max. 85%, No condensation    |
|                            | NEMA Rating (Indoor)                    | NEMA 4X                      | NEMA 4X                      | NEMA 4X                      | NEMA 4X                      |

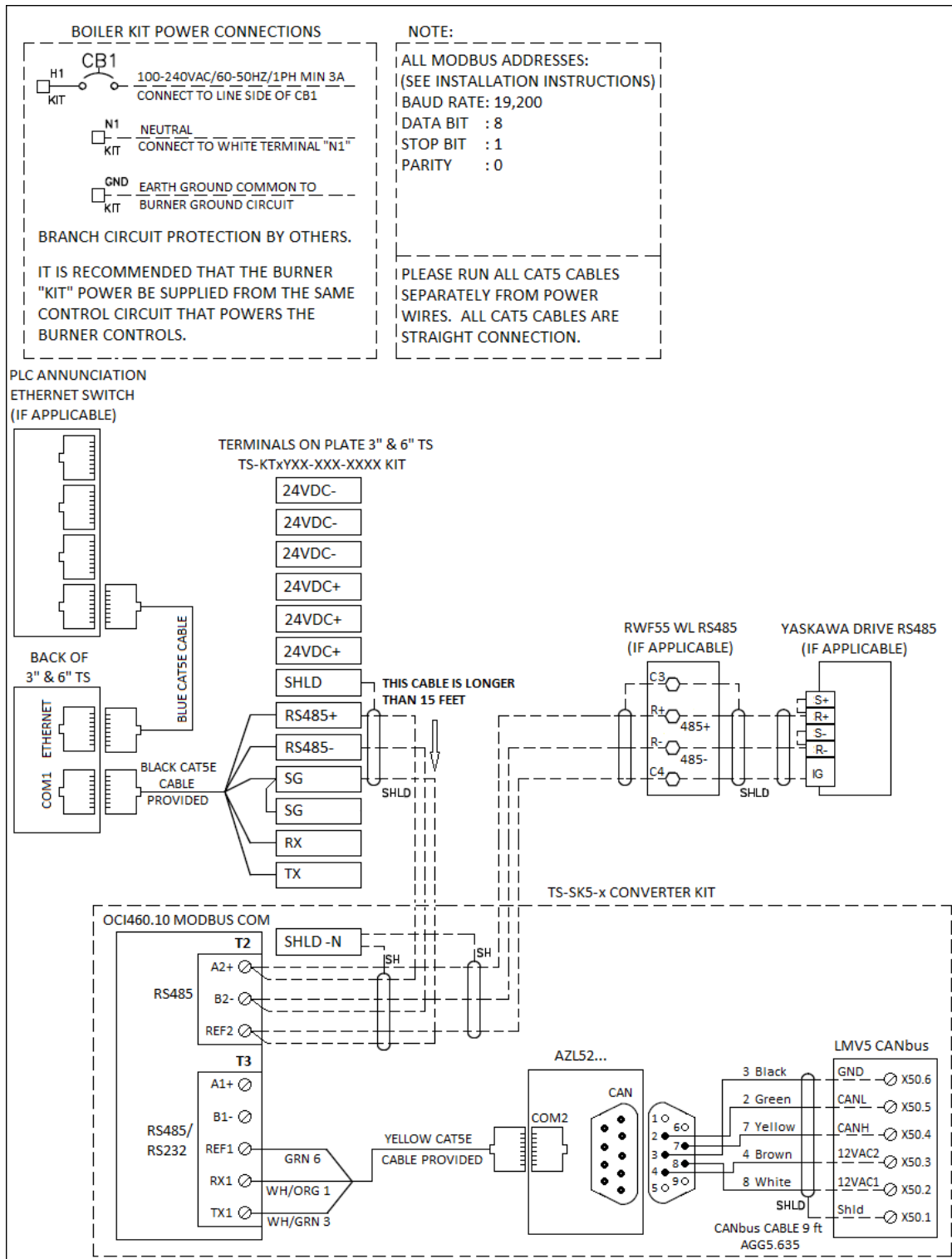
# Connections

3" and 6" Touchscreen kit with LMV5 and optional RWF55 for water level control:



## Connections (continued)

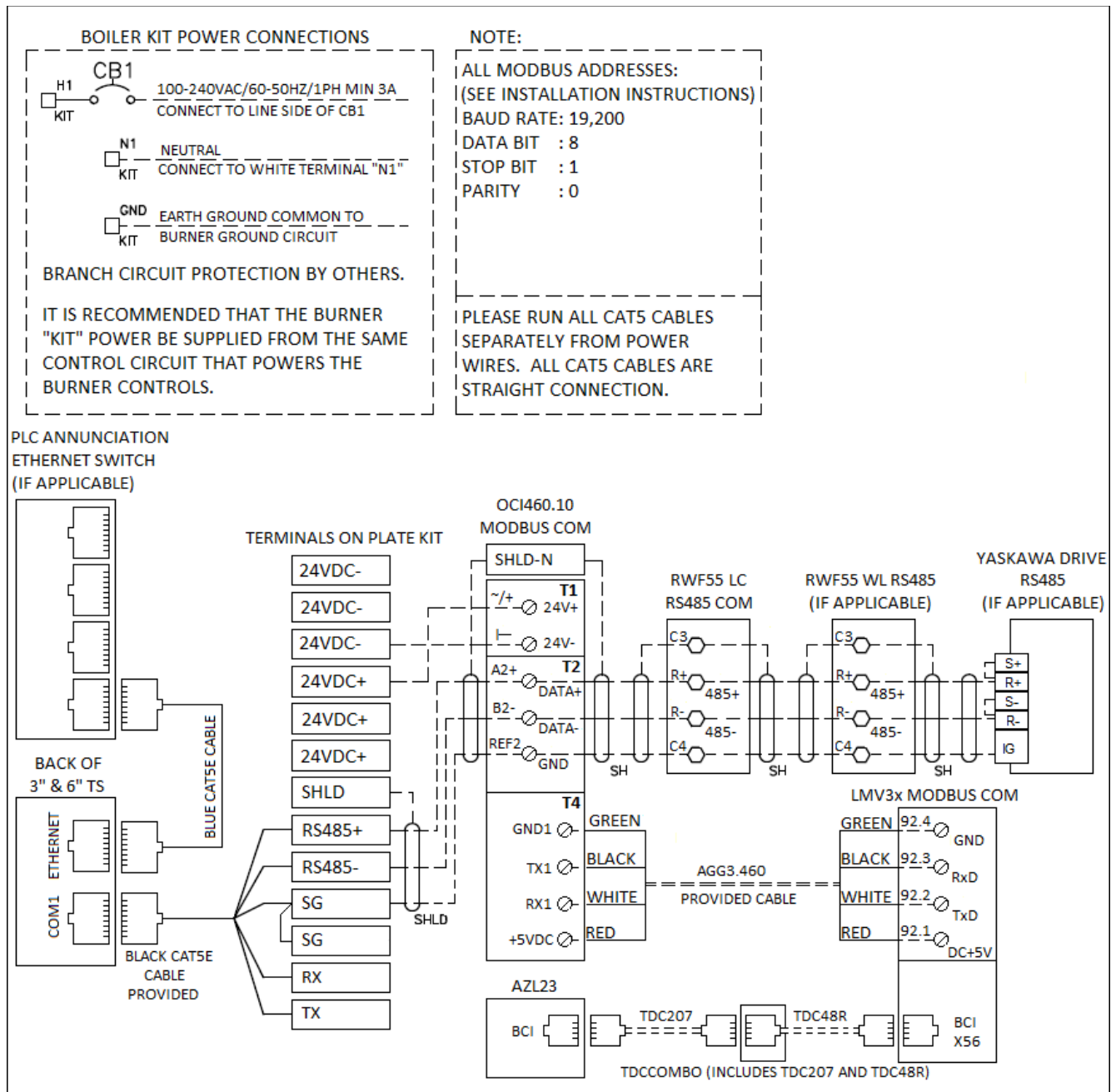
3" and 6" Touchscreen kit with LMV5 and optional RWF55 and optional RWF55 water level control: This diagram is to be used when the touchscreen is mounted more than 15ft away from the AZL





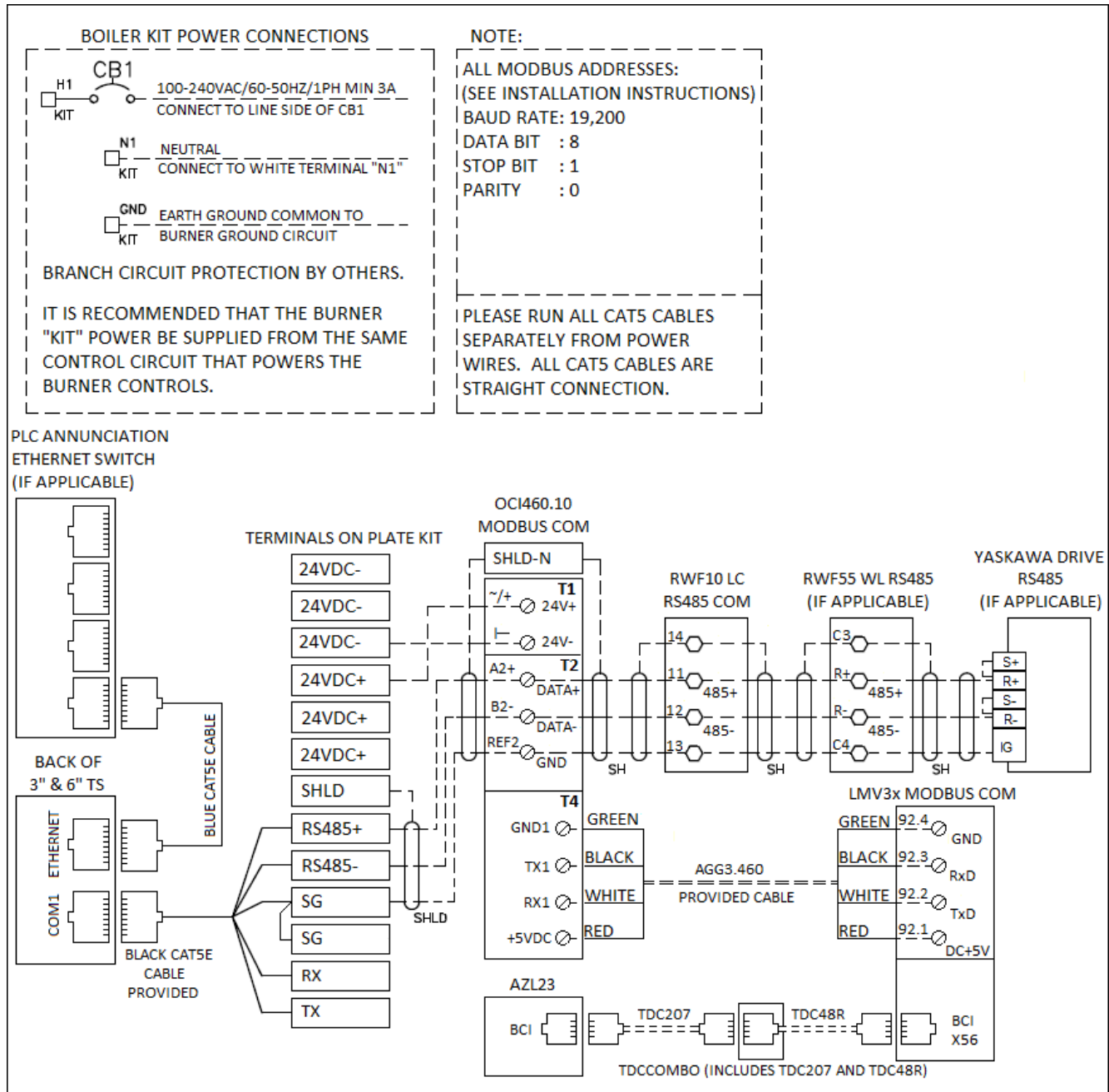
## Connections (continued)

3" and 6" Touchscreen kit with LMV3, RWF55 for load control, and optional RWF55 for water level control:



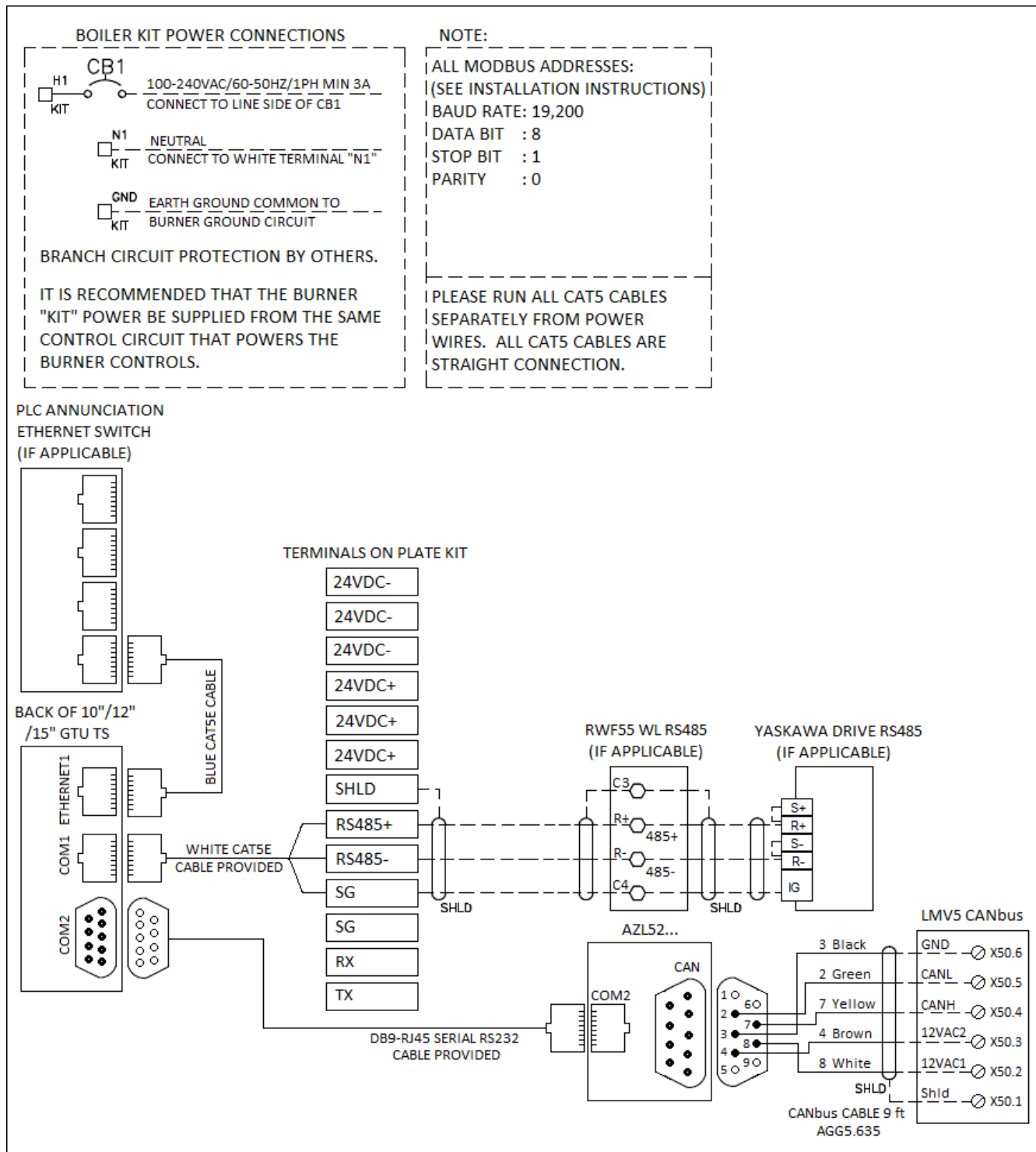
## Connections (continued)

3" and 6" Touchscreen kit with LMV3, RWF10 for load control, and optional RWF55 for water level control:



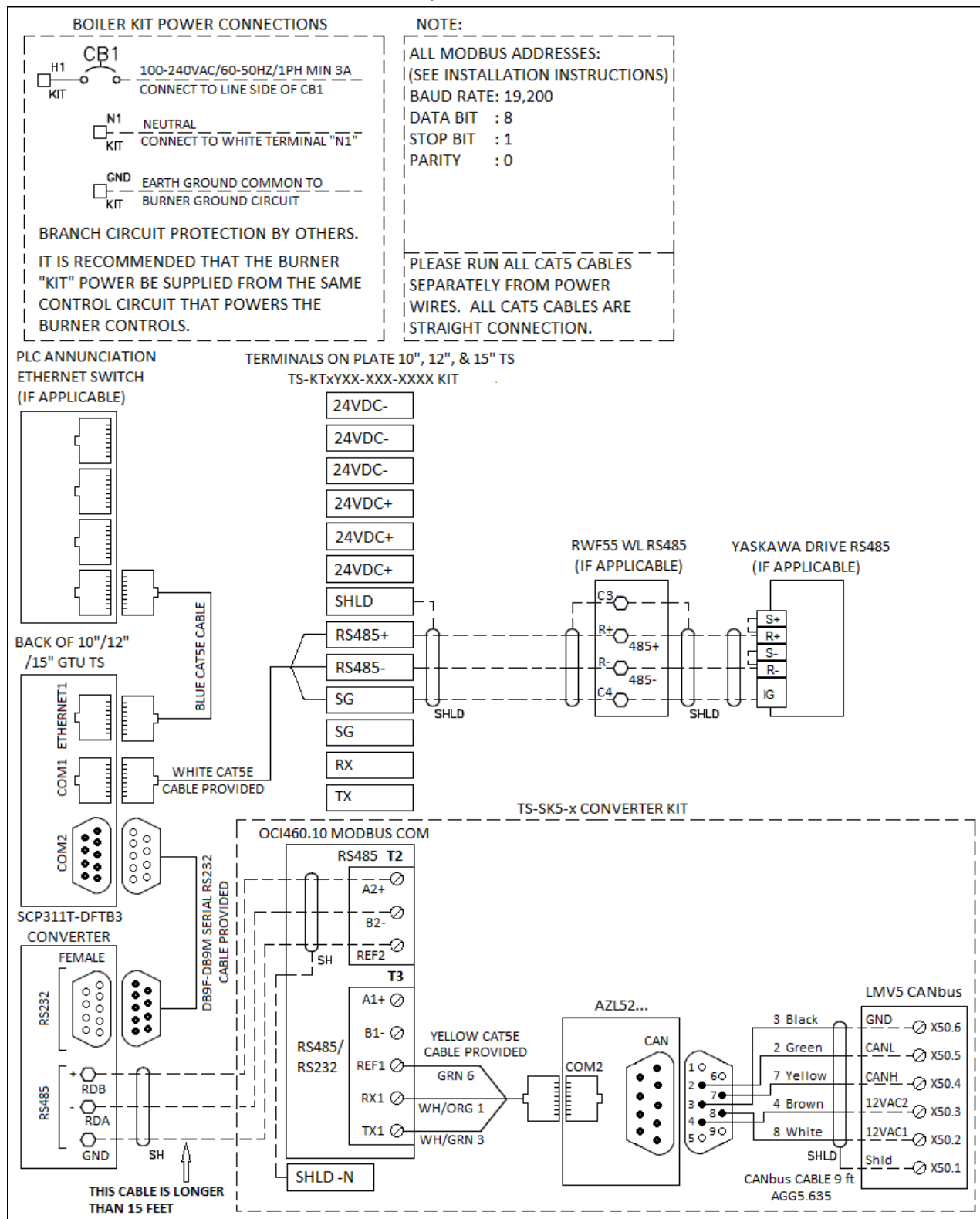
## Connections (continued)

10" Touchscreen kit with LMV5 and optional RWF55 for water level control:



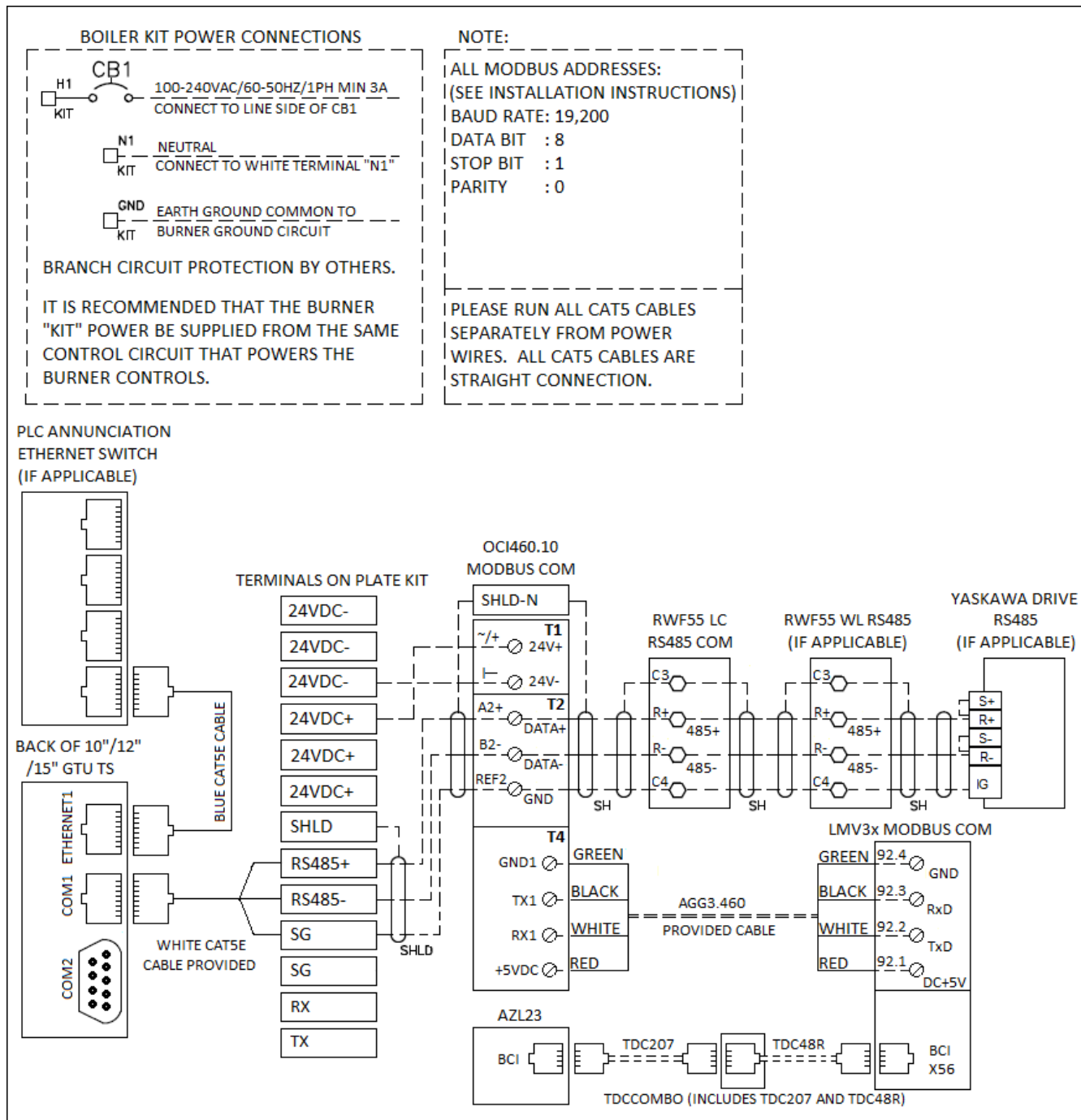
## Connections (continued)

10" Touchscreen kit with LMV5 and optional RWF55 for water level control: This diagram is to be used when the touchscreen is mounted more than 15ft away from the AZL



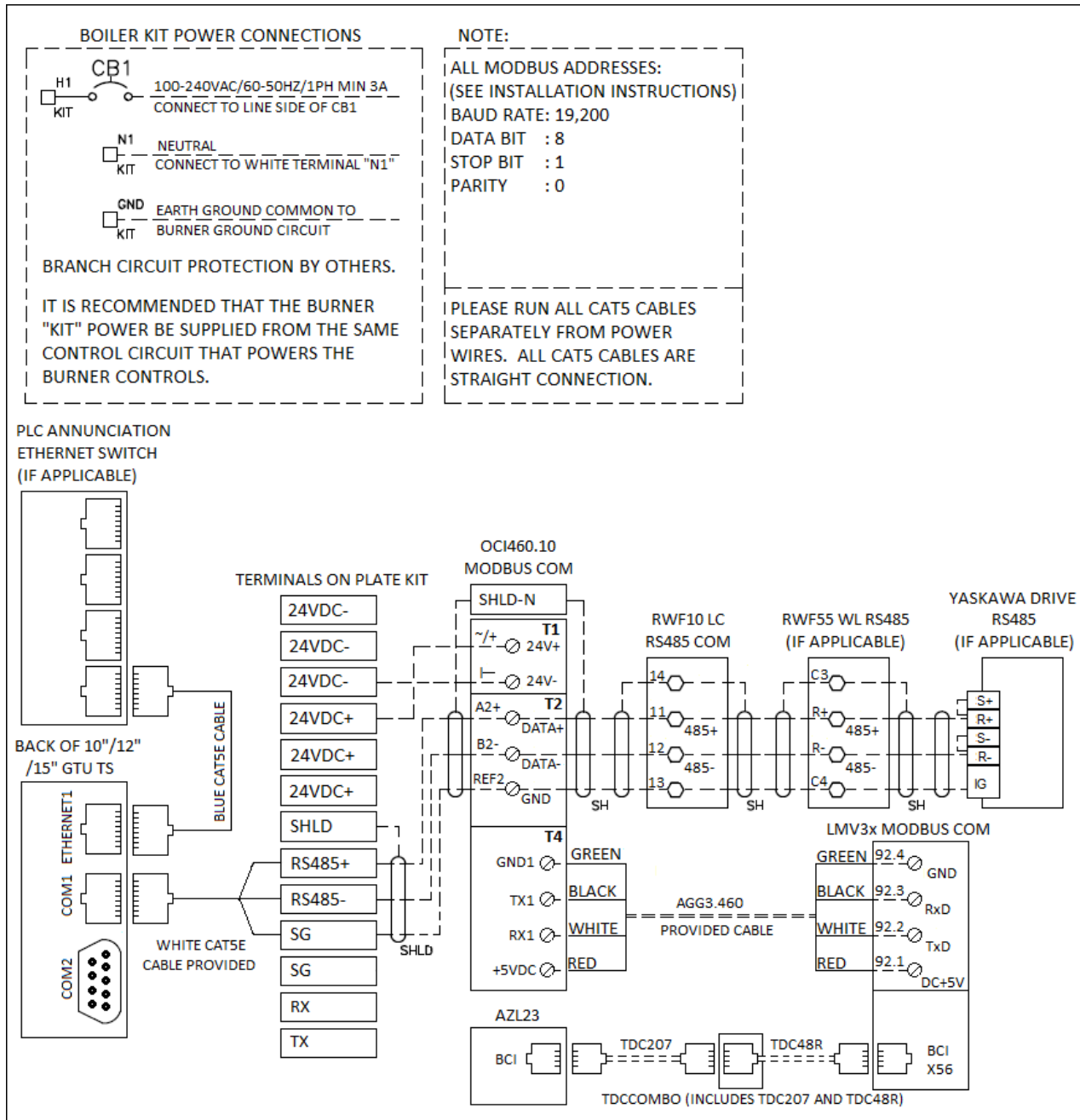
## Connections (continued)

10" Touchscreen kit with LMV3, RWF55 for load control, and optional RWF55 for water level control:

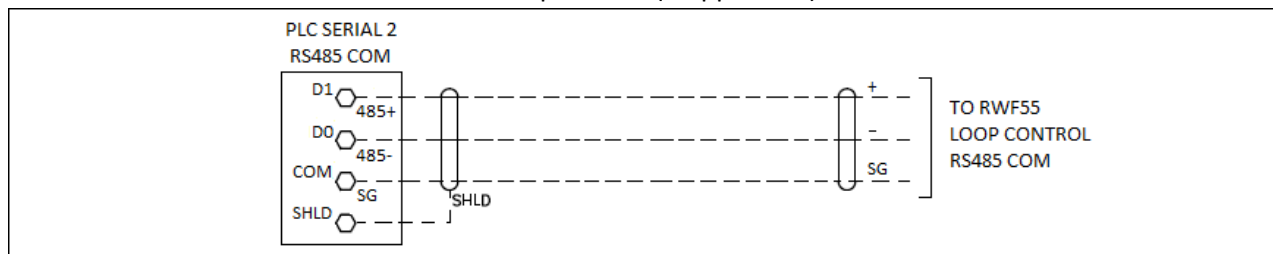


## Connections (continued)

10" Touchscreen kit with LMV3, RWF10 for load control, and optional RWF55 for water level control:

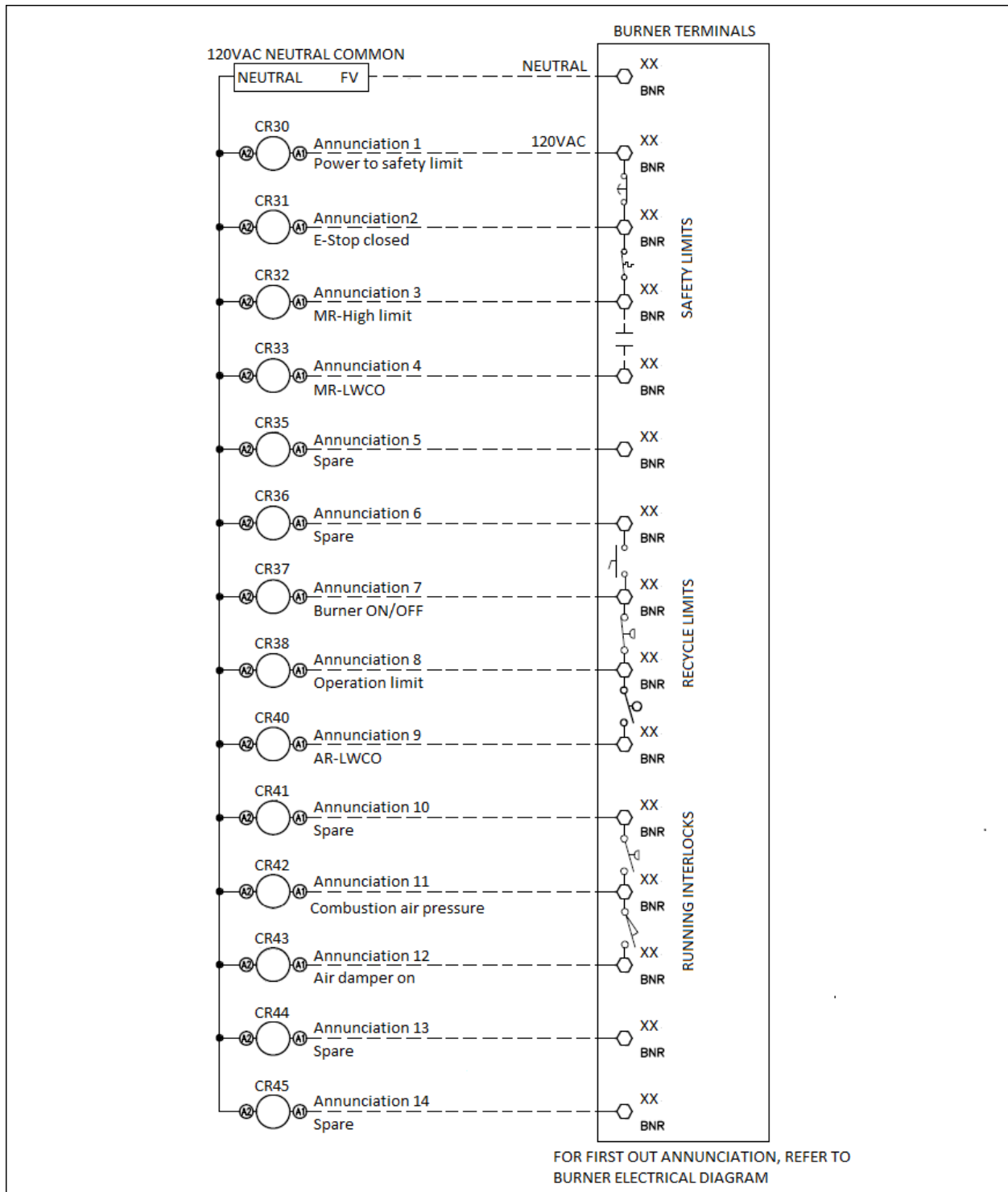


RS485 connection for additional RWF55 for loop control (If applicable):



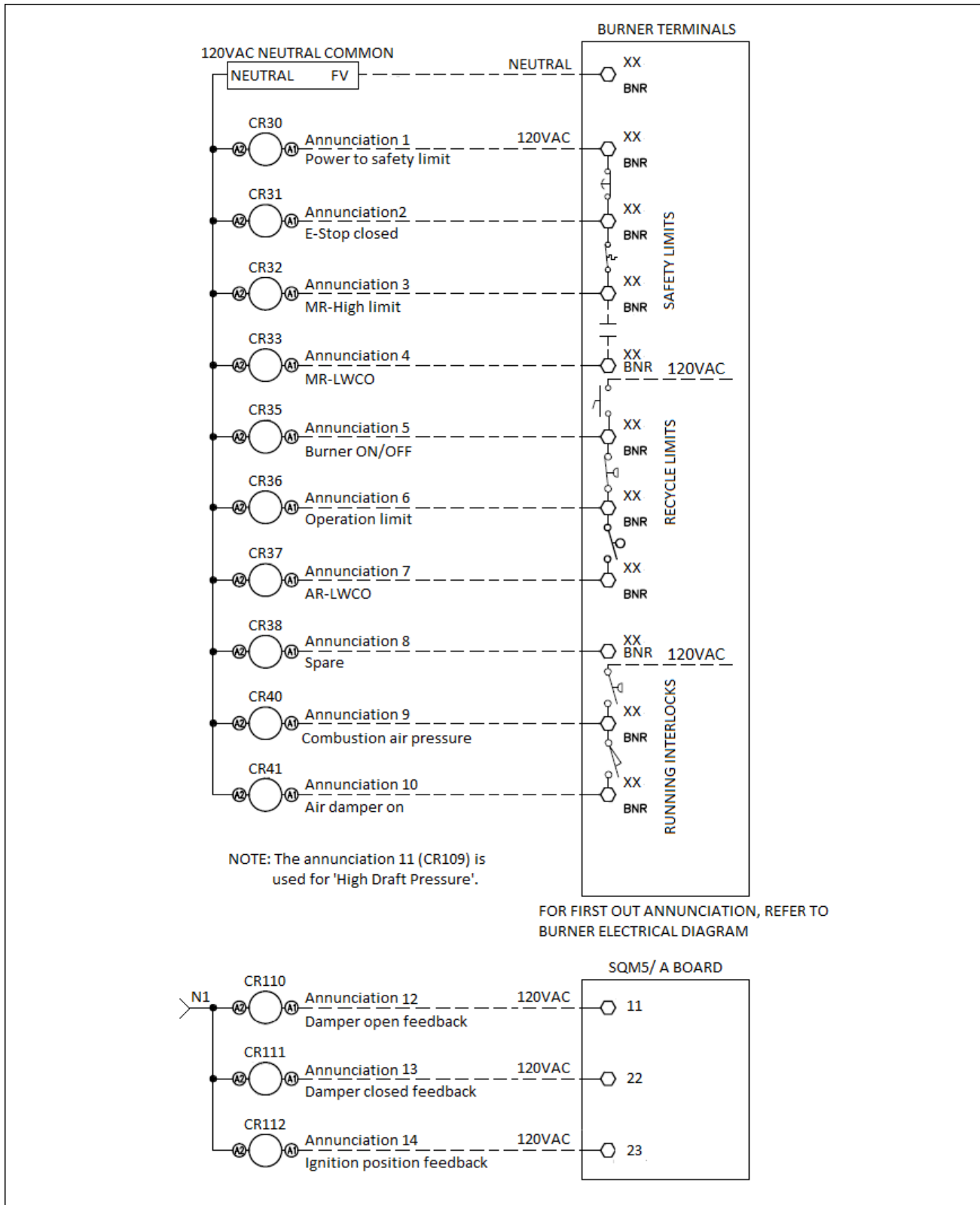
## Connections (continued)

Standard annunciation fourteen (14) 120VAC inputs:



## Connections (continued)

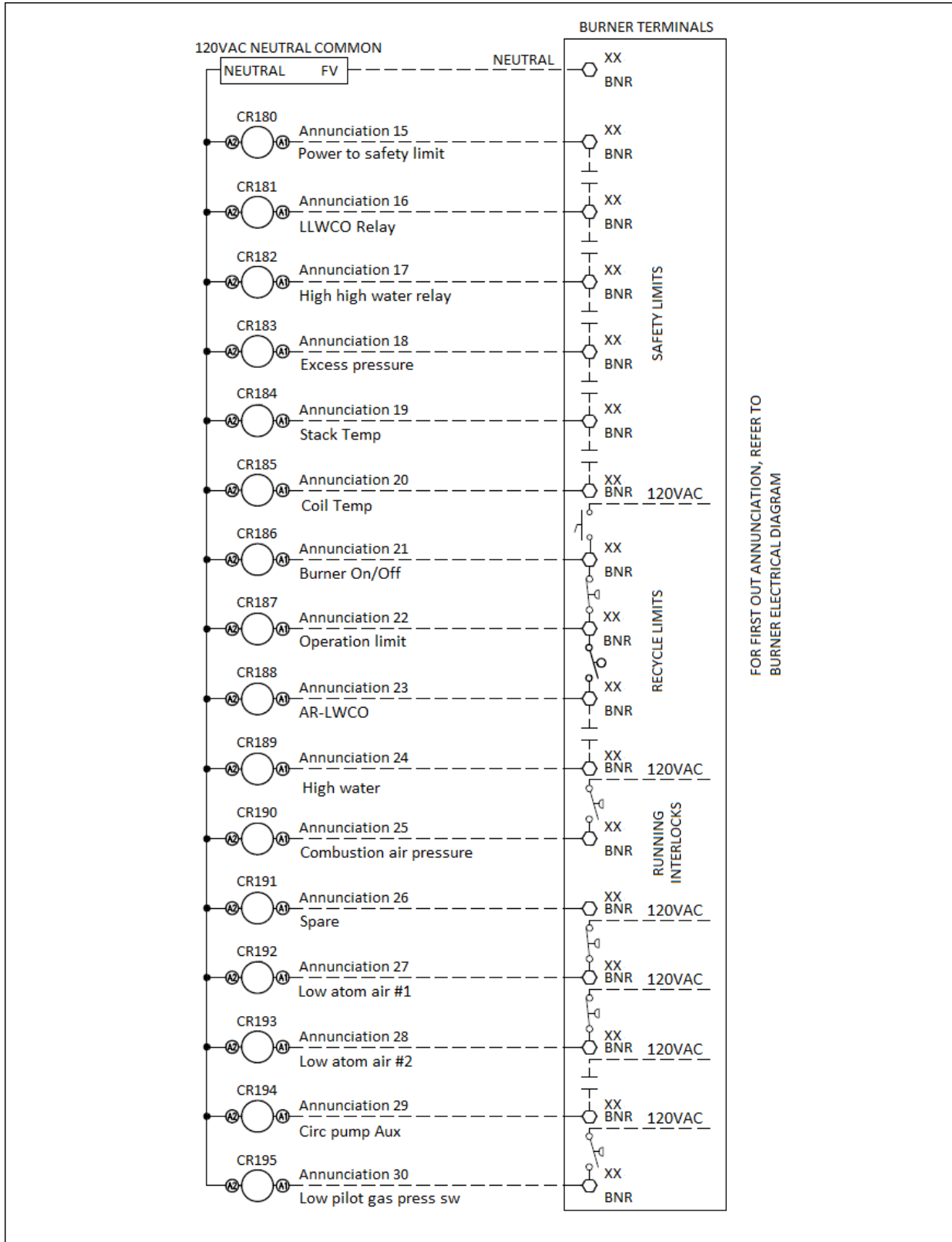
Standard annunciation fourteen (14) 120VAC inputs with draft control:





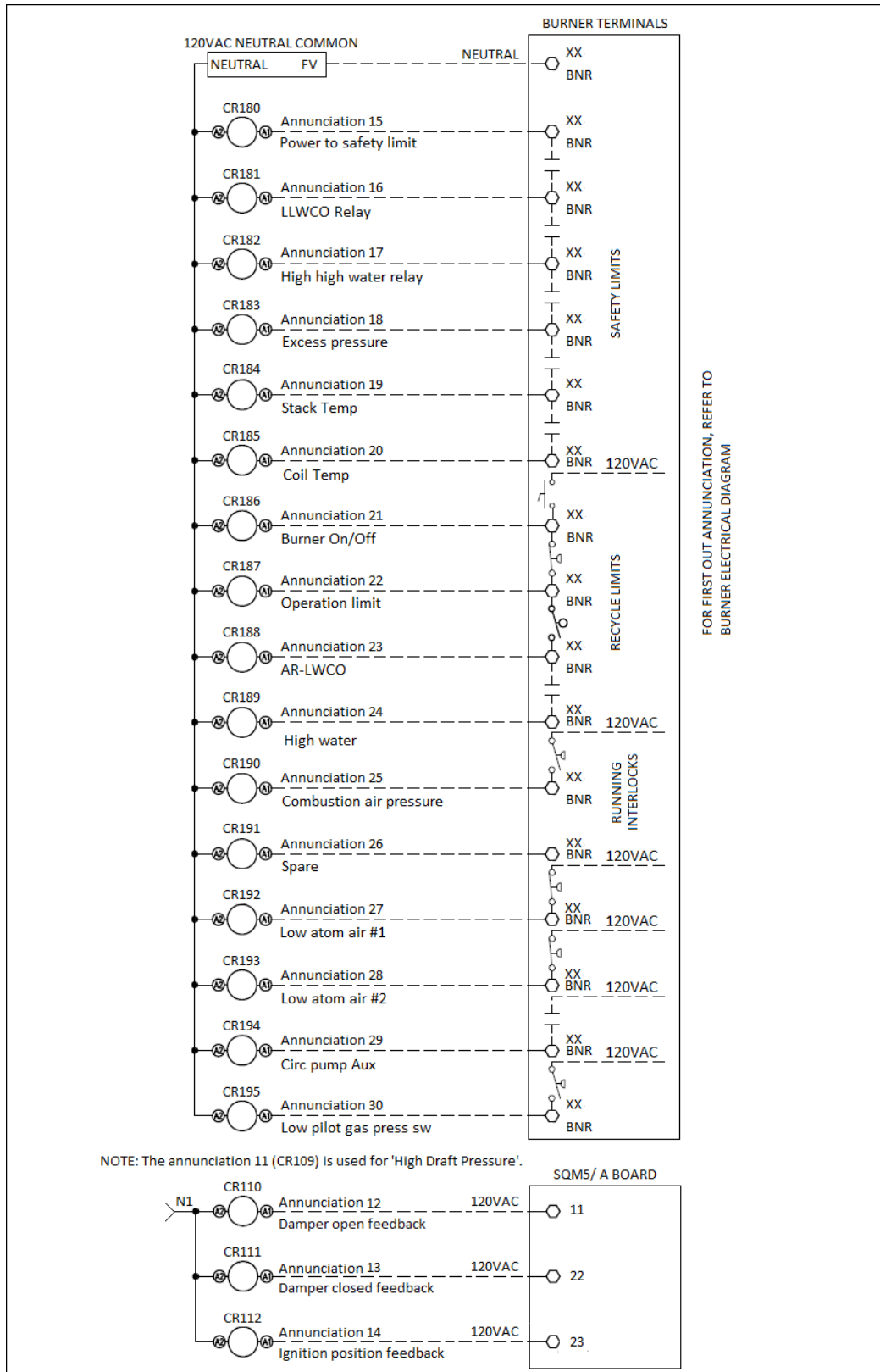
## Connections (continued)

Standard annunciation sixteen (16) 120VAC inputs:



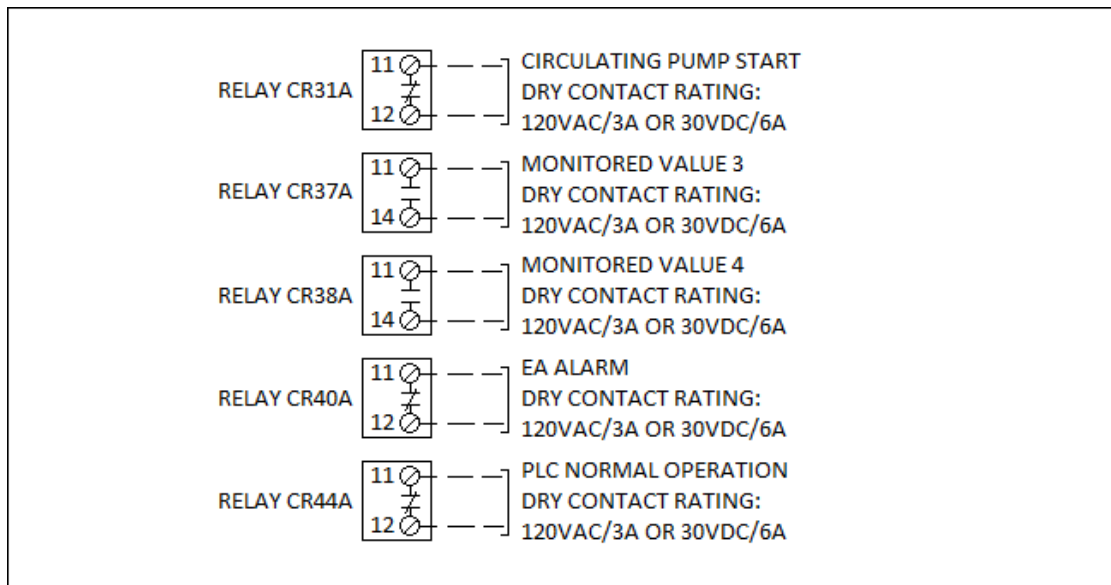
## Connections (continued)

Standard annunciation sixteen(16) 120VAC inputs with additional three (4) inputs for draft control:

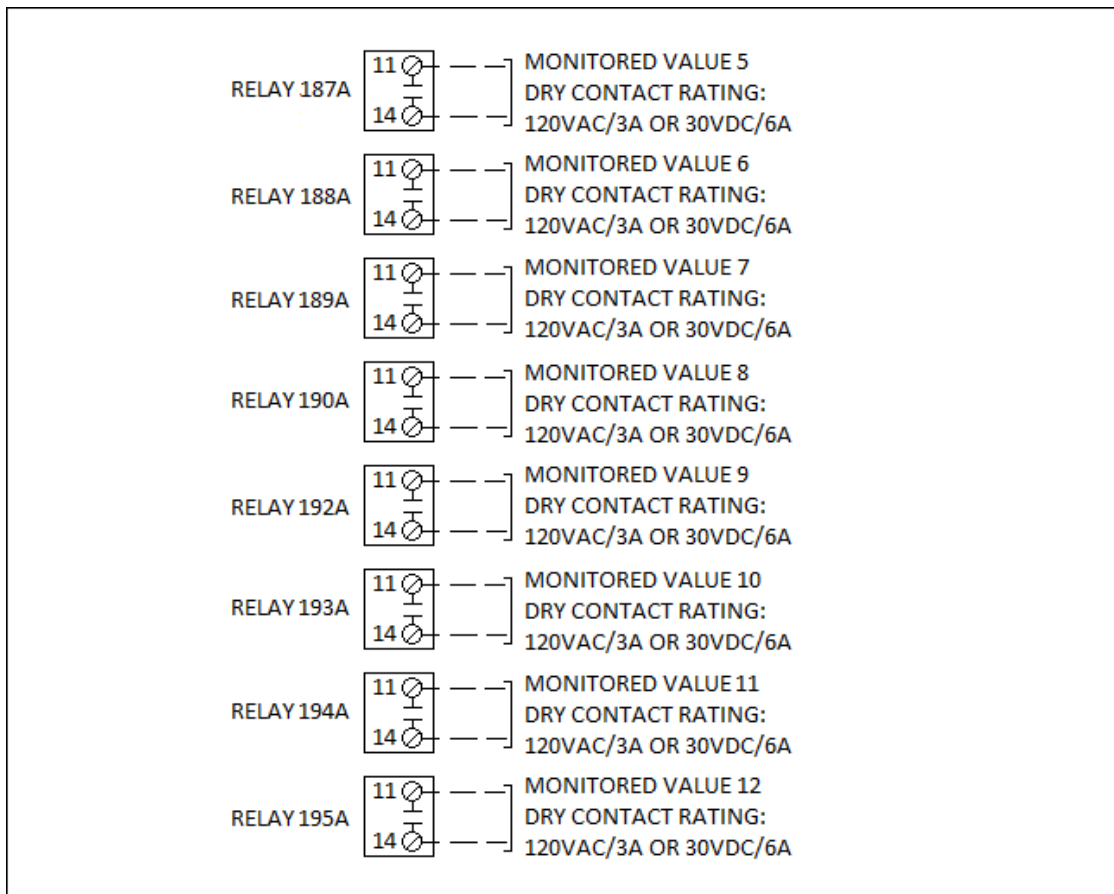


## Connections (continued)

Outputs relay terminals:

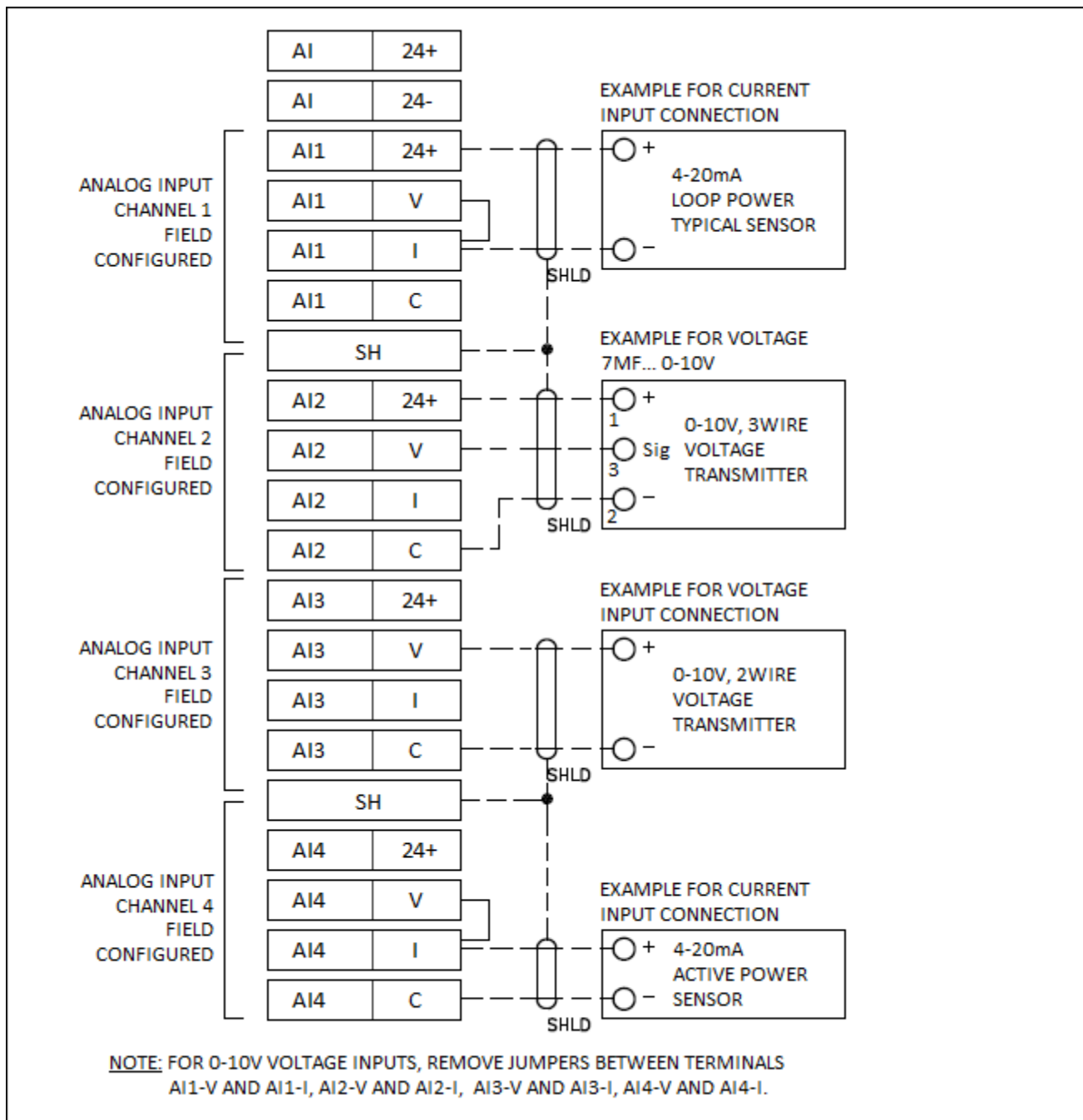


Additional outputs relay terminals:



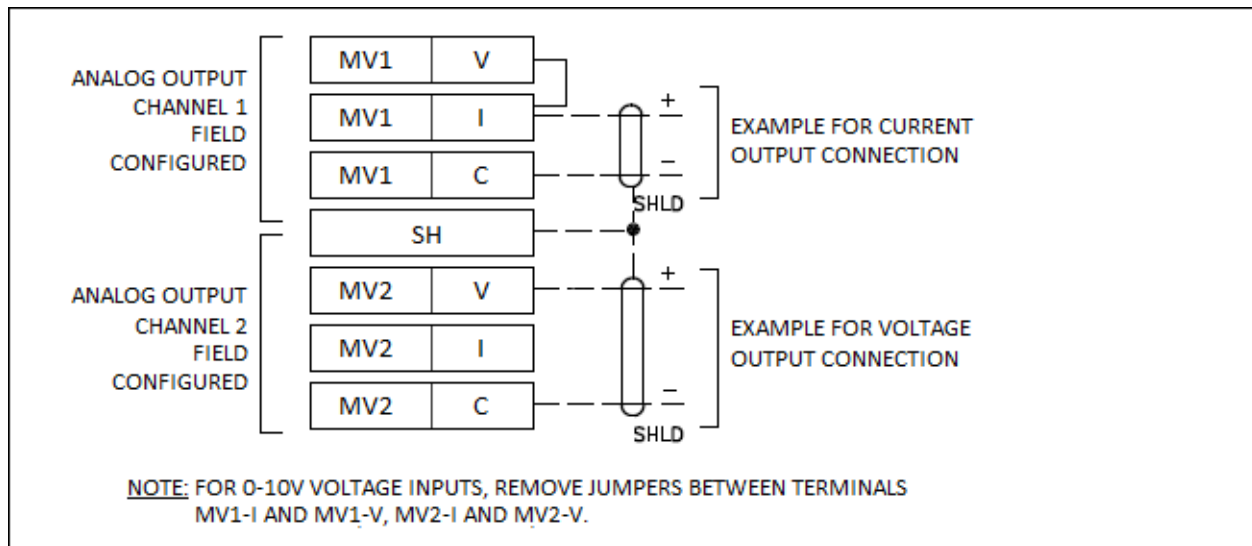
## Connections (continued)

Analog input terminals:

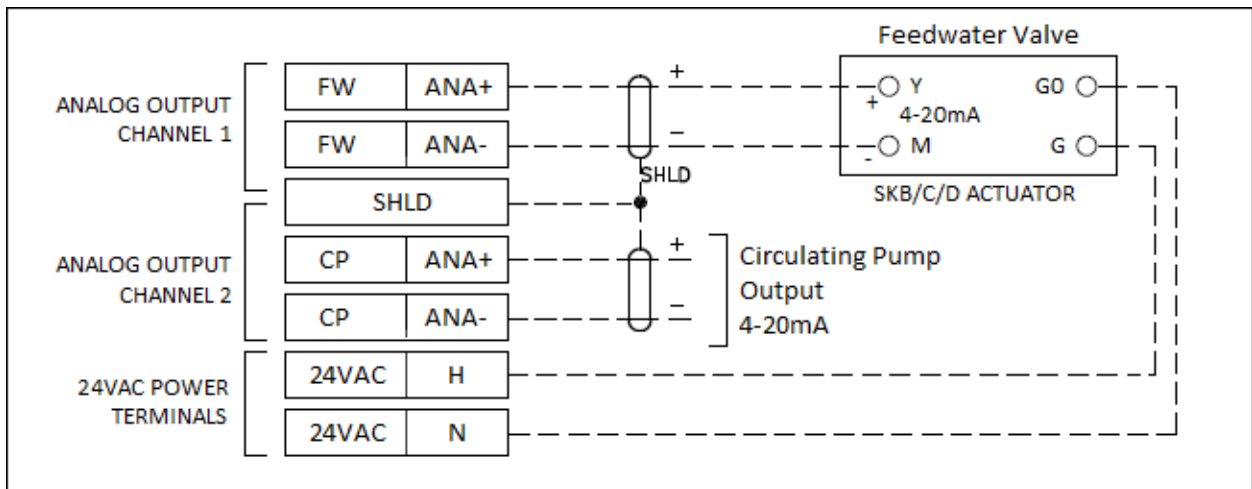


## Connections (continued)

Analog output terminals:



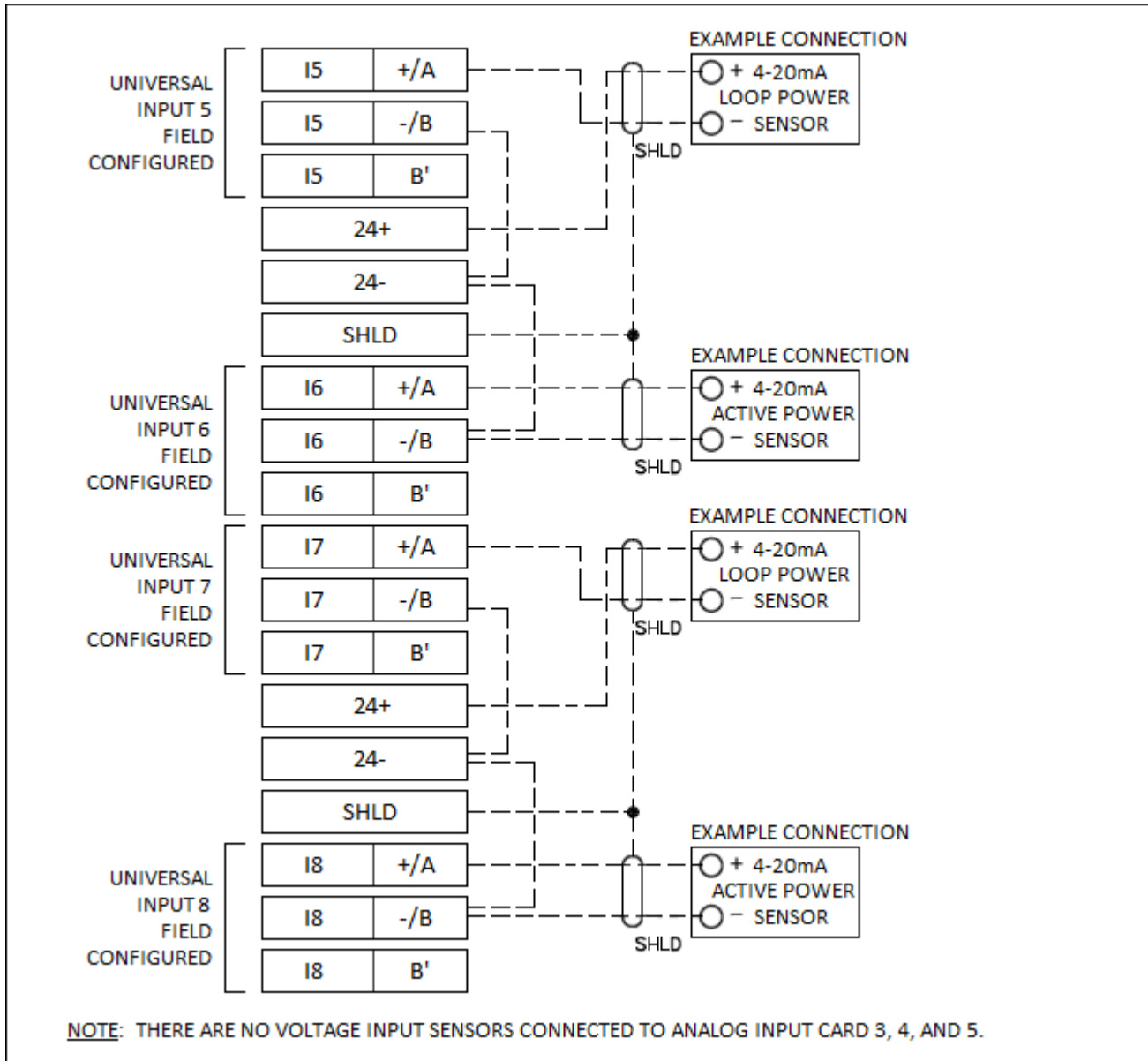
Dedicated analog outputs option, used for feedwater and circulating pump VFD control, 4-20mA only terminals:



## Connections (continued)

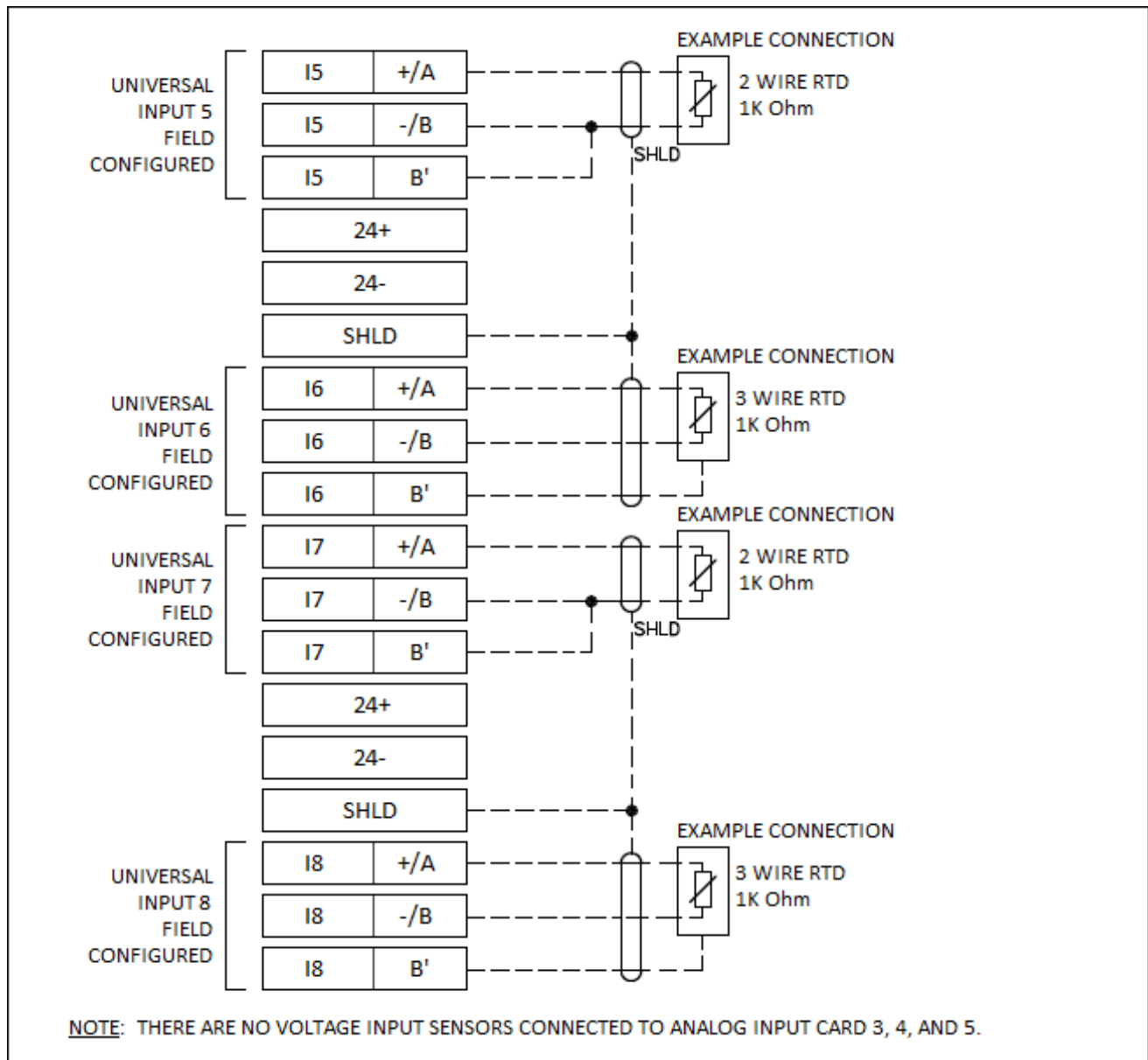
### 12 Universal inputs

The first four universal input terminals with current transmitter example connections:



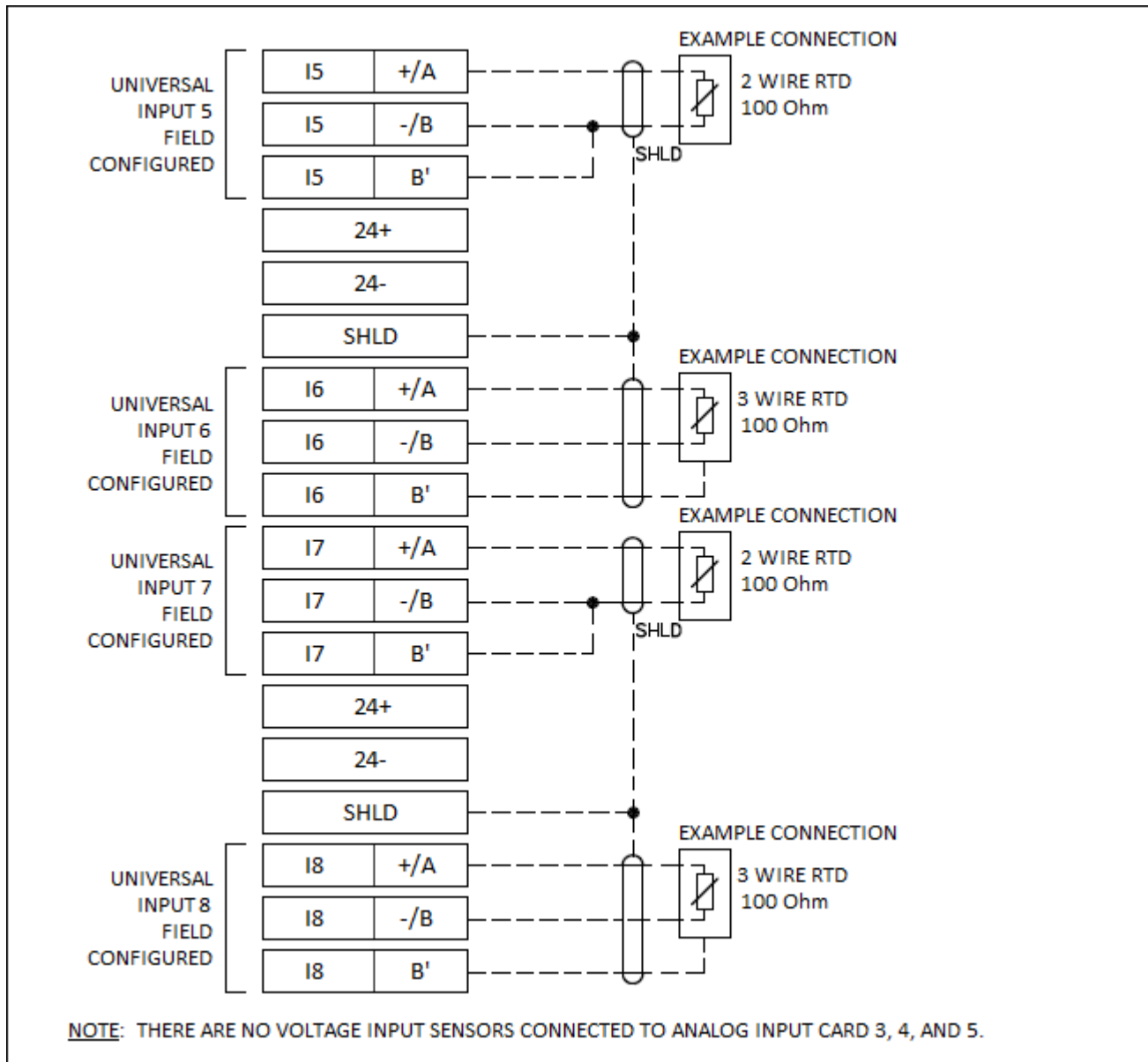
## Connections (continued)

The first four universal input terminals with RTD 1000 Ohm example connections:



## Connections (continued)

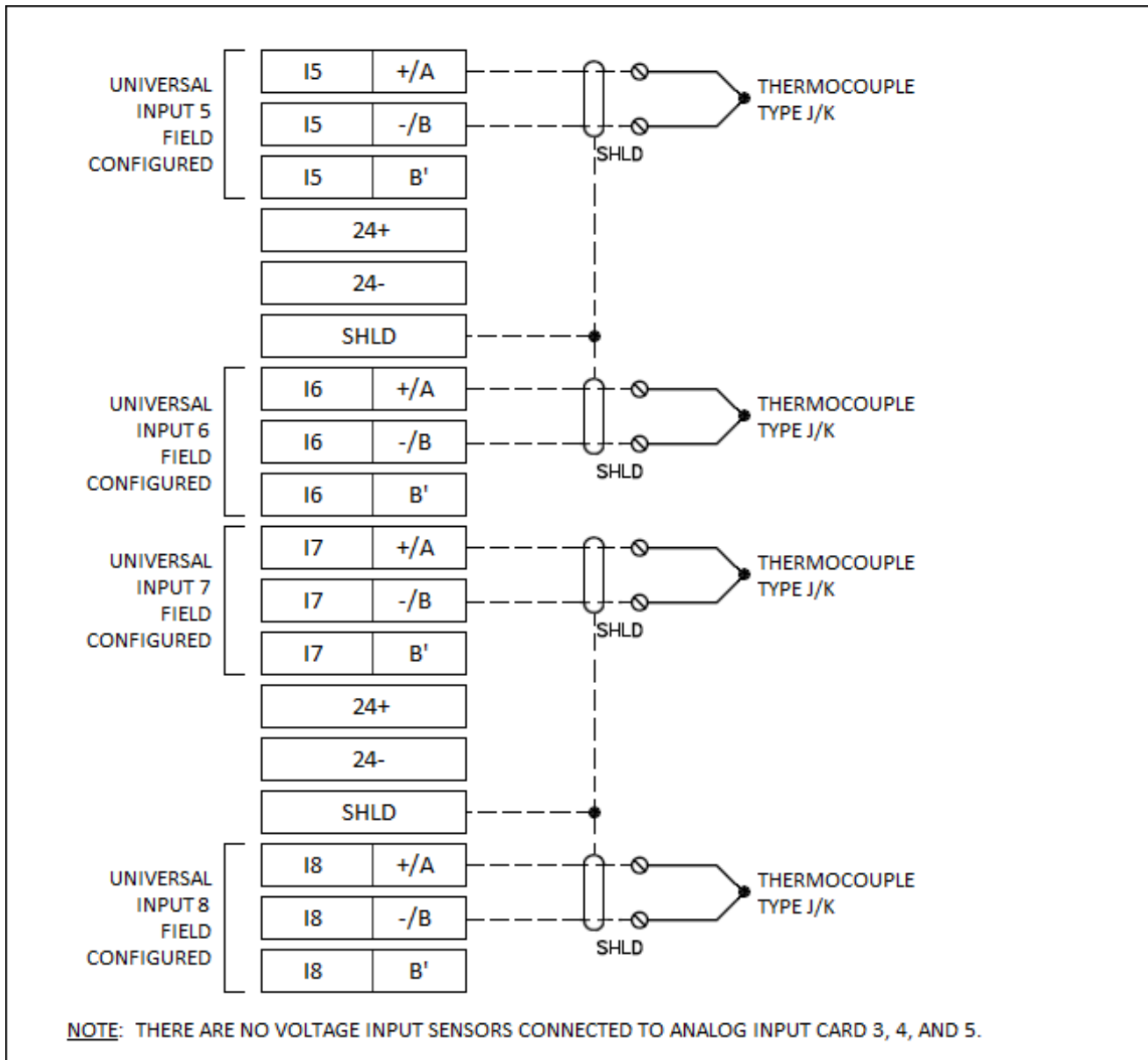
The first four universal input terminals with RTD 100 Ohm example connections:





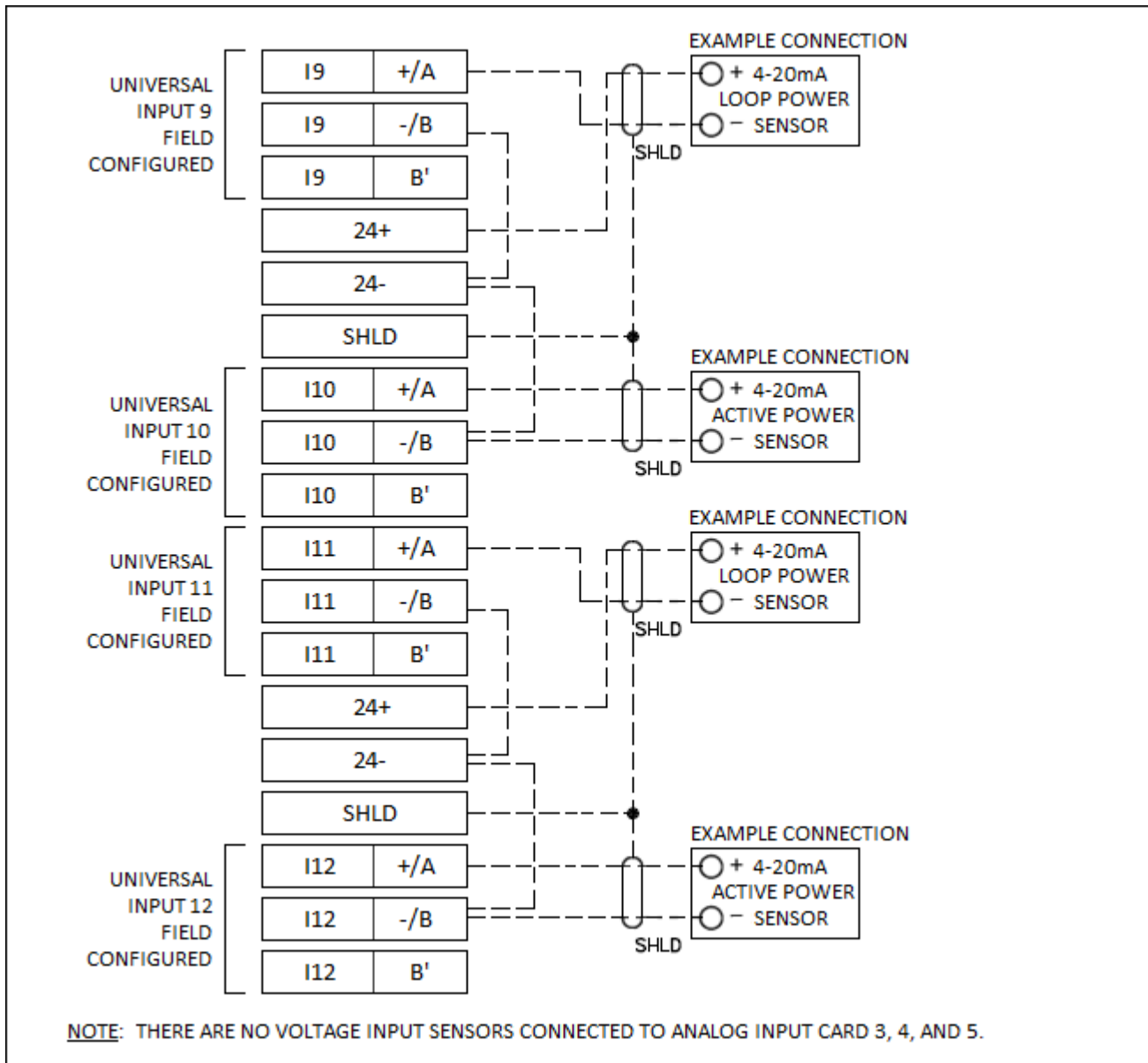
## Connections (continued)

The first four universal input terminals with thermocouple type J/K example connections:



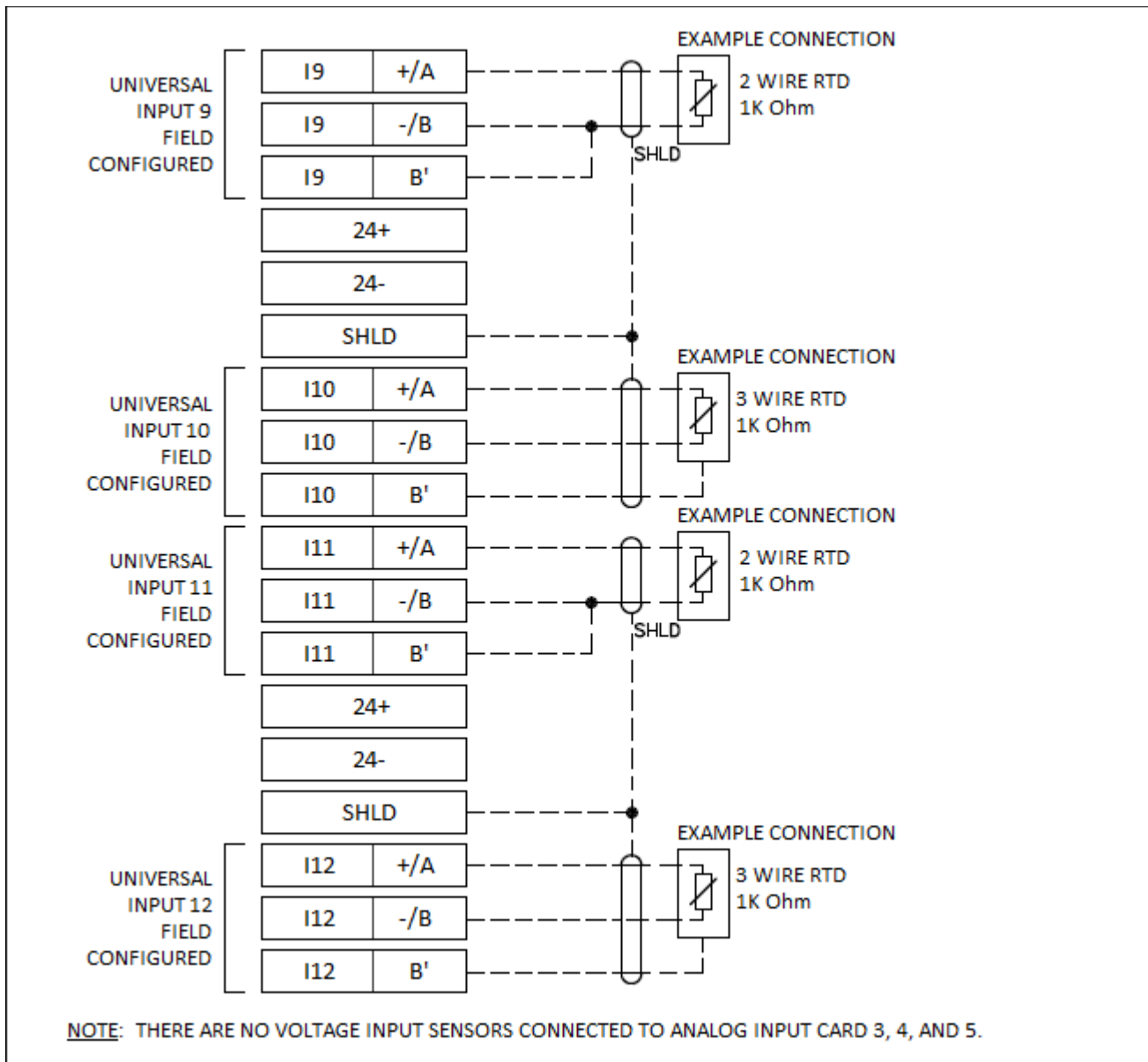
## Connections (continued)

The second four universal input terminals with current transmitter example connections:



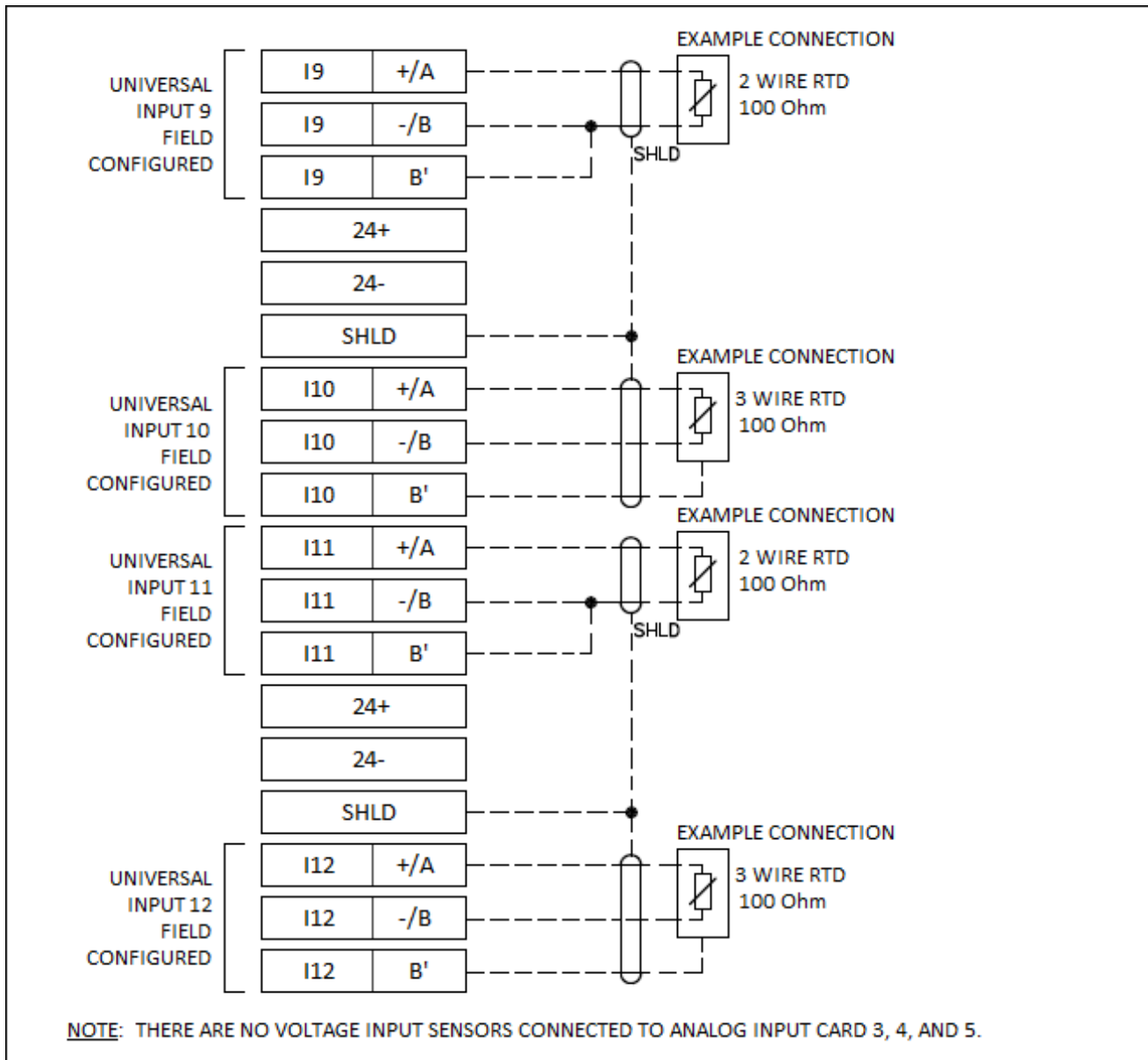
## Connections (continued)

The second four universal input terminals with RTD 1000 Ohm connections:



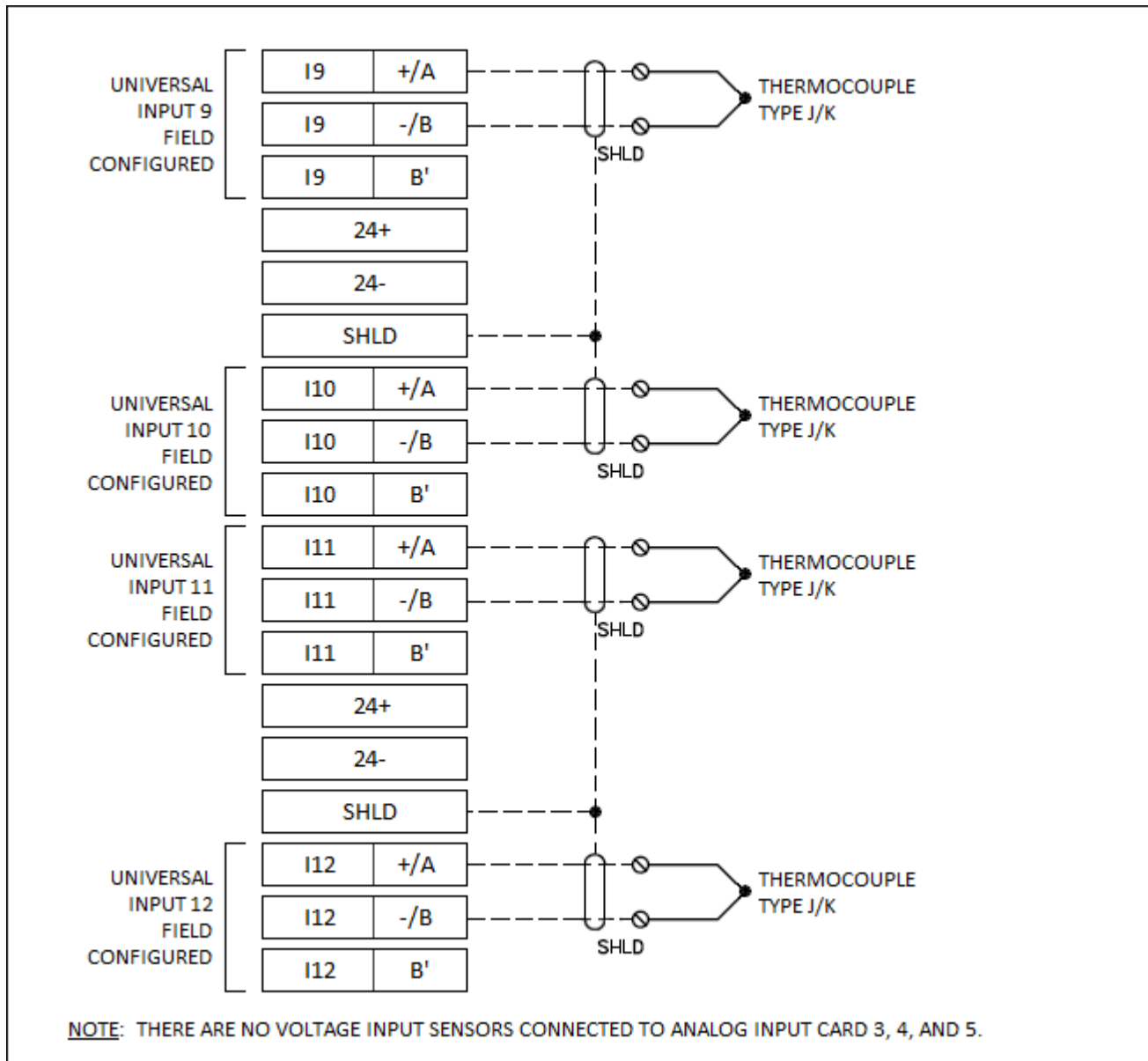
## Connections (continued)

The second four universal input terminals with RTD 100 Ohm connections:



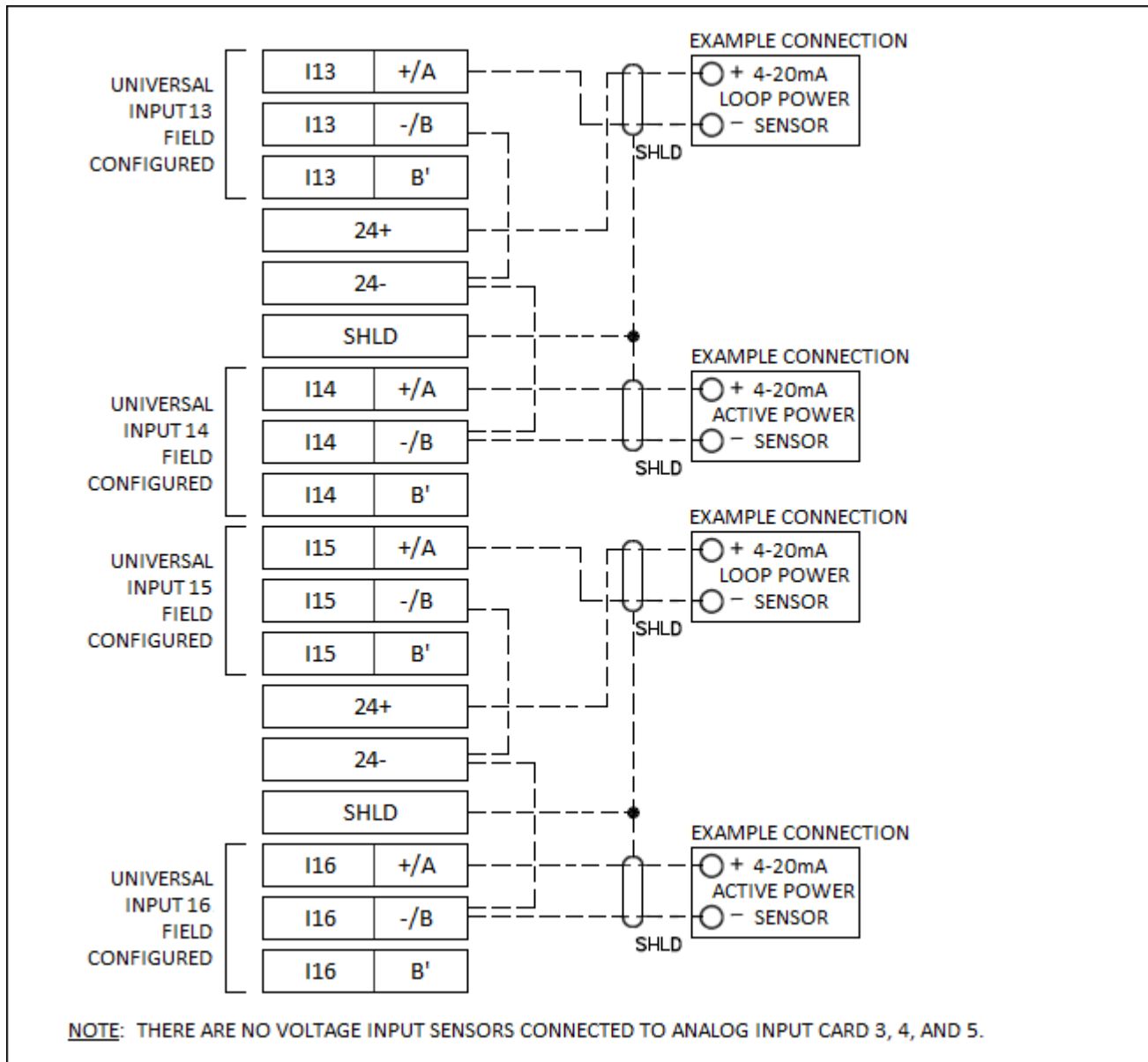
## Connections (continued)

The second four universal input terminals with thermocouple type J/K example connections:



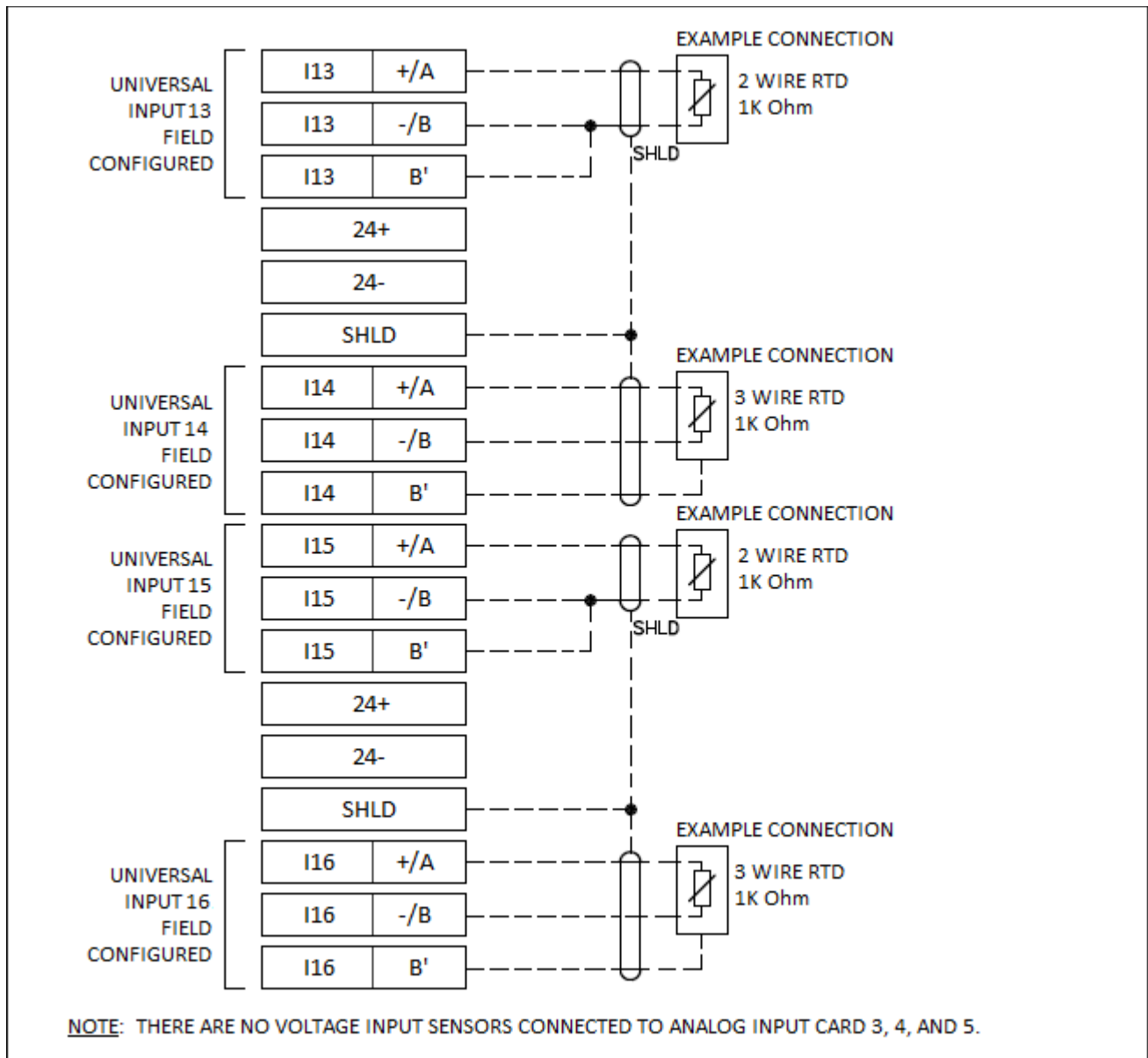
## Connections (continued)

The third four universal input terminals with current transmitter connections:



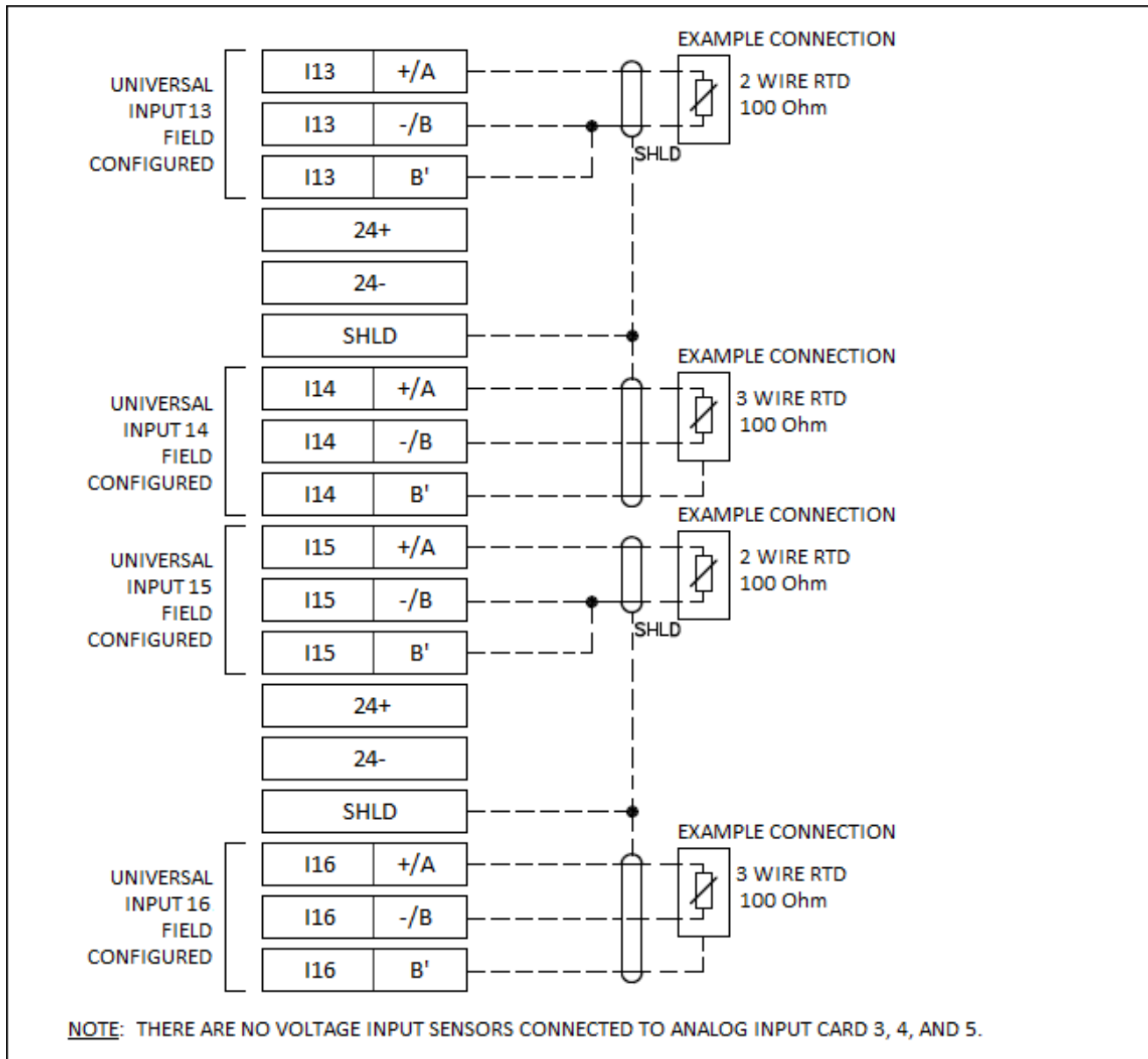
## Connections (continued)

The third four universal input terminals with RTD 1000 Ohm connections:



## Connections (continued)

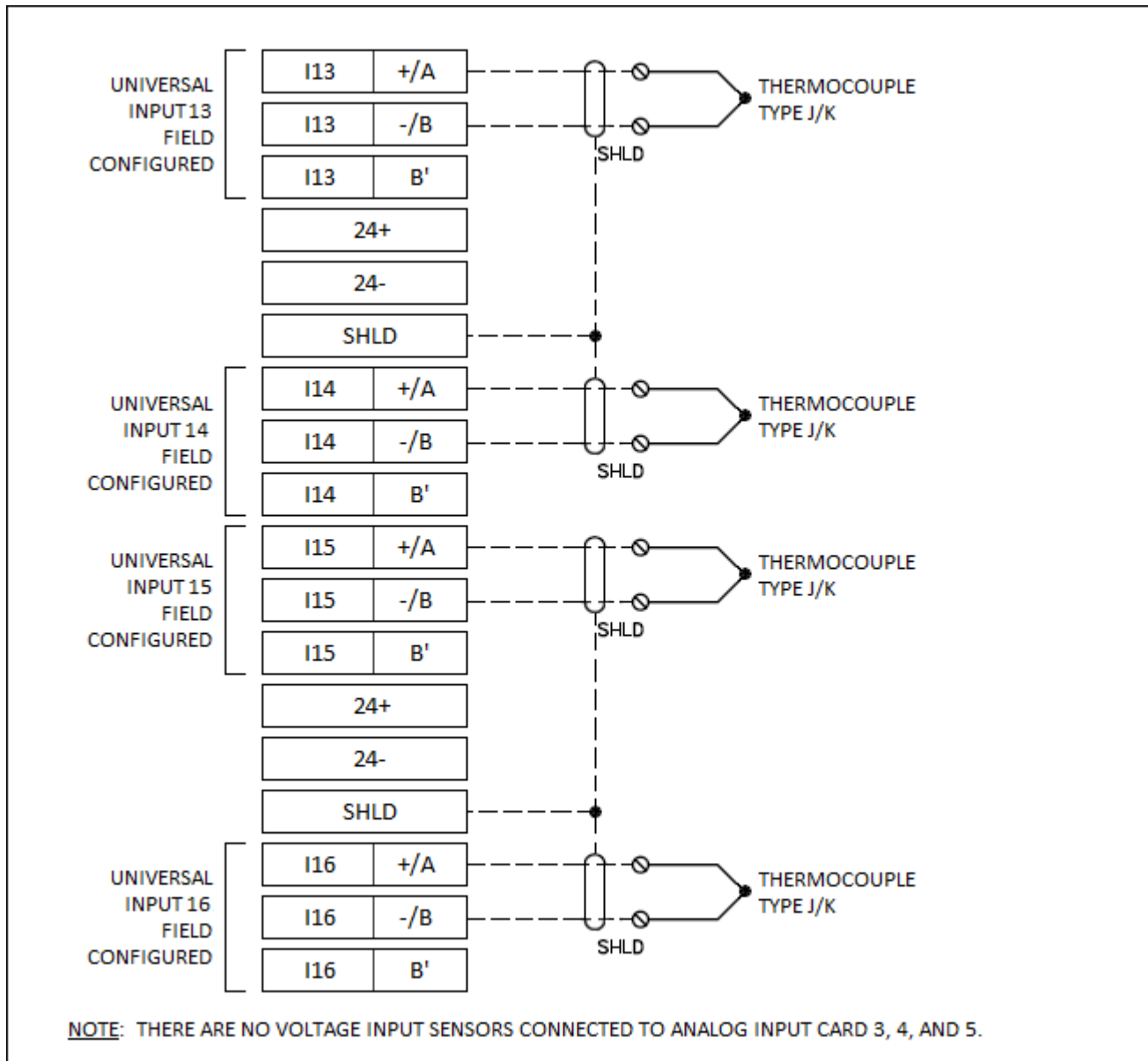
The third four universal input terminals with RTD 100 Ohm connections:





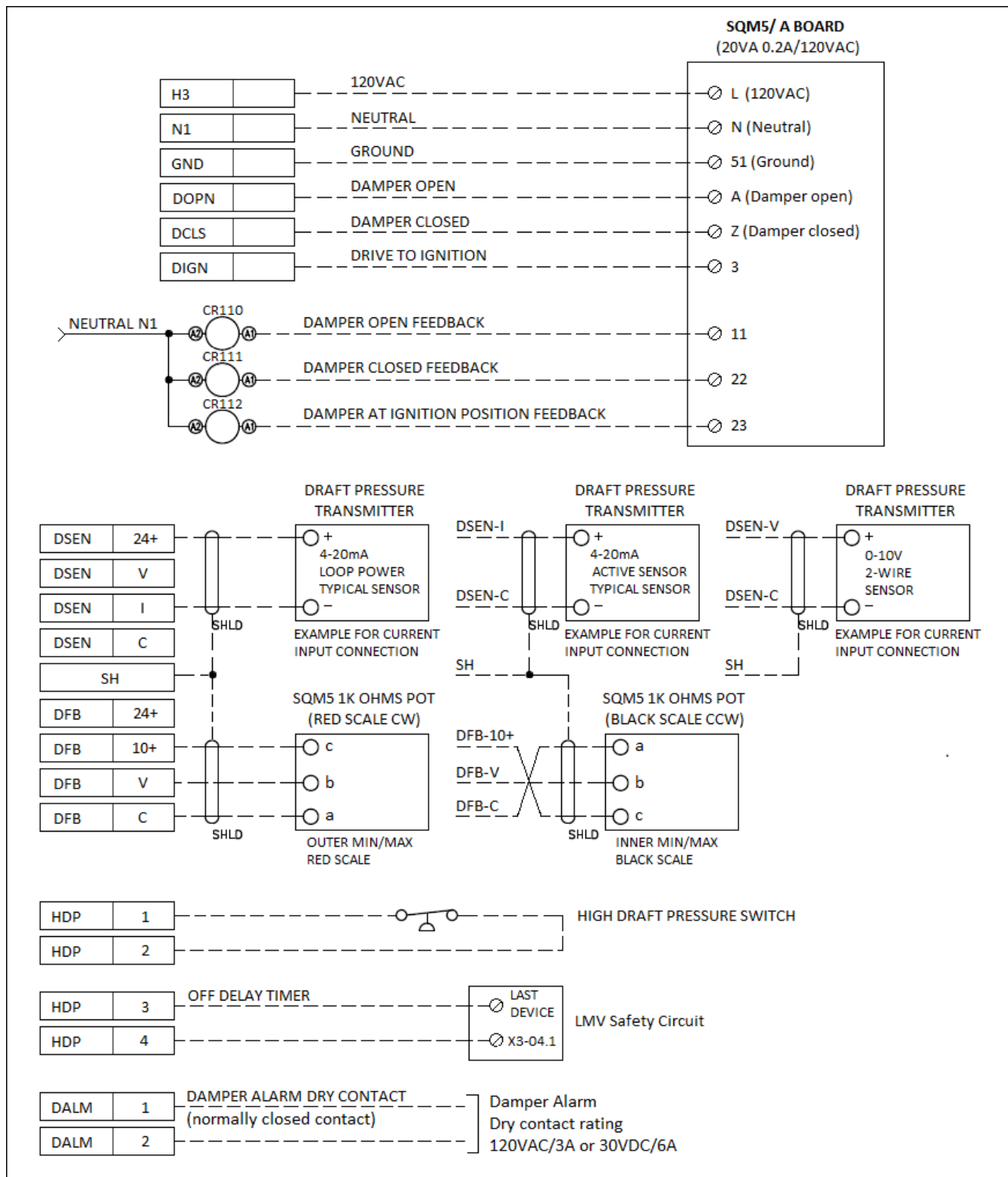
## Connections (continued)

The third four universal input terminals with thermocouple type J/K example connections:



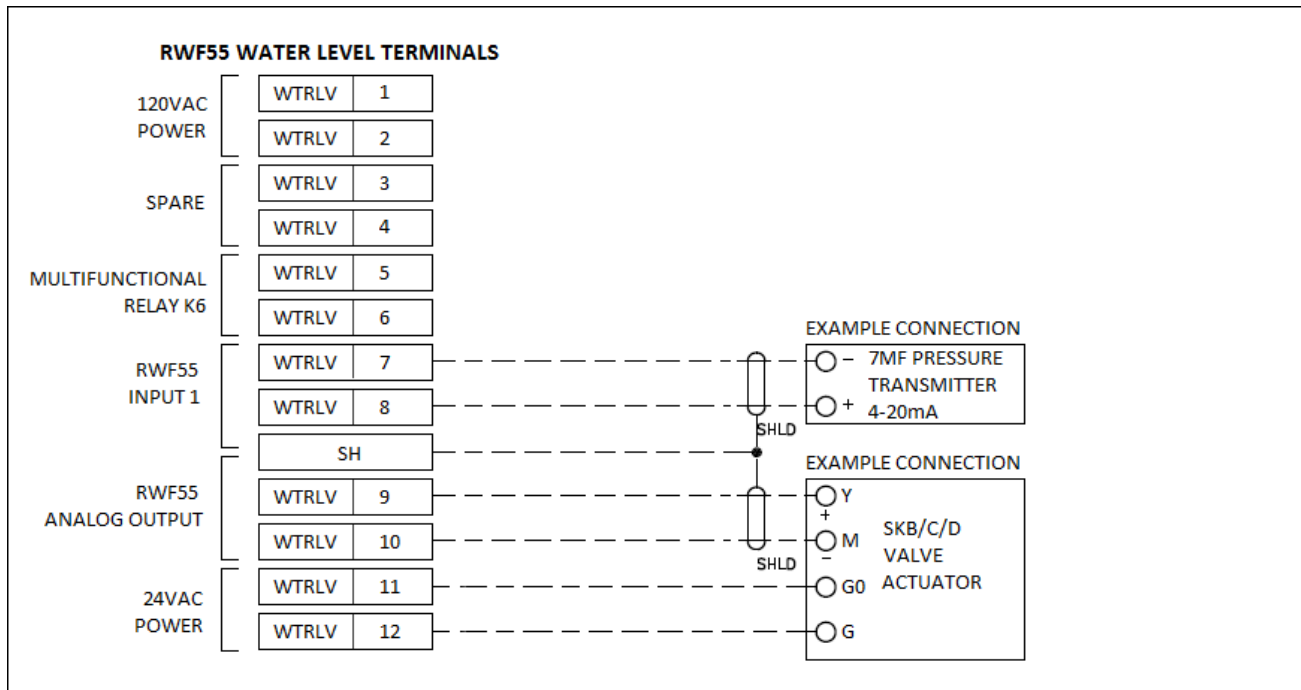
## Connections (continued)

Draft Control:



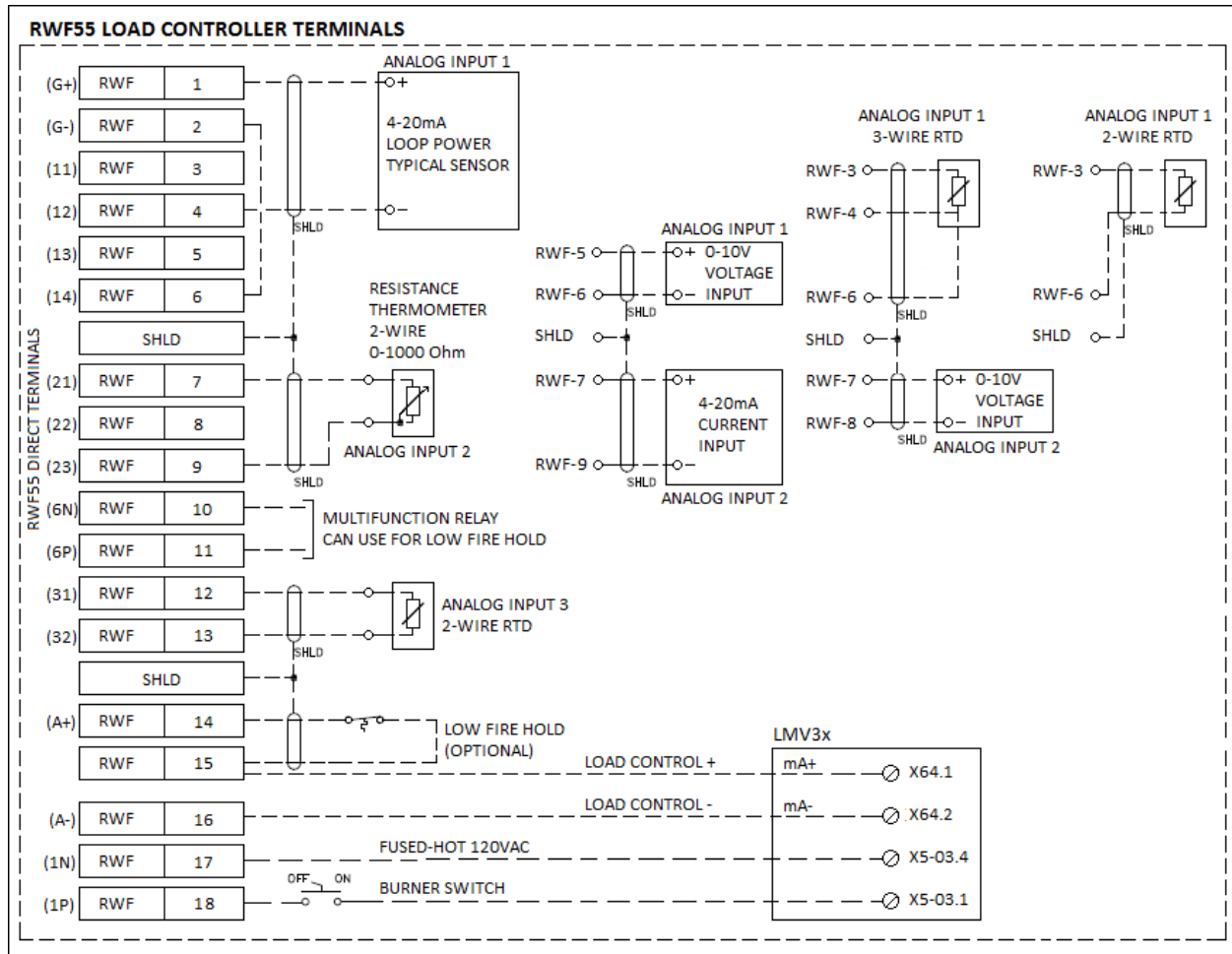
## Connections (continued)

RWF55 Water level:



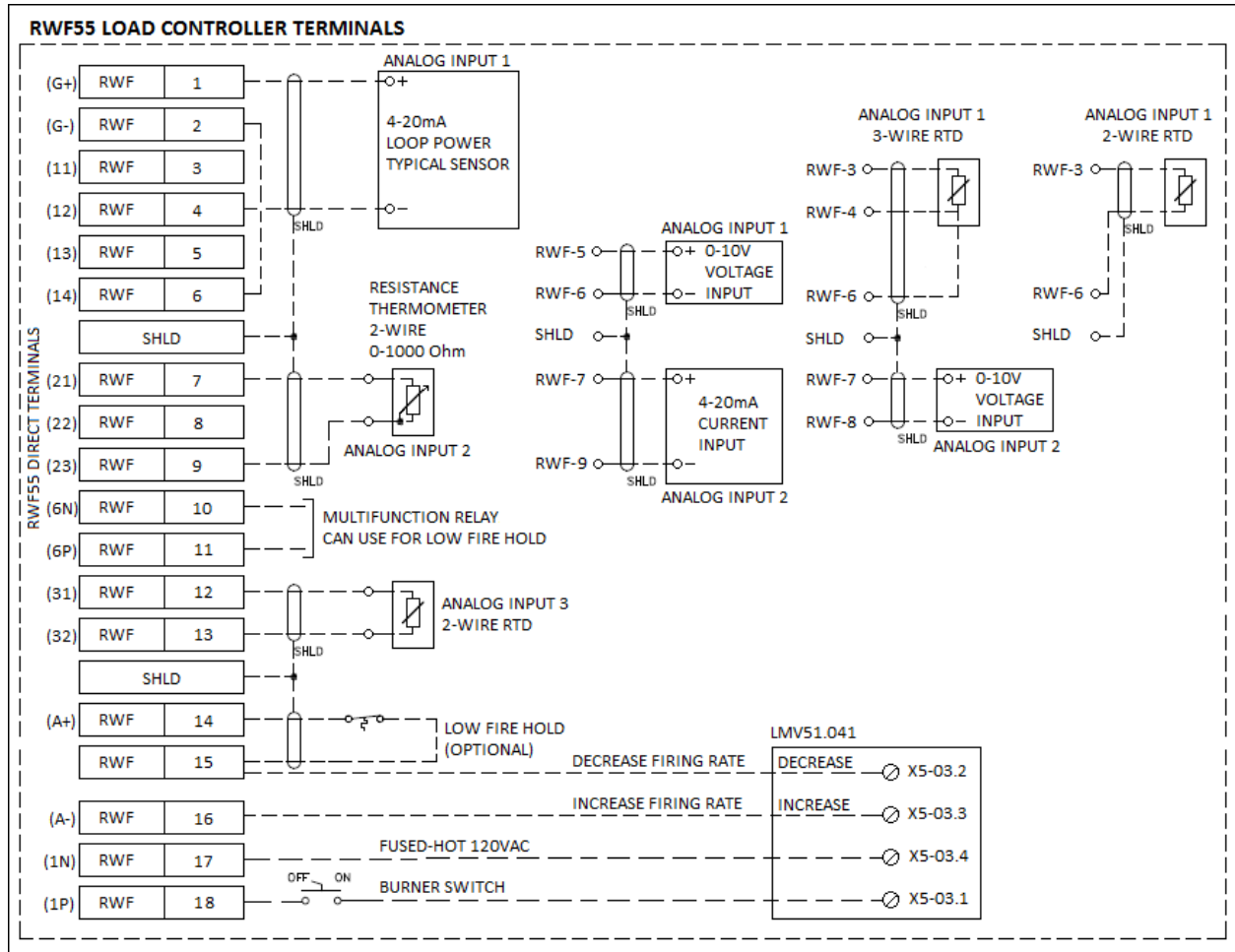
## Connections (continued)

RWF55 Load Control with LMV3x:



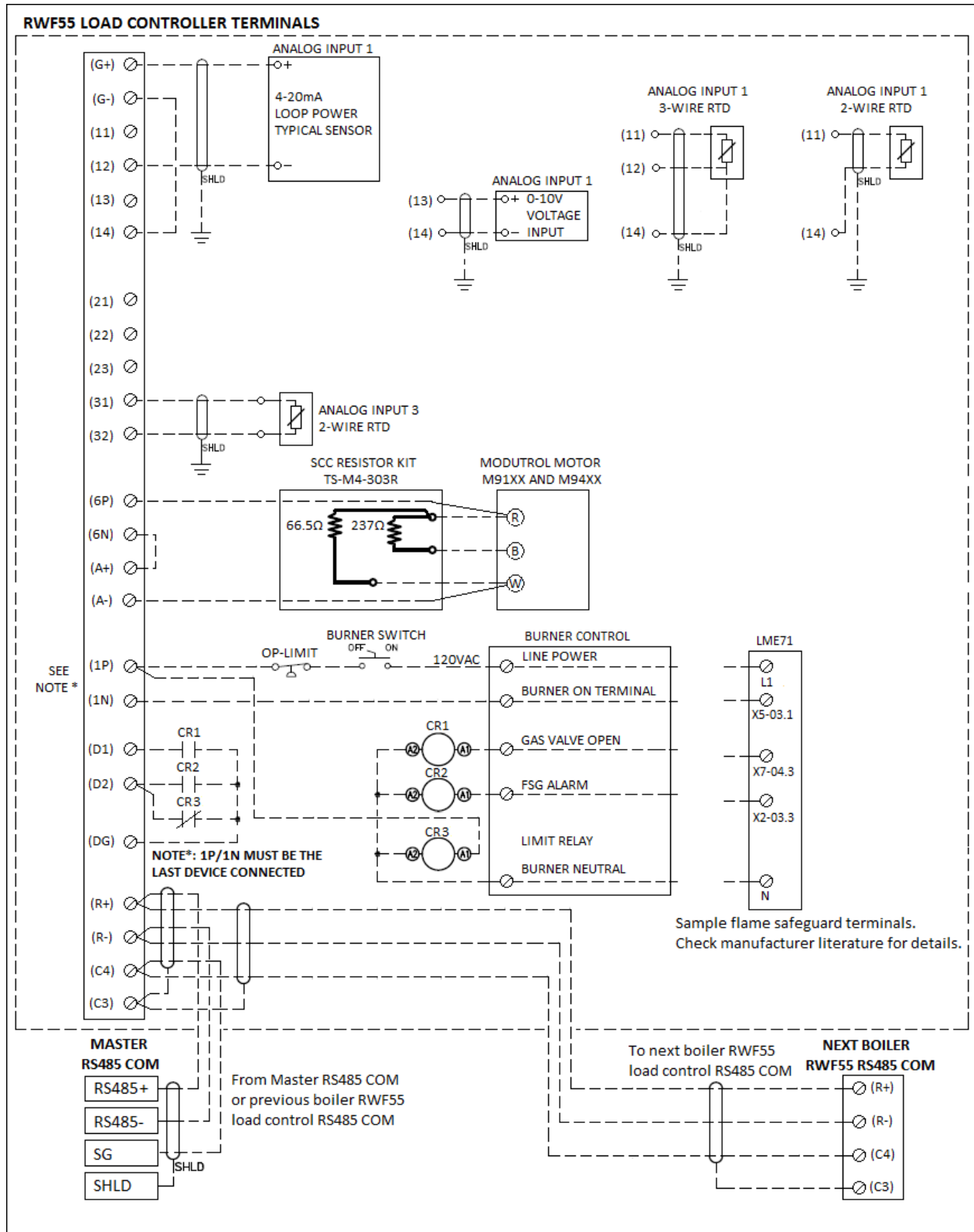
## Connections (continued)

RWF55 Load Control with LMV51.040:



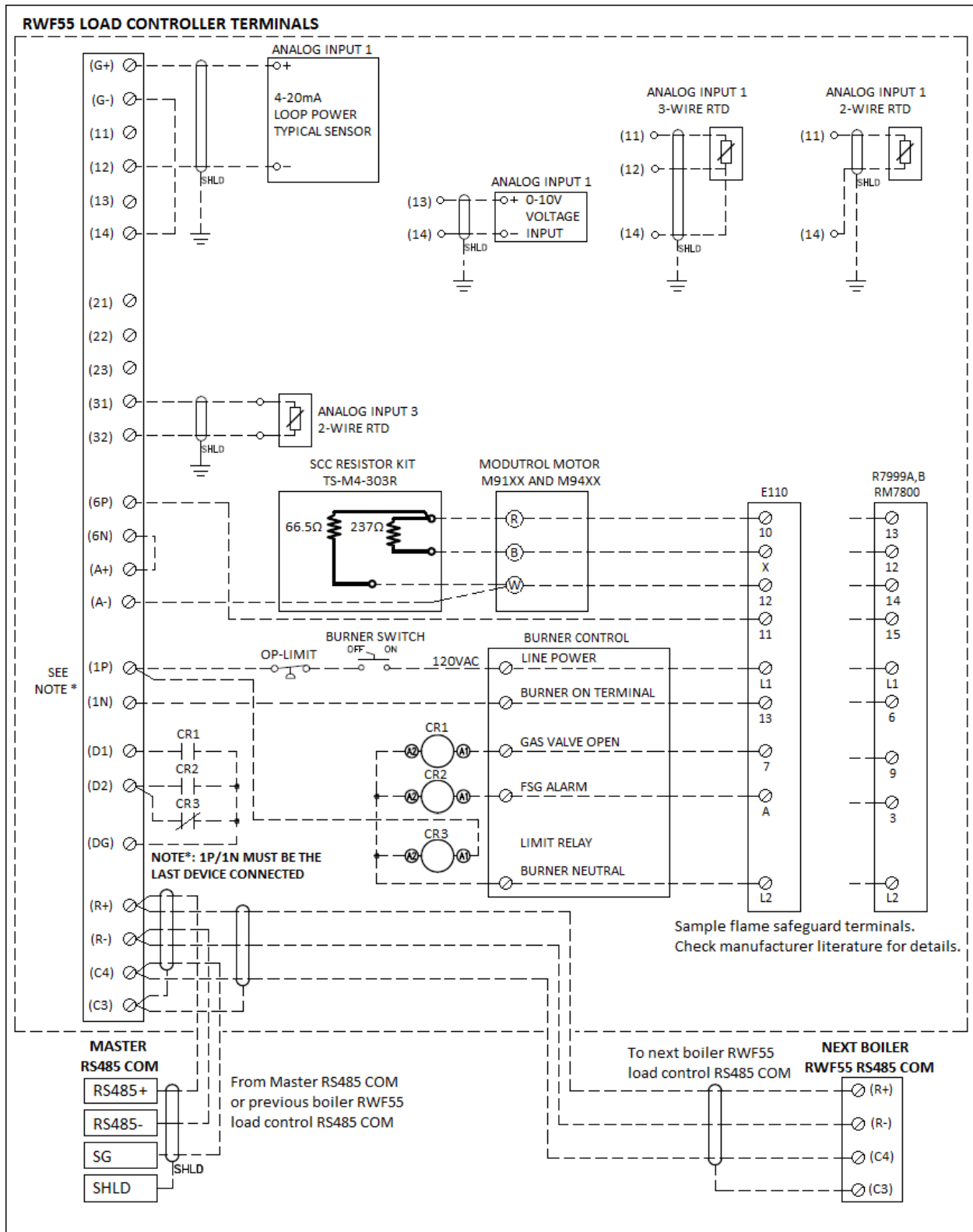
## Connections (continued)

RWF55 Load Control only; connections with flame safeguard LME71:



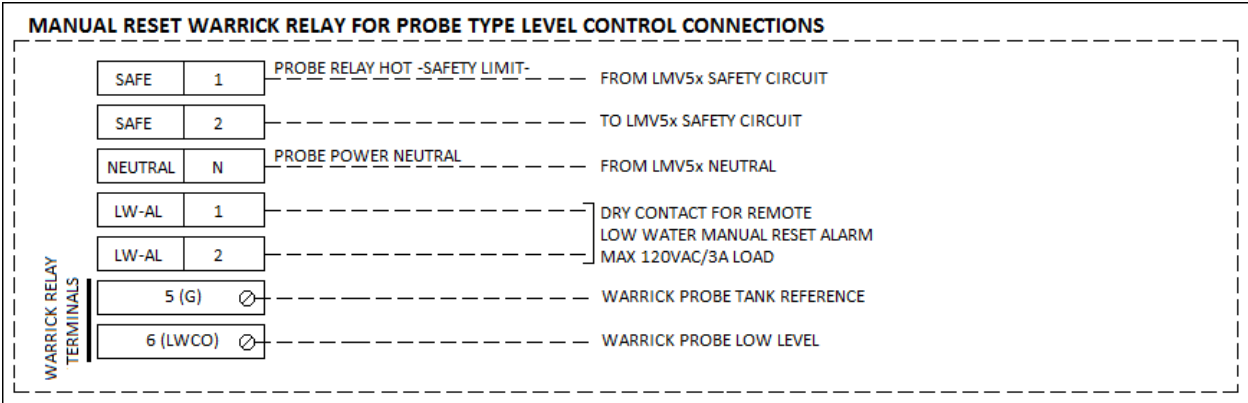
## Connections (continued)

RWF55 Load Control only; connections with flame safeguard E110 or R7999A, B, RM7800:



# Connections (continued)

## Manual Reset Warrick Relay LWCO

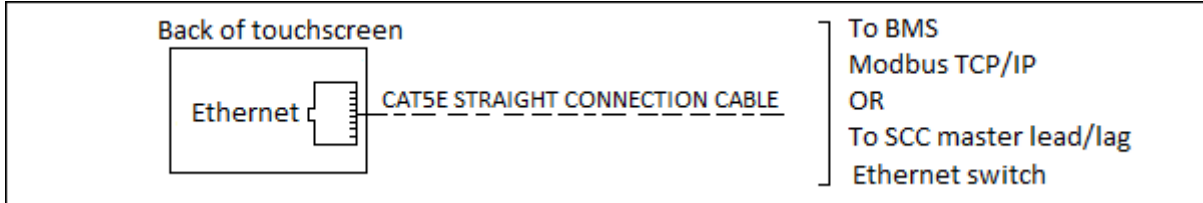




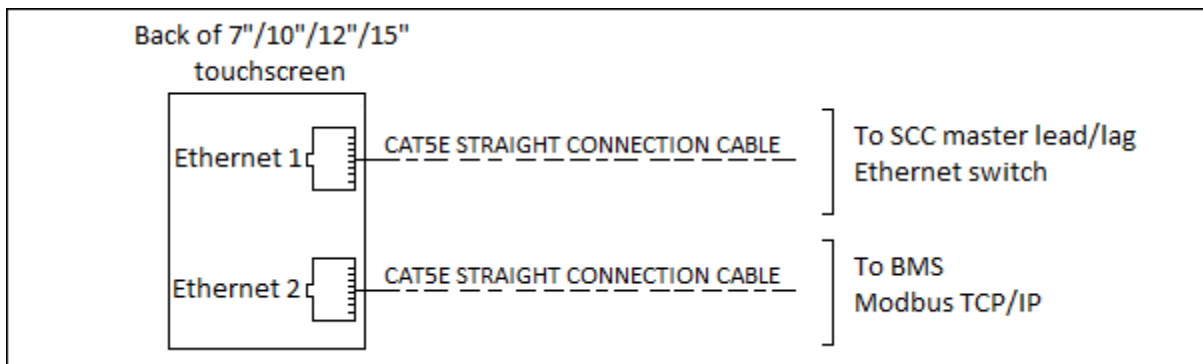
## Connections (continued)

### BMS Connections

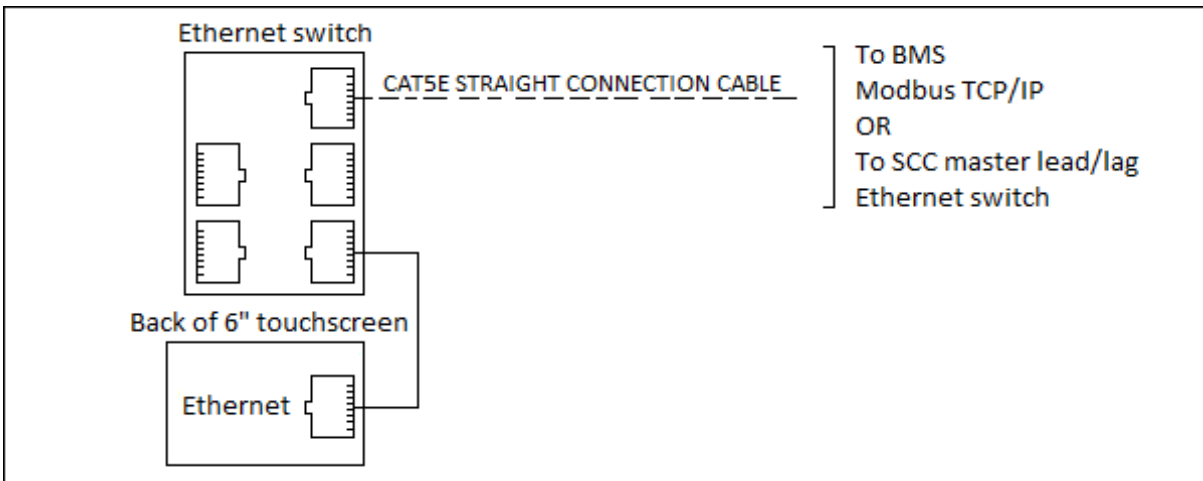
Standard Modbus TCP/IP with 6" touchscreen:



Standard Modbus TCP/IP with 7"/10"/12"/15" touchscreen:

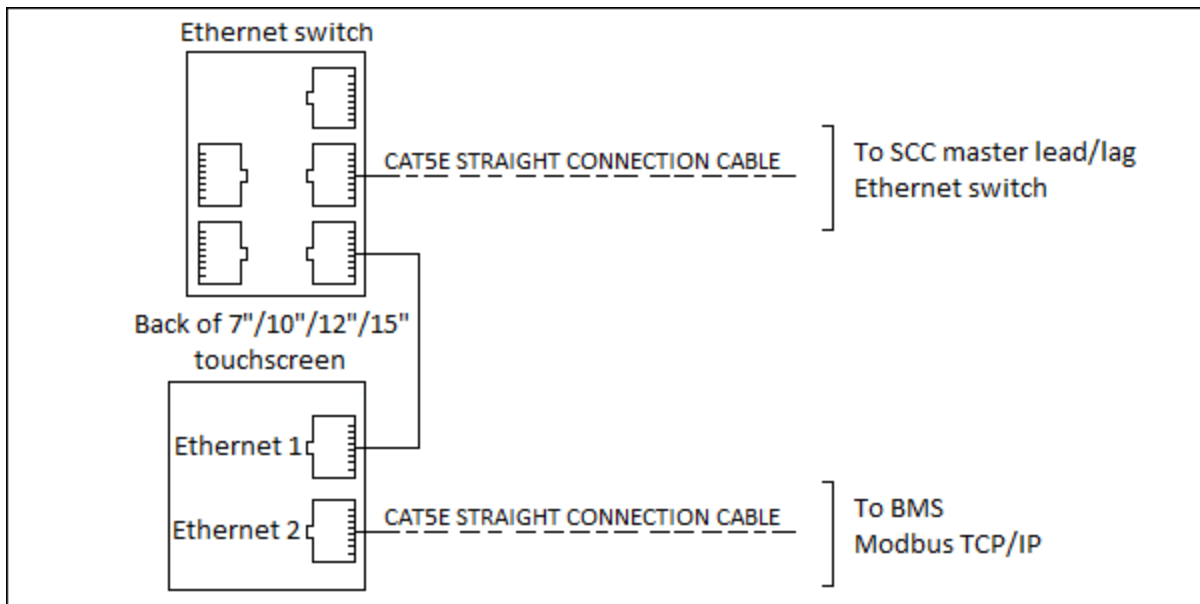


Standard Modbus TCP/IP with 6" touchscreen with PLC annunciation:



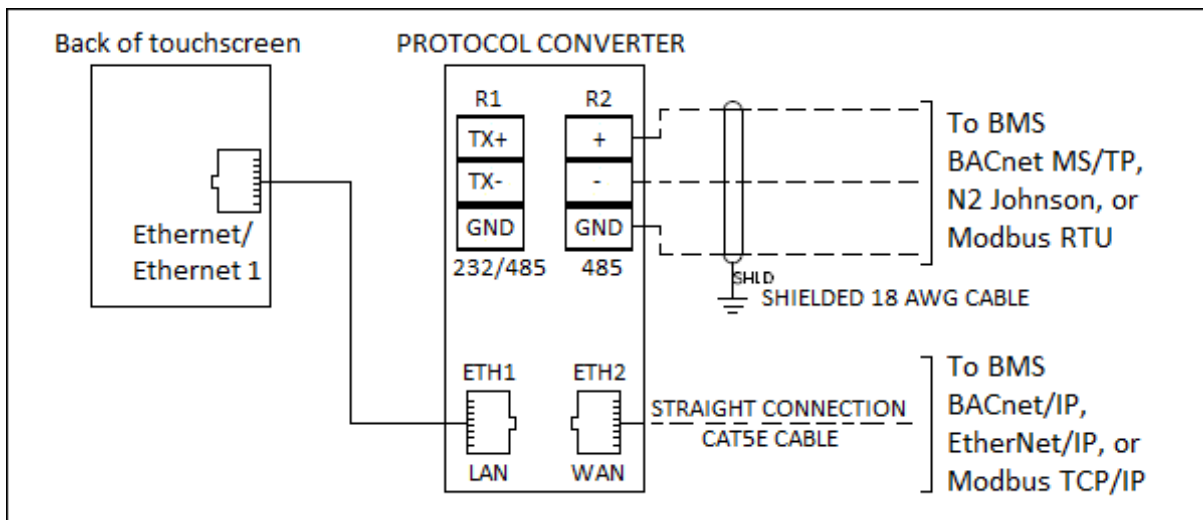
## Connections (continued)

Standard Modbus TCP/IP with 7"/10"/12"/15" touchscreen with PLC annunciation:



BACnet/IP, Ethernet/IP, or Modbus TCP/IP: Ethernet connection

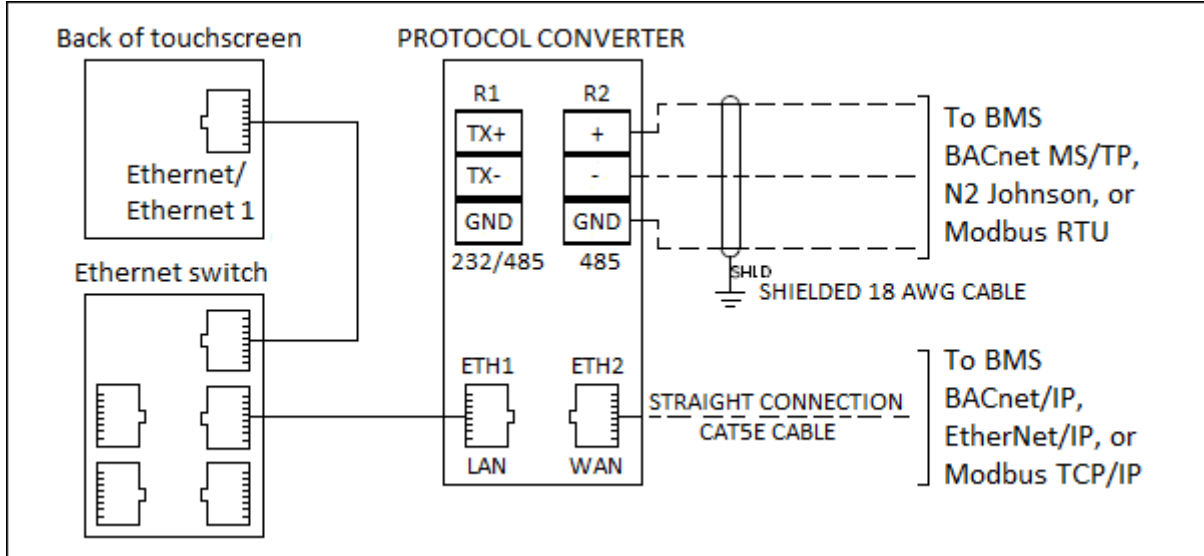
BACnet MS/TP, N2 Johnson Metasys, or Modbus RTU: RS485 connection



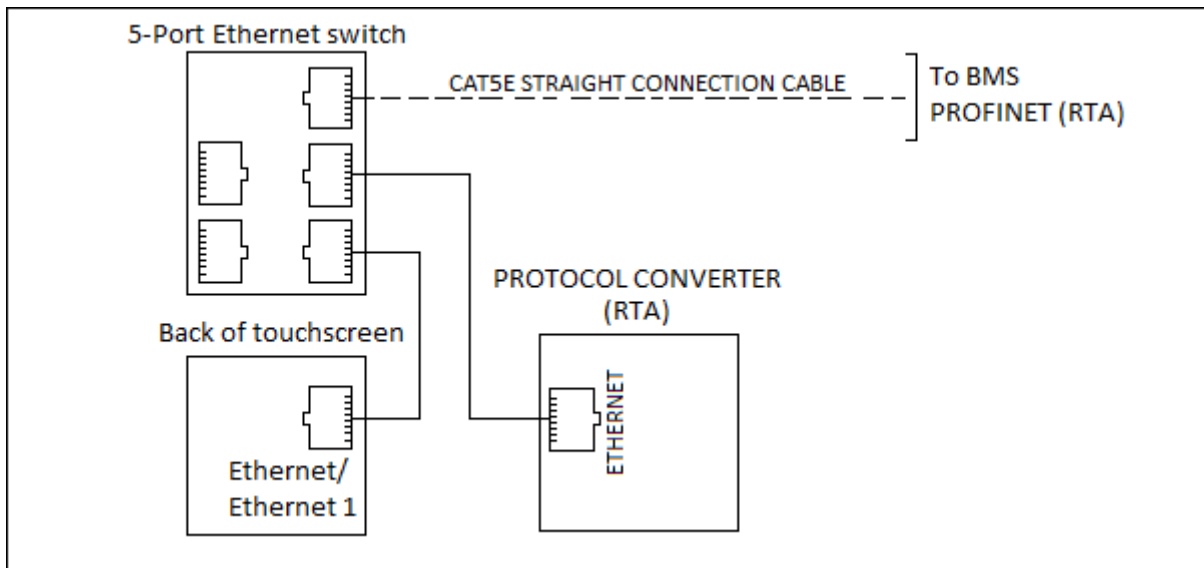
## Connections (continued)

BACnet/IP, Ethernet/IP, or Modbus TCP/IP with PLC annunciation: Ethernet connection

BACnet MS/TP, N2 Johnson Metasys, or Modbus RTU with PLC annunciation: RS485 connection

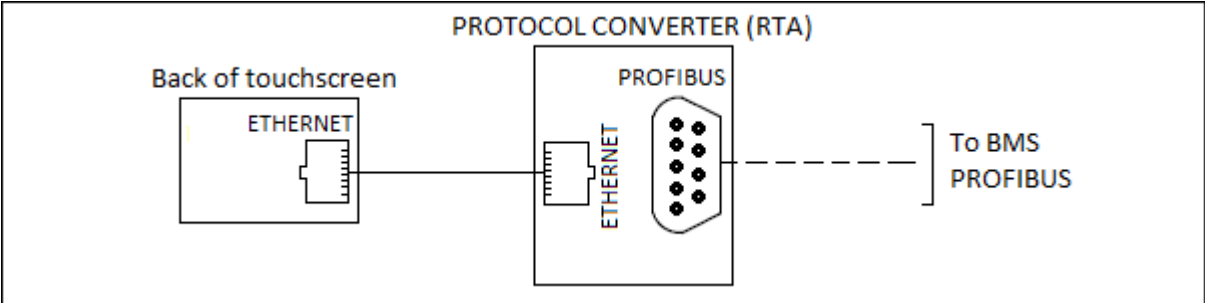


PROFINET:

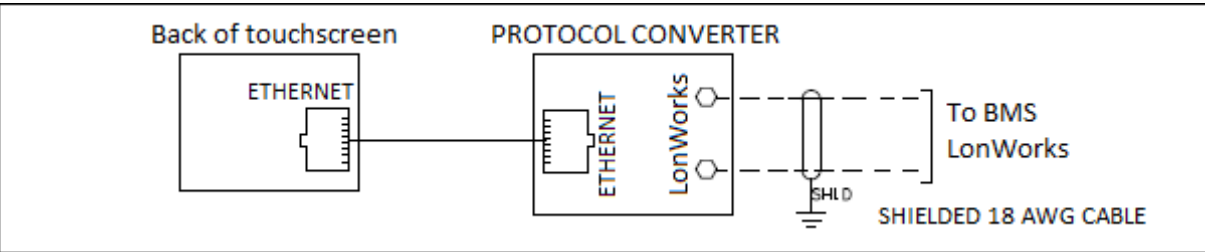


# Connections (continued)

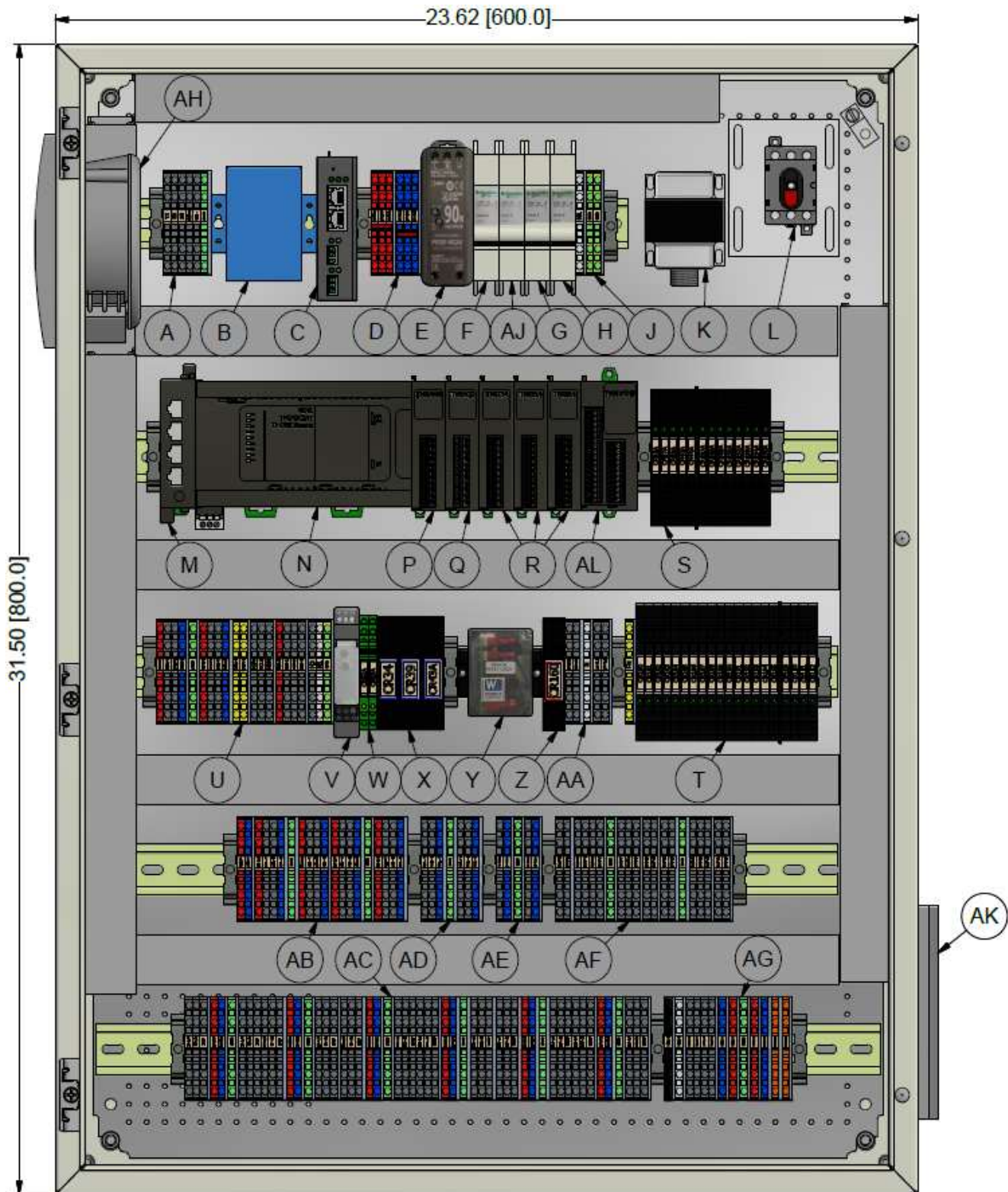
PROFIBUS:



LonWorks:



### Parts Descriptions



## Parts Descriptions (continued)

|   |  |   |    |   |   |
|---|--|---|----|---|---|
| A | Modbus RS232 and RS485 Terminals                           | Standard Component  | U  | Draft Control Terminals   | Draft Control   |
| B | RS232 to RS485 Converter                                   | Touchscreen Location 15ft or More Away from AZL             | V  | Off Delay Timer   | Draft Control   |
| C | BMS Communication BACnet/LON/N2/RTU                        | BMS Communication Other than Modbus TCP/IP                  | W  | 24 VDC Solid State Relays   | Draft Control   |
| D | 24 VDC Terminals   | Standard Component  | X  | 24 VDC DPDT Relays  | Draft Control   |
| E | 24 VDC Power Supply  | Standard Component  | Y  | Manual Reset Warrick Relay  | Manual Reset Warrick Relay  |
| F | 1 Amp Draft Control Circuit Breaker                        | Draft Control   | Z  | 120VAC DPDT Relay   | Manual Reset Warrick Relay  |
| G | 3 Amp Load Control and Water Level Control Circuit Breaker | Load Control/Water Level Control                            | AA | Warrick Relay Terminals   | Manual Reset Warrick Relay  |
| H | 3 Amp Main Circuit Breaker                                 | Standard Component  | AB | Dedicated Analog Input Terminals                                    | (4) Dedicated Analog Inputs and (2) Analog Outputs                |
| J | Neutral and Ground Terminals                               | Standard Component  | AC | General Analog Input Terminals                                      | (4), (8) or (12) additional Universal Input Terminals             |
| K | 24 VAC SKB/C or D Transformer                              | Water Level Control   | AD | Analog Output Terminals   | (4) Dedicated Analog Inputs and (2) Analog Outputs                |
| L | 16 Amp Non-Fused Disconnect                                | Standard Component  | AE | PLC Feedwater/Water Level or Circulating Pump VFD Control Terminals | PLC Feedwater/Water Level or Circulating Pump VFD Control         |
| M | Ethernet Switch  | Annunciation or BACnet/IP, or Ethernet/IP BMS Communication | AF | Load Control Terminals  | Load Control  |
| N | Programmable Logic Controller (PLC)                        | Annunciation or Draft Control                               | AG | Water Level Control Terminals                                       | Water Level Control   |
| P | Analog I/O Module  | (4) Analog Inputs and (2) Analog Outputs                    | AH | Cooling Fan   | Cooling Fan   |
| Q | Analog Output Module                                       | PLC Feedwater/Water Level or Circulating Pump VFD Control   | AJ | 2A Cooling Fan Breaker  | Cooling Fan   |
| R | Analog Input Module(s)                                     | (4) Universal Inputs per Module                             | AK | Air Intake Filter   | Cooling Fan   |
| S | 24 VDC SPDT Output Relays                                  | Annunciation  | AL | Digital Input/Output Module   | (16) Additional Digital inputs and (8) Additional Digital Outputs |
| T | 120 VAC SPDT Relays  | Annunciation/Draft Control                                  |    |   |   |

## Touchscreen Dimensions and Cut-outs

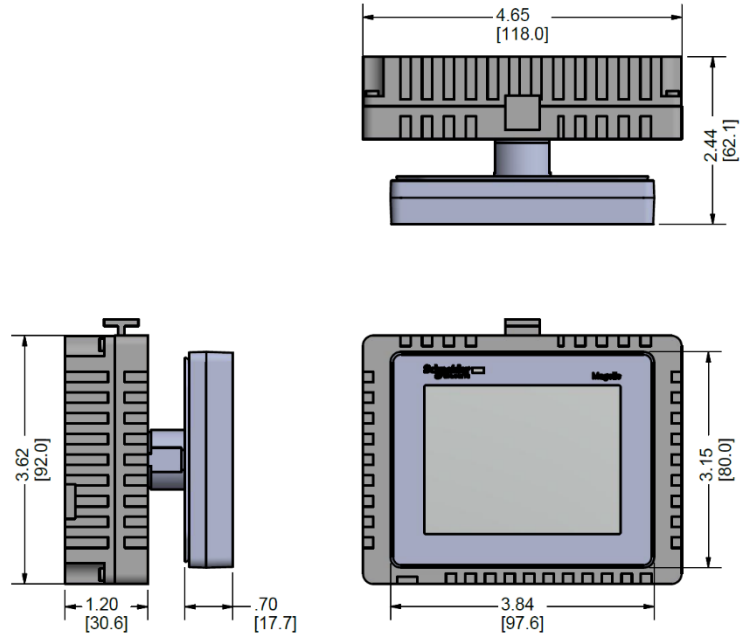
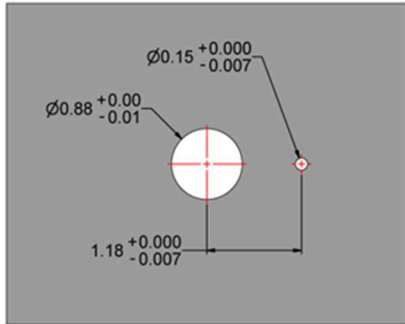
Dimensions in inches; millimeters in brackets

### 3" Touchscreen

TS-3xxx-xxx-xxxx

Installation:

Cutout required as shown below

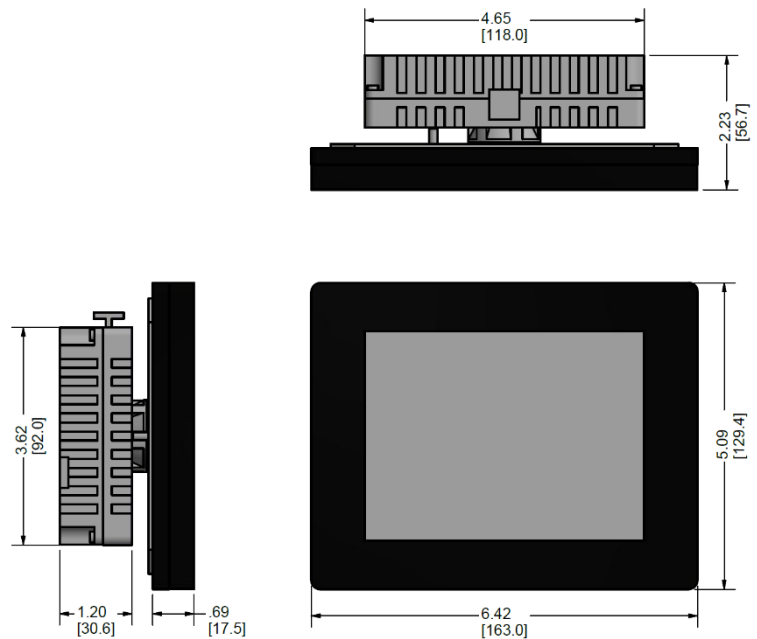
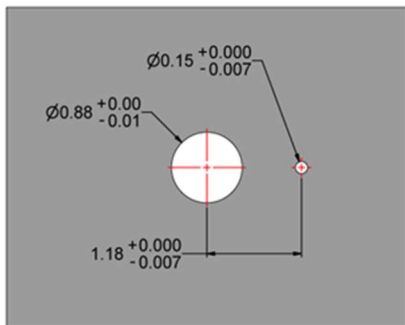


### 6" Touchscreen

TS-6xxx-xxx-xxxx

Installation:

Cutout required as shown below

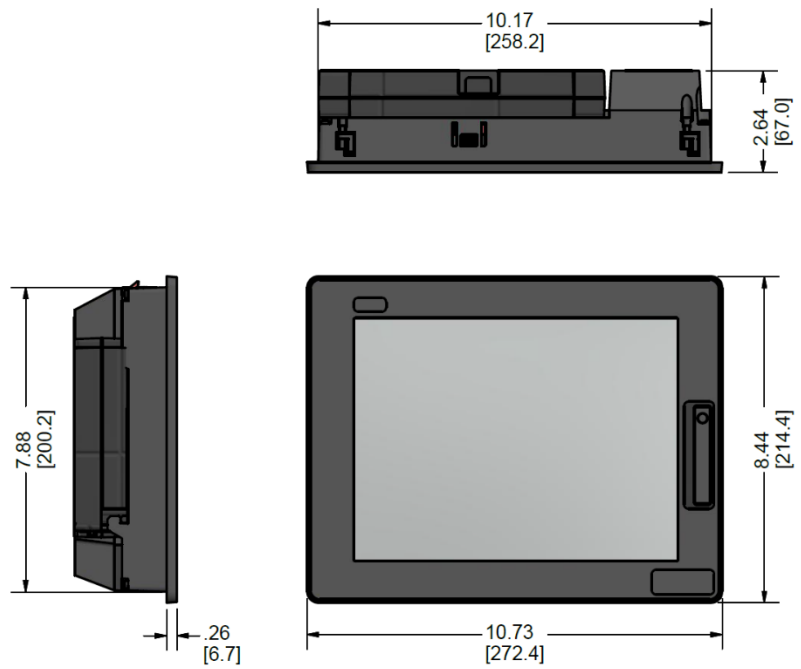
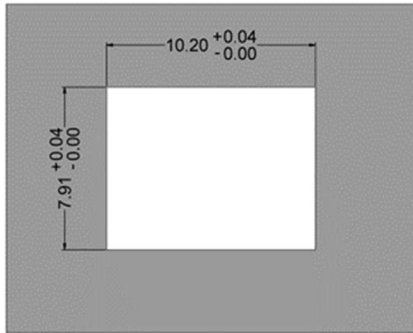


### 10" Touchscreen

TS-0xxx-xxx-xxxx

Installation:

Cutout required as shown below

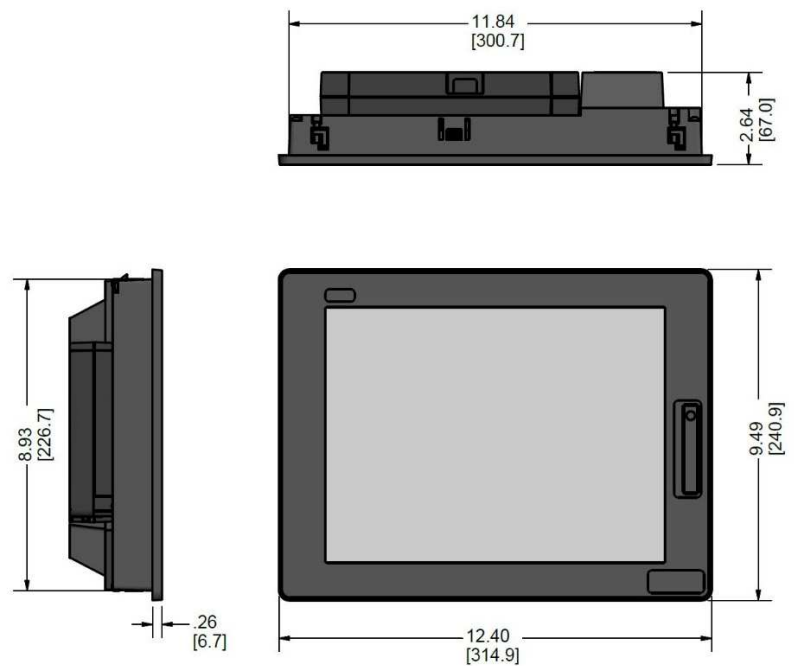
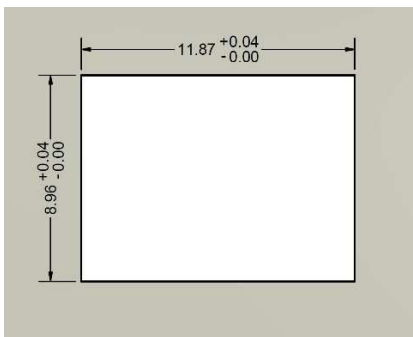


### 12" Touchscreen

TS-2xxx-xxx-xxxx

Installation:

Cutout required as shown below



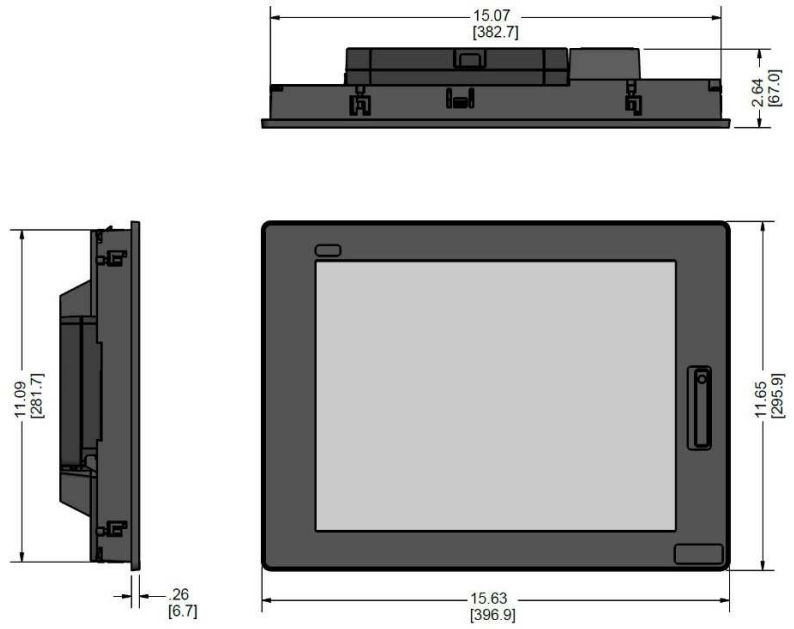
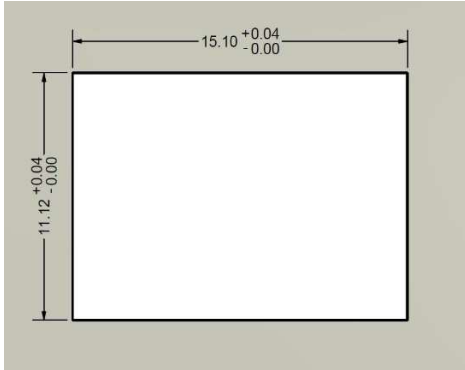


### 15" Touchscreen

#### TS-5xxx-xxx-xxx

Installation:

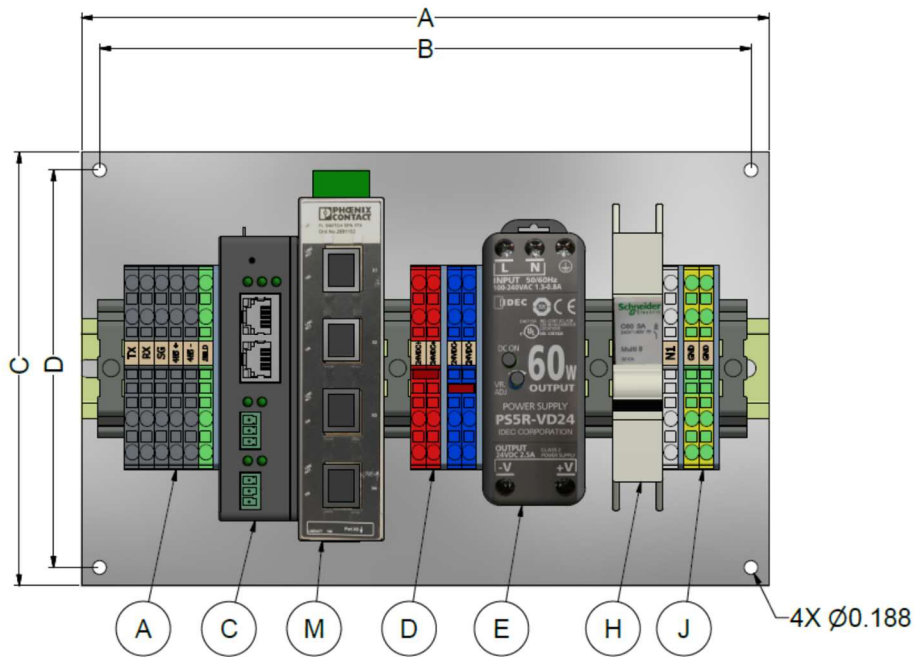
Cutout required as shown below



## Kit Dimensions

Reference page 40 for item balloon descriptions  
 Lowercase "x" in part number denotes any selection  
 Dimensions in inches; millimeters in brackets

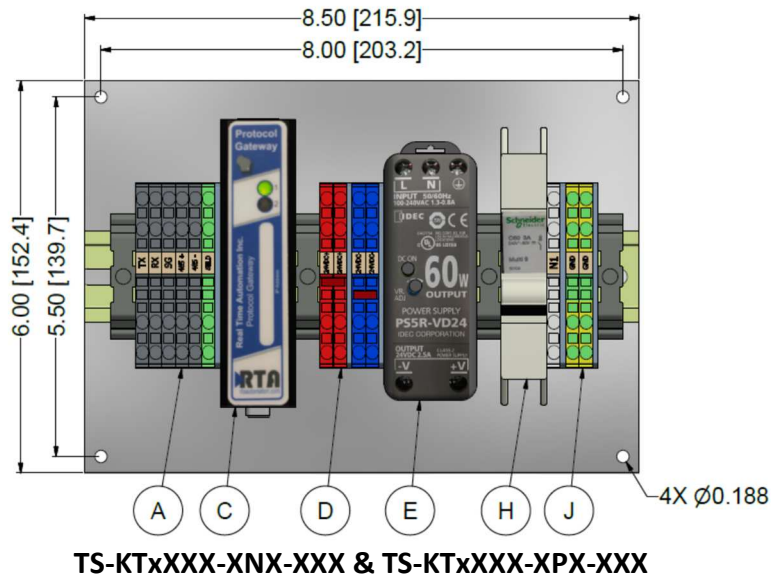
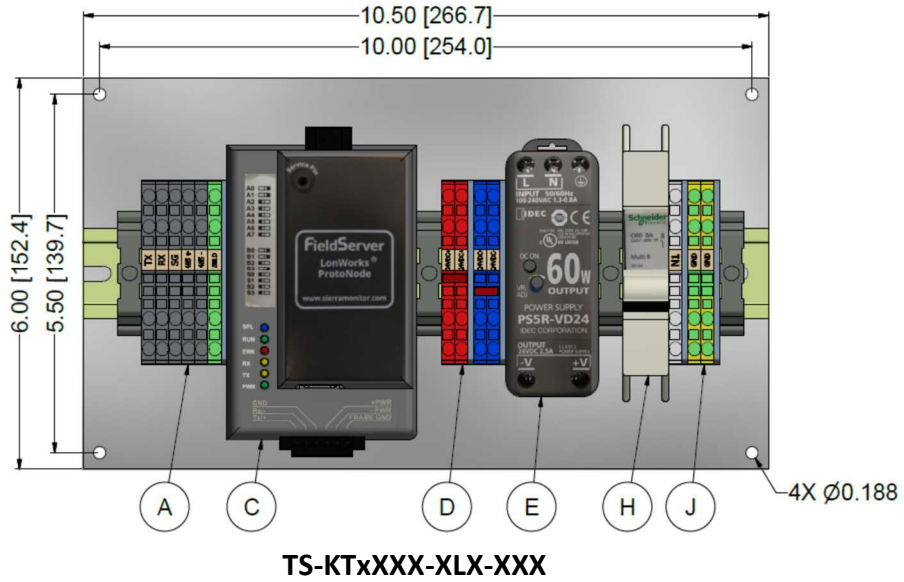
### TS-KTxXXX-XBX-XXXX



**TS-KTxXXX-XBX-XXX**

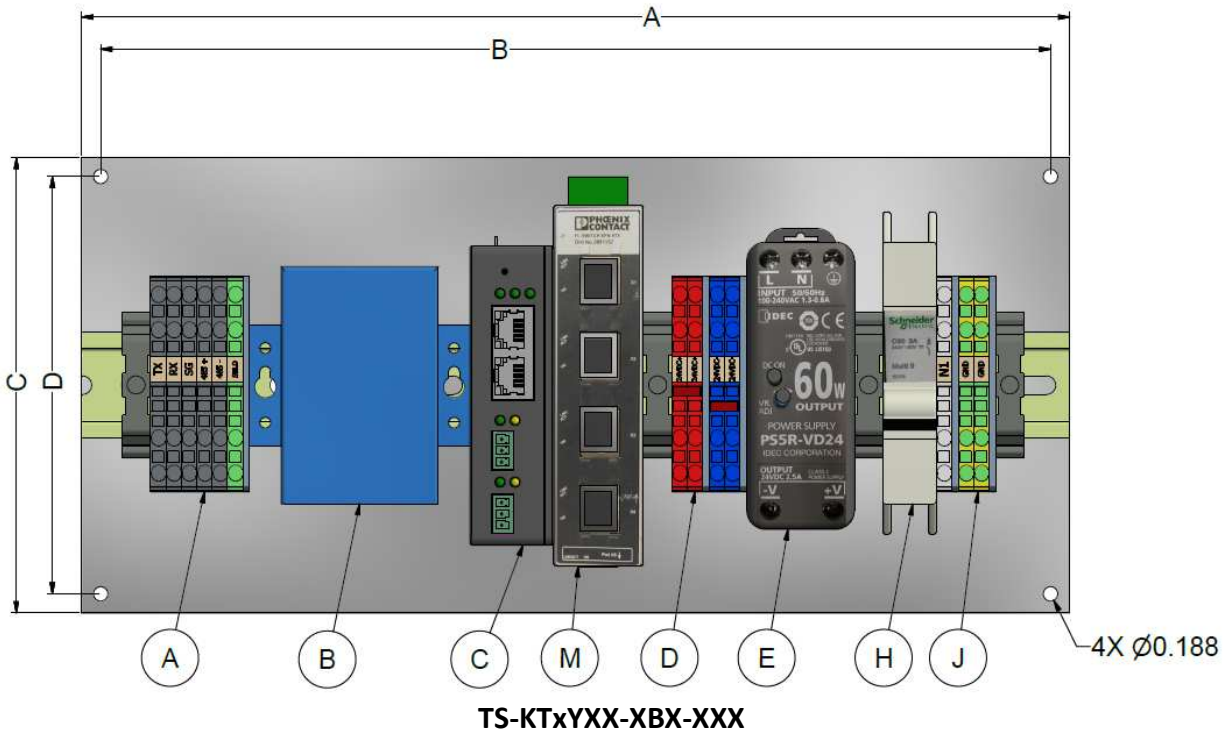
| Kit on Plate      | ProtoAir protocol converter (C) | Ethernet Switch (M) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|-------------------|---------------------------------|---------------------|---------|---------|---------|---------|
| TS-KTxXXX-XSX-XXX |                                 |                     | 7.50"   | 7.00"   | 4.50"   | 4.00"   |
| TS-KTxXXX-XXM-XXX | X                               |                     | 8.50"   | 8.00"   | 6.00"   | 5.50"   |
| TS-KTxXXX-XBX-XXX | X                               | X                   | 9.50"   | 9.00"   | 6.00"   | 5.50"   |

### Kit Dimensions (continued)



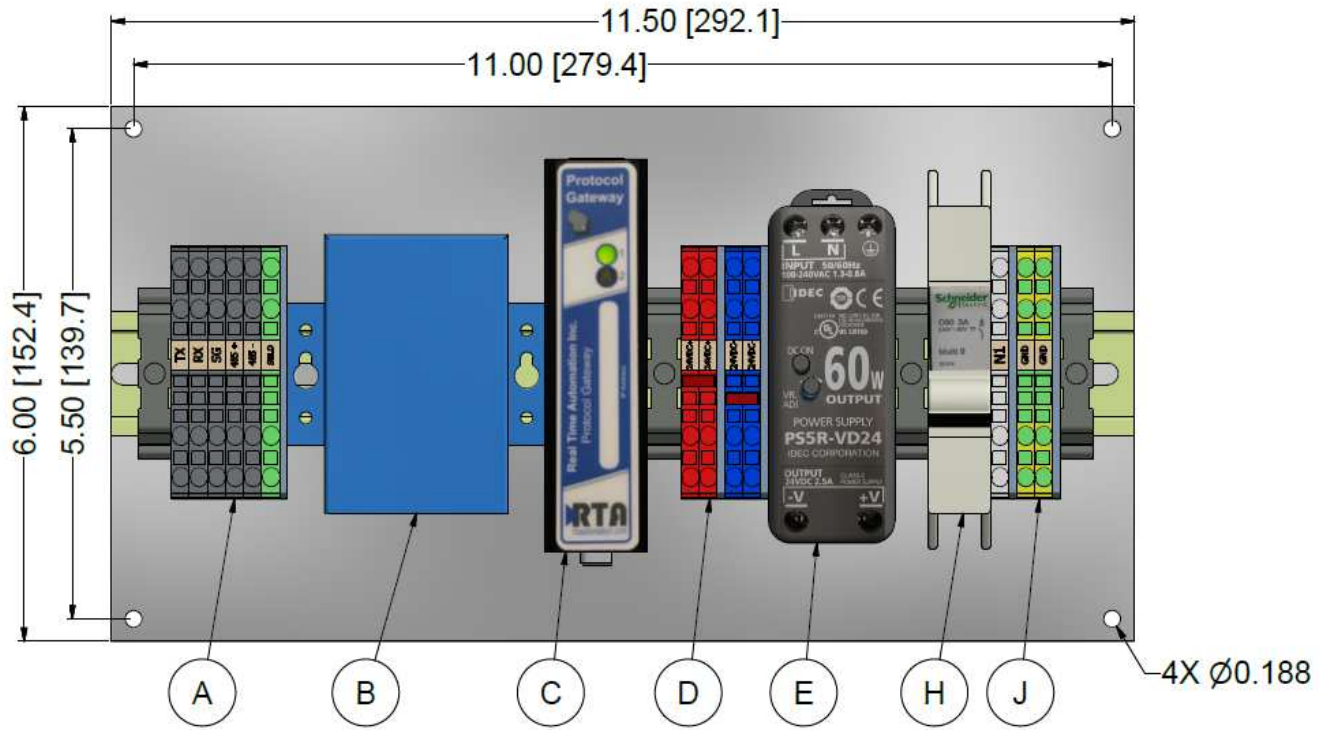
## Kit Dimensions (continued)

### TS-KTxYXX-XBX-XXXX



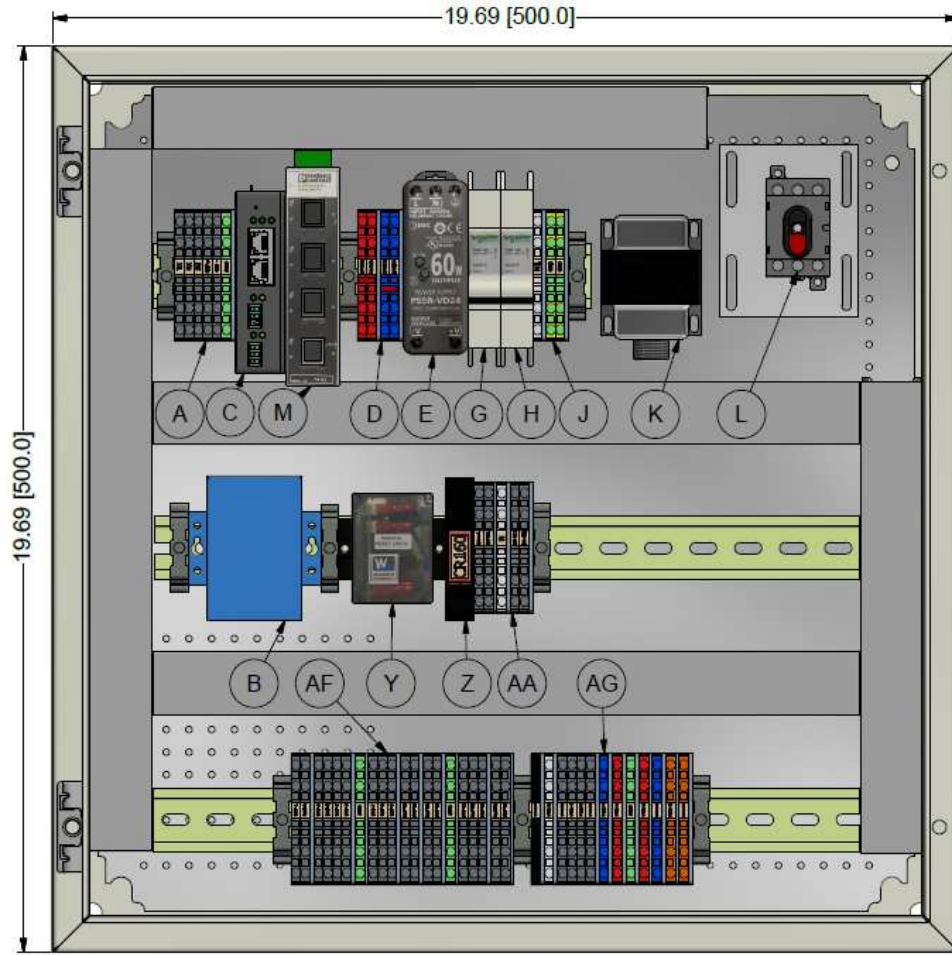
| Kit on Plate      | ProtoAir protocol converter (C) | Ethernet Switch (M) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|-------------------|---------------------------------|---------------------|---------|---------|---------|---------|
| TS-KTxYXX-XSX-XXX |                                 |                     | 8.50"   | 8.00"   | 4.50"   | 4.00"   |
| TS-KTxYXX-XXM-XXX | X                               |                     | 9.50"   | 9.00"   | 6.00"   | 5.50"   |
| TS-KTxYXX-XBX-XXX | X                               | X                   | 11.00"  | 10.50"  | 6.00"   | 5.50"   |

### Kit Dimensions (continued)



**TS-KT<sub>x</sub>YXX-XNX-XXX & TS-KT<sub>x</sub>YXX-XPX-XXX**

## Kit Dimensions (continued)



**TS-KTxYXX-XB1-XYx2**

| Options for Kit in Enclosure | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) |
|------------------------------|---|---------------------------------|-------------------------------------|
| TS-KTxYXX-XB1-XxxW           | <b>X</b>                                  |                                 |                                     |
| TS-KTxYXX-XB1-XxxL           |   | <b>X</b>                        |                                     |
| TS-KTxYXX-XB1-XYxx           |   |                                 | <b>X</b>                            |

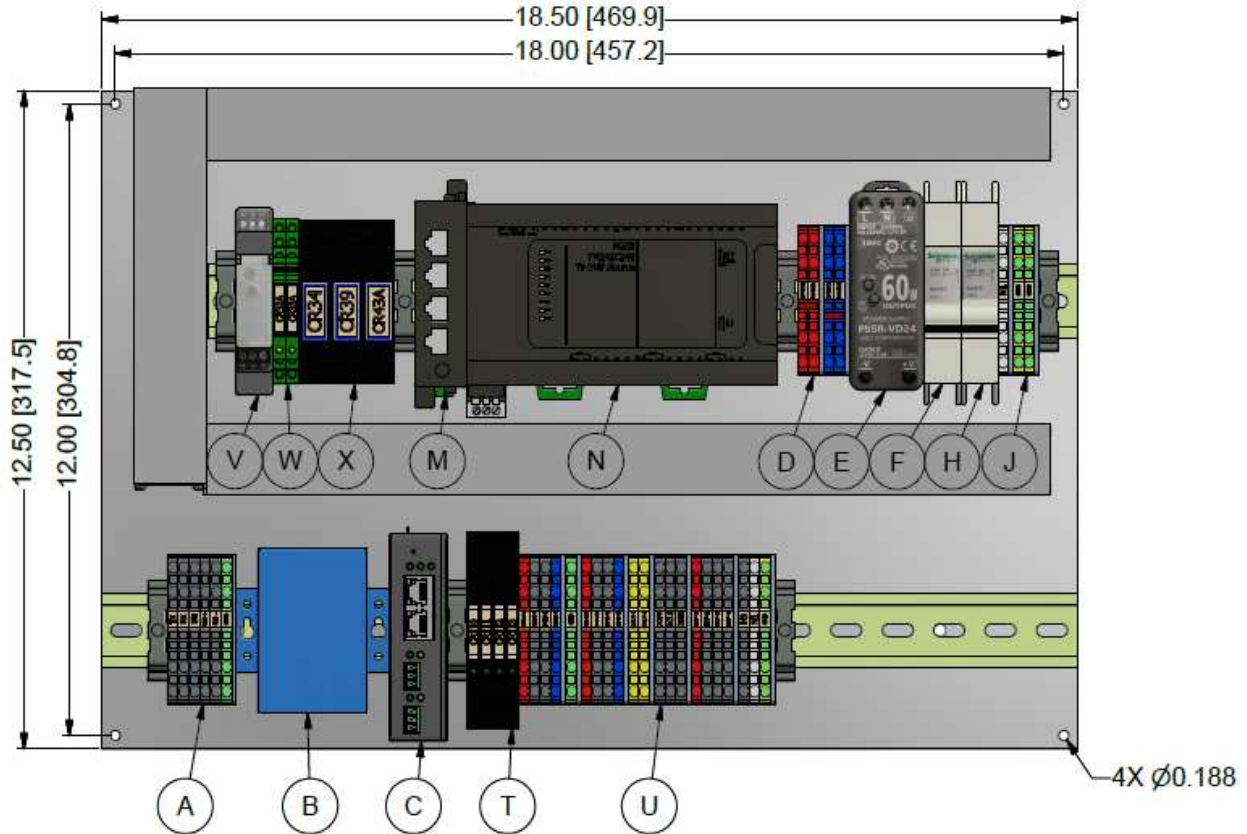
**Notes:**

16"x16" Enclosure used with (0-2) options

20"x20" Enclosure used with (3) options

## Kit Dimensions (continued)

### TS-KTxxDX-XxX-XXXX



### TS-KTxYDX-XBX-XXXX

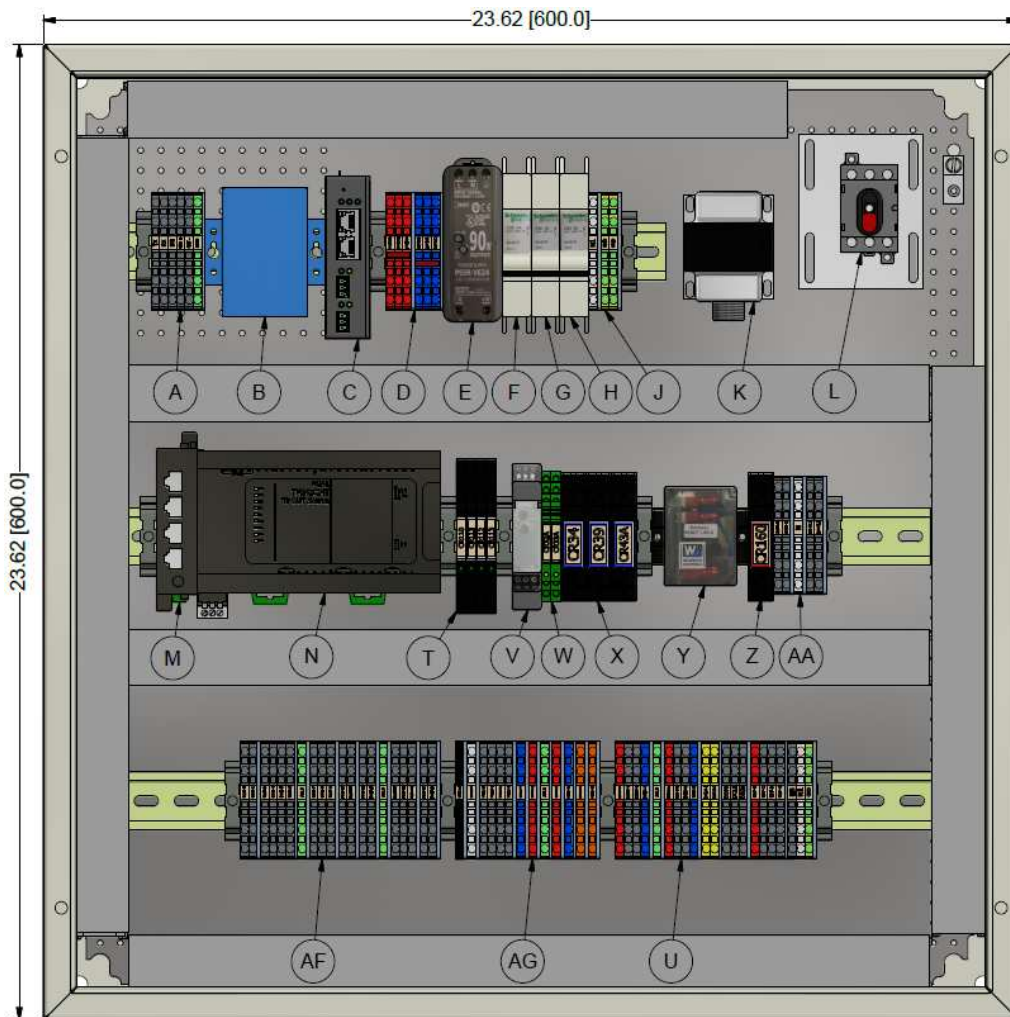
Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)



## Kit Dimensions (continued)



**TS-KTxYDX-XB1-XYx2**

| Options for Kit in Enclosure | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) |
|------------------------------|---|---------------------------------|-------------------------------------|
| TS-KTxYDX-XB1-XxxW           | <b>X</b>                                  |                                 |                                     |
| TS-KTxYDX-XB1-XxxL           |   | <b>X</b>                        |                                     |
| TS-KTxYDX-XB1-XYxx           |   |                                 | <b>X</b>                            |

**Notes:**

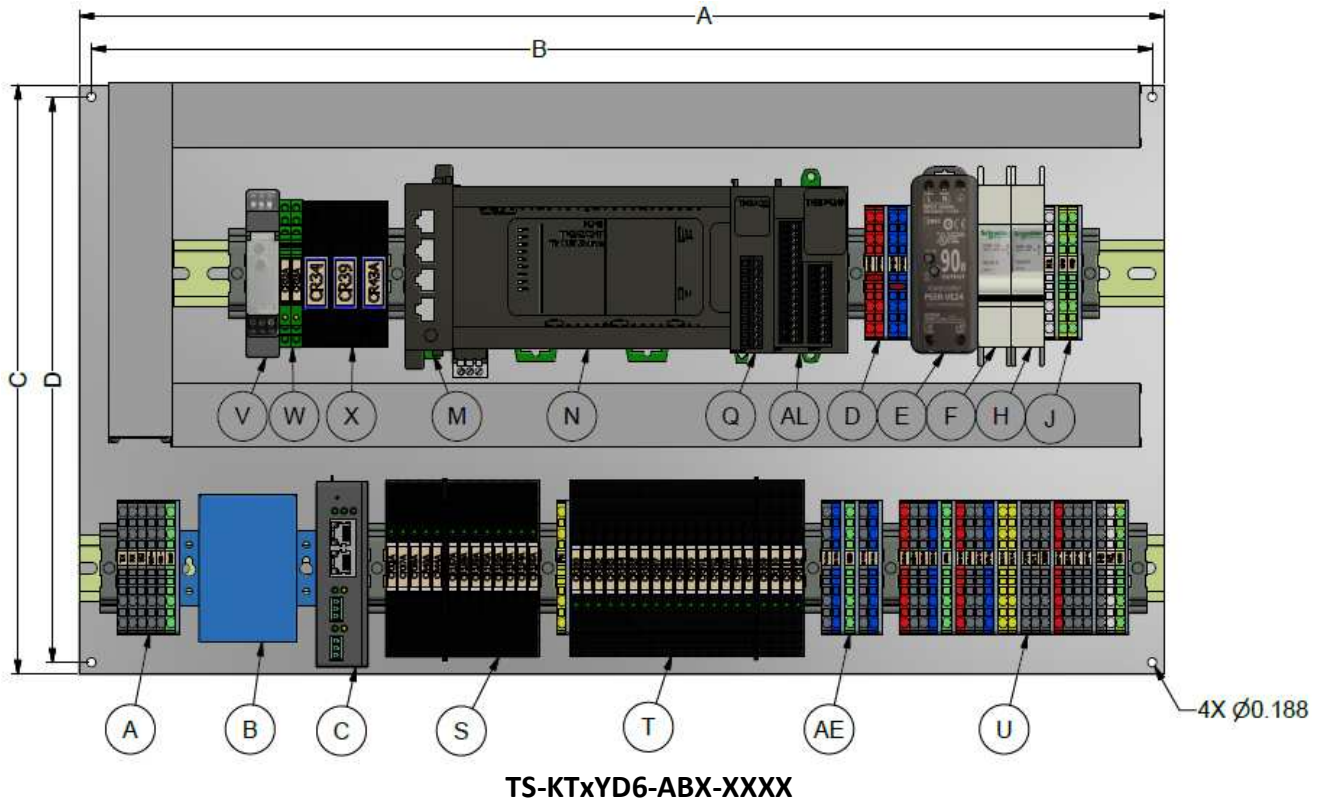
20"x20" Enclosure used with (0-2) options

24"x24" Enclosure used with (3) options



## Kit Dimensions (continued)

### TS-KTxxxx-AxX-XXXX



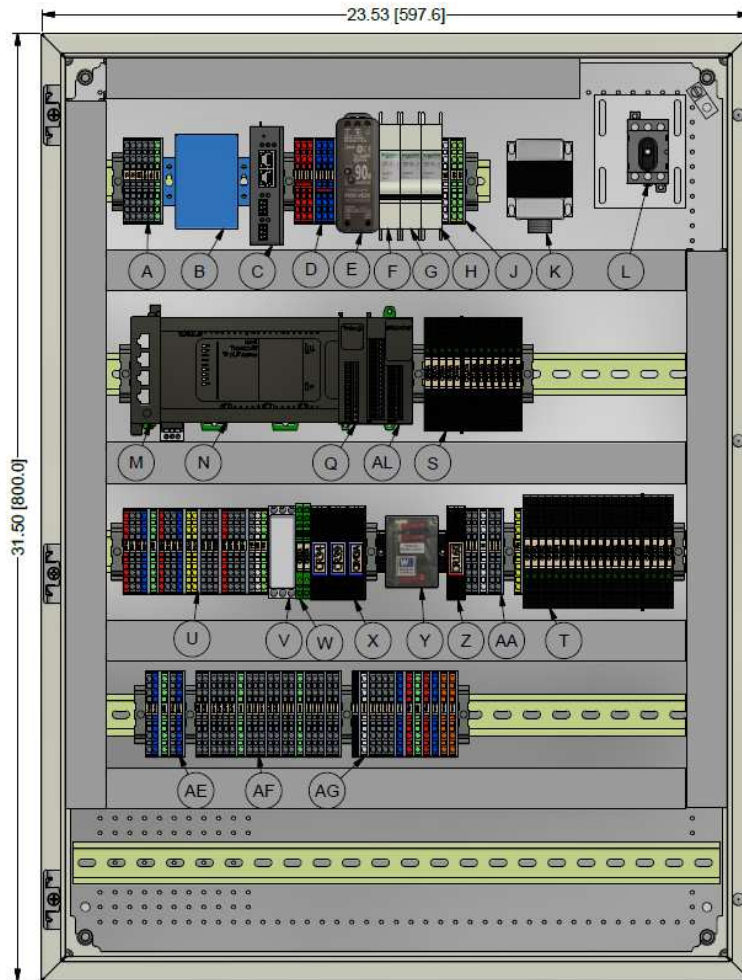
| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-AxX-XXXX       |  |                               |  | 16.00"  | 14.00"  | 12.50"  | 12.00"  |
| TS-KTxYDX-AxX-XXXX       | <b>X</b>                                 |                               |  | 20.00"  | 18.00"  | 12.50"  | 12.00"  |
| TS-KTxYX3-AxX-XXXX       |  | <b>X</b>                      |  | 17.00"  | 15.00"  | 12.50"  | 12.00"  |
| TS-KTxYD3-AxX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 21.00"  | 19.00"  | 12.50"  | 12.00"  |
| TS-KTxYD6-AxX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 23.00"  | 21.00"  | 12.50"  | 12.00"  |

Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)

### Kit Dimensions (continued)



**TS-KTxYD6-AB1-XYx2**

| Options for Kit in Enclosure | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYDx-AB1-Xxxx           | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-AB1-XxxW           |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-AB1-XxxL           |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-AB1-XYxx           |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx(3/4/5)-AB1-Xxxx     |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxYx6-AB1-Xxxx           |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

**Notes:**

16"x16" Enclosure used with no options without Lonworks

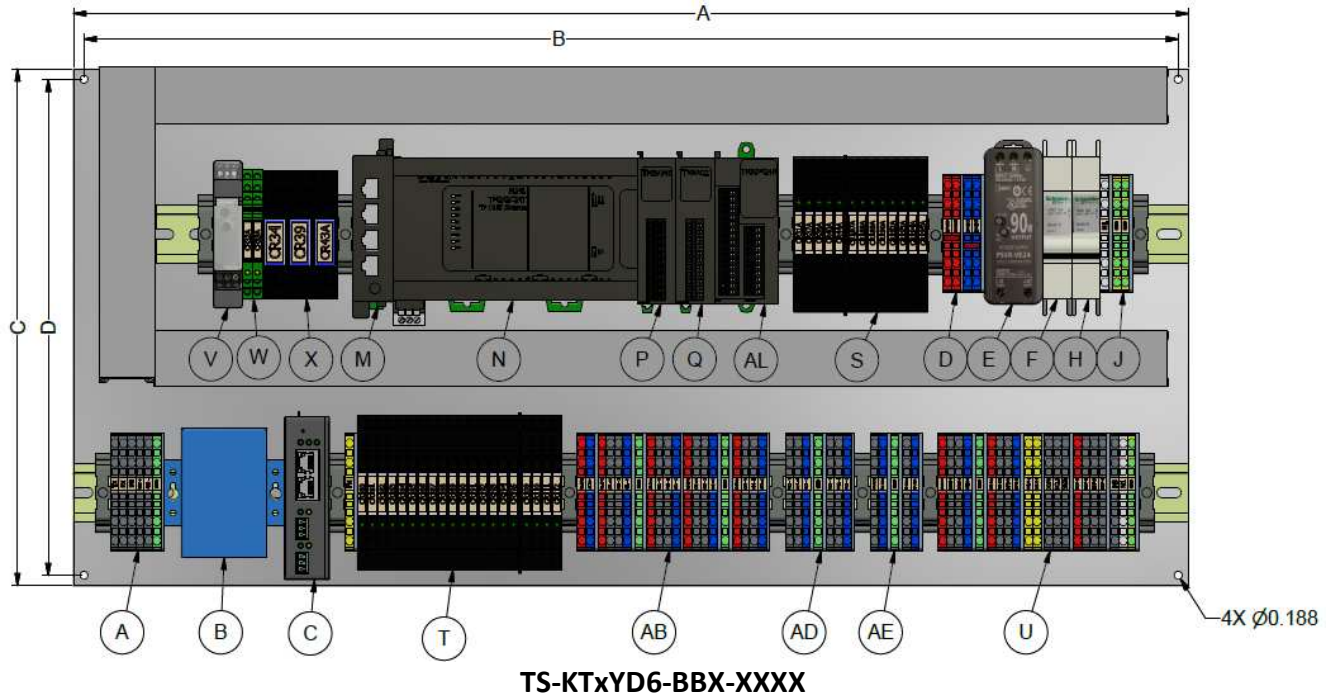
20"x20" Enclosure used with (1-3) options without Lonworks or (0-2) options with Lonworks

24"x24" Enclosure used with (4-5) or more options without Lonworks or (3-5) or more options with Lonworks

32"x24" Enclosure used with 6 options

## Kit Dimensions (continued)

### TS-KTxxxx-BxX-XXXX



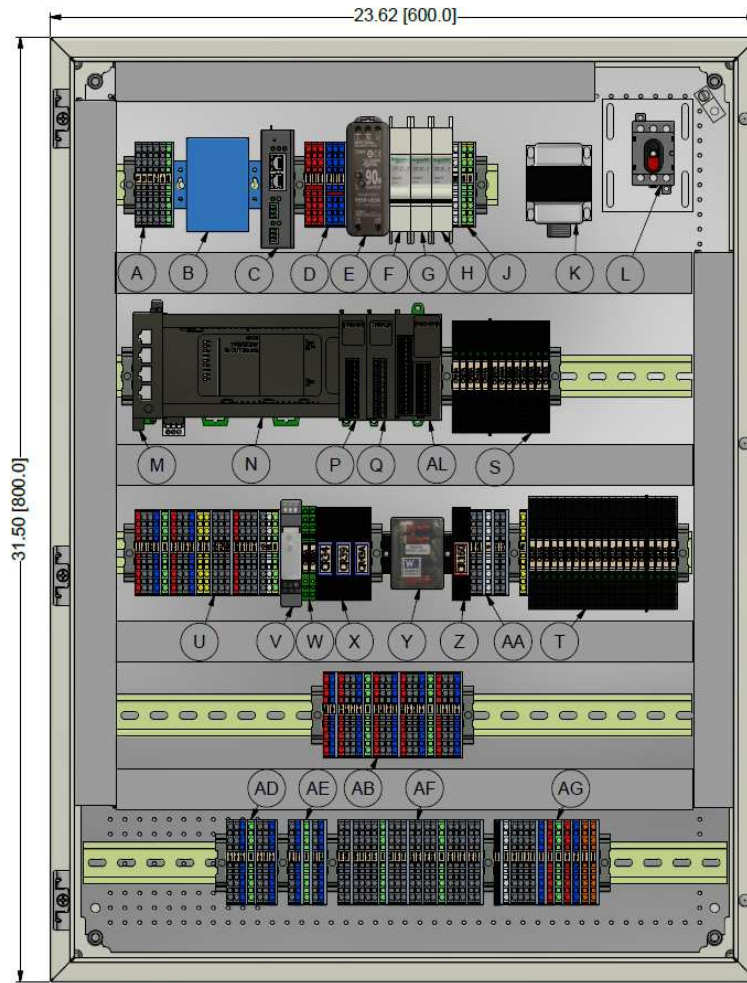
| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-BxX-XXXX       |  |                               |  | 20.00"  | 18.00"  | 12.50"  | 12.00"  |
| TS-KTxYDX-BxX-XXXX       | <b>X</b>                                 |                               |  | 24.00"  | 22.00"  | 12.50"  | 12.00"  |
| TS-KTxYX3-BxX-XXXX       |  | <b>X</b>                      |  | 21.00"  | 19.00"  | 12.50"  | 12.00"  |
| TS-KTxYD3-BxX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 25.00"  | 23.00"  | 12.50"  | 12.00"  |
| TS-KTxYD6-BxX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 27.00"  | 25.00"  | 12.50"  | 12.00"  |

Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)

### Kit Dimensions (continued)



**TS-KTxYD6-BB1-XYx2**

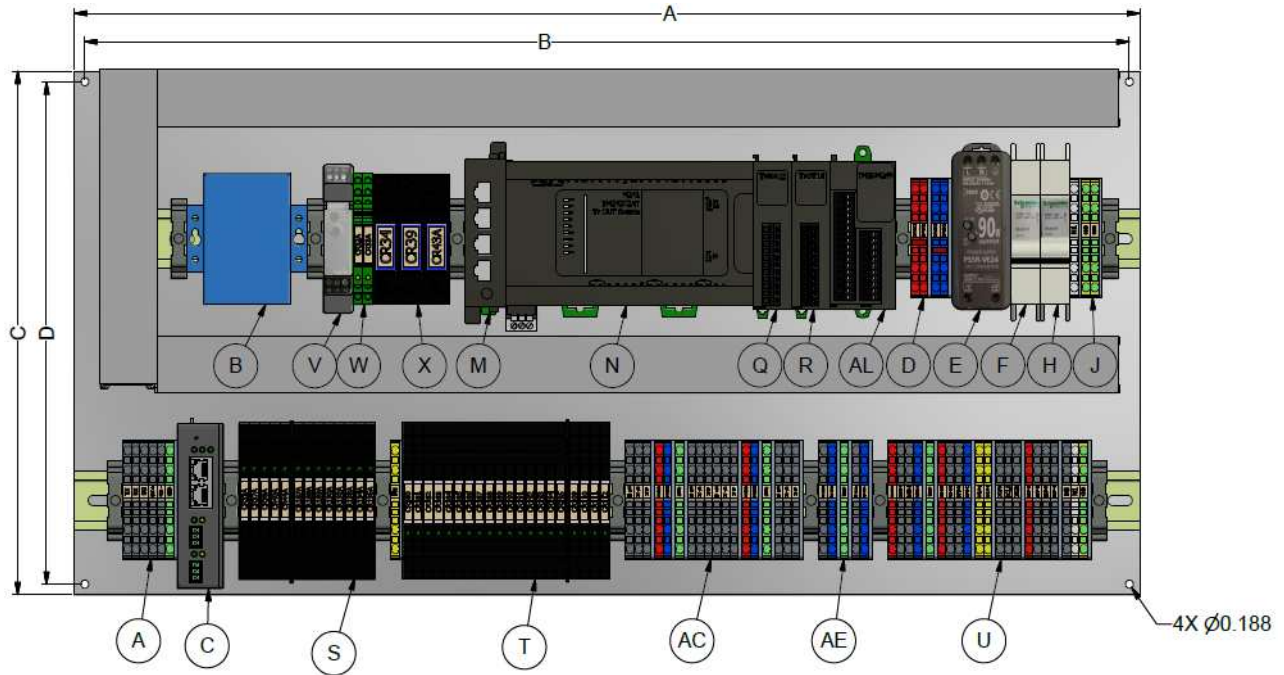
| Options for Kit in Enclosure        | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|-------------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYD <b>x</b> -BB1-Xxxx         | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxY <b>xx</b> -BB1-X <b>xxW</b> |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxY <b>xx</b> -BB1-X <b>xxL</b> |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxY <b>xx</b> -BB1- <b>XYxx</b> |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxY <b>x(3/4/5)</b> -BB1-Xxxx   |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxY <b>x6</b> -BB1-Xxxx         |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

**Notes:**

- 20"x20" Enclosure used with (0-1) options
- 24"x24" Enclosure used with (2-3) options
- 32"x24" Enclosure used with (4) or more options

## Kit Dimensions (continued)

### TS-KTxxxx-CxX-XXXX



### TS-KTxYD6-CBX-XXXX

| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-CxX-XXXX       |  |                               |  | 17.00"  | 16.50"  | 12.50"  | 12.00"  |
| TS-KTxYDX-CxX-XXXX       | <b>X</b>                                 |                               |  | 21.50"  | 21.00"  | 12.50"  | 12.00"  |
| TS-KTxYX3-CxX-XXXX       |  | <b>X</b>                      |  | 17.50"  | 17.00"  | 12.50"  | 12.00"  |
| TS-KTxYD3-CxX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 22.50"  | 22.00"  | 12.50"  | 12.00"  |
| TS-KTxYD6-CxX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 25.50"  | 25.00"  | 12.50"  | 12.00"  |

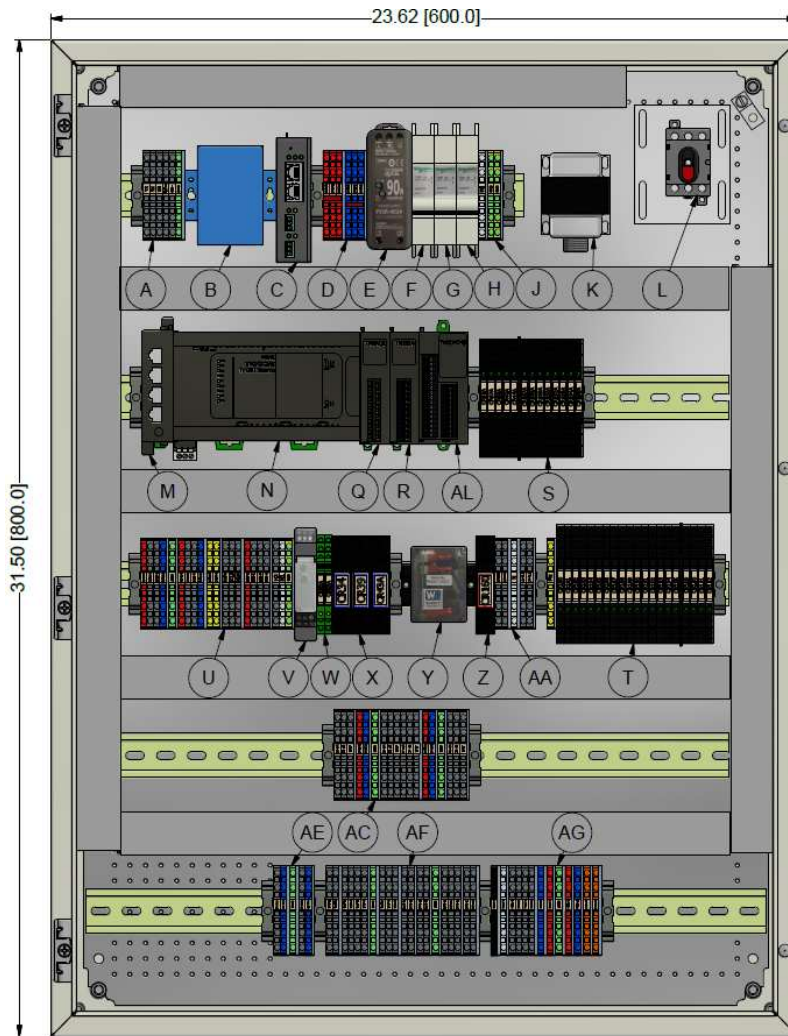
Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)



### Kit Dimensions (continued)



**TS-KTxYD6-CB1-XYx2**

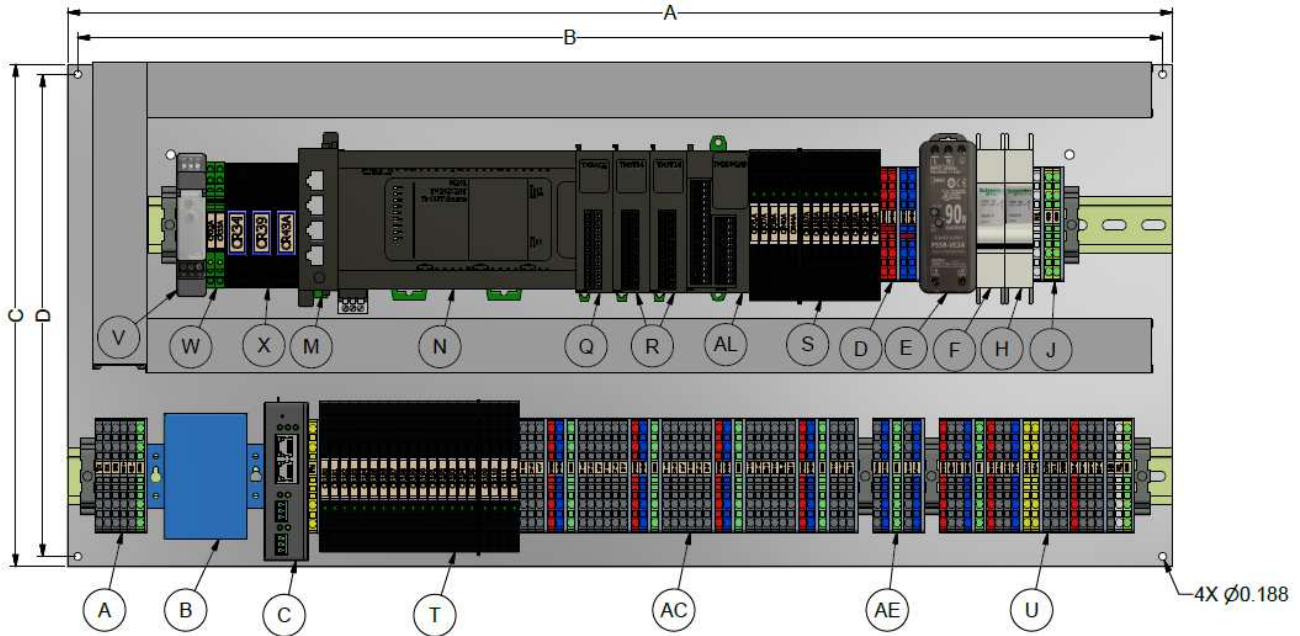
| Options for Kit in Enclosure | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYDx-CB1-Xxxx           | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-CB1-XxxW           |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-CB1-XxxL           |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-CB1-XYxx           |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx(3/4/5)-CB1-Xxxx     |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxYx6-CB1-Xxxx           |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

**Notes:**

- 20"x20" Enclosure used with (0-1) options
- 24"x24" Enclosure used with (2-3) options
- 32"x24" Enclosure used with (4) or more options

## Kit Dimensions (continued)

### TS-KTxxxx-DxX-XXXX



**TS-KTxYD6-DBX-XXXX**

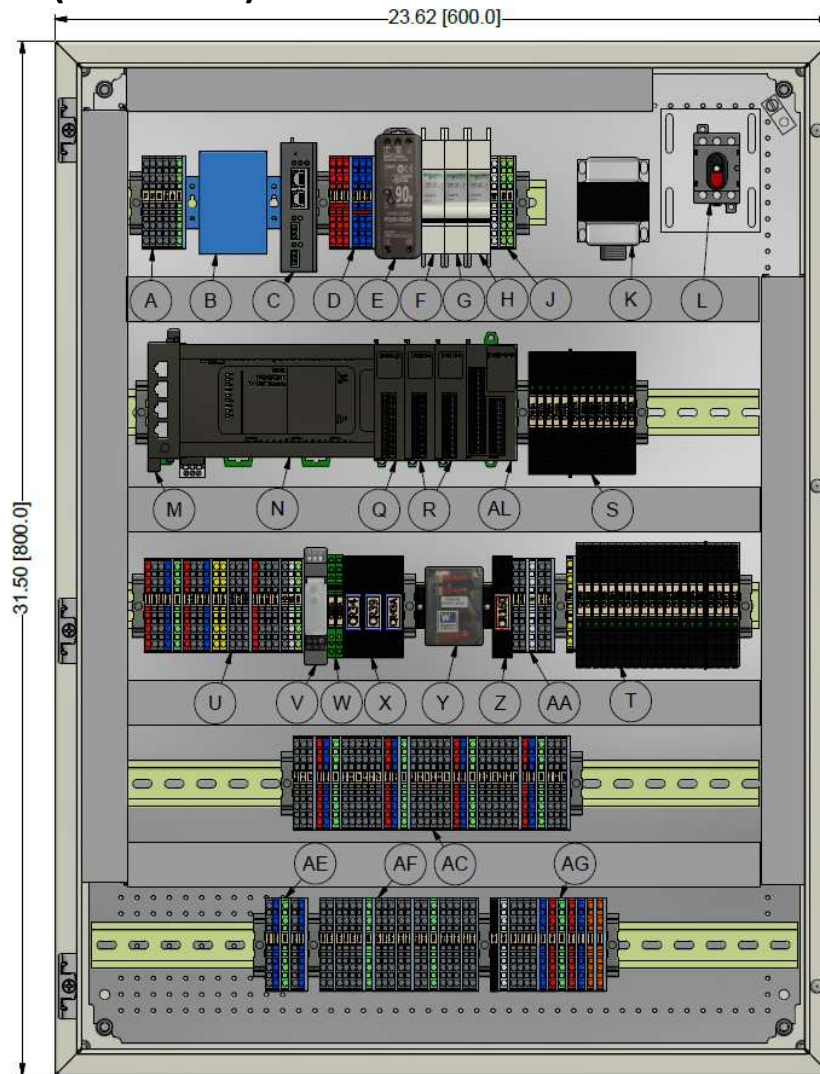
| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-DxX-XXXX       |  |                               |  | 21.50"  | 19.00"  | 12.50"  | 12.00"  |
| TS-KTxYDX-DxX-XXXX       | <b>X</b>                                 |                               |  | 26.00"  | 23.50"  | 12.50"  | 12.00"  |
| TS-KTxYX3-DxX-XXXX       |  | <b>X</b>                      |  | 22.00"  | 19.50"  | 12.50"  | 12.00"  |
| TS-KTxYD3-DxX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 27.00"  | 24.50"  | 12.50"  | 12.00"  |
| TS-KTxYD6-DxX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 27.50"  | 25.00"  | 12.50"  | 12.00"  |

Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)

### Kit Dimensions (continued)



**TS-KTxYD6-DB1-XYx2**

| Options for Kit in Enclosure | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYDx-DB1-Xxxx           | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-DB1-XxxW           |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-DB1-XxxL           |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-DB1-XYxx           |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx(3/4/5)-DB1-Xxxx     |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxYx6-DB1-Xxxx           |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

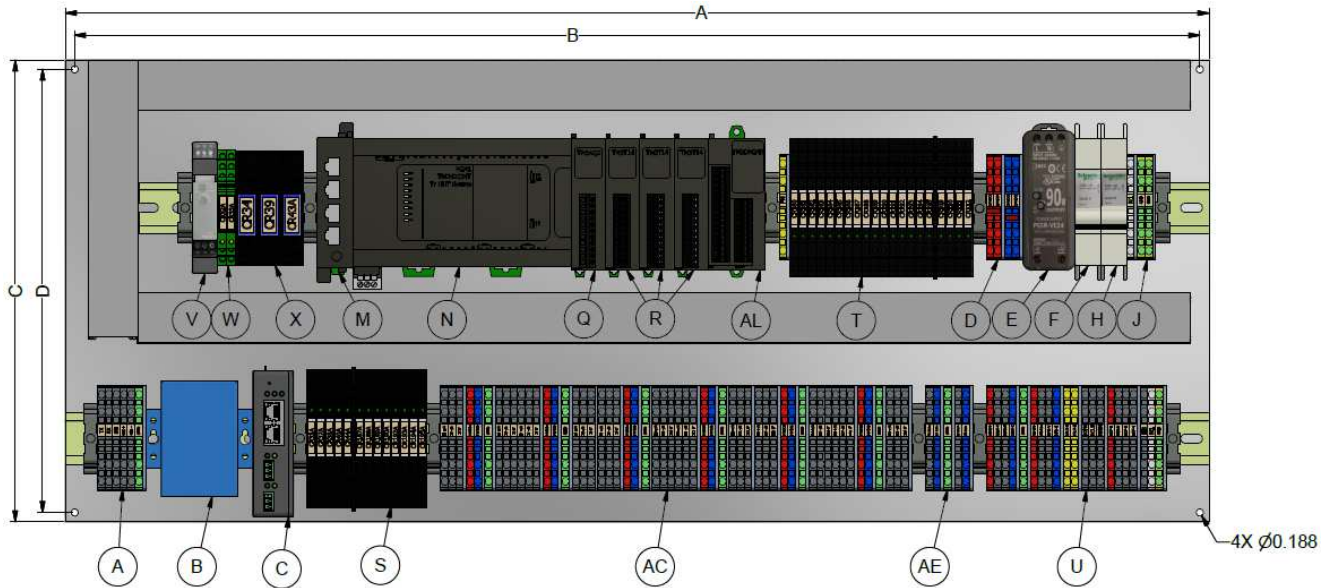
Notes:

- 20"x20" Enclosure used with no options
- 24"x24" Enclosure used with (1-2) options
- 32"x24" Enclosure used with (3) or more options



## Kit Dimensions (continued)

### TS-KTxxxx-ExX-XXXX



### TS-KTxYD6-EBX-XXXX

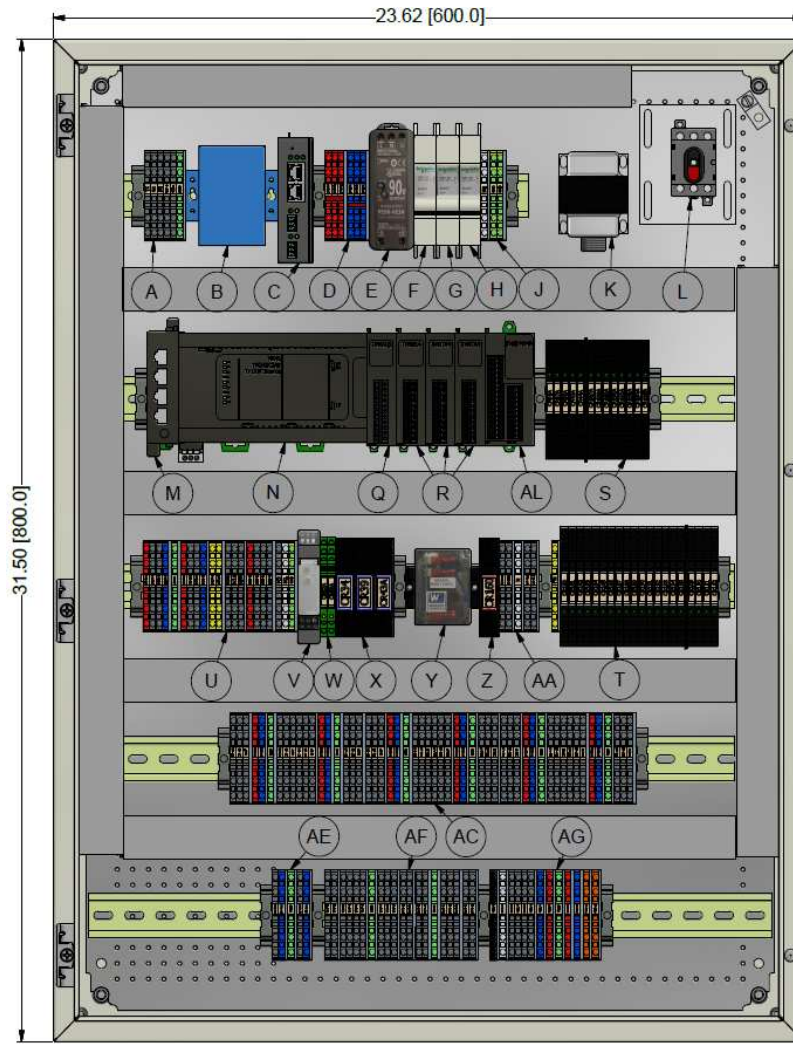
| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-ExX-XXXX       |  |                               |  | 24.00"  | 21.50"  | 12.50"  | 12.00"  |
| TS-KTxYDX-ExX-XXXX       | <b>X</b>                                 |                               |  | 29.00"  | 26.50"  | 12.50"  | 12.00"  |
| TS-KTxYX3-ExX-XXXX       |  | <b>X</b>                      |  | 25.00"  | 22.50"  | 12.50"  | 12.00"  |
| TS-KTxYD3-ExX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 29.50"  | 27.00"  | 12.50"  | 12.00"  |
| TS-KTxYD6-ExX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 31.00"  | 28.50"  | 12.50"  | 12.00"  |

Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)

## Kit Dimensions (continued)



**TS-KTxYD6-EB1-XYx2**

| Options for Kit in Enclosure      | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|-----------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYD <b>x</b> -EB1-Xxxx       | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-EB1-Xxx <b>W</b>        |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-EB1-Xxx <b>L</b>        |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-EB1-XYxx                |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx <b>(3/4/5)</b> -EB1-Xxxx |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxYx <b>6</b> -EB1-Xxxx       |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

Notes:

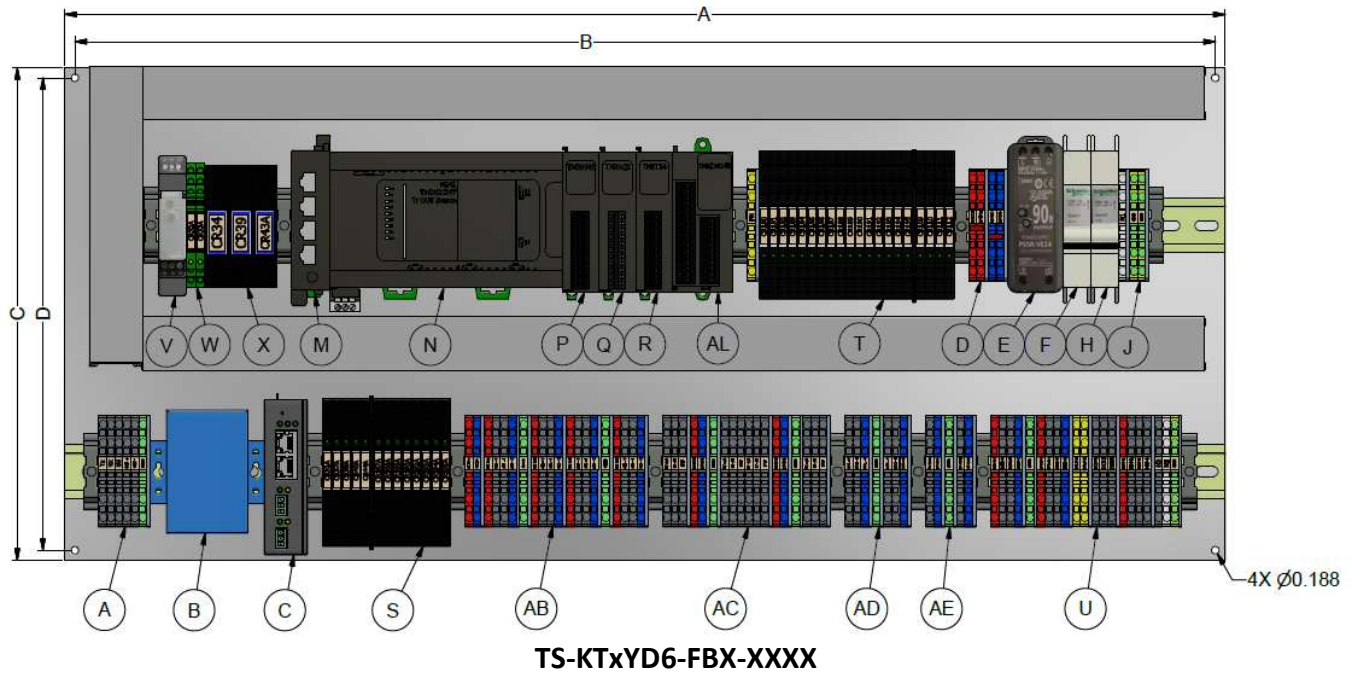
20"x20" Enclosure used with no options

24"x24" Enclosure used with (1) option

32"x24" Enclosure used with (2) or more options

## Kit Dimensions (continued)

### TS-KTxxxx-FxX-XXXX



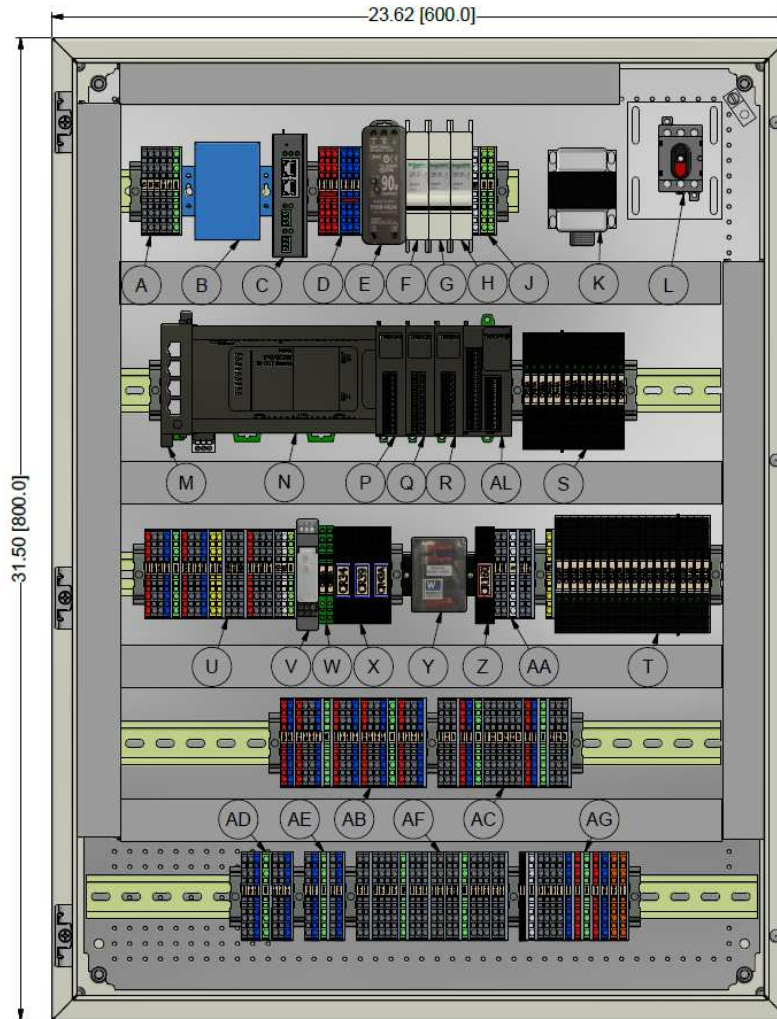
| Options for Kit on Plate     | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|------------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KT $\text{YXX}$ -FxX-XXXX |  |                               |  | 22.00"  | 20.00"  | 12.50"  | 12.00"  |
| TS-KT $\text{YDX}$ -FxX-XXXX | <b>X</b>                                 |                               |  | 27.00"  | 25.00"  | 12.50"  | 12.00"  |
| TS-KT $\text{YX3}$ -FxX-XXXX |  | <b>X</b>                      |  | 23.00"  | 21.00"  | 12.50"  | 12.00"  |
| TS-KT $\text{YD3}$ -FxX-XXXX | <b>X</b>                                 | <b>X</b>                      |  | 28.00"  | 26.00"  | 12.50"  | 12.00"  |
| TS-KT $\text{YD6}$ -FxX-XXXX | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 29.50"  | 27.50"  | 12.50"  | 12.00"  |

Notes:

Layout includes RS232 to RS485 converter used with TS-KT $\text{Yxx}$ -xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)

### Kit Dimensions (continued)



**TS-KTxYD6-FB1-XYx2**

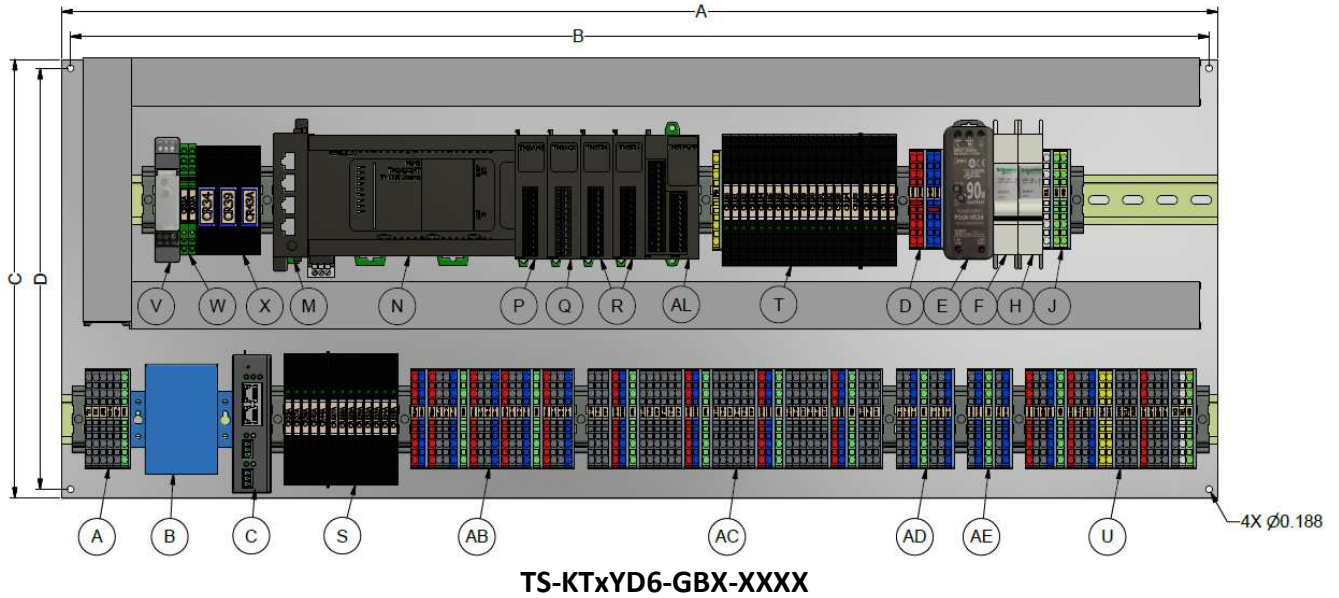
| Options for Kit in Enclosure      | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|-----------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYD <b>x</b> -FB1-Xxxx       | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-FB1-Xxx <b>W</b>        |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-FB1-Xxx <b>L</b>        |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-FB1-XYxx                |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx <b>(3/4/5)</b> -FB1-Xxxx |  |   |                                 |                                     | <b>X</b>                      |  |
|                                   |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

Notes:

- 20"x20" Enclosure used with no options
- 24"x24" Enclosure used with (1-2) options
- 32"x24" Enclosure used with (3) or more options

## Kit Dimensions (continued)

### TS-KTxxxx-GxX-XXXX



| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-GxX-XXXX       |  |                               |  | 25.00"  | 22.50"  | 12.50"  | 12.00"  |
| TS-KTxYDX-GxX-XXXX       | <b>X</b>                                 |                               |  | 30.50"  | 28.00"  | 12.50"  | 12.00"  |
| TS-KTxYX3-GxX-XXXX       |  | <b>X</b>                      |  | 26.00"  | 23.50"  | 12.50"  | 12.00"  |
| TS-KTxYD3-GxX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 31.50"  | 29.00"  | 12.50"  | 12.00"  |
| TS-KTxYD6-GxX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 33.00"  | 30.50"  | 12.50"  | 12.00"  |

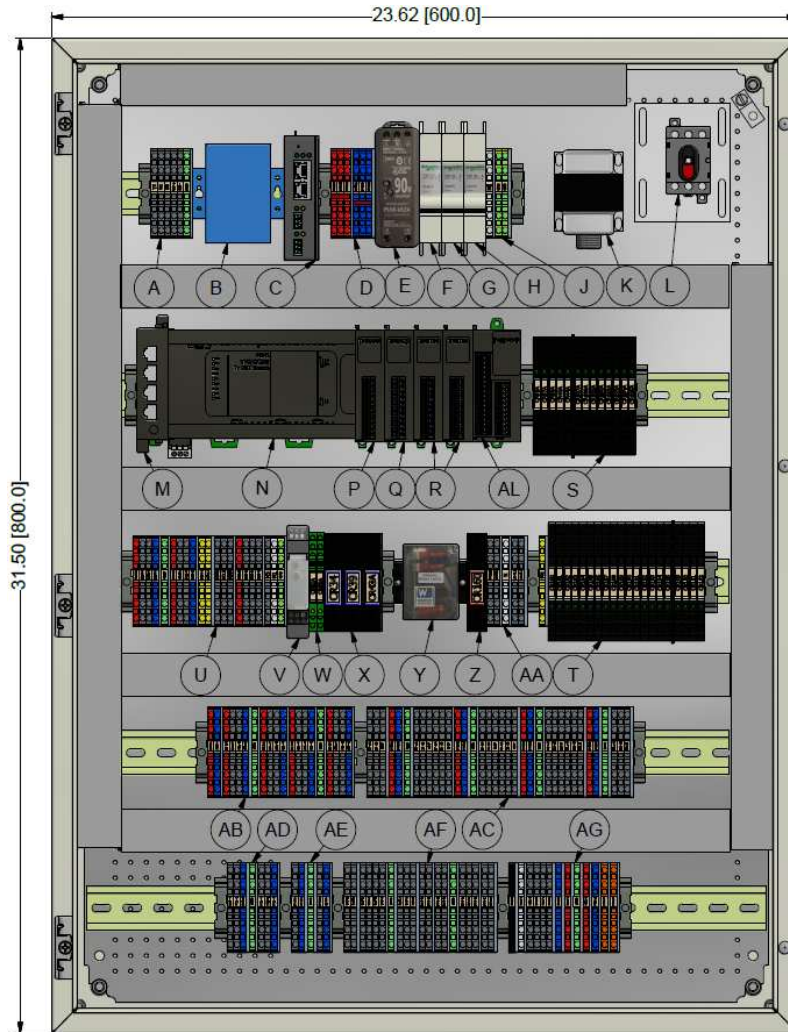
Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)



### Kit Dimensions (continued)



**TS-KTxYD6-GB1-XYx2**

| Options for Kit in Enclosure | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYDx-GB1-Xxxx           | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-GB1-XxxW           |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-GB1-XxxL           |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-GB1-XYxx           |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx(3/4/5)-GB1-Xxxx     |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxYx6-GB1-Xxxx           |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

Notes:

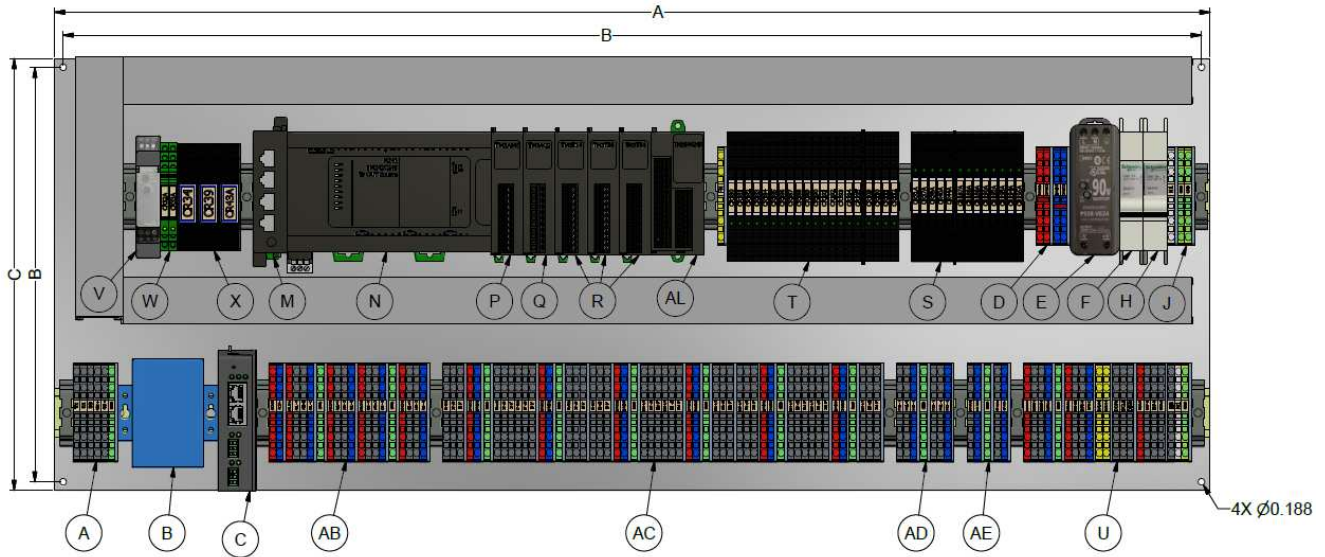
20"x20" Enclosure used with no options without Lonworks

24"x24" Enclosure used with (1) option without Lonworks or (0-1) options with Lonworks

32"x24" Enclosure used with (2) or more options

## Kit Dimensions (continued)

### TS-KTxxxx-HxX-XXXX



### TS-KTxYD6-HBX-XXXX

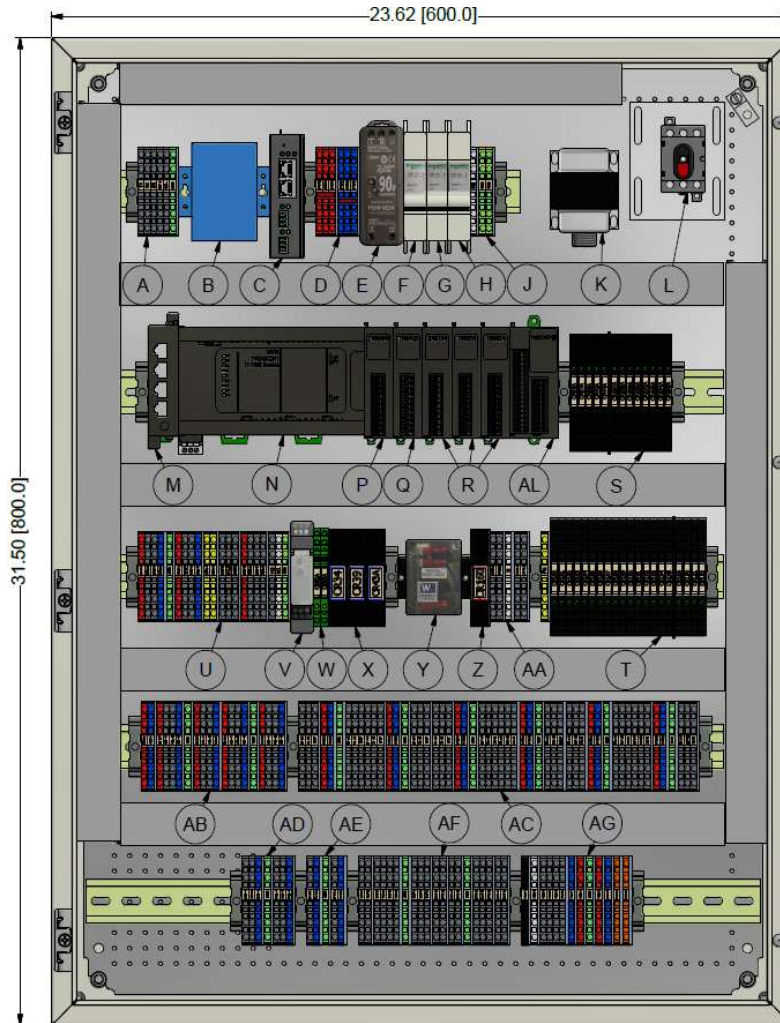
| Options for Kit on Plate | Draft Control Components (F, U, V, W, X) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) | Dim "A" | Dim "B" | Dim "C" | Dim "D" |
|--------------------------|--|-------------------------------|--|---------|---------|---------|---------|
| TS-KTxYXX-HxX-XXXX       |  |                               |  | 26.00"  | 25.50"  | 12.50"  | 12.00"  |
| TS-KTxYDX-HxX-XXXX       | <b>X</b>                                 |                               |  | 31.00"  | 30.50"  | 12.50"  | 12.00"  |
| TS-KTxYX3-HxX-XXXX       |  | <b>X</b>                      |  | 27.50"  | 27.00"  | 12.50"  | 12.00"  |
| TS-KTxYD3-HxX-XXXX       | <b>X</b>                                 | <b>X</b>                      |  | 32.00"  | 31.50"  | 12.50"  | 12.00"  |
| TS-KTxYD6-HxX-XXXX       | <b>X</b>                                 | <b>X</b>                      | <b>X</b>                                   | 33.50"  | 33.00"  | 12.50"  | 12.00"  |

Notes:

Layout includes RS232 to RS485 converter used with TS-KTxYxx-xxx-xxxx (Item B)

Layout includes ProtoAir wireless gateway used with TS-KTxxxx-x(B/M)x-xxxx (Item C)

### Kit Dimensions (continued)



**TS-KTxYD3-HB1-XYx2**

| Options for Kit in Enclosure | Draft Control Components (F, U, V, W, X) | Water Level Control Components (G, K, AG) | Load Control Components (G, AF) | Warrick Relay Components (Y, Z, AA) | PLC Output Components (Q, AE) | Additional Digital Inputs and Outputs (AL) |
|------------------------------|--|---|---------------------------------|-------------------------------------|-------------------------------|--|
| TS-KTxYDx-HB1-Xxxx           | <b>X</b>                                 |   |                                 |                                     |                               |  |
| TS-KTxYxx-HB1-XxxW           |  | <b>X</b>                                  |                                 |                                     |                               |  |
| TS-KTxYxx-HB1-XxxL           |  |   | <b>X</b>                        |                                     |                               |  |
| TS-KTxYxx-HB1-XYxx           |  |   |                                 | <b>X</b>                            |                               |  |
| TS-KTxYx(3/4/5)-HB1-Xxxx     |  |   |                                 |                                     | <b>X</b>                      |  |
| TS-KTxYx6-HB1-Xxxx           |  |   |                                 |                                     | <b>X</b>                      | <b>X</b>                                   |

Notes:

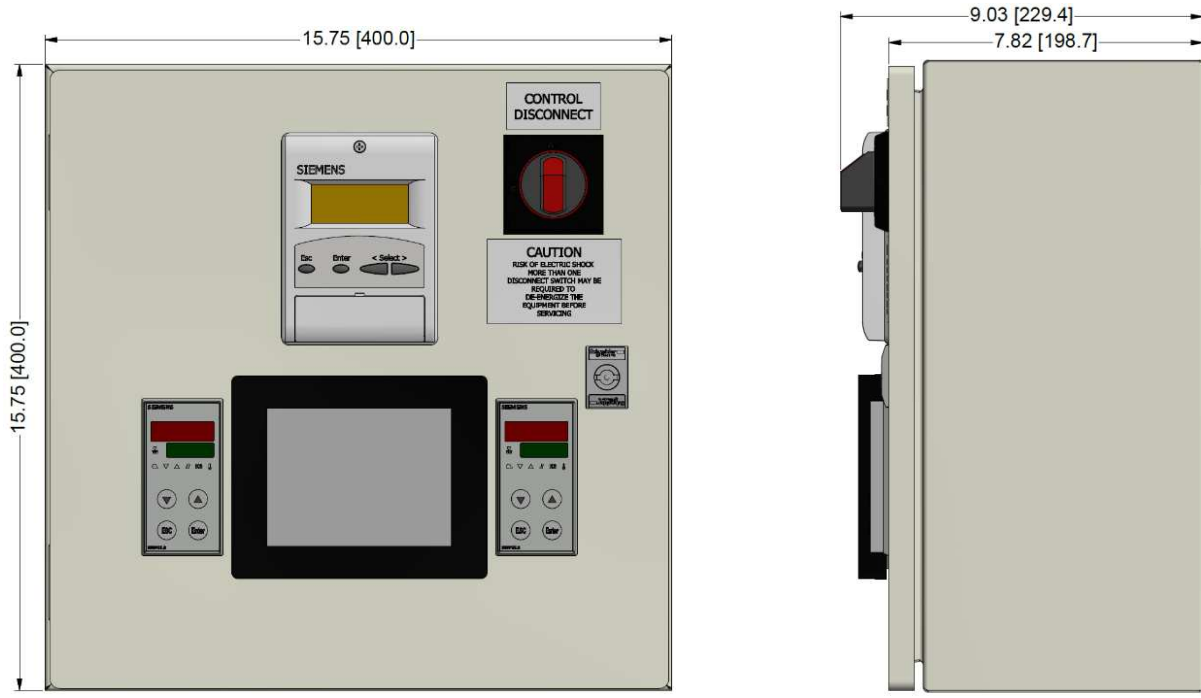
24"x24" Enclosure used with no options

32"x24" Enclosure used with (1) or more options



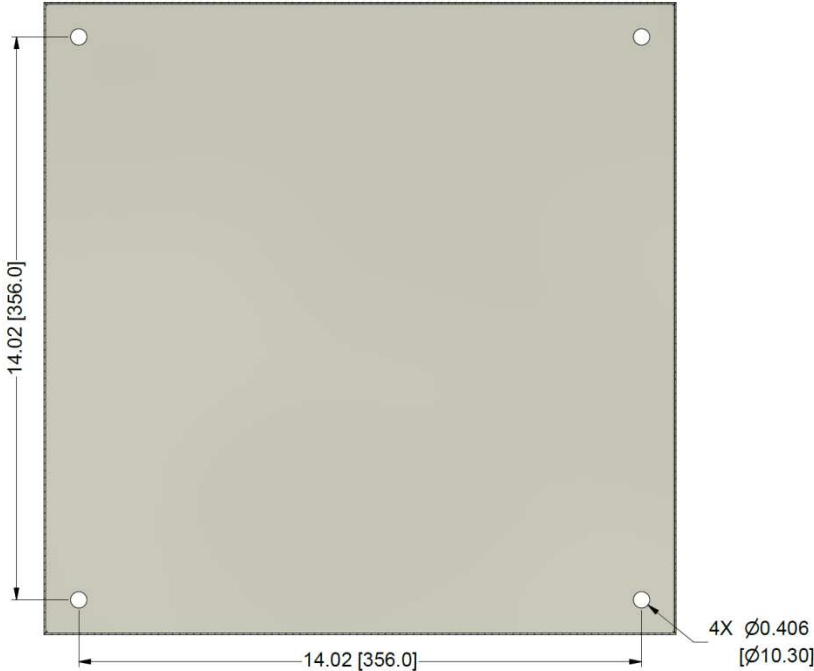
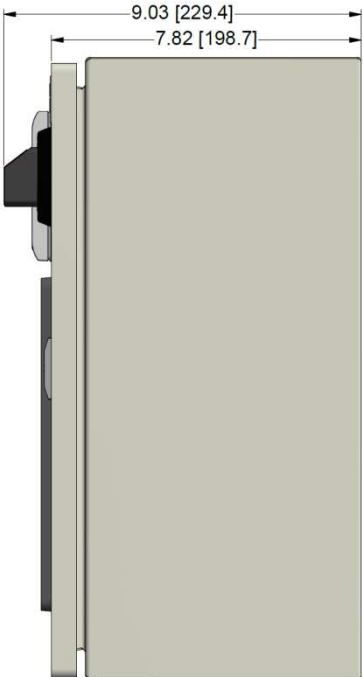
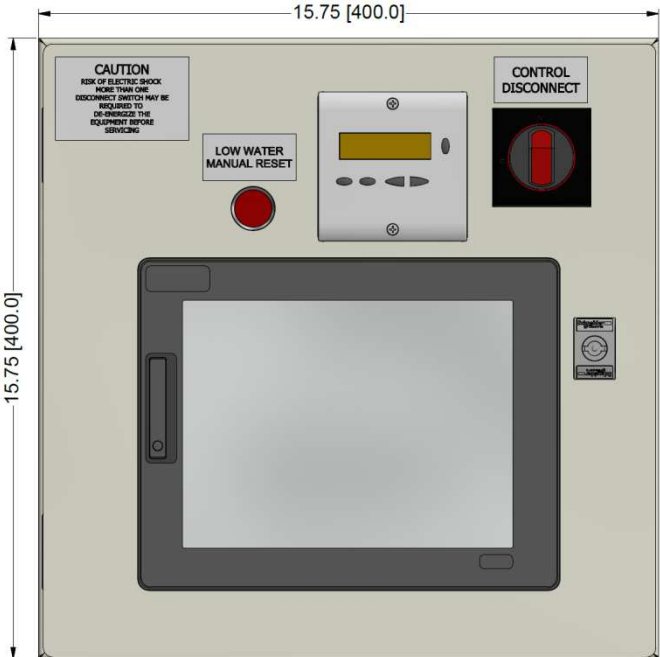
# 16"X 16" X 8" Enclosure Dimensions

## TS-KT6xxx-xx1-XX52



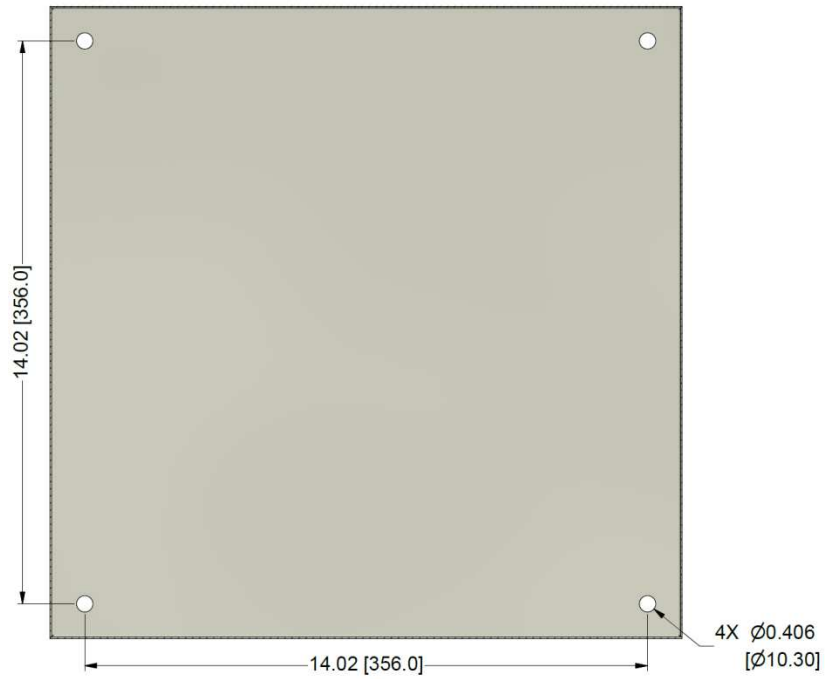
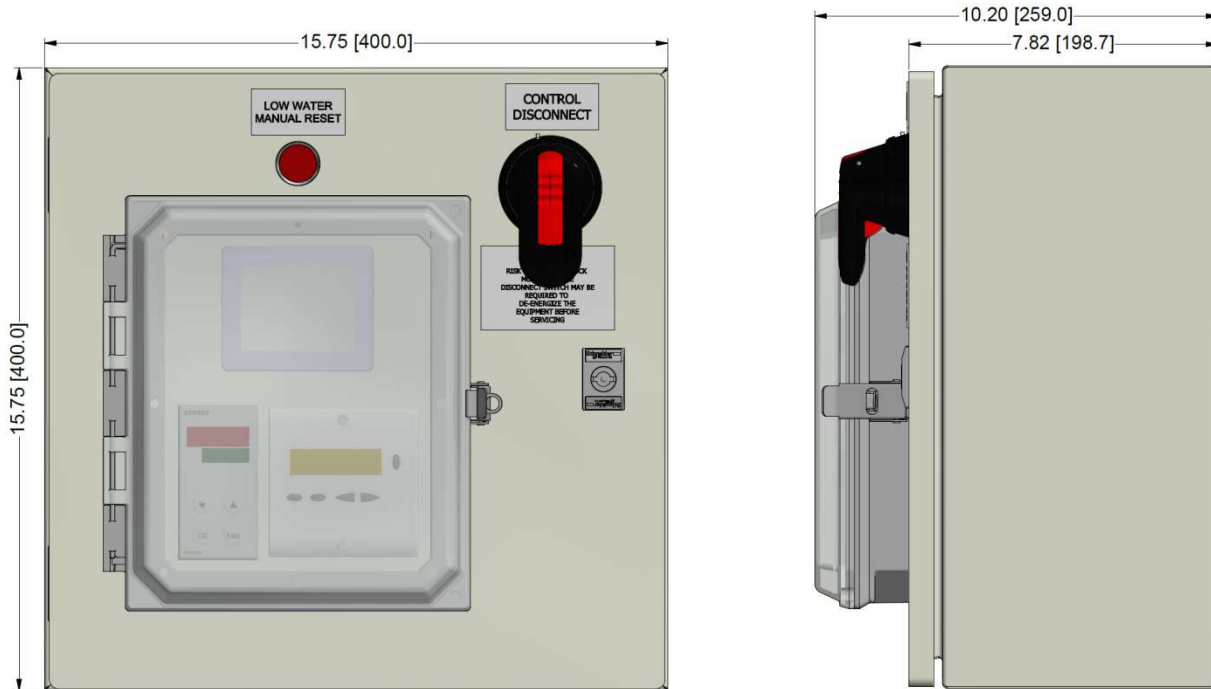
# 16"X 16" X 8" Enclosure Dimensions (continued)

TS-KT0xxx-xx1-XY3X



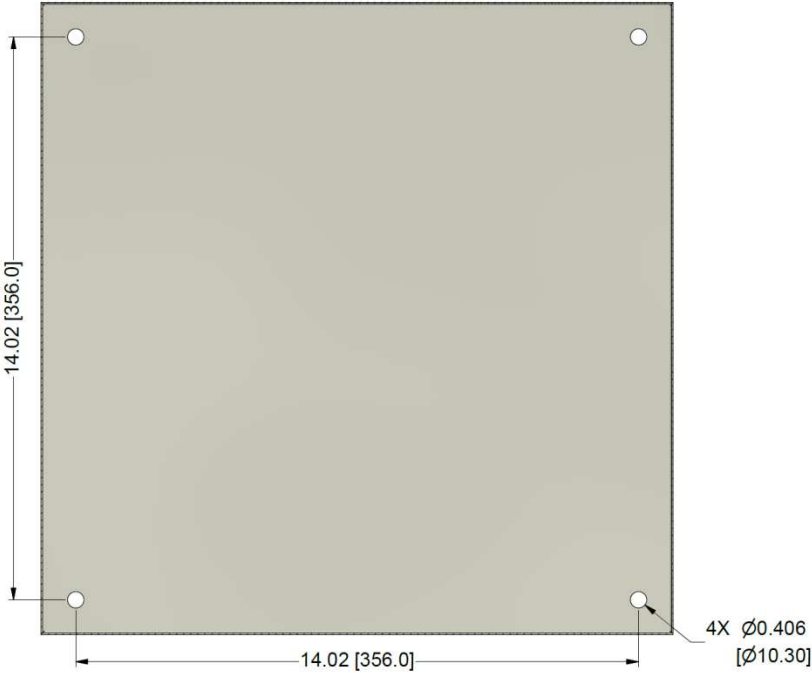
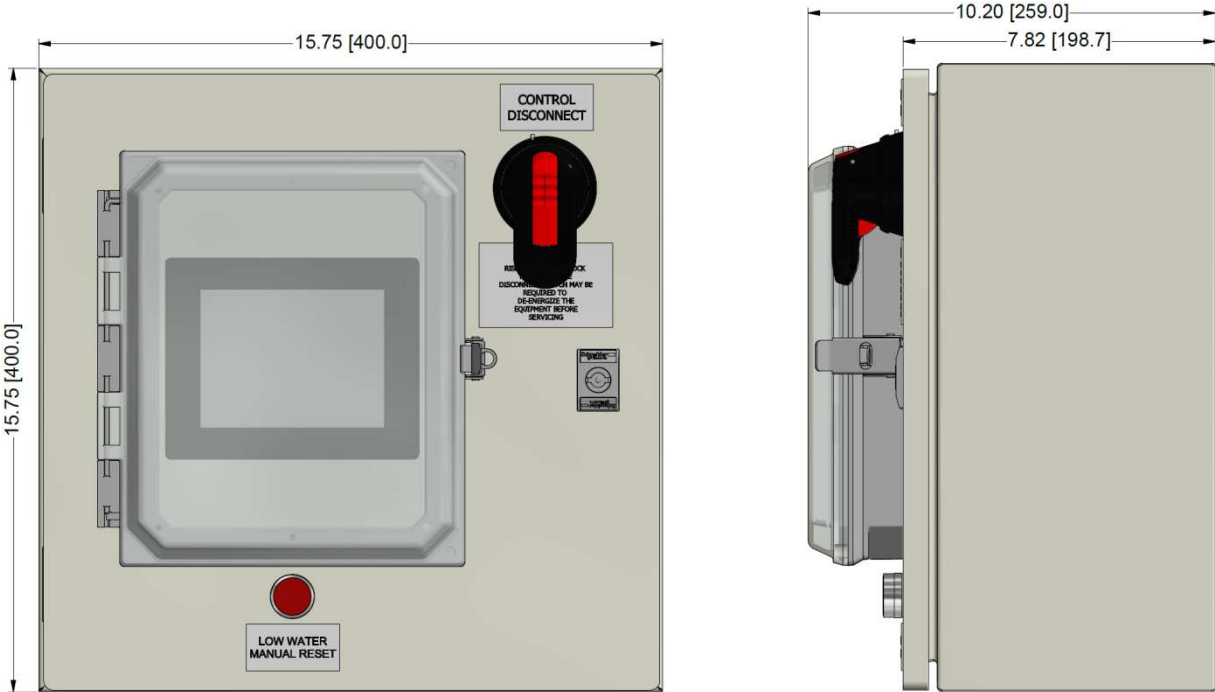
# 16"X 16" X 8" Enclosure Dimensions (continued)

## TS-KT3xxx-xx2-XY3(L/W)



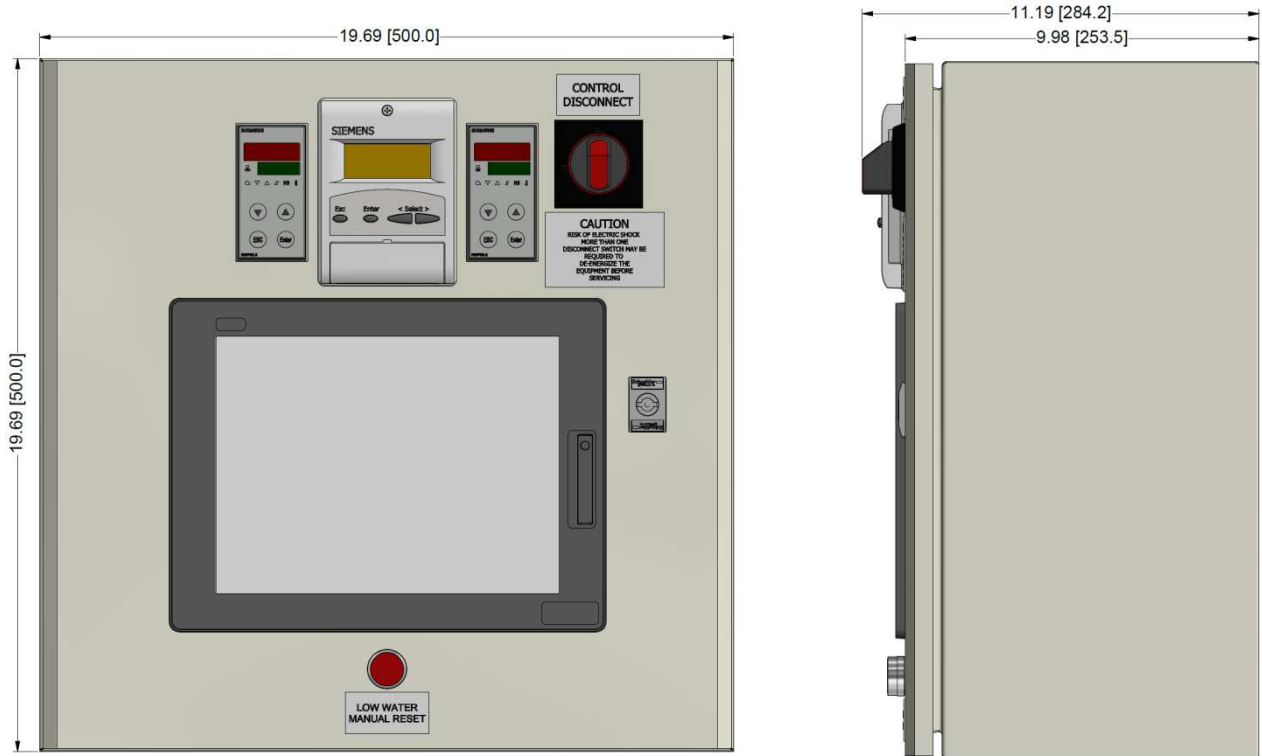
# 16"X 16" X 8" Enclosure Dimensions (continued)

TS-KT6xxx-xx2-XXXX



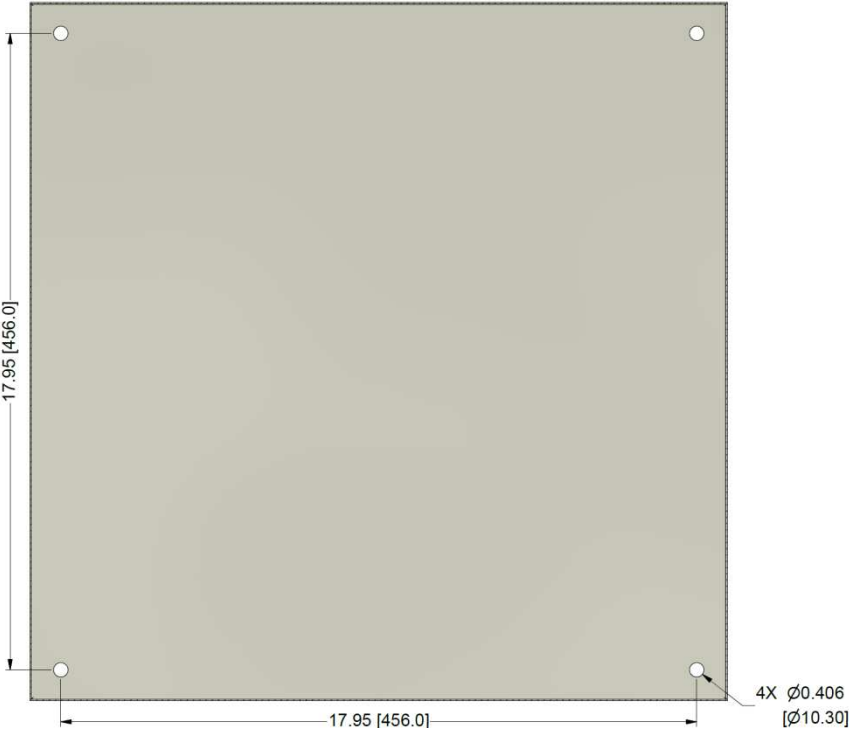
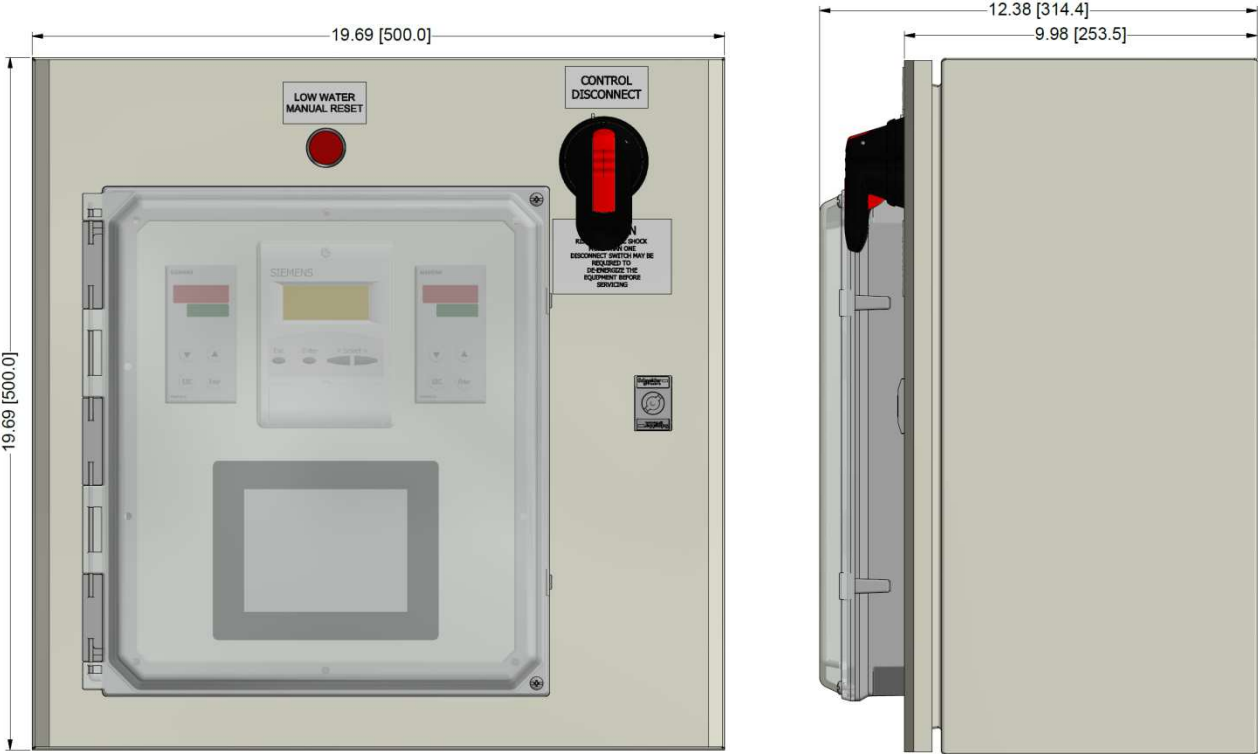
## 20"X 20" X 10" Enclosure Dimensions (continued)

### TS-KT2xxx-xx1-XY52



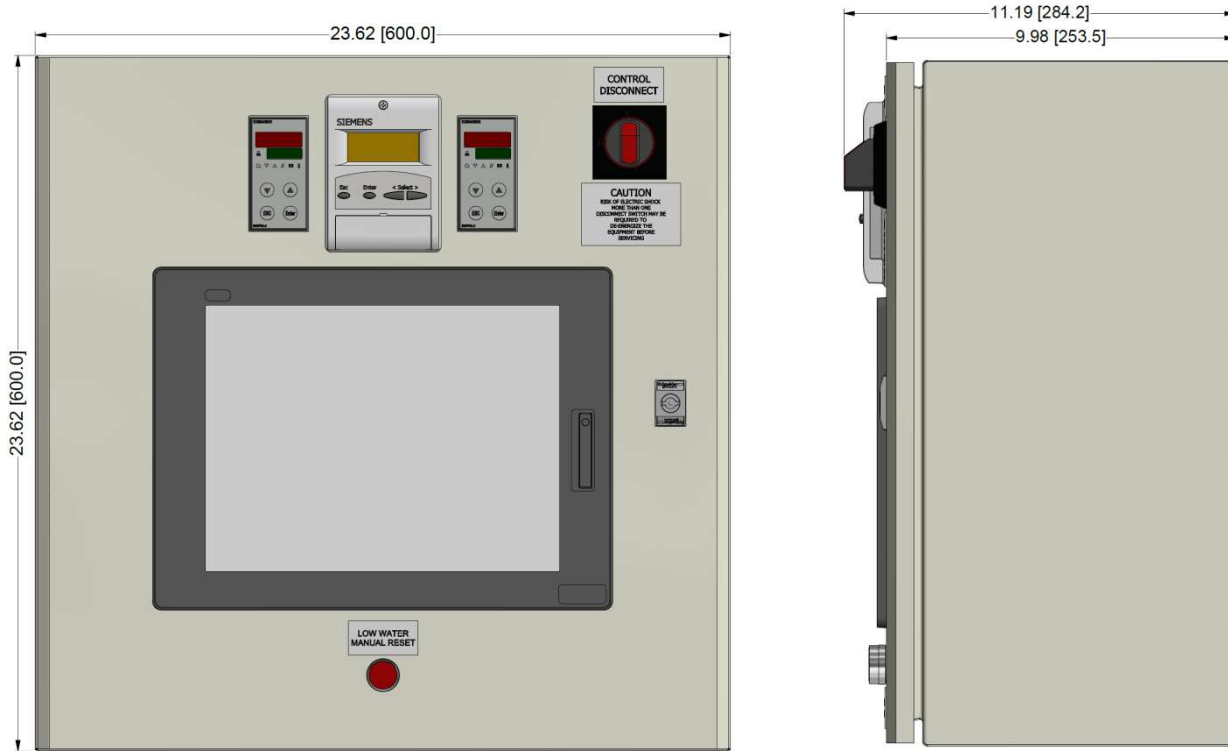
# 20"X 20" X 10" Enclosure Dimensions (continued)

TS-KT6xxx-xx2-XY52



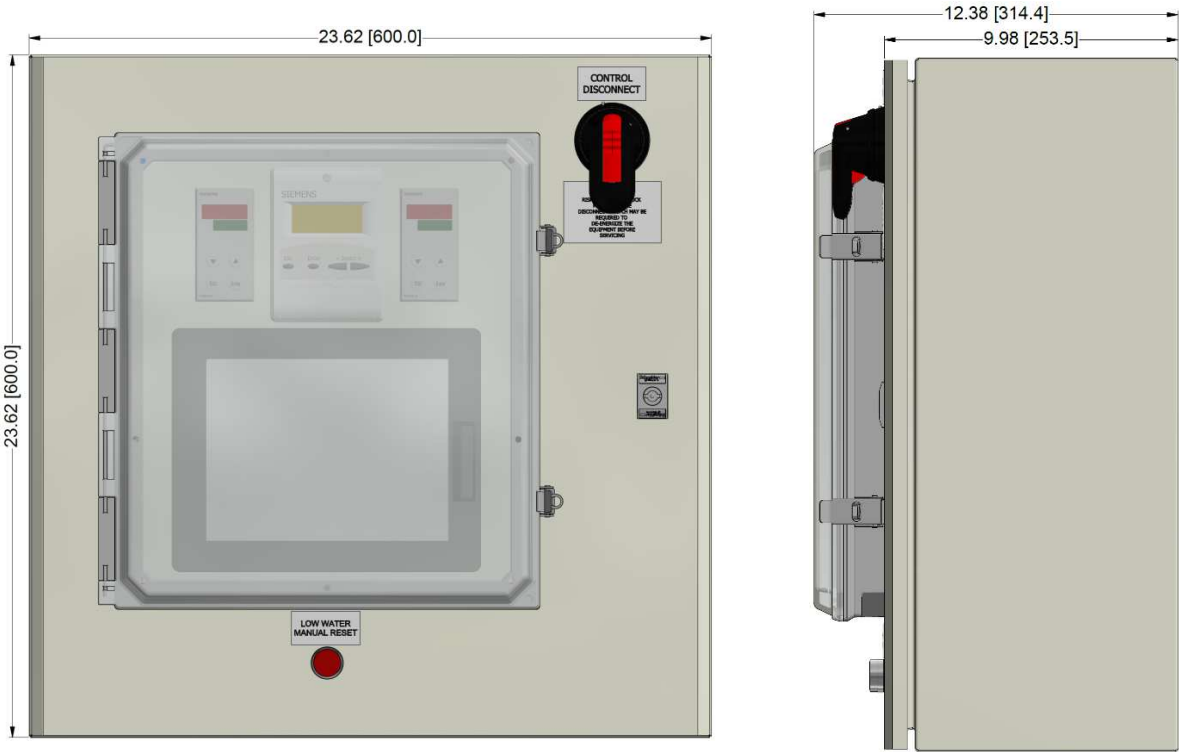
## 24"X 24" X 10" Enclosure Dimensions (continued)

### TS-KT5xxx-xx1-XY52



# 24"X 24" X 10" Enclosure Dimensions (continued)

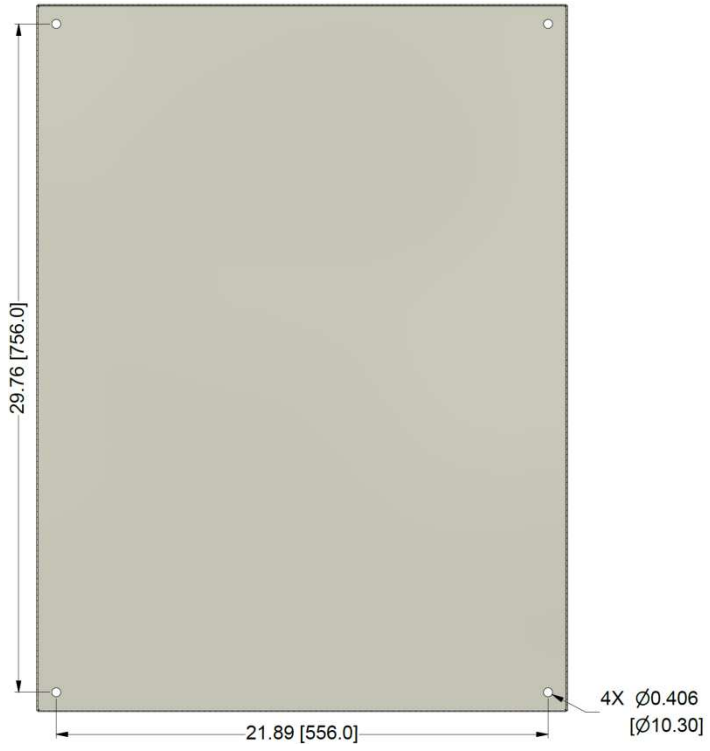
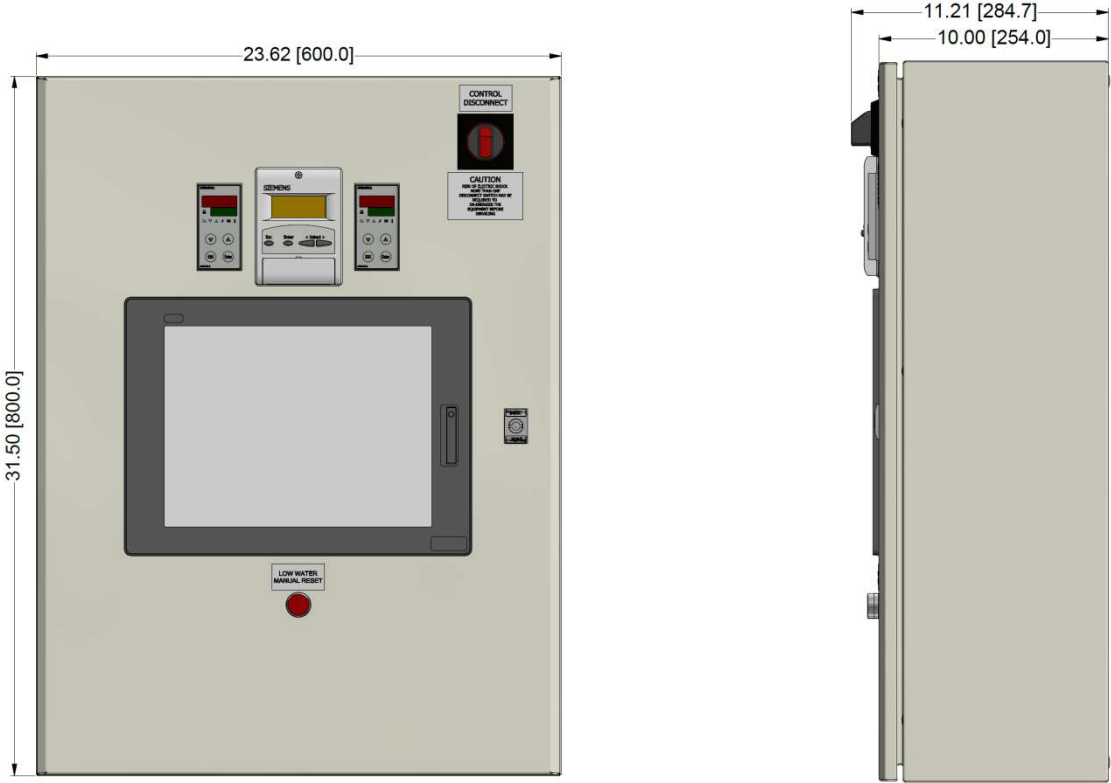
## TS-KT0xxx-xx2-XY52





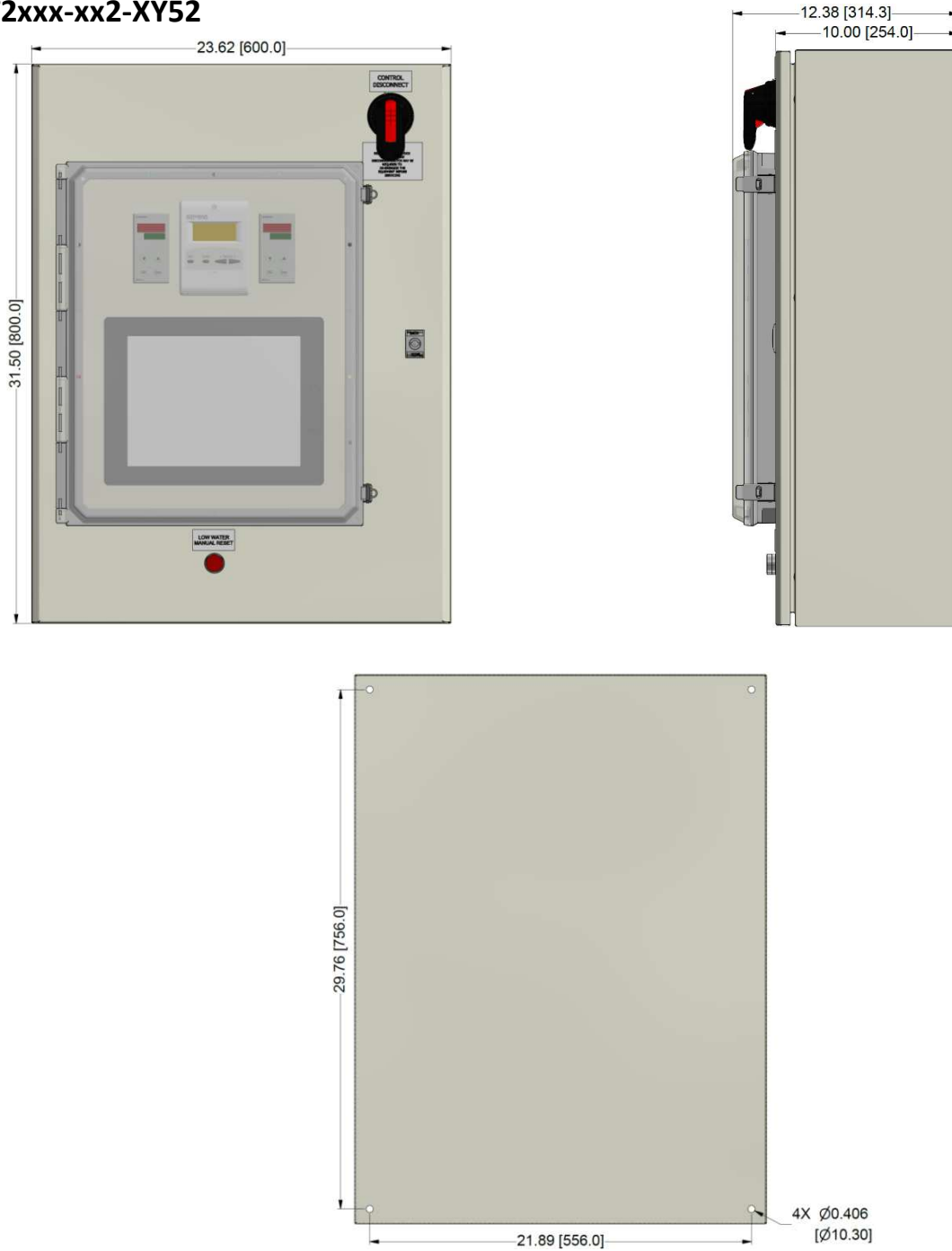
# 32"X 24" X 10" Enclosure Dimensions (continued)

TS-KT5xxx-xx1-XY52



## 32" X 24" X 10" Enclosure Dimensions (continued)

### TS-KT2xxx-xx2-XY52



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