

TS Series

TS... Touchscreen Kits

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



Touchscreen

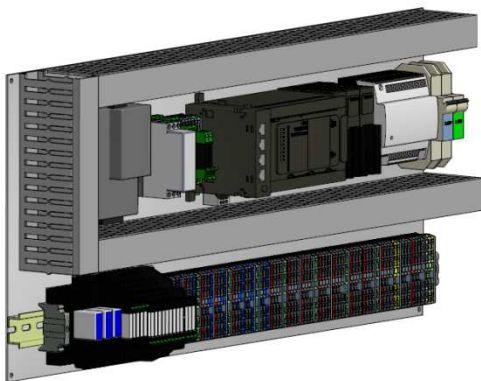
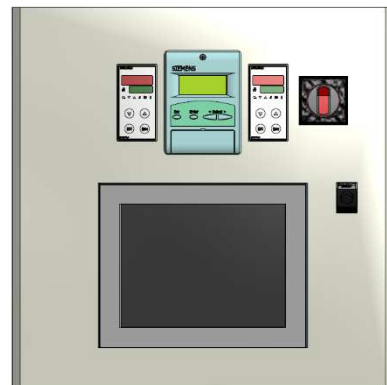


Plate Kit



Enclosure

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 6" or 10" 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.

Features

- Local touchscreen interface with Siemens LMV/RWF controllers
- Schneider touchscreens available in 6" or 10"
- Boiler graphics and field tag information are field-configured
- LMV... static, fuel and internal lockout and error history displayed
- Fuel-air ratio control curve displayed
- Alarm history stored for most recent 250 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
- Metric or Standard units displayed
- English or Spanish languages
- Clear English or Spanish text for alarms
- Circulating pump/isolation valve control outputs for hydronic boilers (option with expanded annunciator)
- Expanded annunciator options include:
 - Four (4) 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.
 - Four (4) Pt1000 (or Pt100) RTD temperature inputs with field configurable label, low and high alarm setpoints, with auto or manual reset.
 - Two (2) 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 (2) digital outputs with field configurable logic, including on and off delays. Manual or automatic reset.
 - First-out annunciation option, including thirteen (13) 120 VAC inputs with field labeling capability
 - Eight (8) selectable data logging variables stored in CSV format on USB drive
 - Four (4) selectable variables for trending up to 7 days
 - Economizer temperature monitoring, (additional RTD card with four (4) inputs)
 - Draft control using SCC Inc. SQM5... actuator
 - Connection of two additional RWF55 controllers
 - Variable Speed Drive information and setup when preprogrammed VFD (Yaskawa) provided by SCC Inc.

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- 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 (6) 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
-

Application

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

Components

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

- 6" or 10" 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:
 - 13 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)
 - 4 Pt100/Pt1000 RTD inputs for general purpose
 - 4 Pt100/Pt1000 RTD inputs for monitoring economizer temperatures
 - 5 output Relays for:
 - Starting circulating pump on Hot water boilers
 - Monitoring a digital value (2 outputs)
 - Annunciation alarms
 - PLC normal operation indication
 - BMS communication other than standard Modbus
 - Open plate kit, or in enclosure
-

Product Part Numbers

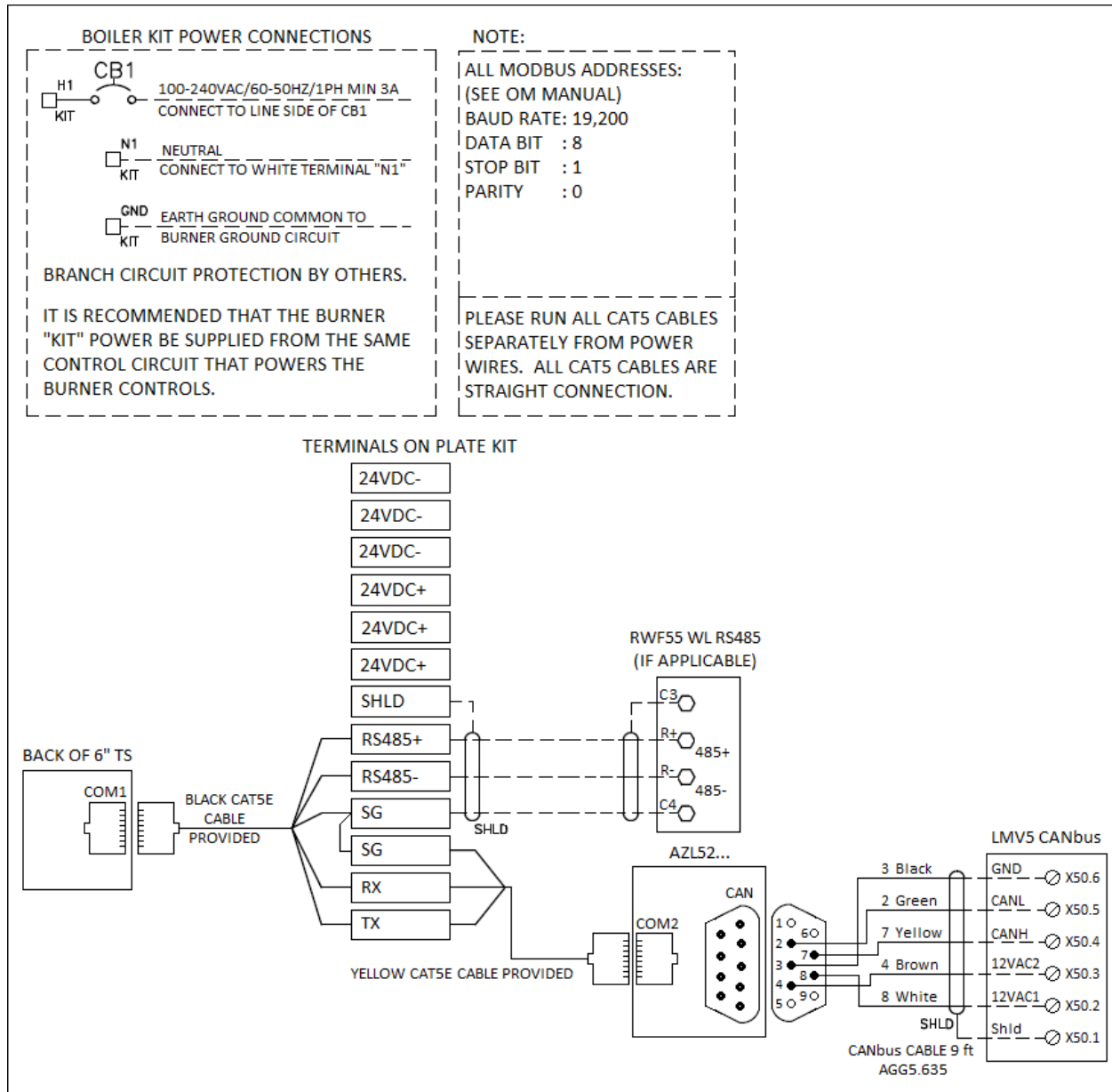
| | TS | - | 0 | D | 8 | B | - | 2 | 5 | W |
|---|----|---|---|---|---|---|---|---|---|---|
| Touchscreen | | | | | | | | | | |
| Touchscreen Size | | | | | | | | | | |
| 6 = 6" touchscreen | | | | | | | | | | |
| 0 = 10" touchscreen | | | | | | | | | | |
| F = 6" touchscreen mounted > 15 ft away from AZL (LMV5 only) | | | | | | | | | | |
| J = 10" touchscreen mounted > 15 ft away from AZL (LMV5 only) | | | | | | | | | | |
| Draft Control | | | | | | | | | | |
| X = No draft control included | | | | | | | | | | |
| D = Draft control included with annunciation option 5 below | | | | | | | | | | |
| E = Draft control included with annunciation option 8 below | | | | | | | | | | |
| Annunciation and Monitoring Options | | | | | | | | | | |
| X = No PLC and annunciation inputs | | | | | | | | | | |
| 1 = Standard annunciation, 13 120VAC inputs | | | | | | | | | | |
| 2 = 13 120VAC annunciation inputs and 4 analog inputs | | | | | | | | | | |
| 3 = 13 120 VAC annunciation inputs and 4 RTD 100/1000 Ohm inputs | | | | | | | | | | |
| 4 = 13 120 VAC annunciation inputs, 4 RTD 100/1000 Ohm inputs dedicated for Economizer | | | | | | | | | | |
| 5 = 13 120 VAC annunciation inputs, 4 analog inputs, and 4 RTD 100/1000 Ohm inputs | | | | | | | | | | |
| 6 = 13 120 VAC annunciation inputs, 4 analog inputs, and 4 100/1000 Ohm RTD inputs dedicated for economizer | | | | | | | | | | |
| 7 = 13 120 VAC annunciations, 4 RTD 100/1000 Ohm RTD, and 4 RTD 100/1000 Ohm inputs dedicated for economizer | | | | | | | | | | |
| 8 = 13 120 VAC annunciation inputs, 4 analog inputs, 4 RTD 100/1000 Ohm RTD, and 4 RTD 100/1000 Ohm inputs dedicated for economizer | | | | | | | | | | |
| Building Management Interface (BMS) | | | | | | | | | | |
| S = Standard, Modbus TCP/IP | | | | | | | | | | |
| B = BACnet / IP, | | | | | | | | | | |
| M = BACnet MS/TP, Modbus RTU, Metasys N3 | | | | | | | | | | |
| L = LonWorks | | | | | | | | | | |
| N = Profinet | | | | | | | | | | |
| P = Profibus | | | | | | | | | | |
| Enclosure Option | | | | | | | | | | |
| X = No - 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 (if applicable) | | | | | | | | | | |
| 4 = NEMA 4X (indoor), includes cover over AZL/RWF (if applicable) | | | | | | | | | | |
| A = NEMA 1 with cooling fan | | | | | | | | | | |
| B = NEMA 12 with cooling fan, includes cover over touchscreen and AZL/RWF and fan (if applicable) | | | | | | | | | | |
| C = NEMA 4X with cooling fan, includes cover over touchscreen and AZL/RWF and fan (if applicable) | | | | | | | | | | |
| AZL (Option only with enclosure) | | | | | | | | | | |
| 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 | | | | | | | | | | |
| RWF (Option only with enclosure) | | | | | | | | | | |
| 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 | | | | | | | | | | |

Specifications

| | | 6" TS kit | 10" TS kit |
|--------------------------|---|--|--|
| Physical characteristics | Main power | 110-240 VAC | 110-240 VAC |
| | Frequency | 60-50 Hz | 60-50 Hz |
| | Touchscreen power | 24 VDC | 24 VDC |
| | Power consumption | ≤ 205 W | ≤ 205 W |
| | Power consumption with PLC annunciation | ≤ 460 W | ≤ 460 W |
| | Dry contacts | 2 Amps | 2 Amps |
| Operating environment | Operating temperature | 32 to 122 °F [0 to 50 °C] | 32 to 131 °F [0 to 55 °C] |
| | Humidity | Max. 80% with no condensation | Max. 85% with no condensation |
| | NEMA rating | 4X (indoor use) | 4X (indoor use) |
| | Enclosure option | NEMA 1 NEMA 12 (Optional) NEMA 4X (Optional) | NEMA 1 NEMA 12 (Optional) NEMA 4X (Optional) |

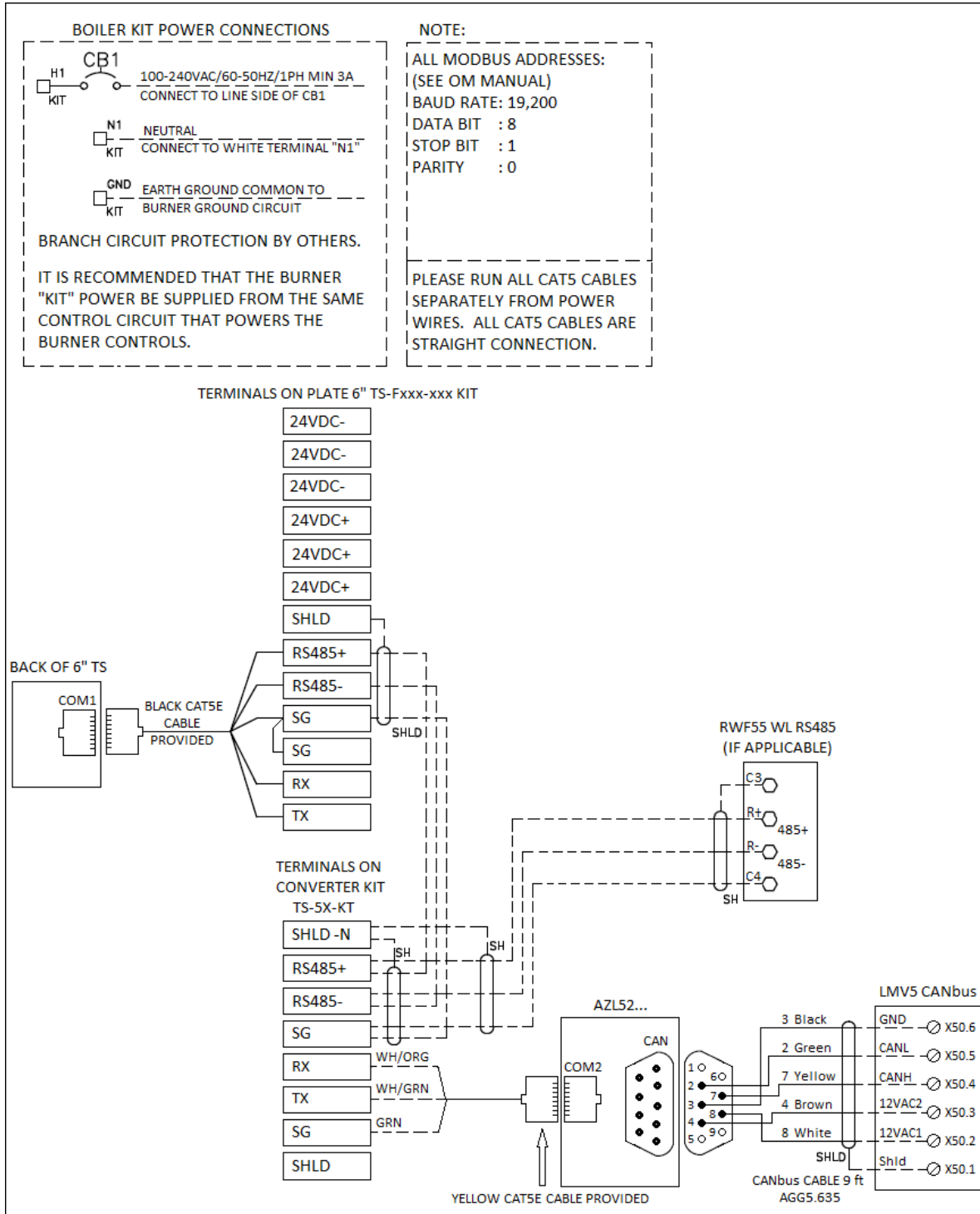
Connections

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



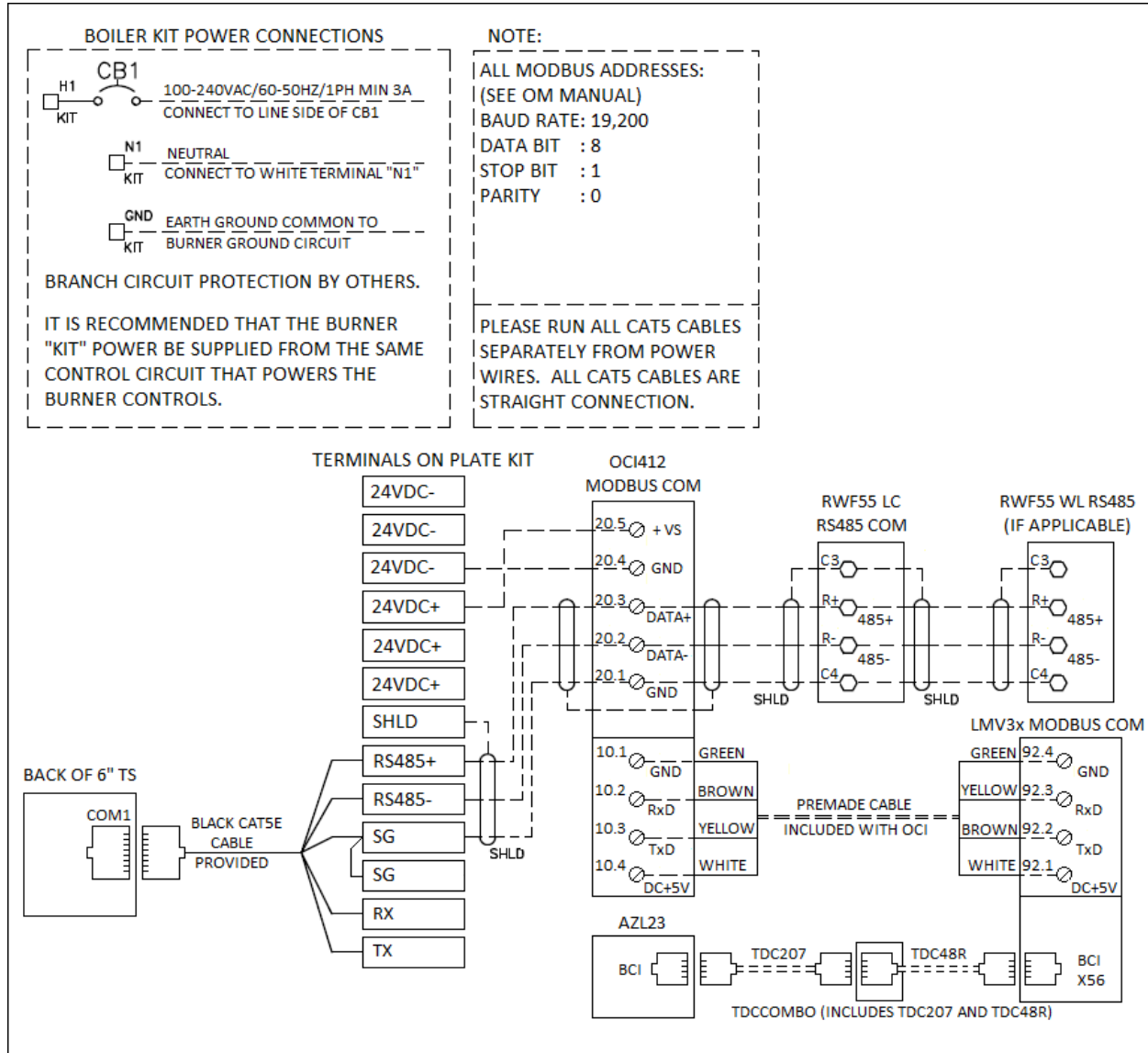
Connections (continued)

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



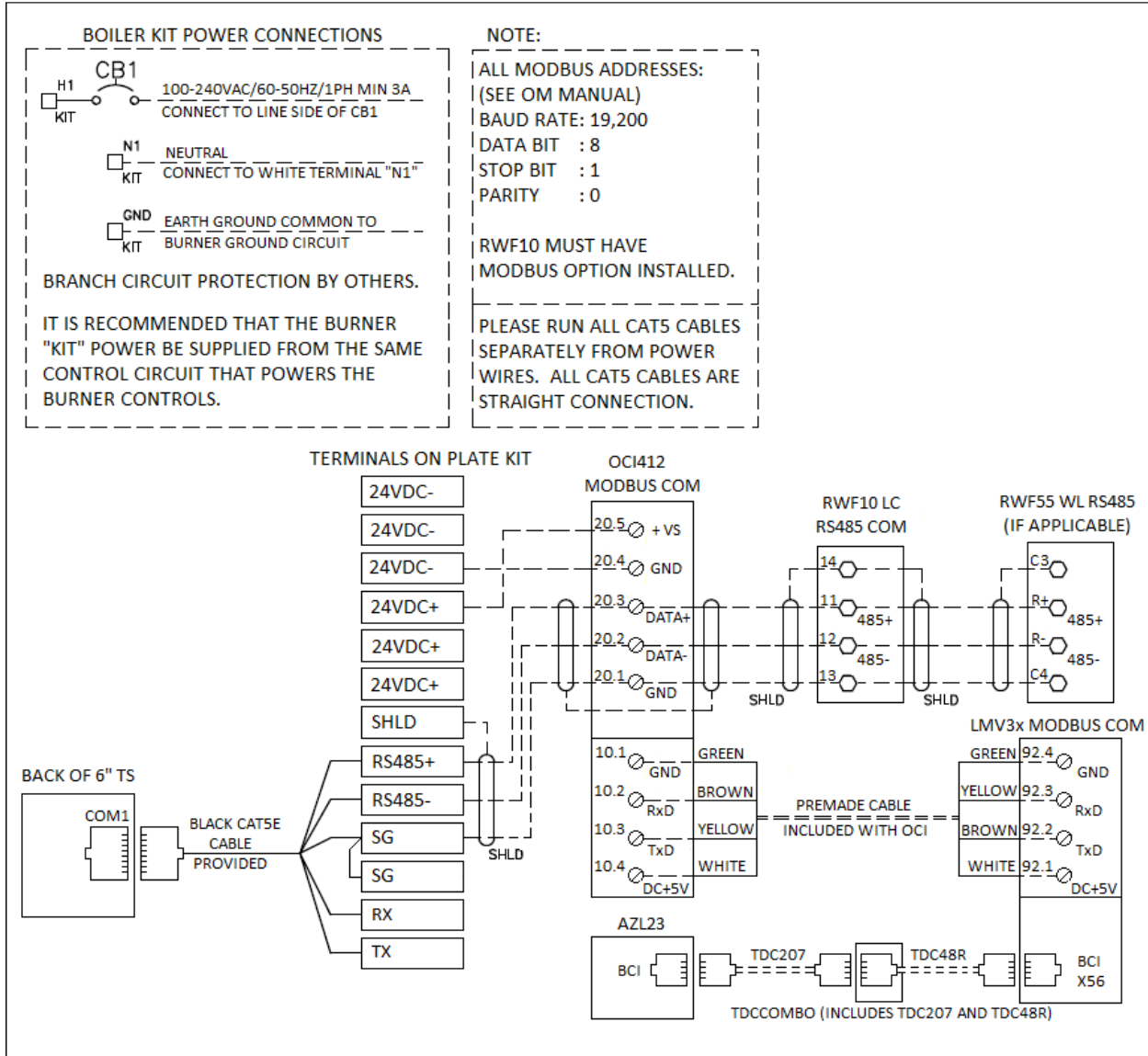
Connections (continued)

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



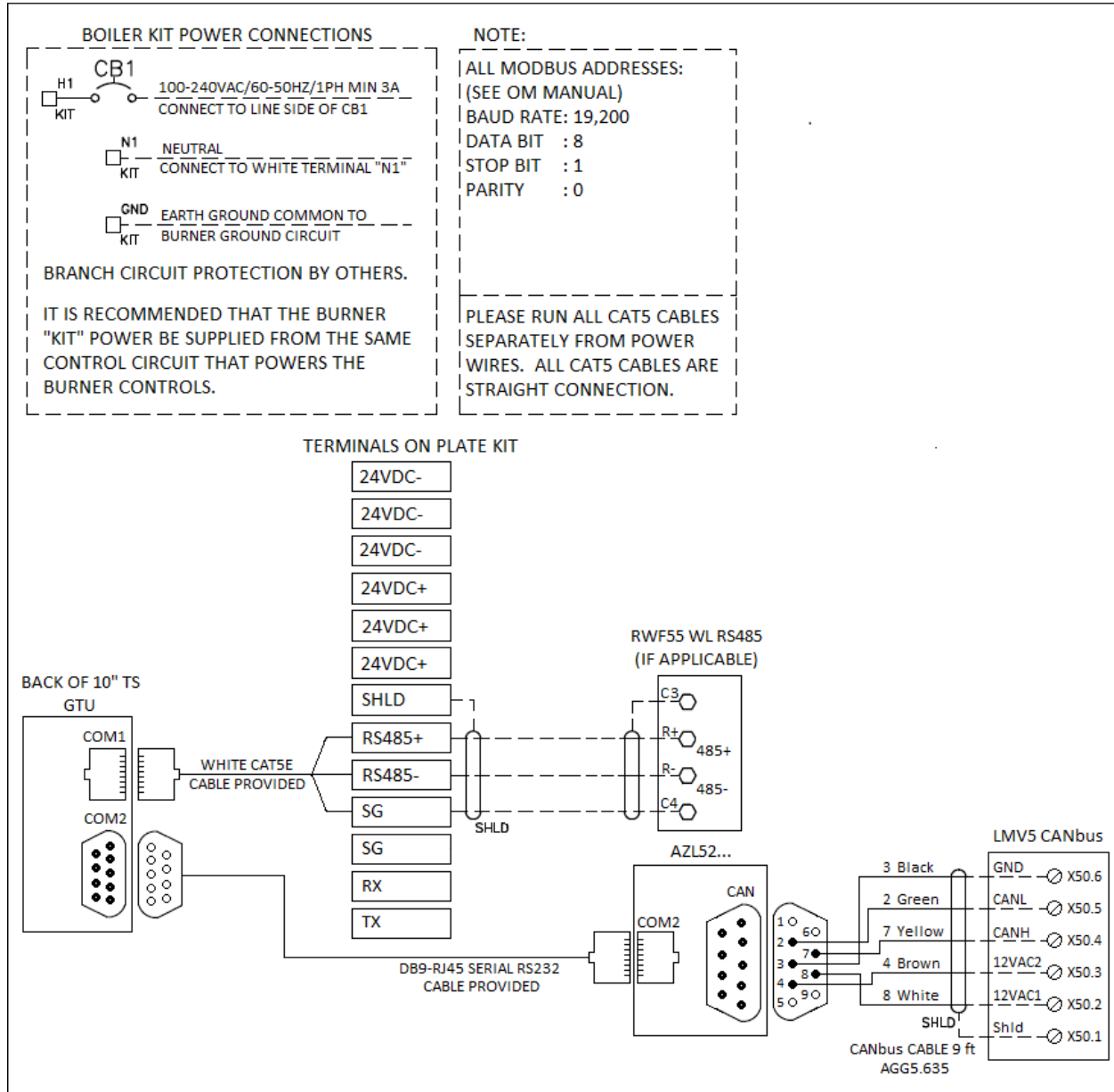
Connections (continued)

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



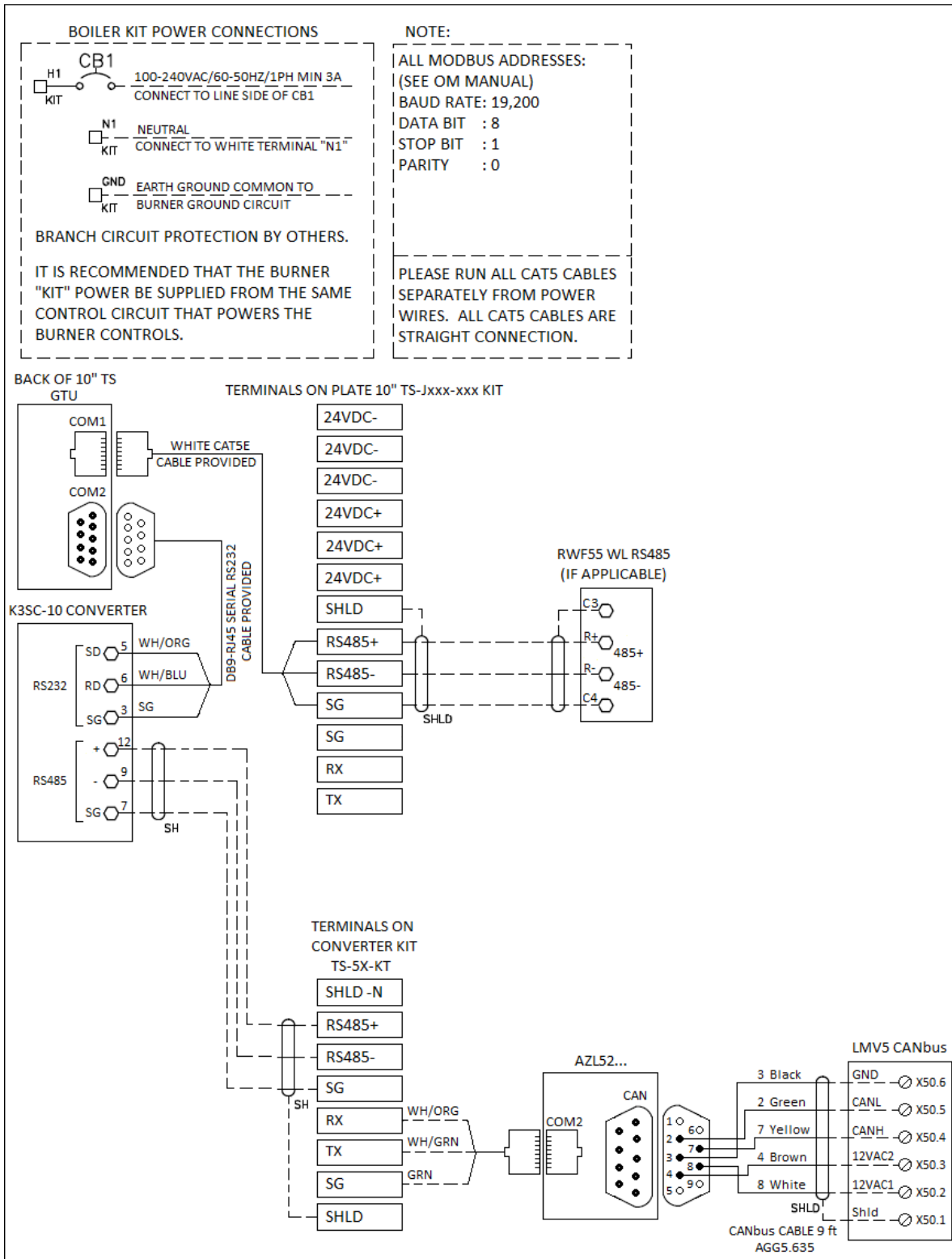
Connections (continued)

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



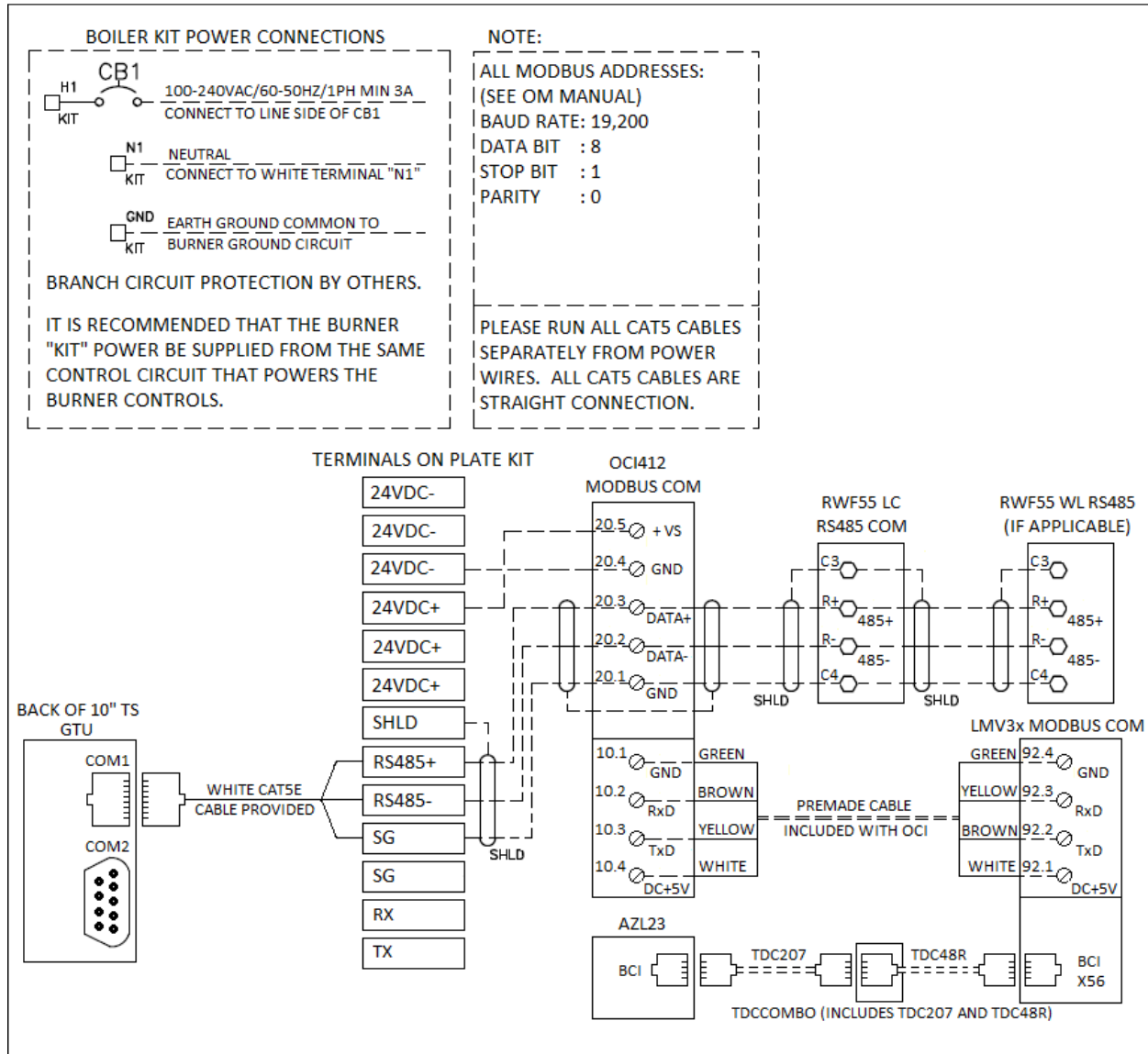
Connections (continued)

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



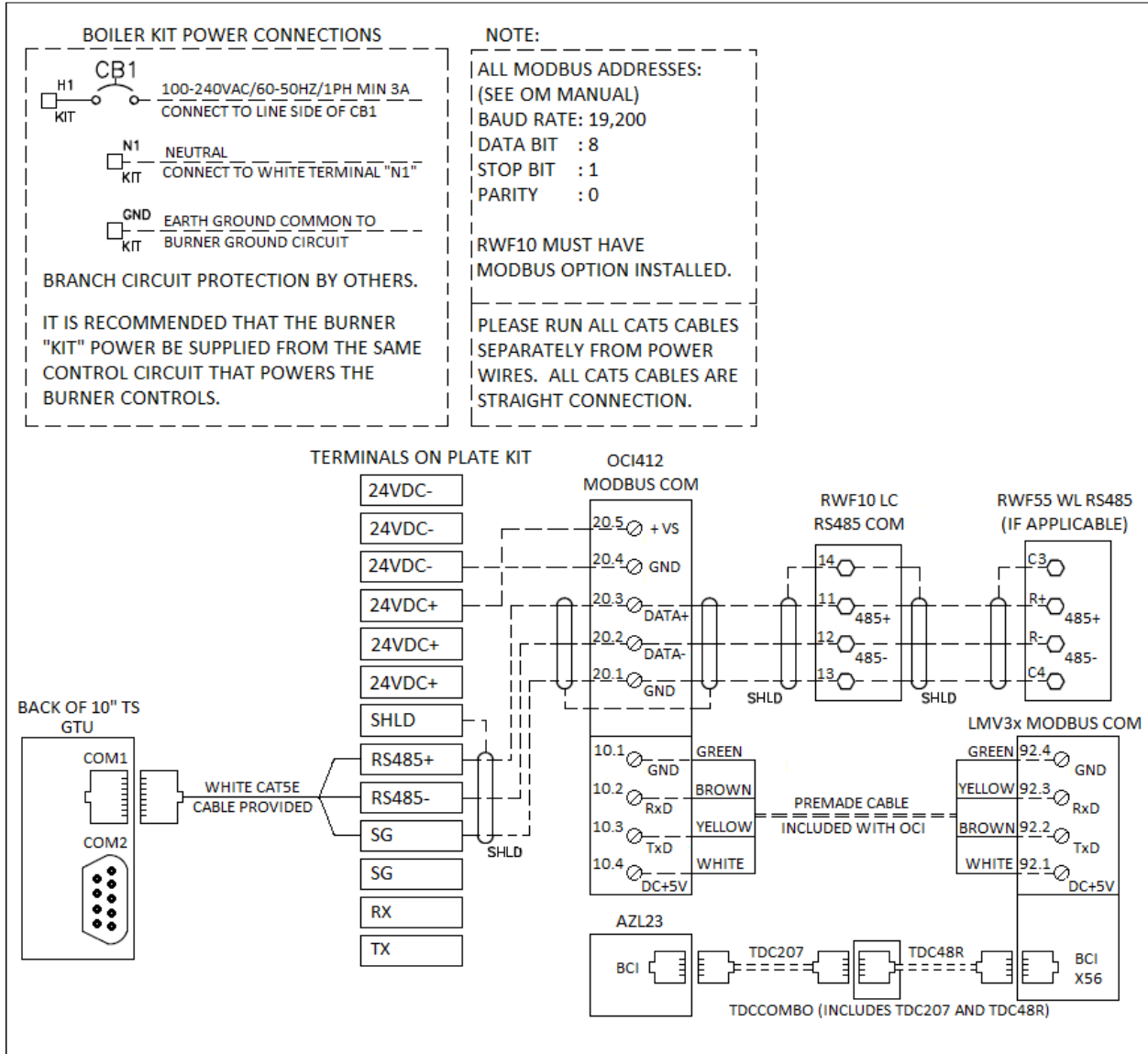
Connections (continued)

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

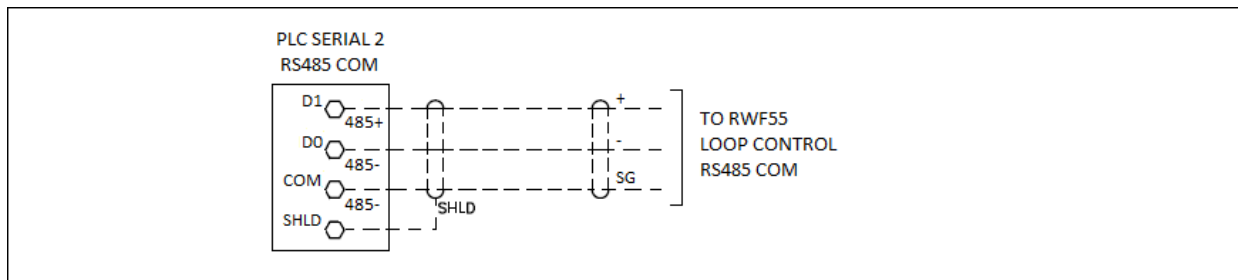


Connections (continued)

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

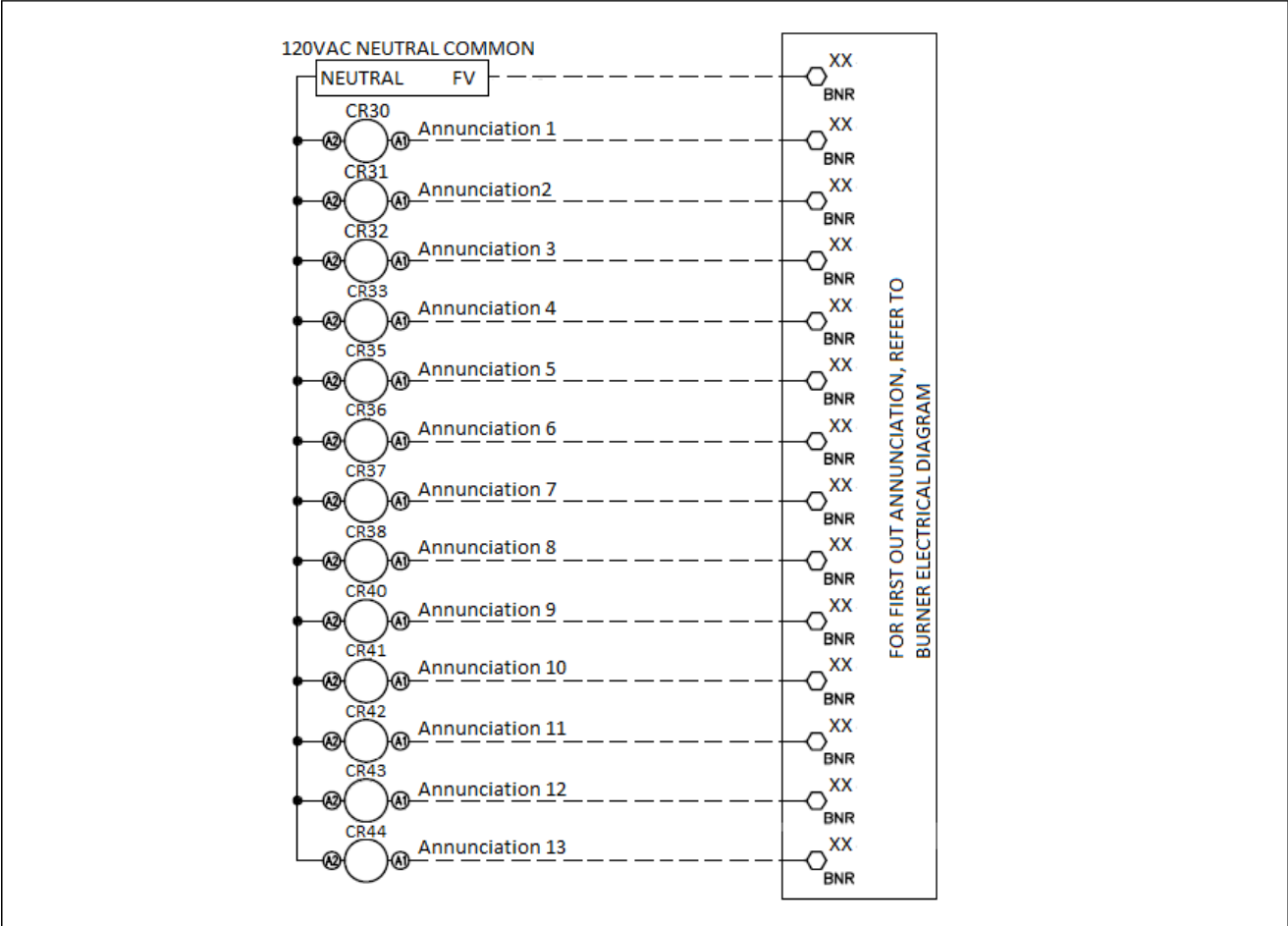


RS485 connection for additional RWF55 for loop control (If applicable)



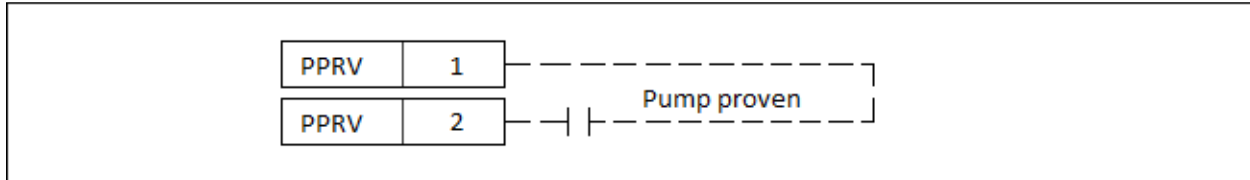
Connections (continued)

Standard annunciation thiertenn 120VAC inputs:

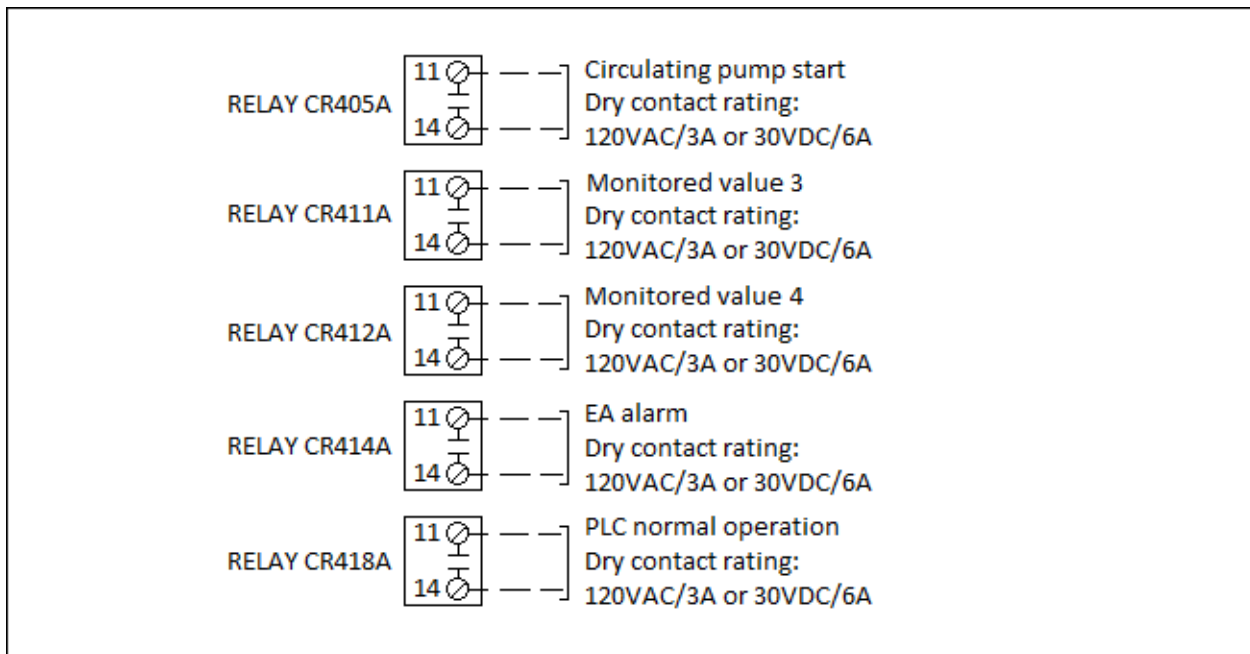


Connections (continued)

Circulating pump proven input terminals (Hot water systems only)

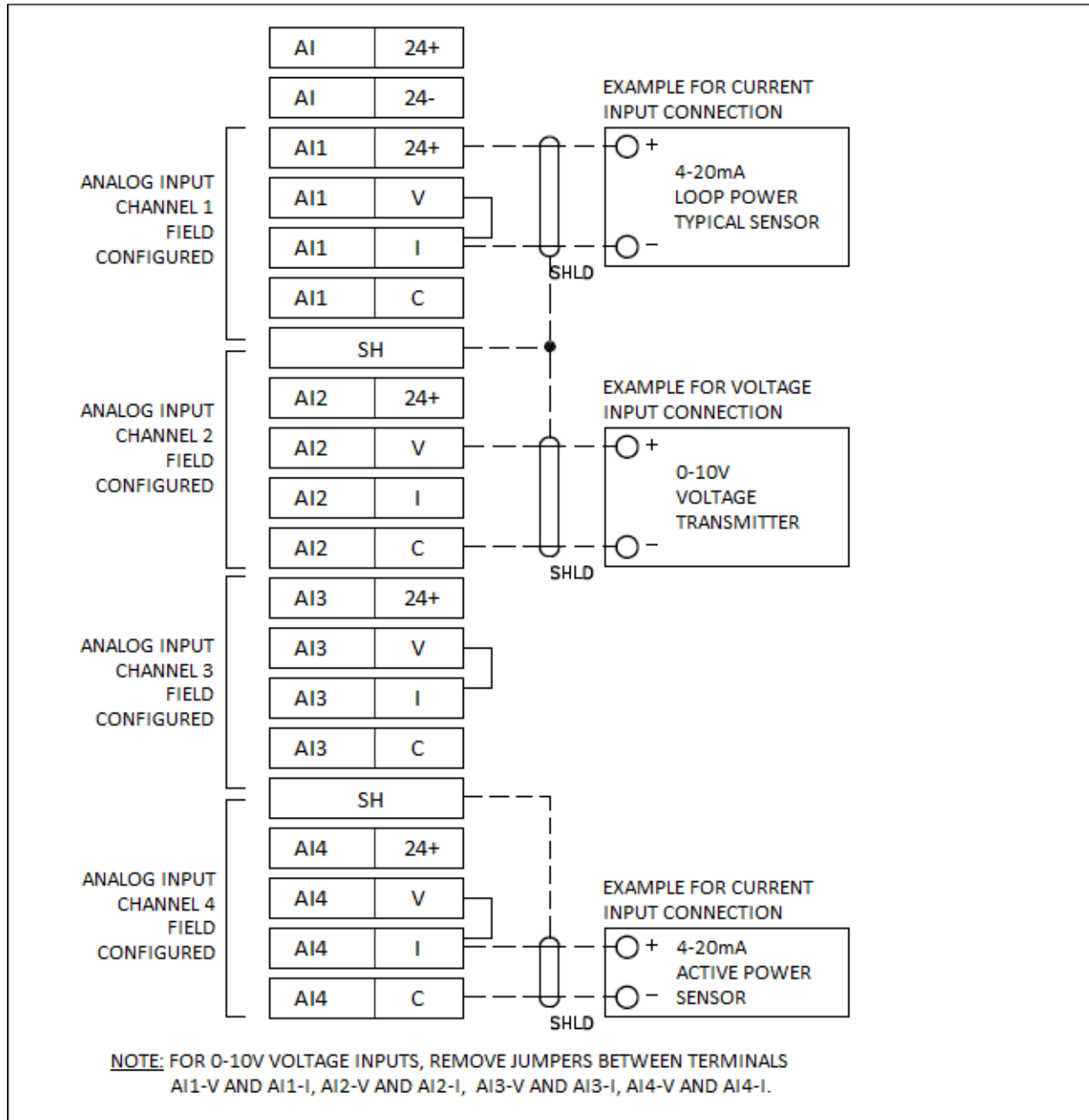


Outputs relay terminals



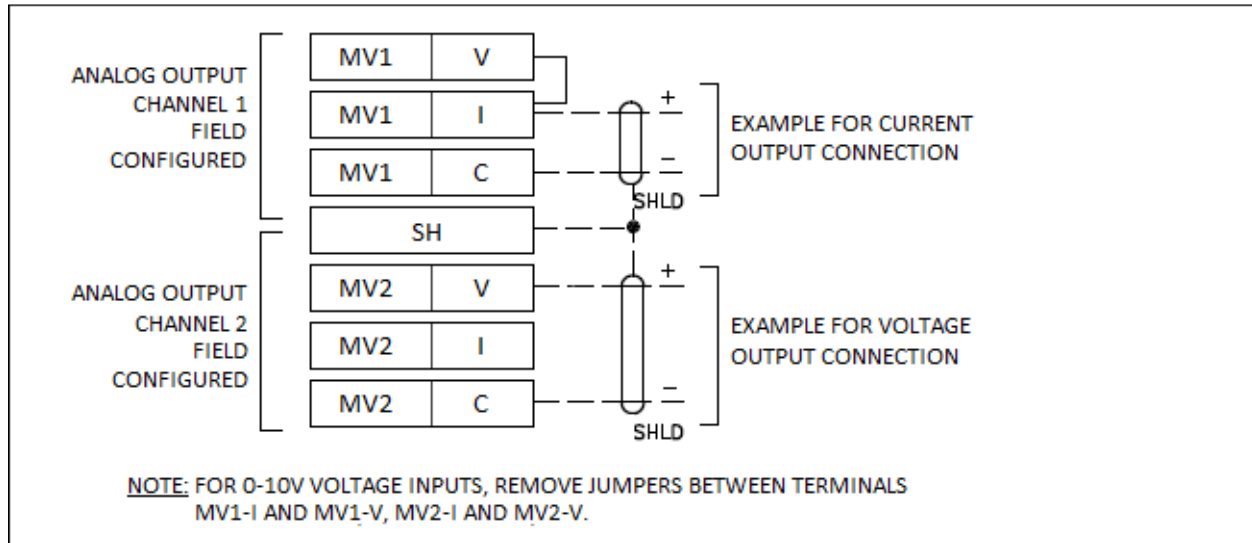
Connections (continued)

Analog input terminals: (no draft control)



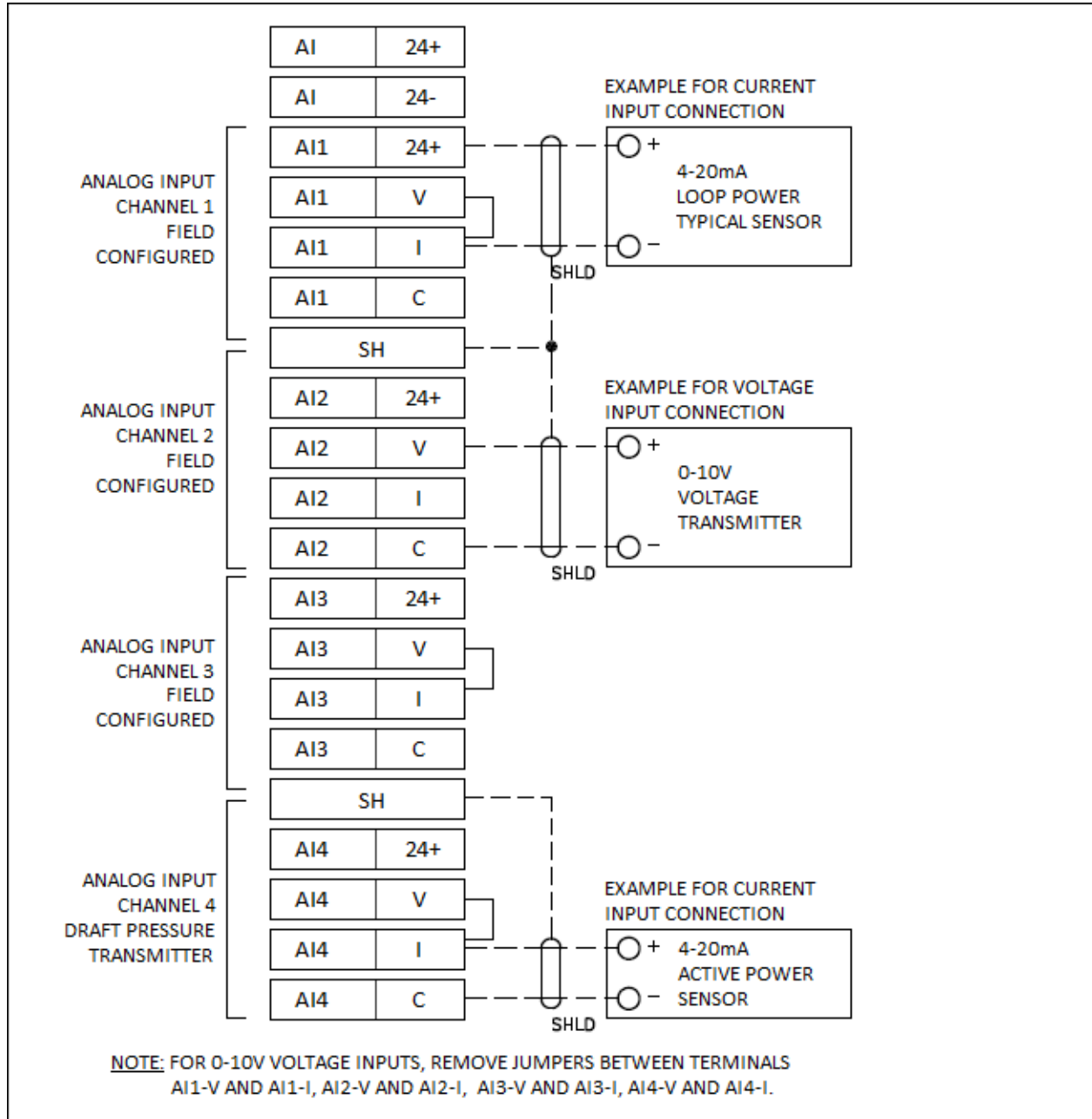
Connections (continued)

Analog output terminals:



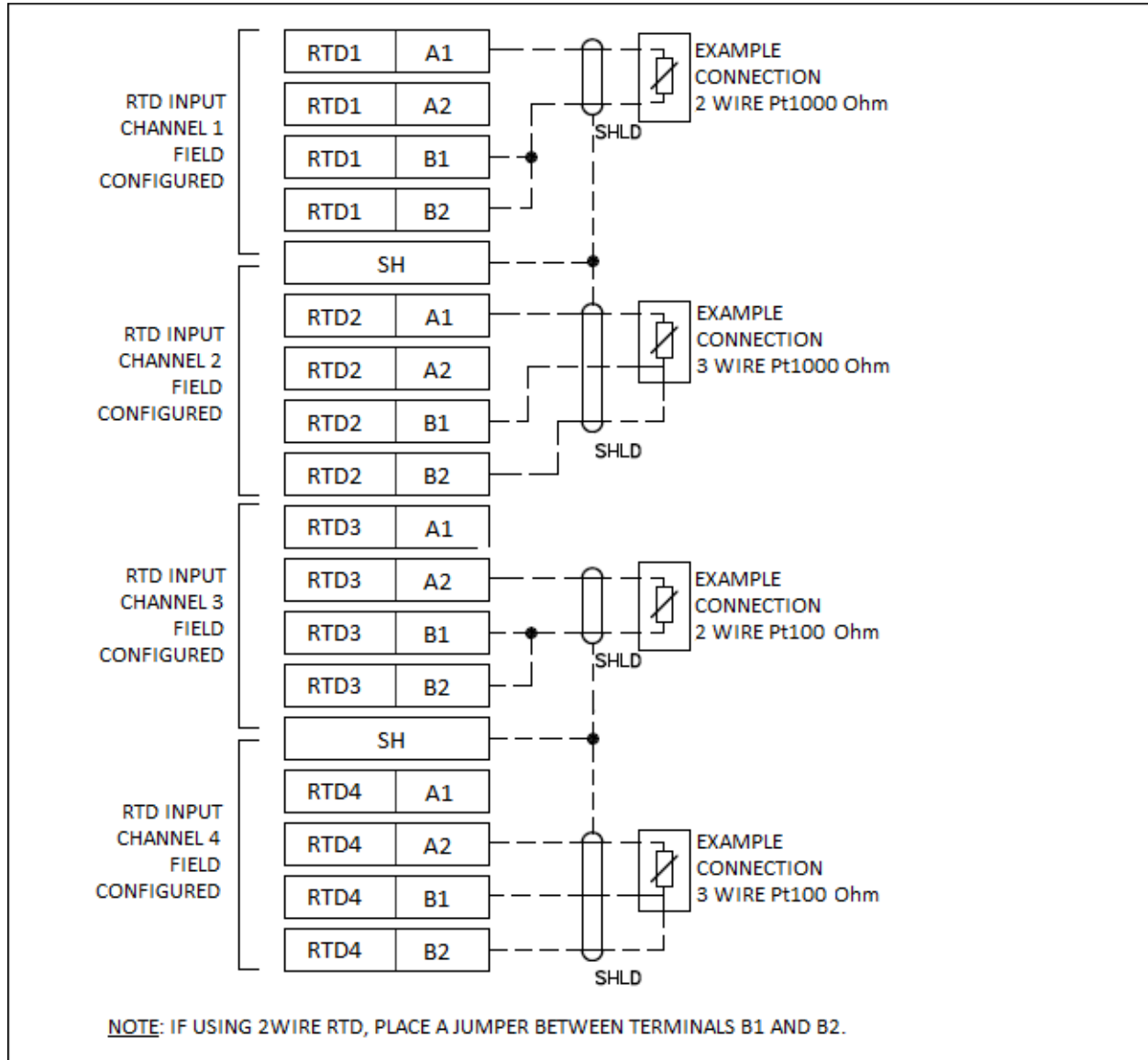
Connections (continued)

Analog input terminals: (with draft control)



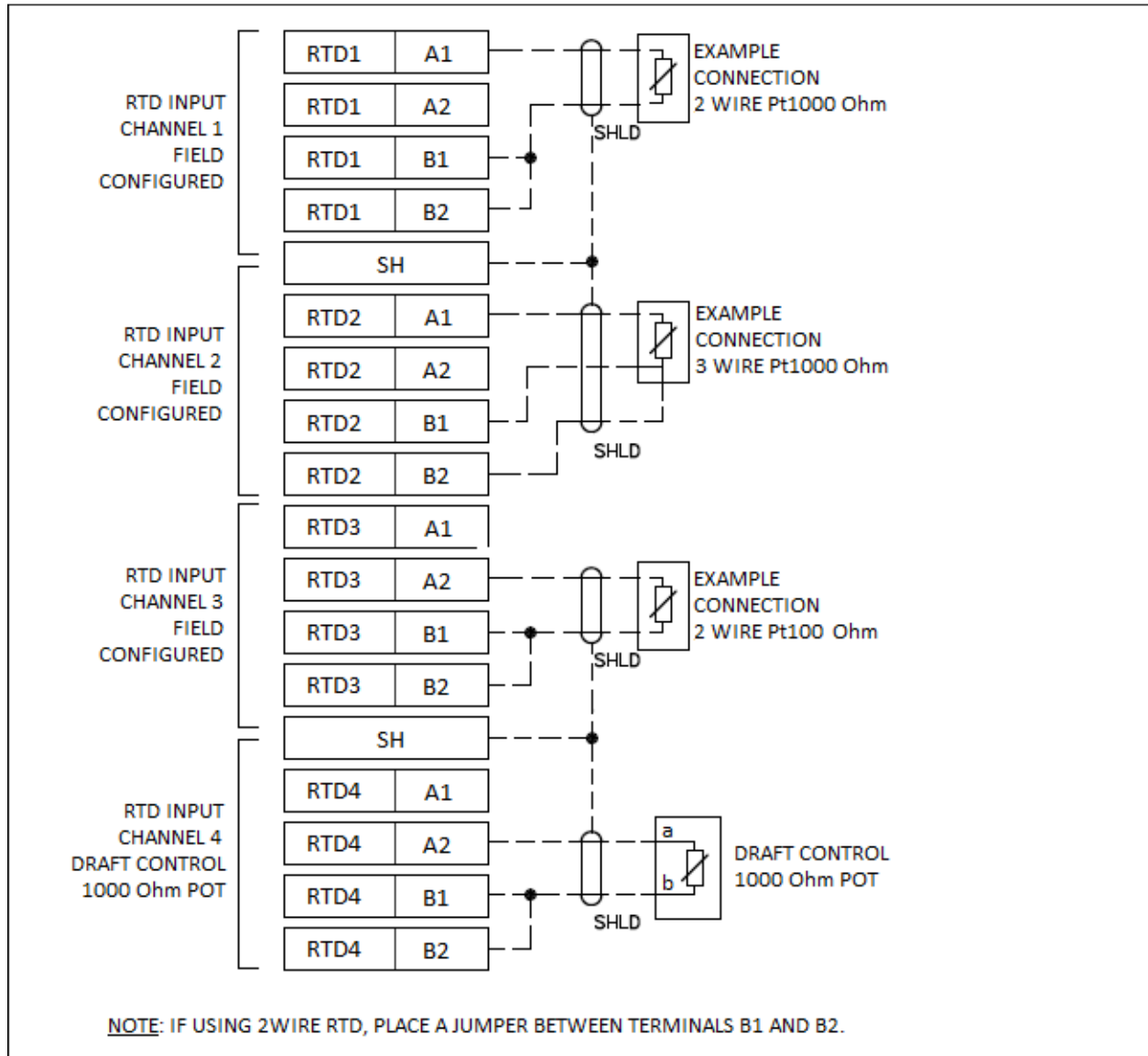
Connections (continued)

RTD 100/1000 Ohm input terminals: (no draft control)



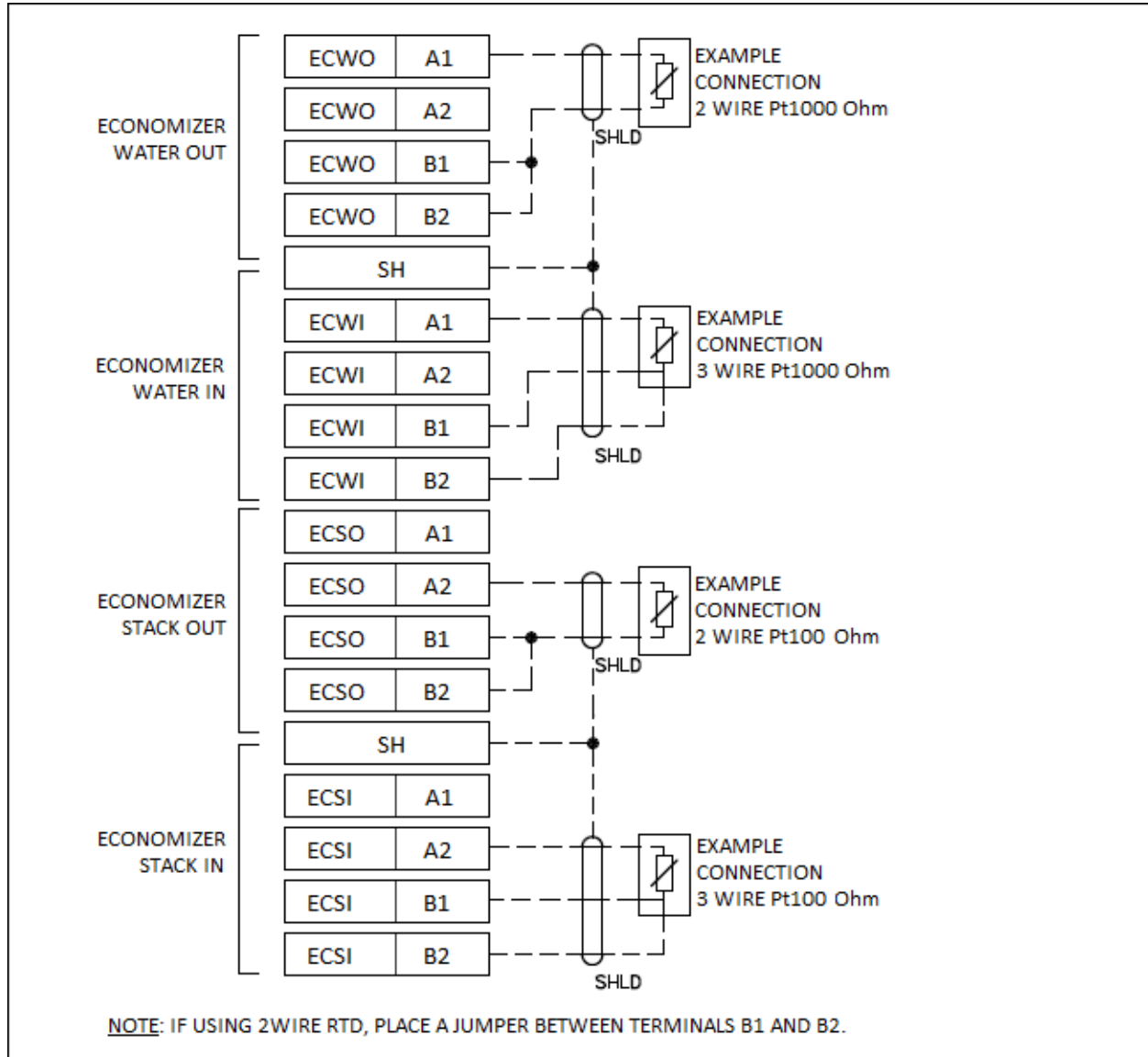
Connections (continued)

RTD 100/1000 Ohm input terminals: (with draft control)



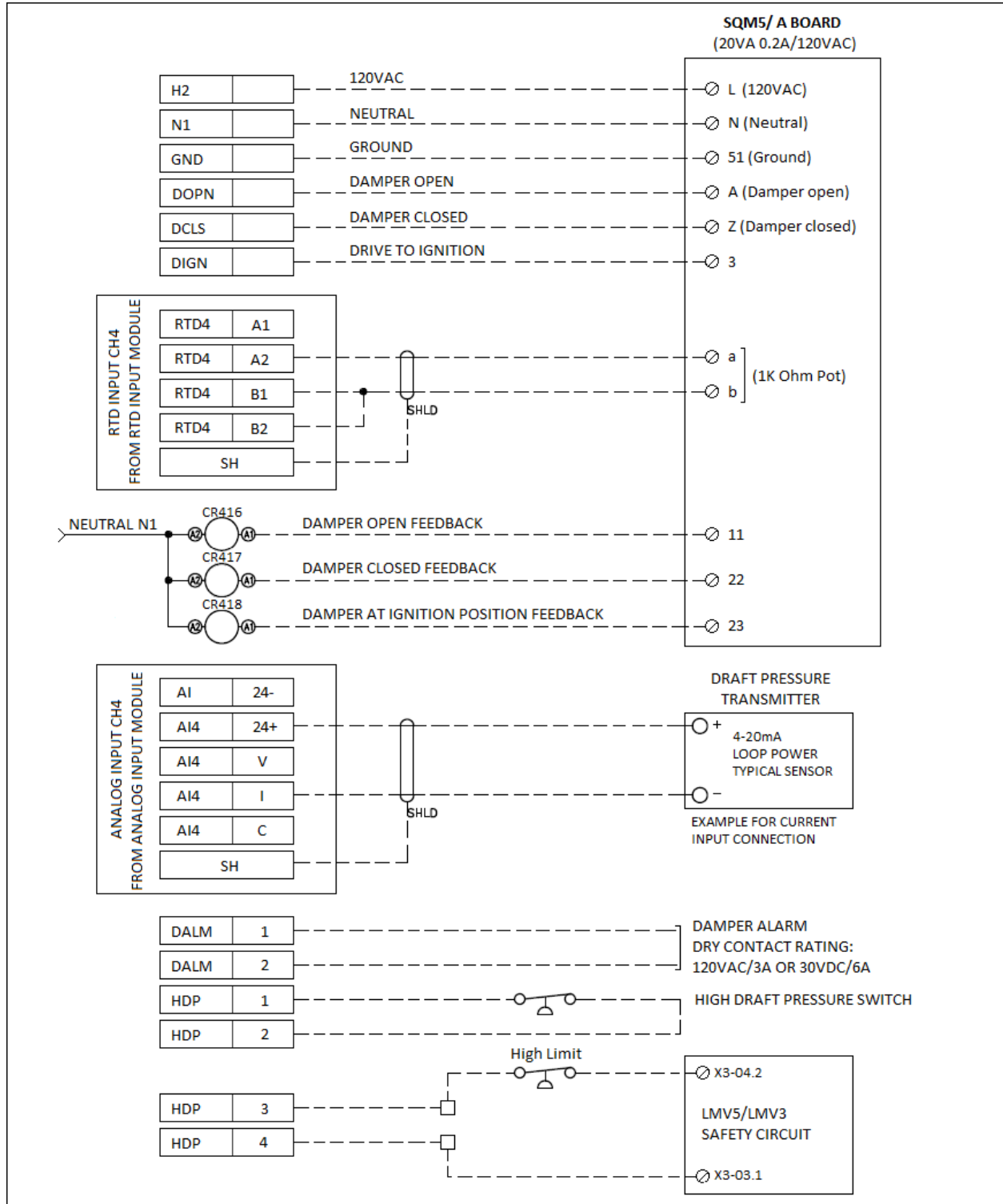
Connections (continued)

RTD 100/1000 Ohm input terminals for economizer:



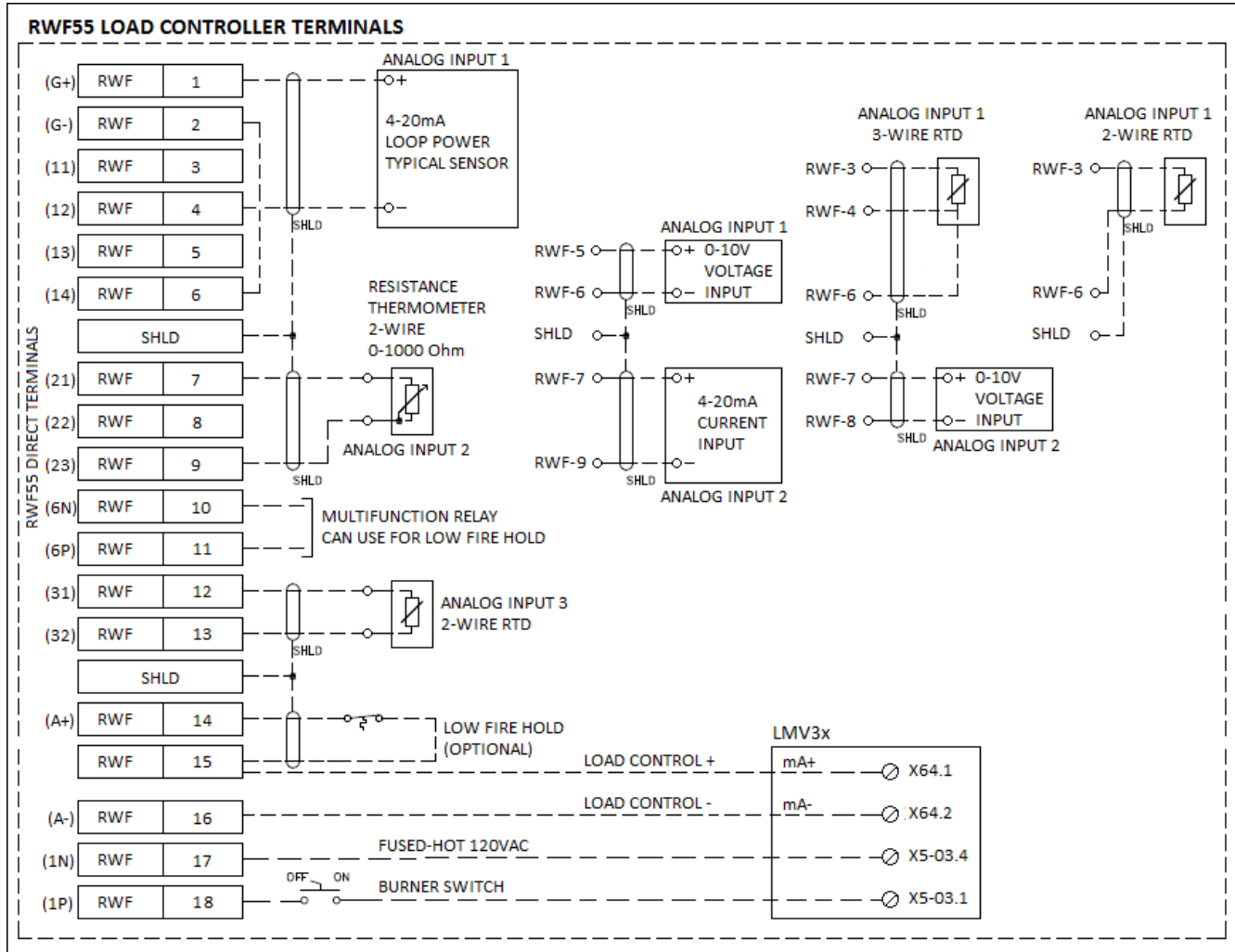
Connections (continued)

Draft Control:



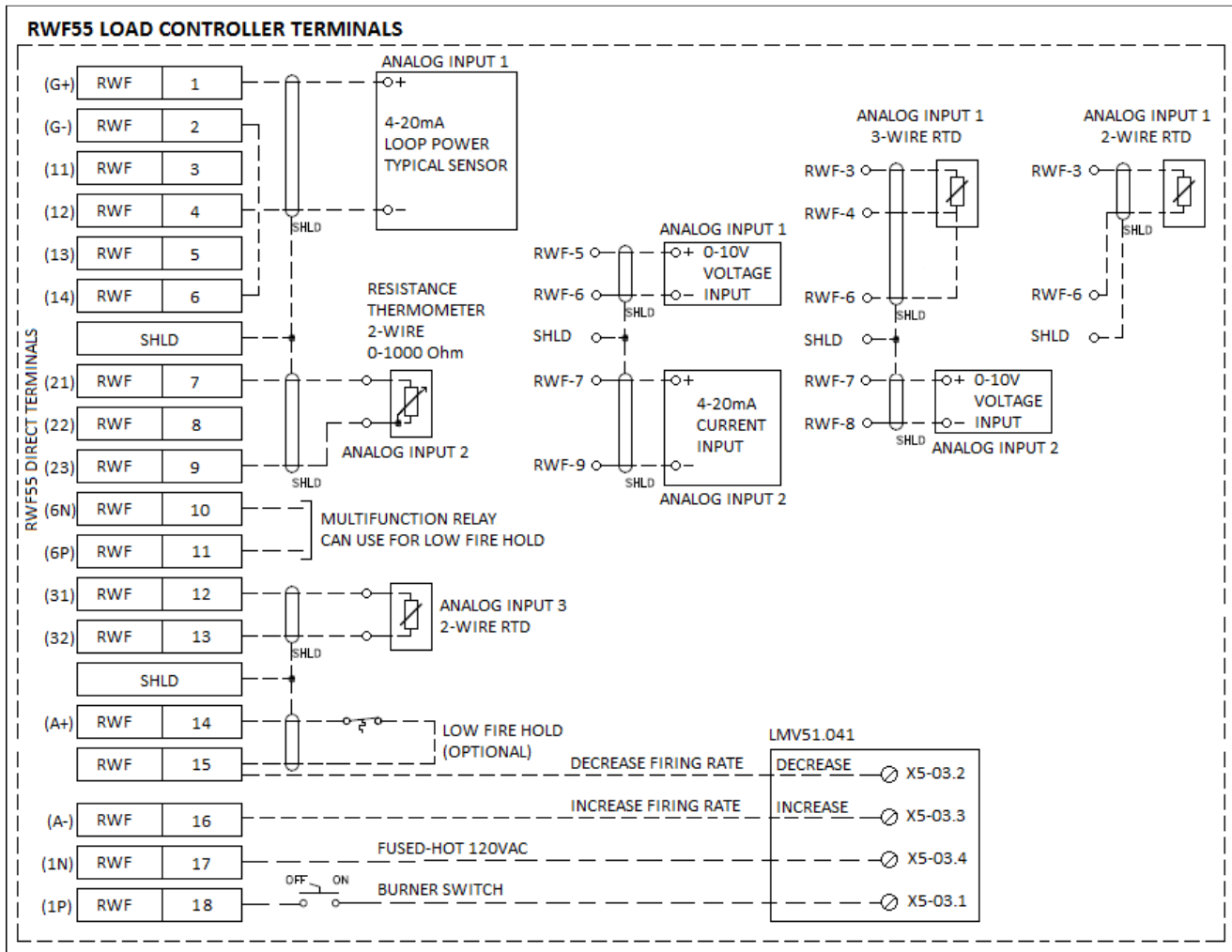
Connections (continued)

2) RWF55 Load Control with LMV3x



Connections (continued)

RWF55 Load Control with LMV51.040



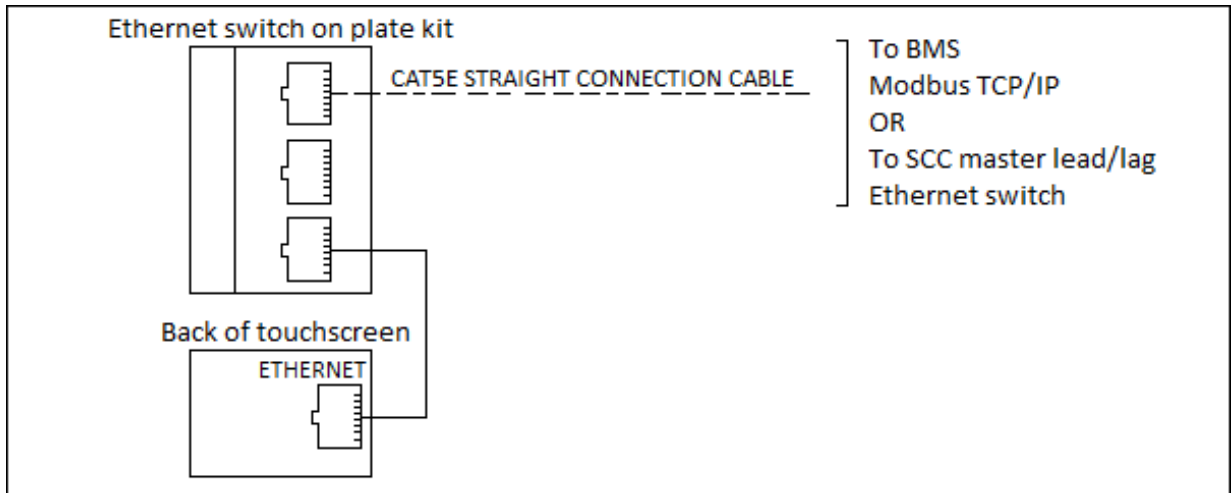
Connections (continued)

BMS Connections

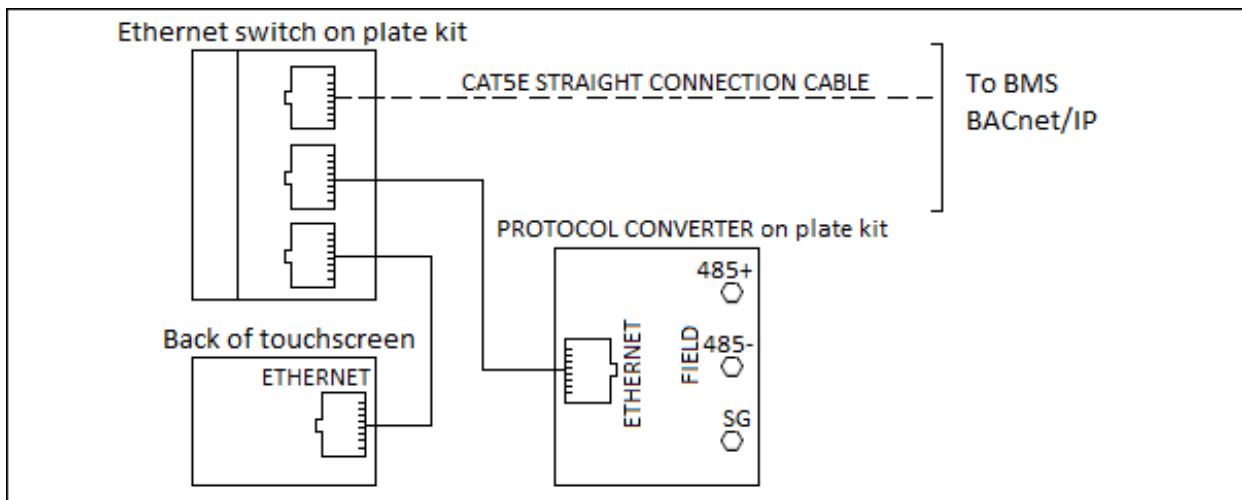
Standard Modbus TCP/IP:



Standard Modbus TCP/IP with PLC annunciation:

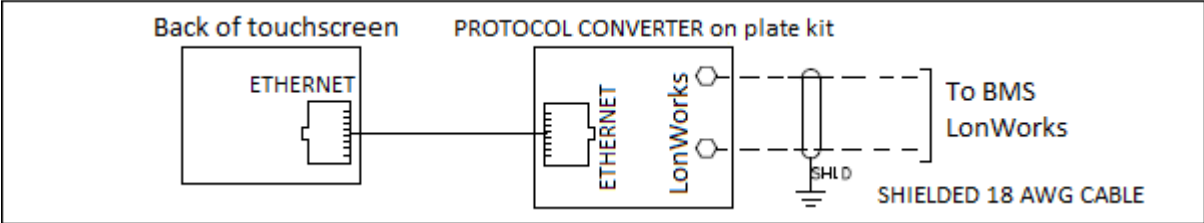


BACnet / IP:

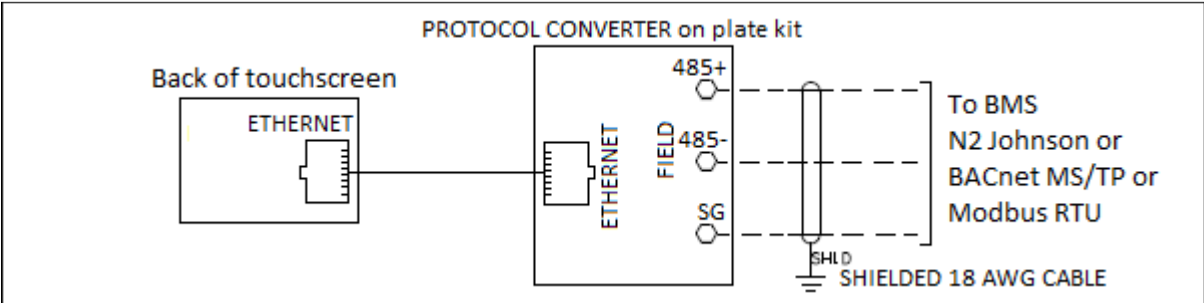


Connections (continued)

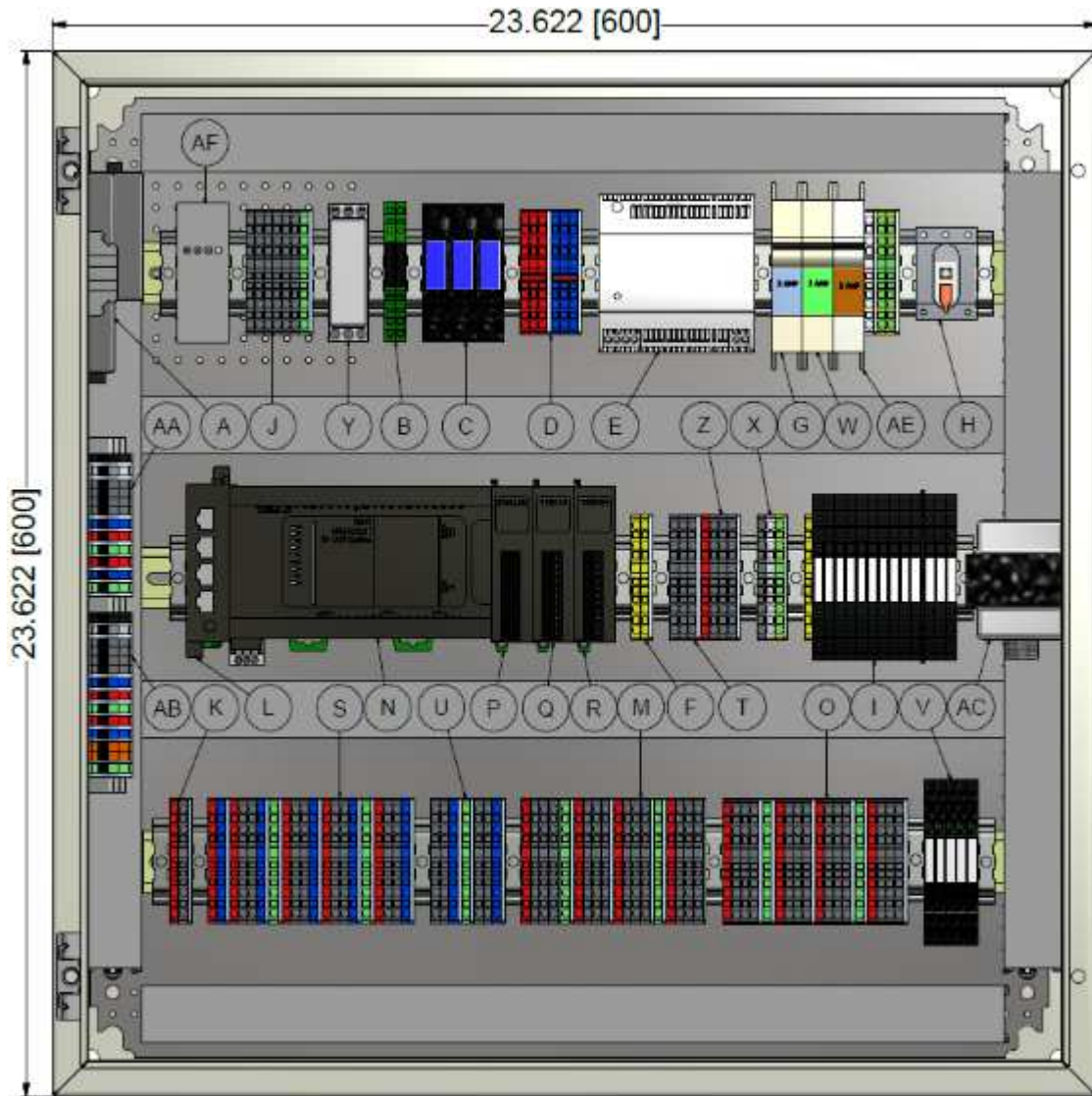
LonWorks:



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



Parts Descriptions



Parts Descriptions (continued)

| | | | | | |
|---|---|---|----|--|--|
| A | BMS Communication BACnet/LON/N2/RTU | BMS communication other than Modbus TCP/IP | Q | RTD Input Module | Designated for general purpose temperature monitoring of high and low signal alarms |
| B | Solid State Relays (Draft Control Option) | Draft damper open and close relays | R | RTD Input Module | Economizer temperature monitoring water in, water out, stack in, and stack out |
| C | DPDT Relays (Draft Control Option Only) | Draft control ignition permissive Draft control damper drive open on failure Draft control alarm | S | Analog Inputs Terminals | field wiring terminals for flow, pressure, temperature, DP pressure, 4-20mA, or 0- 10 Volt inputs. |
| D | 24 VDC Terminals | 24 VDC connections | T | Draft Mod Motor Field Terminals | Ignition permissive Damper drive open Alarm actuator interconnecting terminals |
| E | 24 VDC Power Supply | 24VDC source | U | Analog Output Terminals | Monitored value via 4-20 mA signal |
| F | Field Terminals (Yellow) | Field outputs and control terminals | V | SPDT Relays | Hot water only circulating pump control General alarm Monitored status digital output 1 Monitored status digital output 2 PLC health always on |
| G | 3 Amps Circuit Breaker | 120 VAC power isolation | W | 1 Amp Circuit Breaker | Draft control 120 VAC power isolation |
| H | 16 Amp None Fused Disconnect | 120 VAC disconnect, only when installed in SCC enclosure | X | 120VAC Power Terminals | SQM5 actuator 120VAC power terminals |
| I | 120 VAC SPDT Relays | Burner / Boiler alarms annunciation relays, first in first out | Y | Off Delay Timer | Draft control, high pressure boiler shutoff, delay timer |
| J | Modbus RS232 and RS485 Terminals | Field Modbus connections to LMV5/LMV3/RWF55/ RWF10 | Z | Draft Control Terminals | LMV interconnect safety loop and high pressure switch terminals |
| K | Circulating Pump Proven | Circulating pump proven field terminals | AA | RWF55 Load Controller Terminals | External load controller for LMV5 or LMV3 systems 4-20mA and 0-10V inputs and outputs |
| L | Ethernet Switch | Ethernet connection to touchscreen, and master panel, and/or BMS | AB | RWF55 Load Controller Feedwater Terminals | Feedwater controller 4-20mA and 0-10V inputs and outputs |
| M | RTD Inputs Terminals | Field wiring, general purpose temperature monitoring | AC | 24VAC TRANSFORMER | Control power for SKB/C or D feedwater actuators |
| N | PLC | Microprocessor based logic controller | AE | 2 Amps Circuit Breaker | 120 VAC power isolation for feedwater |
| O | RTD Inputs Terminals | Economizer temperature monitoring field terminals | AF | RS232 TO RS485 Converter | Communication converter used for distances greater than 15ft |
| P | Analog Inputs Module | 0-10V/4-20ma flow, pressure, temperature, DP pressure monitoring, and high and low signal alarms | | | |

Touchscreen Dimensions and Cut-outs

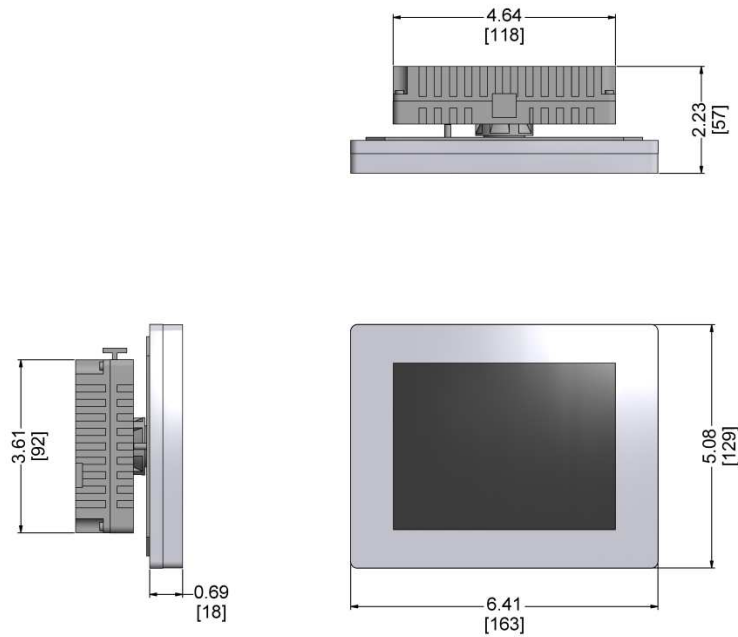
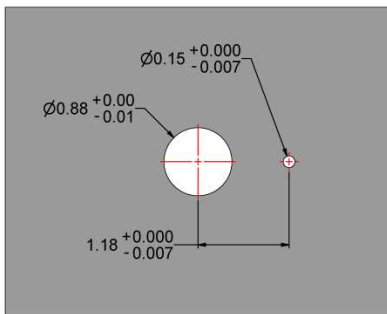
Dimensions in inches; millimeters in brackets

6" Touchscreen

TS-6xxx-xxx

Installation:

Cutout required as shown below

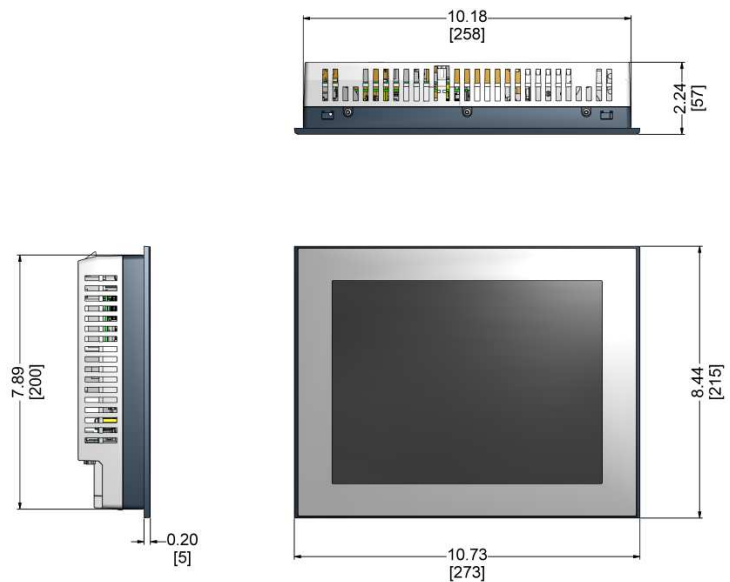
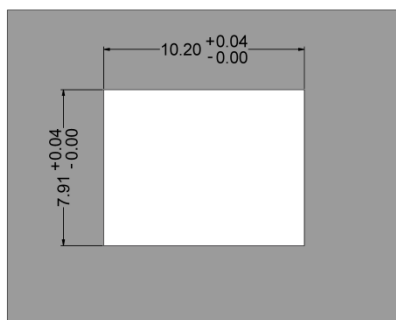


10" Touchscreen

TS-0xxx-xxx

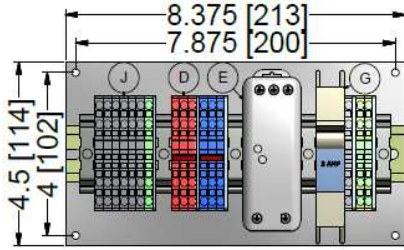
Installation:

Cutout required as shown below

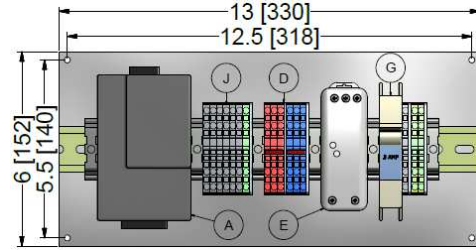


Kits Dimensions

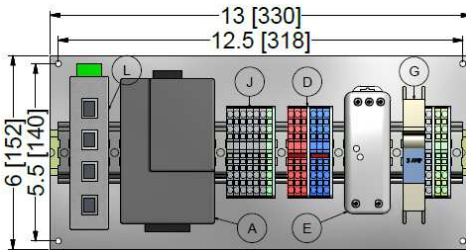
TS-xXXS-xxx



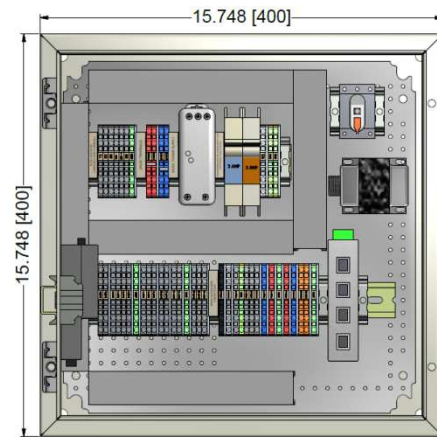
TS-xXXS-XXX



TS-xXXM-XXX – TS-xXXL-XXX



TS-xXXB-xxx



TS-xXXx-1x2 **

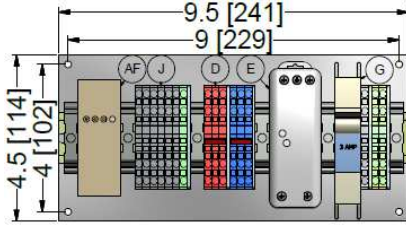
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|---------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xXXx-1xX | | | | |
| TS-xXXx-1xL | y | | | y |
| TS-xXXx-1xW | | y | y | y |
| TS-xXXx-1x2 | y | y | y | y |

Note **: Small “x” in the part number above denotes: Any selection
Large “X” denotes: No selection is available
“y” denotes: Yes for the table option

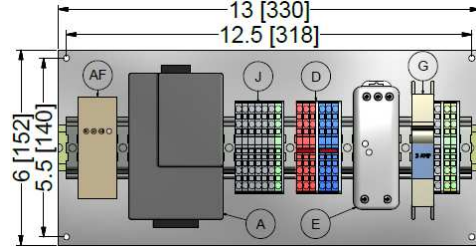
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

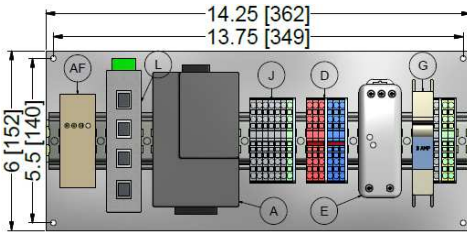
TS-JXXX-xxx



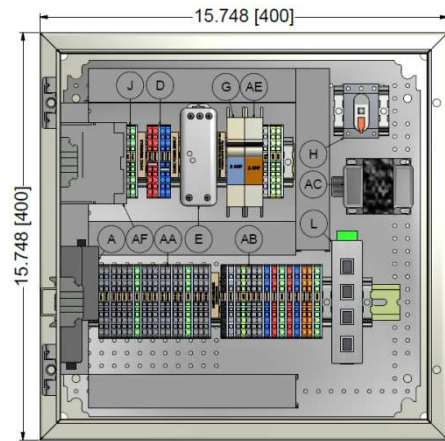
TS-JXXS-XXX



TS-JXXM-XXX – TS-JXXL-XXX



TS-JXXB-xxx



TS-JXXx-1x2 **

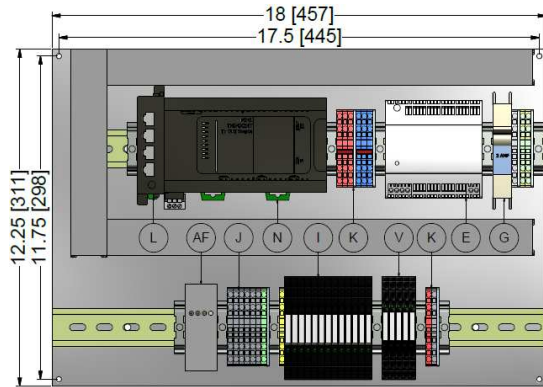
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-JXXx-1xX | | | | |
| TS-JXXx-1xL | | | | y |
| TS-JXXx-1xW | | y | y | y |
| TS-JXXx-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only in TS-Jxxx-xxx

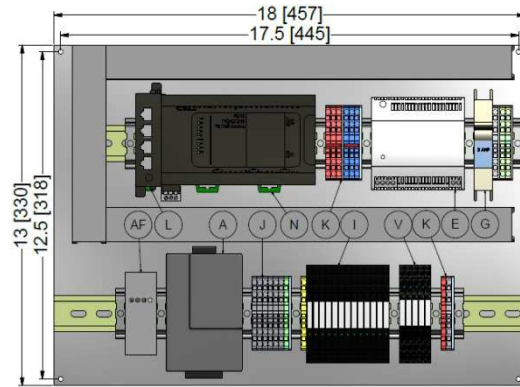
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

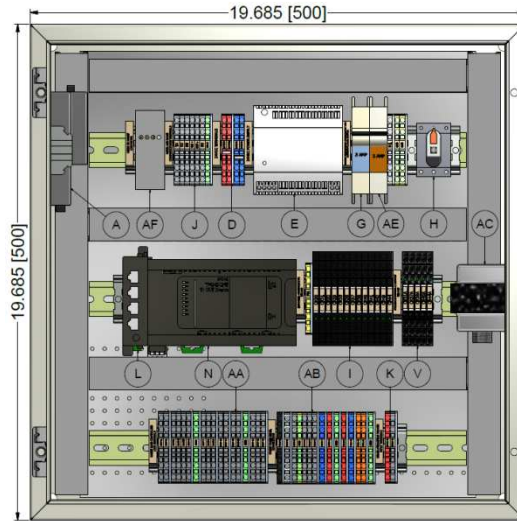
TS-xX1x-xxx



TS-xX1S-XXX



TS-Xx1x-XXX – TS-xX1L-XXX



TS-xX1x-1x2

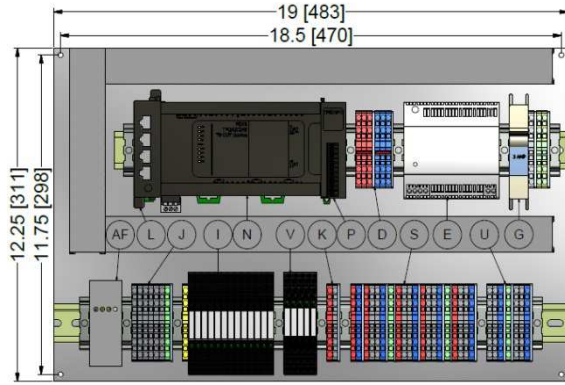
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX1x-1xX | | | | |
| TS-xX1x-1xL | y | | | y |
| TS-xX1x-1xW | | y | y | y |
| TS-xX1x-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only with TS-Jxxx-xxx

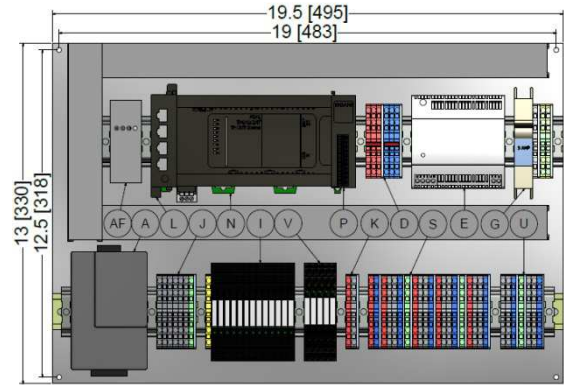
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

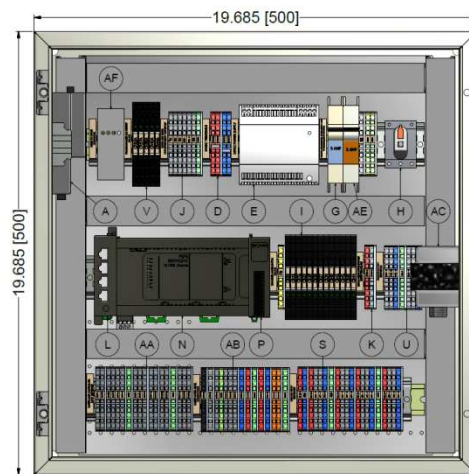
TS-xX2x-xxx



TS-xX2S-XXX



TS-xX2x-XXx



TS-xX2x-1x2

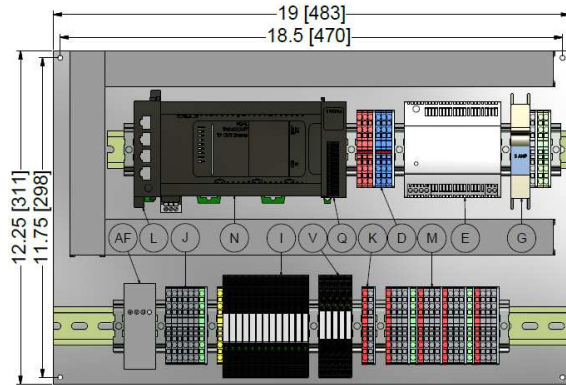
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX2X-1xX | | | | |
| TS-xX2X-1xL | y | | | y |
| TS-xX2X-1xW | | y | y | y |
| TS-xX2X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only with TS-Jxxx-xxx

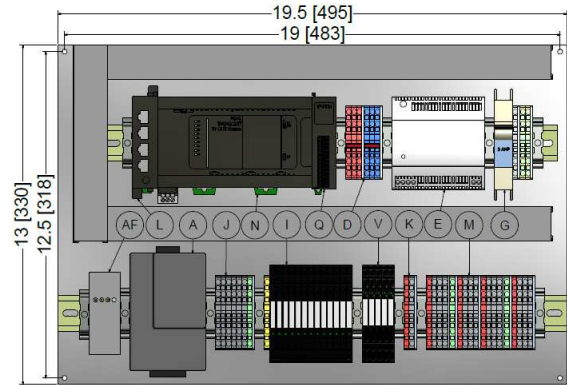
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

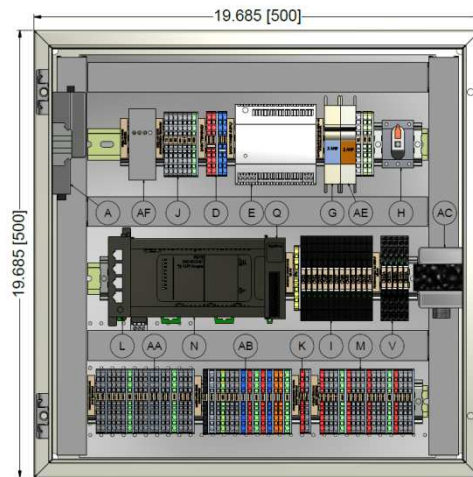
TS-xX3x-xxx



TS-xX3S-XXX



TS-xX3x-XXX



TS-xX3x-1x2

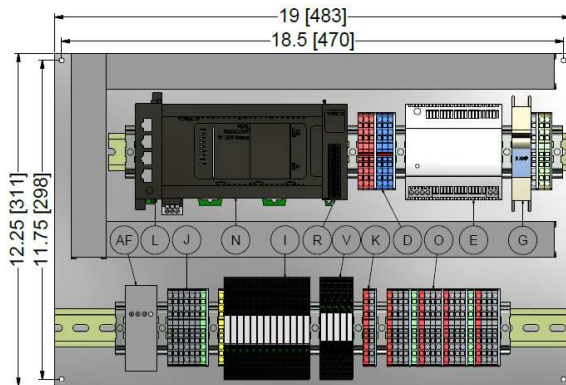
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX3X-1xX | | | | |
| TS-xX3X-1xL | y | | | y |
| TS-xX3X-1xW | | y | y | y |
| TS-xX3X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only with TS-Jxxx-xxx

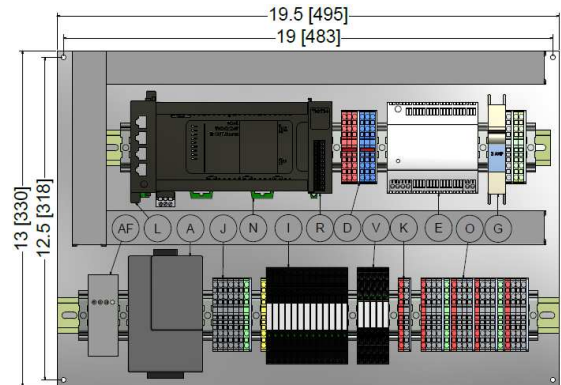
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

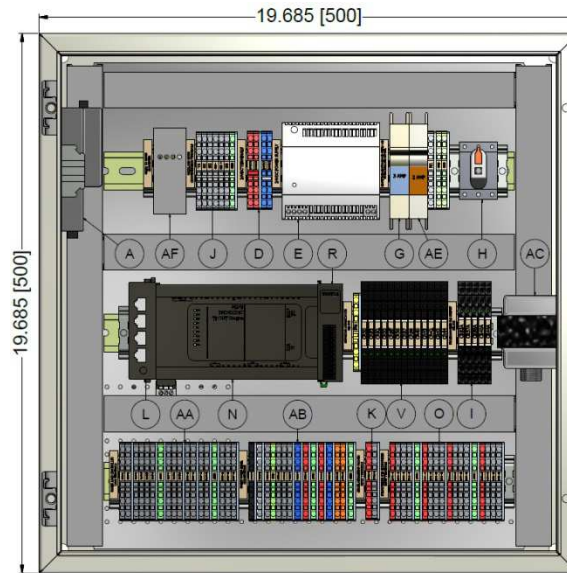
TS-xX4x-xxx



TS-xX4S-XXX



TS-xX4x-XXX



TS-xX4x-1x2

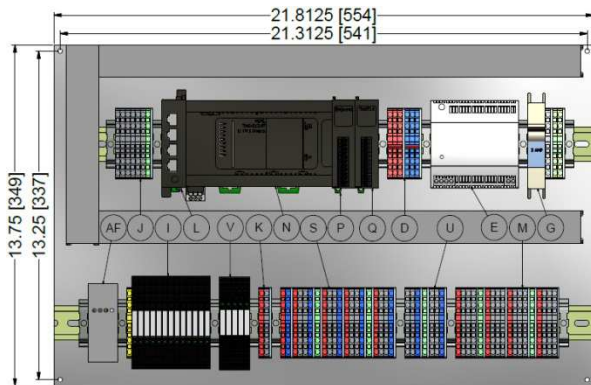
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX4X-1xX | | | | |
| TS-xX4X-1xL | y | | | y |
| TS-xX4X-1xW | | y | y | y |
| TS-xX4X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only with TS-Jxxx-xxx

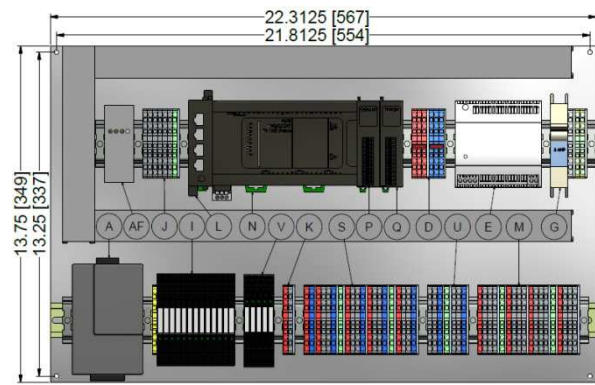
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

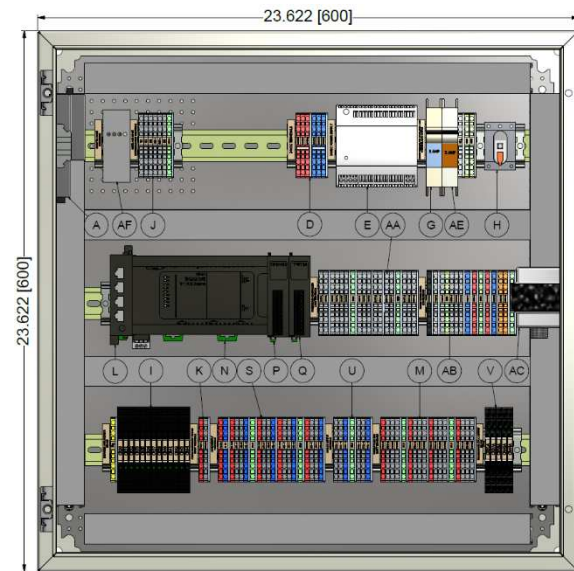
TS-xX5x-xxx



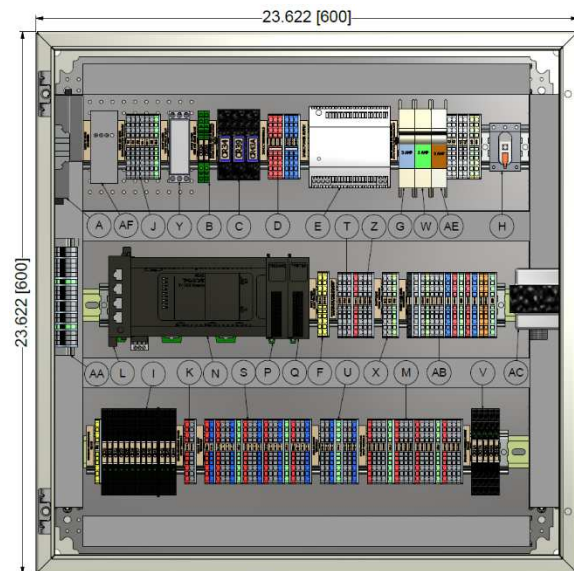
TS-xX5S-XXX



TS-xX5x-XXX



TS-xX5x-1x2



TS-xD5x-1x2(with Draft Control)

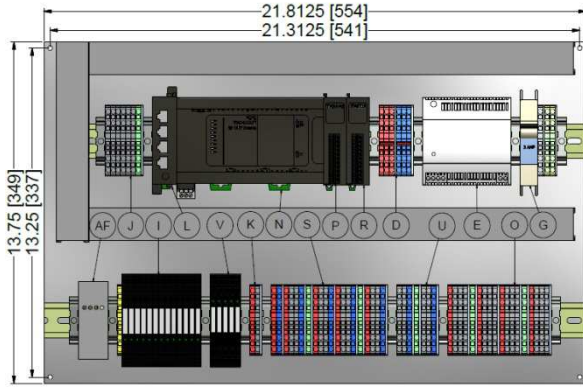
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX5X-1xX | | | | |
| TS-xX5X-1xL | y | | | y |
| TS-xX5X-1xW | | y | y | y |
| TS-xX5X-1X2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only with TS-Jxxx-xxx

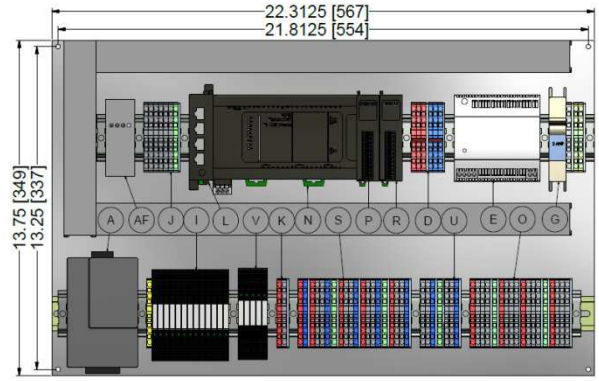
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

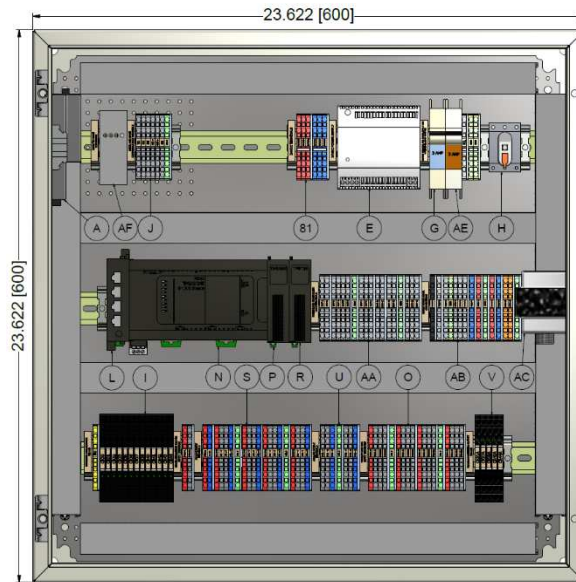
TS-xX6x-xxx



TS-xX6S-XXX



TS-xX6x-XXX



TS-xX6x-1x2

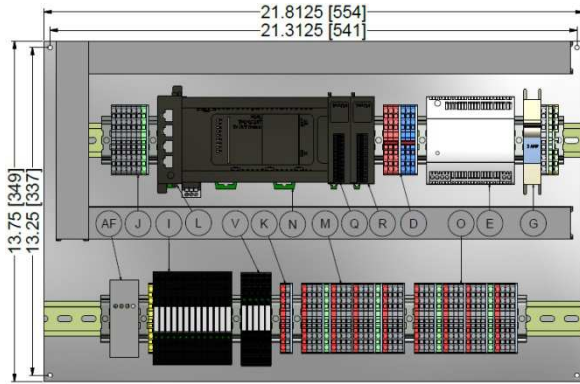
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX6X-1xX | | | | |
| TS-xX6X-1xL | y | | | y |
| TS-xX6X-1xW | | y | y | y |
| TS-xX6X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only with TS-Jxxx-xxx

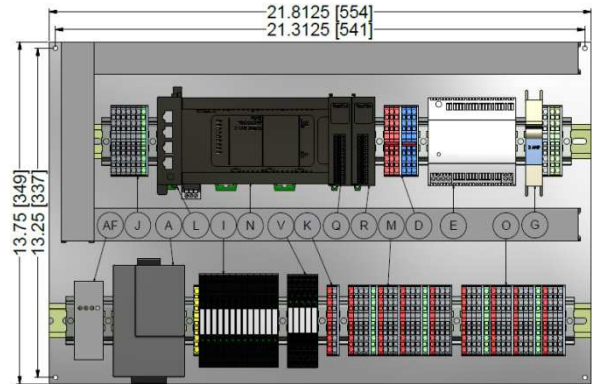
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

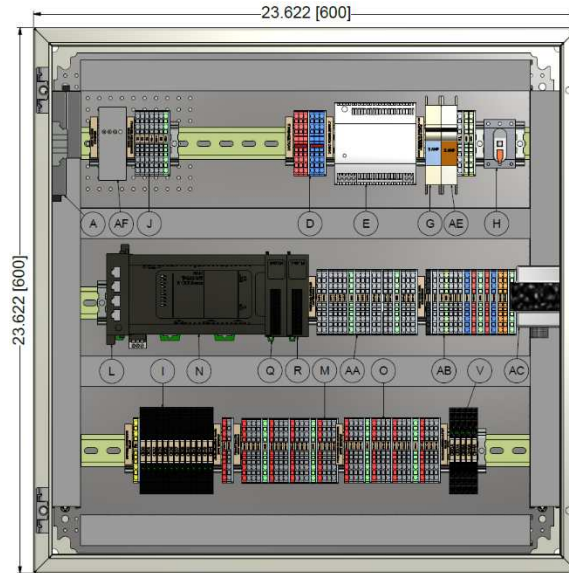
TS-xX7x-xxx



TS-xX7S-XXX



TS-xX7x-XXX



TS-xX7x-1x2

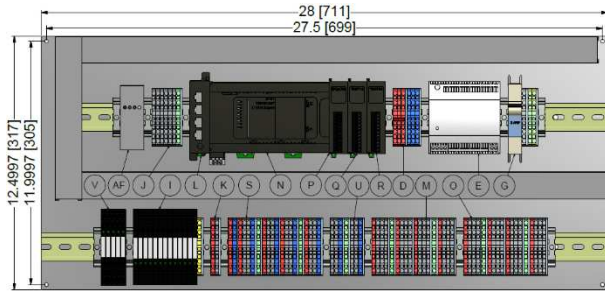
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX7X-1xX | | | | |
| TS-xX7X-1xL | y | | | y |
| TS-xX7X-1xW | | y | y | y |
| TS-xX7X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only in TS-Jxxx-xxx

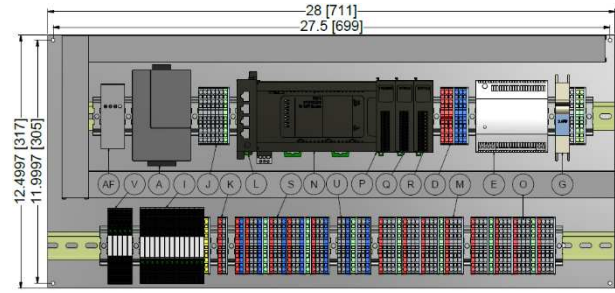
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

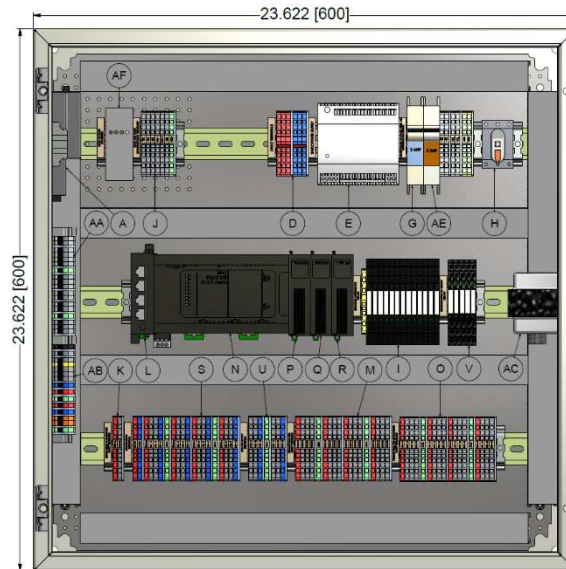
TS-xX8x-xxx



TS-xX8S-XXX



TS-xX8x-XXX



TS-xX8x-1x2 **

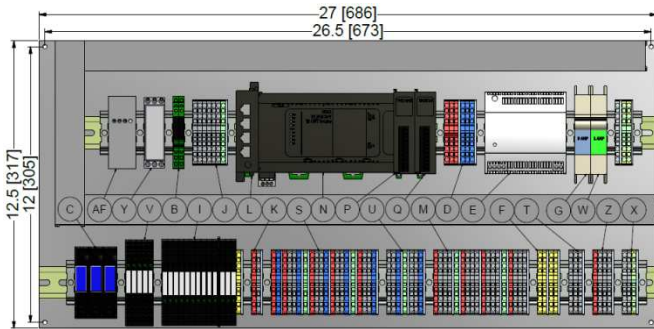
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xX8X-1xX | | | | |
| TS-xX8X-1xL | y | | | y |
| TS-xX8X-1xW | | y | y | y |
| TS-xX8X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only in TS-Jxxx-xxx

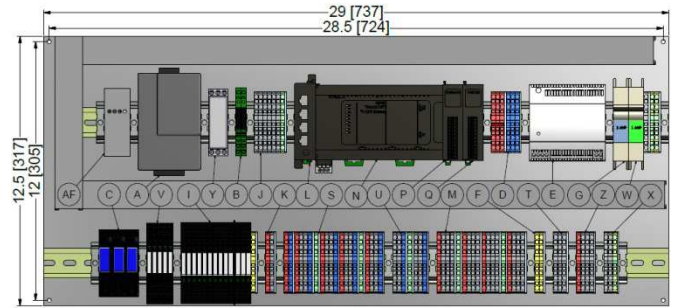
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

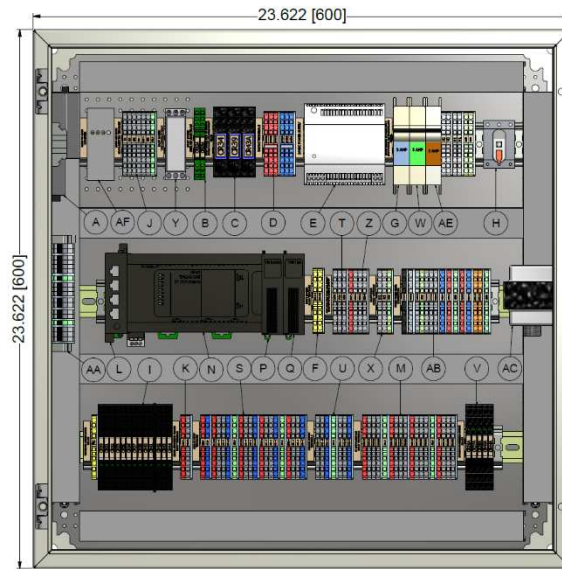
TS-xX5x-xxx



TS-xD5S-XXX



TS-xD5x-XXX



TS-xD5x-1x2

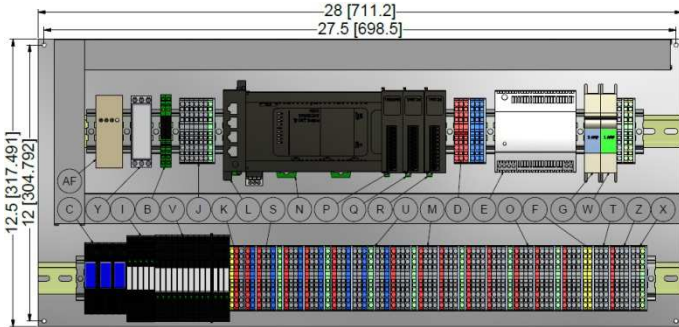
| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xD5X-1xX | | | | |
| TS-xD5X-1xL | y | | y | y |
| TS-xD5X-1xW | | y | y | y |
| TS-xD5X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only in TS-Jxxx-xxx

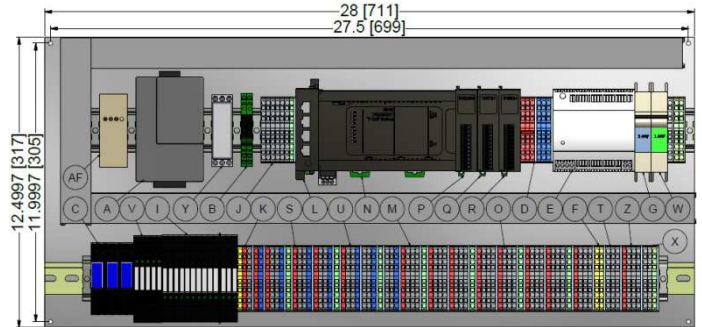
Note: Terminal Letters correspond with page 29 descriptions

Kits Dimensions (continued)

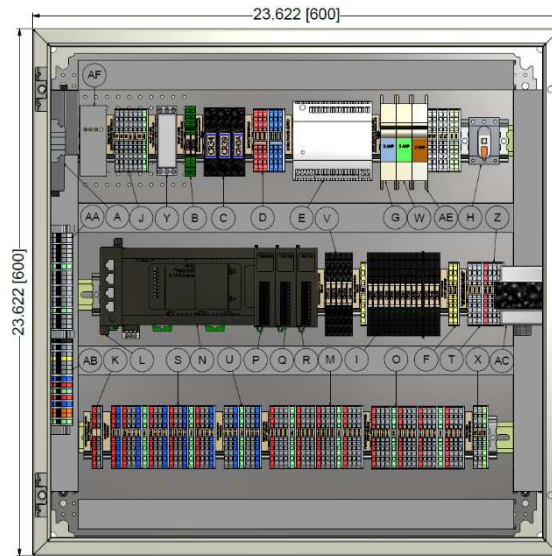
TS-xD8x-xxX



TS-xE8S-XxX



TS-xE8B-XxX – TS-xE8L-XxX



TS-xE8x-1x2

| ** Kit In Enclosure | RWF55 Load Control Terminals (AA) | RWF55 Feed Water Terminals (AB) | 24VAC Transformer for Feed Water (AC) | 2 Amp Circuit Breaker (AE) |
|----------------------------|-----------------------------------|---------------------------------|---------------------------------------|----------------------------|
| TS-xE8X-1xX | | | | |
| TS-xE8X-1xL | y | | | y |
| TS-xE8X-1xW | | y | y | y |
| TS-xE8X-1x2 | y | y | y | y |

Note: (AF) RS232 to RS485 converter used only in TS-Jxxx-xxx

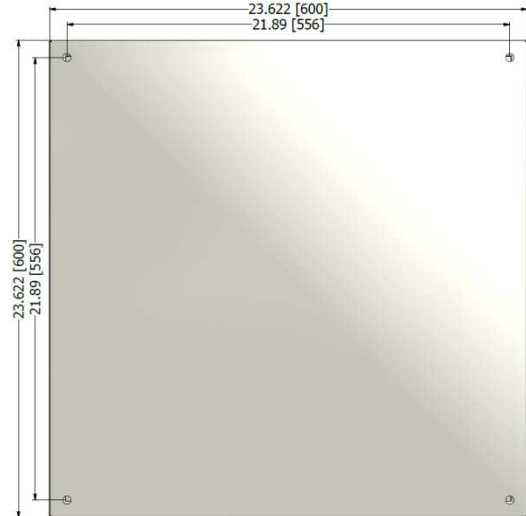
Note: Terminal Letters correspond with page 29 descriptions

24"X 24" X 10" Enclosure Dimensions

Dimensions in inches; millimeters in brackets



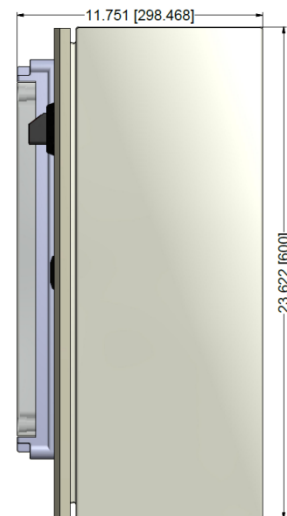
TS-xx5x-252 - TS-xx5x-452
TS-xx6x-252 - TS-xx6x-452
TS-xx7x-252 - TS-xx7x-452
TS-xx8x-252 - TS-xx8x-452



TS-xx5x-xxx
TS-xx6x-xxx
TS-xx7x-xxx
TS-xx8x-xxx



TS-xx5x-232 - TS-xx5x-432
TS-xx6x-232 - TS-xx6x-432
TS-xx7x-232 - TS-xx7x-432
TS-xx8x-232 - TS-xx8x-432

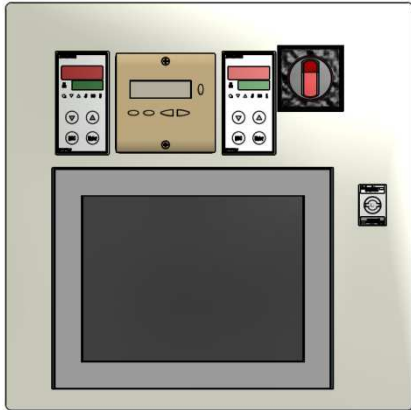


TS-xx5x-232 - TS-xx5x-452
TS-xx6x-232 - TS-xx6x-452
TS-xx7x-232 - TS-xx7x-452
TS-xx8x-232 - TS-xx8x-452

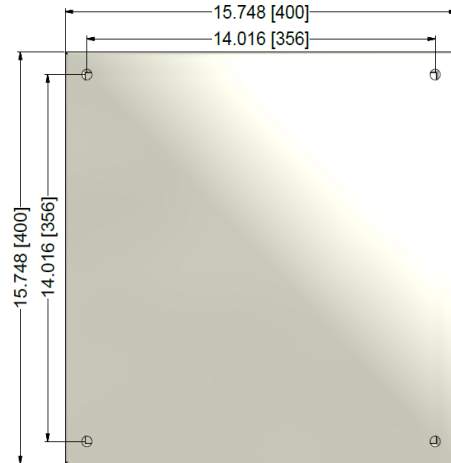
16" X 16" X 8" Enclosure Dimensions

For TS-xXXx-1xx and for xXXB-1xx

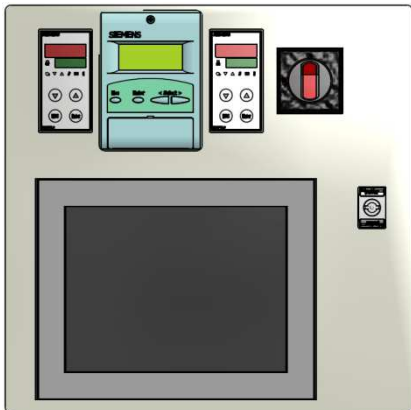
Dimensions in inches; millimeters in brackets



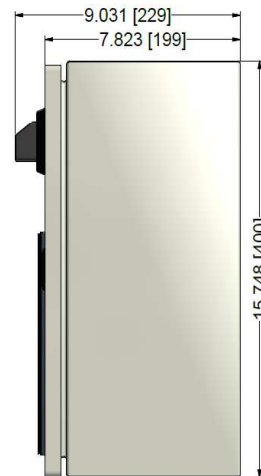
TS-0XXx-132



TS-xXXx-1xx



TS-0XXx-152

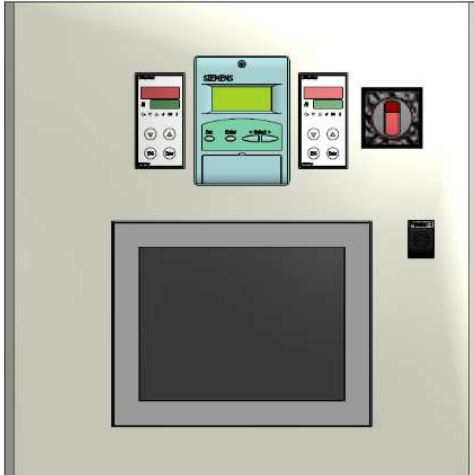


TS-xXXx-1xx

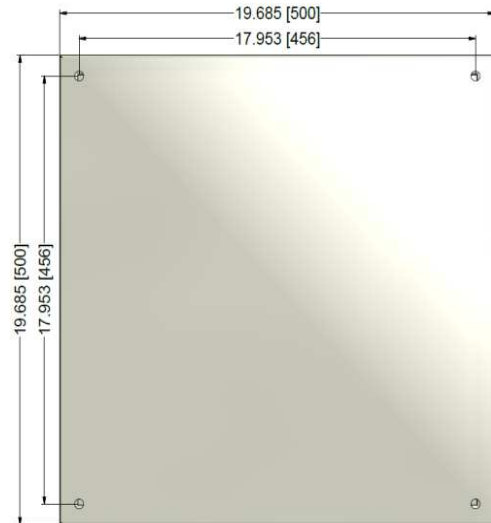
20"X 20" X 10" Enclosure Dimensions

For TS-xXXX-1xx and for xXXB-1xx

Dimensions in inches; millimeters in brackets



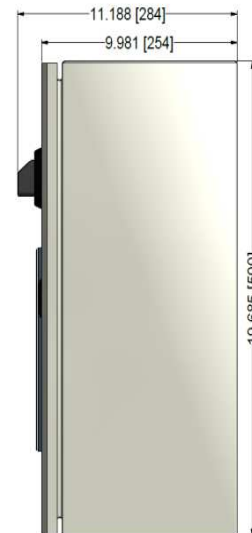
TS-xX1x-152
TS-xX2x-152 _ TS-xX3x-152
TS-xX4x-152



TS-xX1x-1xx
TS-xX2x-1xx _ TS-xX3x-1xx
TS-xX4x-1xx



TS-xX1x-132
TS-xX2x-132 _ TS-xX3x-132
TS-xX4x-132



TS-xX1x-1xx
TS-xX2x-1xx _ TS-xX3x-1xx
TS-xX4x-1xx

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