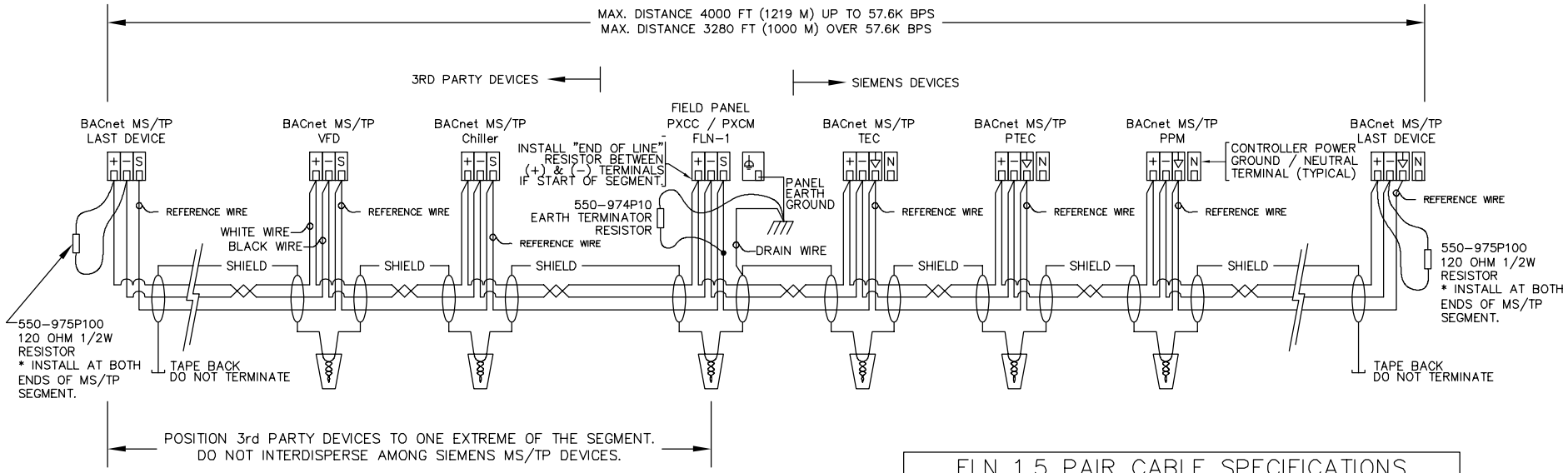


1 MSTP — BACnet MS/TP FLN NETWORK

COMMUNICATION PROTOCOL: RS-485
1.5 PAIR (2 CONDUCTOR TP + 1 CONDUCTOR)

NOTES

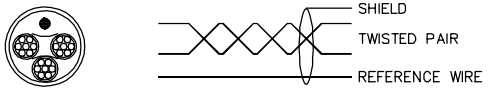
NEVER RUN NETWORK CABLING CLOSER THAN 5 FEET TO A VARIABLE FREQUENCY DRIVE (VFD) EXCEPT AT THE POINT WHERE THE NETWORK MUST CONNECT TO THE VFD. NETWORK ENTRY INTO A VFD MUST BE THROUGH A SEPARATE CONDUIT AND ALL NETWORK WIRING MUST BE KEPT AS FAR AS POSSIBLE FROM HIGH POWER CABLING IN THE VFD DRIVE.

NEVER RUN NETWORK CABLE CLOSER THAN 5 FEET TO CONDUITS CARRYING 100KVA OR GREATER. ALWAYS CROSS HIGH POWER CABLES (AT A DISTANCE OF >= 5 FEET) AT A 90 DEGREE ANGLE.

NETWORK RUN IN OPEN CABLE TRAYS WITH CIRCUITS CARRYING 20 AMPS SHOULD BE KEPT AT LEAST 26 INCHES FROM THE HIGHER POWER CABLES.

NETWORK RUN IN ENCLOSED TRAYS WITH CONDUITS CARRYING OVER 20 AMPS SHOULD BE KEPT AT LEAST 18 INCHES FROM THE HIGHER POWER CABLES.

FLN 1.5 PAIR CABLE SPECIFICATIONS



TWISTED PAIR

24 AWG (STRANDED)
11 PICOFARAD/FT CAPACITANCE OR LESS (CONDUCTOR TO CONDUCTOR)
24 PICOFARAD/FT CAPACITANCE OR LESS (CONDUCTOR TO SHIELD)
4 TWISTS PER FOOT

REFERENCE WIRE

24 AWG (STRANDED) 3 INCH LAY WITH TWISTED PAIR

SHIELD

100% OVERALL FOIL WITH DRAIN WIRE

PART NUMBERS

ANNIXTER

PART NUMBER: H-F-1.5TSP24LC-CMP
DESCRIPTION: 24-1.5PR STR TC FFEP FT6 SHD YEL/BLU (FT-6)

CERCO

PART NUMBER: 8304R
DESCRIPTION: 22AWG 3C STR FT6 ORG (FT-6)

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ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
LSB	LSB	DB	10/12/17	10/11/17

BACNET MS/TP NETWORK 1.5 PAIR

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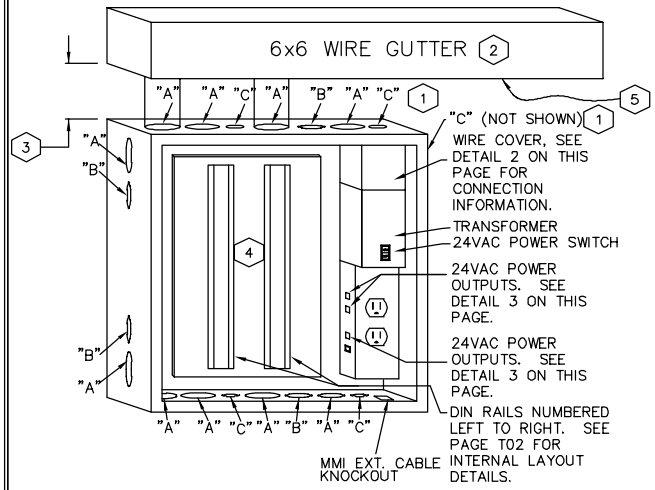


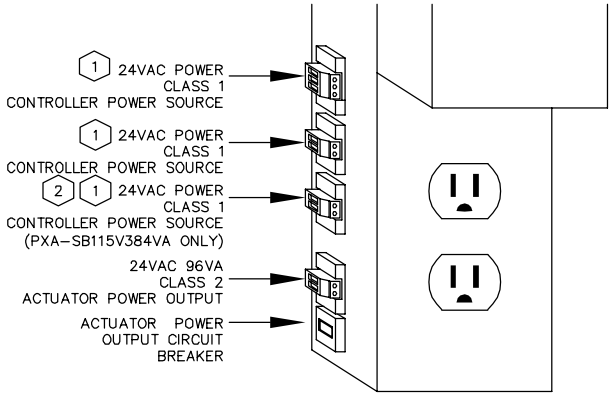
NOTES:

1. PENETRATIONS FOR 120/240V SERVICE BOX POWER. THIS CLASS 1 WIRING SHALL BE PROVIDED IN A SEPARATE RACEWAY FROM CLASS 2 LOW VOLTAGE WIRE.
2. GUTTER FOR LOW VOLTAGE CLASS 2 WIRING ONLY. PROVIDE SEPARATE RACEWAY FOR ALL CLASS 1 WIRING.
3. MINIMUM OF 2" AND MAXIMUM OF 6" BETWEEN GUTTER AND ENCLOSURE.
4. WHEN PULLING POINT WIRES INTO THE PANEL USE THE FOLLOWING PROCEDURE IN ORDER TO MAINTAIN EXTRA WIRE LENGTH NECESSARY TO MOVE WIRES ANYWHERE IN THE PANEL AFTER INITIAL TERMINATION.
   1. INSTALL A J HOOK ON RIGHT SIDE OF GUTTER.
   2. PULL ALL POINT WIRES THROUGH THE J HOOK BEFORE ROUTING WIRES INTO CONTROL PANEL.
   3. WHEN ALL POINT WIRES HAVE BEEN TERMINATED, REMOVE THE J HOOK AND WIRE TIE THE BUNDLE OF WIRES TOGETHER.
   4. SECURE WIRE BUNDLE IN GUTTER.
5. EXTEND GUTTER OVER LENGTH OF ALL CONTROL CABINETS AND TRANSFORMER PANELS.

ENCLOSURE H x W x D (IN)	
PXA-ENC-19	19 x 22 x 5 3/4
PXA-ENC-34	34 x 22 x 5 3/4
PXA-ENC-18	18 x 22 x 6

KNOCKOUT TYPES
A= 1" & 1-1/4"
B= 3/4" & 1"
C= 1/2" & 3/4"

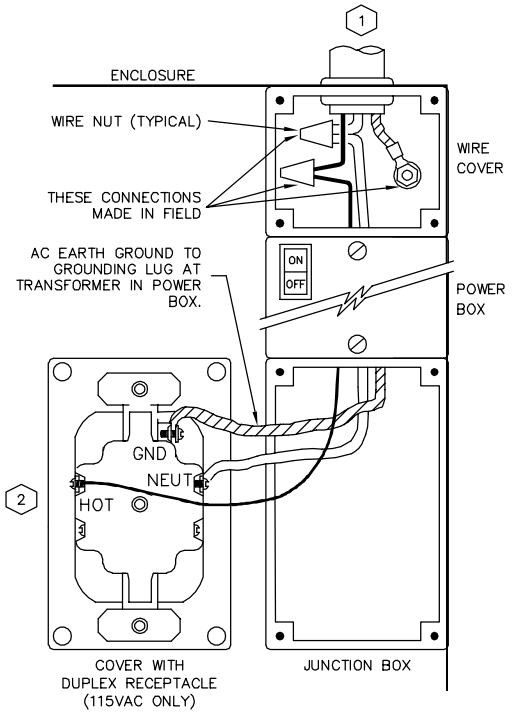
1 PXCM1 PXCM/PXCC/TXIO CONDUIT PENETRATIONS



NOTES:

1. POWER OUTPUT FROM THESE TERMINALS ARE CLASS 1 AND REQUIRE A SEPARATE RACEWAY FROM ALL CLASS 2 WIRING IF WIRING IS ROUTED OUTSIDE OF CABINET ENCLOSURE.
2. PXA-SB115V384VA MODEL ONLY.

3 PXCM1 SERVICE BOX 24VAC OUTPUT WIRING



NOTES:

1. A 3-WIRE 115V, 15A CIRCUIT SHALL NOT SERVE MORE THAN 1300VA OF TRANSFORMERS AND EQUIPMENT. EXAMPLE: TWO PXA-SB115V384VA (384VA) SERVICE BOXES AND ONE PSH500 TRANSFORMER (500VA) EQUAL A LOAD OF 1268VA.
2. RECEPTACLE IS PRE-WIRED AND MOUNTED IN FACTORY, FOR PXA-SB115V192VA AND PXA-SB115V384VA SERVICE BOX ONLY. MAXIMUM RECEPTACLE LOAD IS 220 VA.

SERVICE BOX MAX POWER SOURCE REQUIREMENTS

SERVICE BOX	VOLTAGE TOLERANCE	CURRENT MAXIMUM
PXA-SB115V192VA (384VA)	102 - 132 VAC @ 60Hz +/- 5%, FROM 15 OR 20 AMP CIRCUIT BREAKER.	2 AMP
PXA-SB115V384VA (384VA)		4 AMP
PXA-SB230V192 (384VA)	204-264 @ 60Hz +/- 5%, FROM 10 AMP CIRCUIT BREAKER.	1 AMP
PXA-SB230V384 (384VA)		2 AMP

2 PXCM1 SERVICE BOX SERVICE CONNECTION

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PXCM/TXIO PANEL INSTALLATION

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PXCM1

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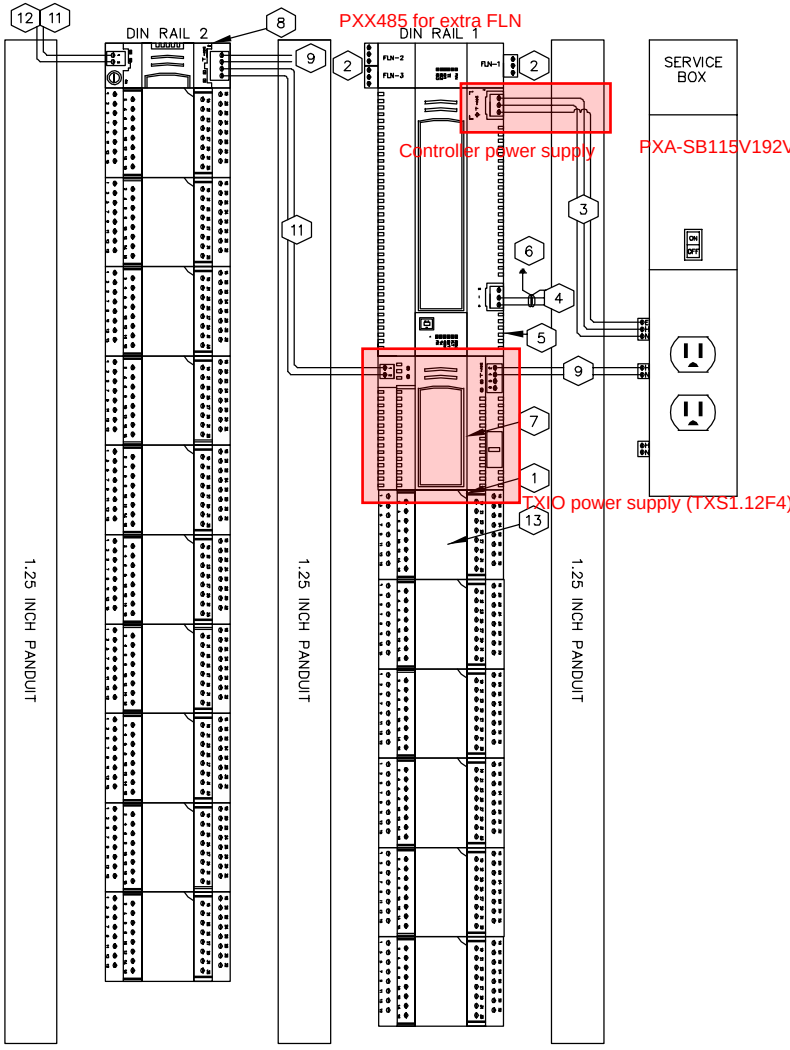
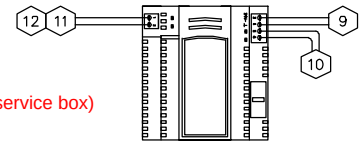


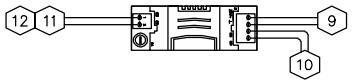
1 PXCM2 PXCM MASTER PANEL TYPICAL CONFIG. DETAILS

TYPICAL OF NON SMOKE CONTROL PANELS.
LAYOUT IS NOT SPECIFIC TO ANY PANEL.
SEE RESPECTIVE PANEL LAYOUT DRAWINGS BEGINNING WITH "N" FOR SPECIFIC MODULE LOCATIONS.



2 PXCM2 TYPICAL POWER SUPPLY

PART NUMBER TXS1.12F4
THE TX-I/O POWER SUPPLY BRIDGES COMMUNICATION AND POWER FROM ONE DIN RAIL TO ANOTHER AND GENERATES 28.8 W (1.2A AT 24 VDC) TO POWER TX-I/O MODULES AND PERIPHERAL DEVICES.



3 PXCM2 TYPICAL BUS CONNECTION MODULE

PART NUMBER TXS1EF4
THE BUS CONNECTION MODULE BRIDGES COMMUNICATION AND POWER FROM ONE DIN RAIL TO ANOTHER. IT PROVIDES THE BUS SIGNAL, MODULE SUPPLY VOLTAGE, AND FIELD DEVICE SUPPLY VOLTAGE TO TX-I/O MODULES ON AN ADDITIONAL DIN.

NOTES:

1. LOCATION OF MODULE ADDRESS KEYS (TYPICAL). INSTALL PER PANEL SPECIFIC LAYOUT DRAWINGS.
2. FLN'S 1, 2 & 3 TO FIELD DEVICES. SEE SCHEDULES SECTION OF THE THIS SUBMITTAL FOR CONNECTIONS. CONNECT BASED UPON APPLICABLE DRAWING FLN2, FLN3 OR MSTP.
3. TO THE MASTER PANEL'S FIRST SERVICE BOX OUTPUT. A GROUND WIRE IS REQUIRED. USE 3 COND. #14 AWG. TP.
4. P2 ALN/BLN NETWORK WIRE TO BUILDING NETWORK AS APPLICABLE. SEE COMMUNICATIONS RISER DRAWINGS BEGINNING ON DRAWING 000. USE #24AWG TSP WITH AN OVERALL SHIELD AND DRAIN WIRE.
5. ETHERNET ALN/BLN NETWORK CONNECTION. SEE COMMUNICATIONS RISER DRAWINGS BEGINNING ON DRAWING 000. USE 4 UNSHIELDED TP WIRE (CAT5, CAT5e, CAT6 OR CAT6e).
6. CONNECT DRAIN WIRE TO GROUND ON ENCLOSURE.
7. TYPICAL POWER SUPPLY. SEE DETAIL 2 FOR TYPICAL POWER SUPPLY MODULE WIRING.
8. TYPICAL POWER BUS CONNECTION MODULE. SEE DETAIL 3 FOR TYPICAL BUS CONNECTION MODULE WIRING.
9. TO THE MASTER PANEL'S SECOND SERVICE BOX OUTPUT. USE 2 COND. #14 AWG. TP.
10. TO LEFT SIDE CS/CD TERMINATIONS ON THE PREVIOUS POWER MODULE OR BUS CONNECTION MODULE. DOES NOT APPLY TO THE MODULE CONNECTED DIRECTLY TO THE PXCM PROCESSOR.
11. CONNECT RIGHT SIDE CS/CD TERMINATIONS ON THE NEXT POWER MODULE/BUS CONNECTION MODULE TO LEFT SIDE CS/CD TERMINATIONS ON THE PREVIOUS POWER MODULE/BUS CONNECTION MODULE. USE 2 COND. #14 AWG. TP.
12. IF THIS WIRE EXTENDS TO A MODULE IN A EXPANSION PANEL, SEE THE APPLICABLE EXPANSION PANEL TYPICAL INSTALLATION DRAWING FOR WIRING REQUIREMENTS AND WIRE TYPE TO BE USED.
13. TYPICAL TXIO MODULE. SEE RESPECTIVE PANEL LAYOUT DRAWINGS BEGINNING WITH "N" FOR SPECIFIC MODULE LOCATIONS, ADDRESSES AND ORDER.

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PXCM MASTER PANEL INSTALL

440P224837
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PXCM2

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