

1.0 NOTES:

1.1 IN ORDER TO COMPLY WITH NRTL.C CERTIFICATION FOR DIV 2, HAZARDOUS AREA, ONLY THOSE ITEMS SPECIFICALLY LISTED CAN BE USED AND MUST BE USED ONLY AS SHOWN.

1.2 WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2.

1.3 WARNING - EXPLOSION HAZARD - DO NOT USE CONNECTOR(S) UNLESS THE AREA IS KNOWN TO BE NON-HAZARDOUS.

1.4 SEE SH 22, 23, & 25

1.5 SEE SH 22, 23, & 25

1.6 SEE SH 22, 23, & 25

1.7 SEE SH 22, 23, & 25

1.8 SEE SH 22, 23, & 25

1.9 REMOVED

1.10 REMOVED

1.11 REMOVED

NOTES CONT'D:

1.12 CUSTOMER SUPPLIED EQUIPMENT MUST BE CERTIFIED FOR USE IN THE CLASSIFIED HAZARDOUS LOCATION IN WHICH IT IS INSTALLED.

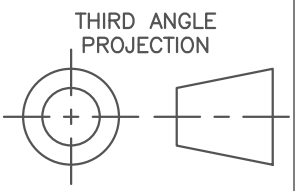

1.13 CUSTOMER SUPPLIED EQUIPMENT MUST BE INSTALLED ACCORDING TO THE MANUFACTURES INSTALLATION INSTRUCTIONS AND THE NFPA 70 "NATIONALS ELECTRICAL CODE" OR THE "CANADIAN ELECTRICAL CODE", C22 PART 1.

1.14 CUSTOMER SUPPLIED EQUIPMENT MUST NOT USE OR GENERATE MORE THAN 250V WITH RESPECT TO GROUND.

1.15 DC POWER SUPPLIES PROVIDING CHARGE CURRENT MUST BE LIMITED TO 15VDC 30W MAXIMUM.

1.16 SEE OPERATORS MANUAL FOR OPTIONAL EQUIPMENT WIRING INSTRUCTIONS.

END PRODUCT APPROVED BY TEST AGENCIES FOR USE IN HAZARDOUS AREAS. NO CHANGES ALLOWED WITHOUT APPROVAL OF AUTHORIZED PERSON(S) IDENTIFIED BY DRAWING 2101982-AI.

DO NOT SCALE DRAWING  THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMAL ANGULAR .XX ± -- ± -- .XXX ± ---	PRODUCT LINE TOTALFLOW®	LEVEL 3	 TOTALFLOW Products			
		DESIGN G. HOLLAND	DATE 95/01/04				TITLE INSTALLATION,X SERIES,FCU,DIV 2,C/US
DRAWN S. SMITH	94/05/23						
CHECKED WIDENER	95/01/10	SCALE NONE	SIZE B	DOC TYPE CD	DRAWING NO. 2015246-CD	REV BU	
BREAK ALL SHARP CORNERS AND EDGES DIMENSIONS APPLY BEFORE FINISH		APPROVED G. HOLLAND	95/01/04				

2.0 SPECIFICATION

2.1 MODEL NO. CONFIGURATION FOR UFLO, XFC, XFCG4 XFCG5

MODEL 6210Y -	1	2	3	4	5	6	8	9	10	11	-	-	-	20	-	-	-	-	-	-	-	-	-	50	-	64	90	
MODEL 6213Y -	1	2	3	4	5	6	8	9	10	11	12	13	14	20	25	-	-	-	-	-	-	-	-	50	-	64	90	
MODEL 6410Y -	1	2	3	4	5	6	8	9	10	11	-	-	-	20	25	-	-	-	-	-	-	43	-	50	59	64	90	
MODEL 6411Y -	1	2	3	4	5	6	8	9	10	11	-	-	14	20	25	-	-	-	-	-	-	43	-	50	59	64	90	
MODEL 6413Y -	1	2	3	4	5	6	8	9	10	11	12	13	-	20	25	28	29	30	31	-	-	-	43	45	50	59	64	90
MODEL 6414Y -	1	2	3	4	5	6	8	9	10	11	12	13	14	20	25	28	29	30	31	-	-	-	43	45	50	59	64	90
MODEL 6713Y -	1	2	3	4	5	6	8	9	10	11	12	13	-	20	25	28	29	30	31	32	33	34	43	45	50	59	64	90
MODEL 6714Y -	1	2	3	4	5	6	8	9	10	11	12	13	14	20	25	28	29	30	31	32	33	34	43	45	50	59	64	90
MODEL 6270Y -	1	2	-	-	5	6	8	-	10	-	12	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MODEL 6470Y -	1	2	-	-	5	6	8	-	10	-	12	13	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	
MODEL 6770Y -	1	2	-	-	5	6	8	-	10	-	12	13	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	

- | | | |
|--|---|--|
| 1. CERTIFICATION | 14. PULSER OPTION | 59. WIFI ANTENNA OPTIONS |
| 2. ENCLOSURE | 20. REMOTE COMM 2 | 64. MEMORY CARD (CERTIFICATION NOT APPLICABLE) |
| 3. ELECTRONIC BOARD | 25. LEVELMASTER P.T.R. SWITCH OPTION | 90. MAN/MACHINE INTERFACE OPTION |
| 4. AMU ASSEMBLY | 28. I/O MODULE MTG KIT | 100. APPROVED OPTIONAL EQUIPMENT (NOT PART OF MODEL NO.) |
| 5. BATTERY OPTION | 29. I/O MODULE POSITION NO. 1 | |
| 6. CHARGING SOURCE | 30. I/O MODULE POSITION NO. 2 | |
| 8. MOUNTING KIT (CERTIFICATION NOT APPLICABLE) | 31. I/O MODULE POSITION NO. 3 | |
| 9. REMOTE COMM 1 | 32. I/O MODULE POSITION NO. 4 | |
| 10. SPECIAL (CERTIFICATION NOT APPLICABLE) | 33. I/O MODULE POSITION NO. 5 | |
| 11. RTD PROBE ASSY | 34. I/O MODULE POSITION NO. 6 | |
| 12. COMMUNICATION MTG KIT | 43. KEYPAD OPTION | |
| 13. COMMUNICATION OPTION | 45. DIN RAIL DEVICES | |
| | 50. XFC/XRC FIRMWARE (CERTIFICATION NOT APPLICABLE) | |

- 1 CERTIFICATION
 - Y CLASS I, DIVISION 2, GROUPS C,D, T4, -40°F (-40°C) TO 140°F (60°F), TYPE 3R

- 2 ENCL ASSY W/DISPLAY
 - 2.1 6410/6411 ENCLOSURE
 - 2.1.1 REMOVED
 - 2.1.2 2102989-003 ENCL W/2102975-001 STD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.1.3 2102989-004 ENCL W/2103062-001 KEYPAD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.2 6413/6414/6470 ENCLOSURE
 - 2.2.1 REMOVED
 - 2.2.2 2103068-001 ENCL W/2101771-002 STD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.2.3 2103068-002 ENCL W/2101751-002 KEYPAD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.3 6713/6714/6770 ENCLOSURE
 - 2.3.1 REMOVED
 - 2.3.2 2102976-003 ENCL W/2102977-001 STD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.3.3 2102976-004 ENCL W/2102978-001 KEYPAD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.4 6213/6270 ENCLOSURE
 - 2.4.1 REMOVED
 - 2.4.2 2104452-001 ENCL W/2101771-004, -006 STD DOOR (HOFFMAN OR VEER-O-METALS)
 - 2.5 6210 ENCLOSURE
 - 2.5.1 2100997-001 ENCL W/2102975-001 STD DOOR (HOFFMAN OR VEER-O-METALS)

3 ELECTRONIC BOARD OPTIONS

- 3.1 6400 XFC PCBA
 - 3.1.1 REMOVED
 - 3.1.2 REMOVED
 - 3.1.3 2100204-004 CB195 PCBA

- 3.2 REMOVED

- 3.3 XFC PCBA ASSY
 - 3.3.1 2102838-002 XFC-G4 MOTHER BD W/2102427-001 OR 2103639-001, -002 EC2410 PROCESSOR CARD
 - 3.3.2 2105733-001 XFC-G5 MOTHER BD W/2105708-001 APU AM335X PROCESSOR CARD

- 3.4 UFLO PCBA
 - 3.4.1 2104356-001 UFLO G4 IMV PCBA W/2102427-001 OR 2103639-001, -002 EC2410 PROCESSOR CARD
 - 3.4.2 2104939-001 AM335X G5 UFLO PCBA
 - 3.4.3 2108238-(001 THRU 008) OSC335X C-SIP G5 UFLO PCBA
 - 3.4.4 2108246-(001 THRU 008) OSD335x G5 uFLO PCBA

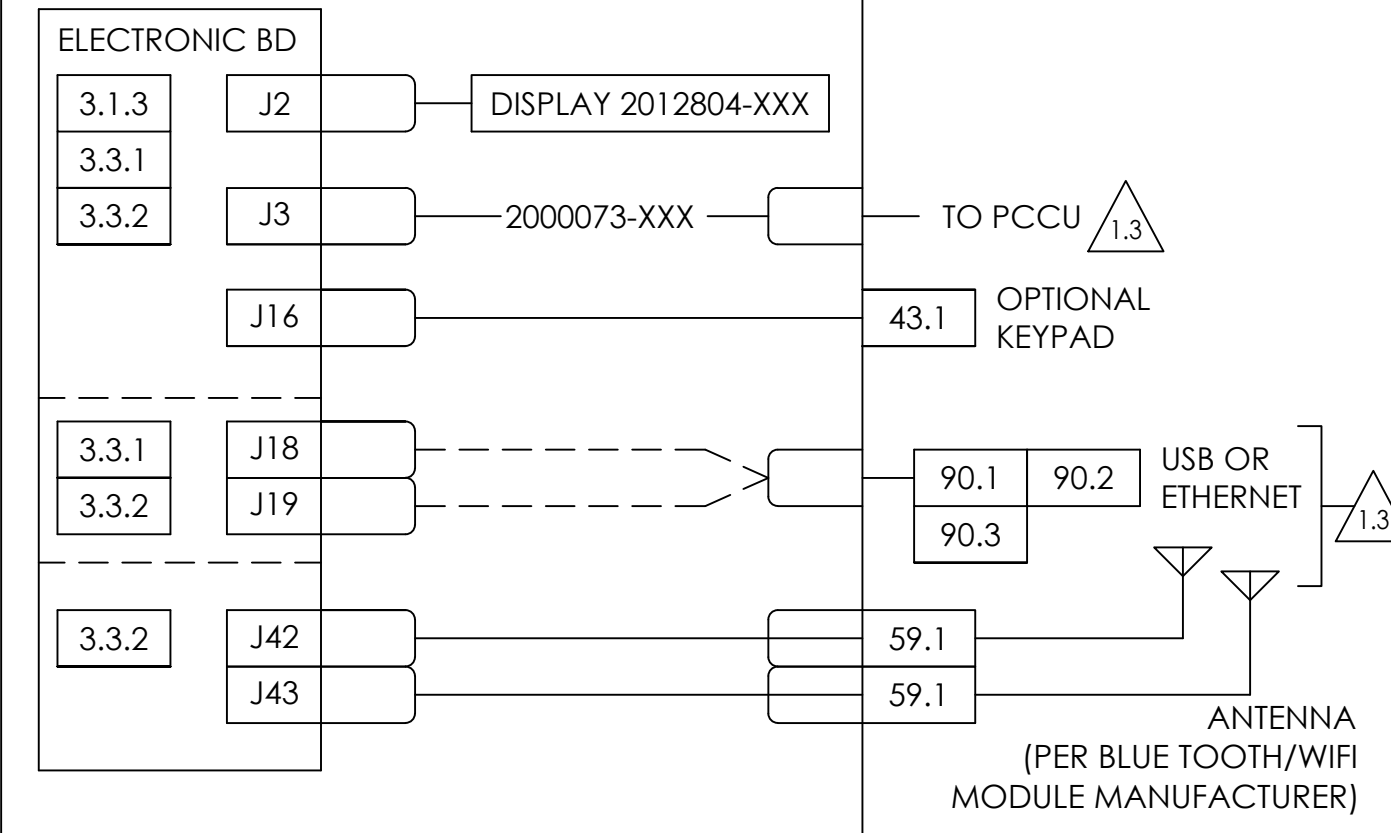
- 43 KEYPAD OPTION
 - 43.1 2100498-002 PROGRAMMED KEYPAD ASSEMBLY

- 59 WIFI/ BLUE TOOTH ANTENNA
 - 59.1 WIFI ANTENNA W/CABLE & SURGE ASSEMBLY

- 90 MAN/MACHINE INTERFACE OPTION
 - 90.1 USB TYPE A CONN (1802999-001) W/CAP (1803005-001)
 - 90.2 USB TYPE B CONN (1803001-001) W/CAP (1803005-001)
 - 90.3 ETHERNET, CAT5E CONN (1803071-001) W/CAP (1803005-001)

MODEL 6410, 6411, 6413, 6414, 6713, 6714

STD ENCL	2.1.2	2.2.2	2.3.2
ENCL W/KEYPAD	2.1.3	2.2.3	2.3.3



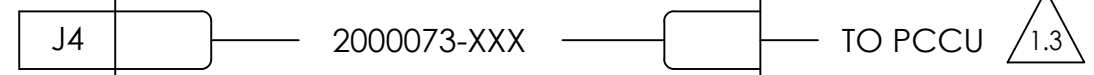
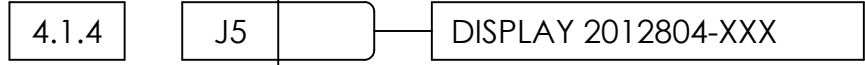
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

MODEL 6210, 6213

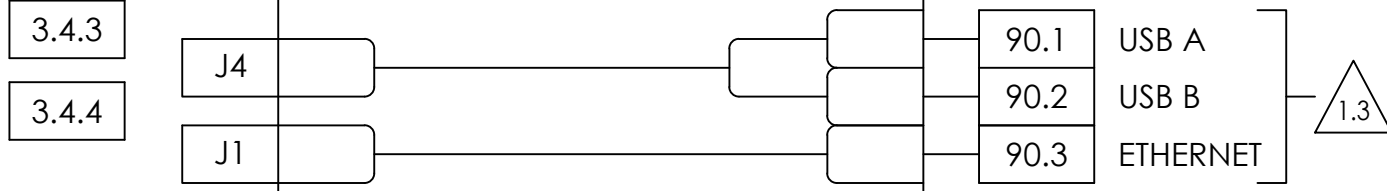
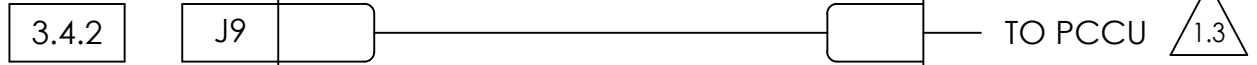
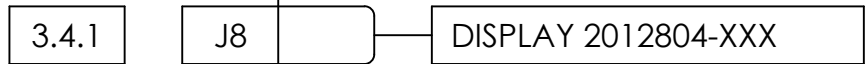
STD ENCL 2.4.2 2.5.1

IMV ASSY



OR

UFLO BD



MODEL 6270, 6470, 6770

STD ENCL 2.4.2 2.2.2 2.3.2

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

4 XIMV, IMV, AMU ASSEMBLY

4.1 ELEK BD

4.1.1	2015293-001/002	AMU PCBA, S&F
4.1.2	2015107-001/002/003/004	AMU PCBA, FOXBORO
4.1.3	2102924-001	XIMV DUAL RANGE PCBA
4.1.4	2100767-004	UFLO (IMV) PCBA
4.1.5	2103641-001/002	RAW SENSOR SIGNAL DIGITIZING PCBA
4.1.6	2104742-002/003	RAW SENSOR BUFFERED SW. RTD REF PCBA

4.2 AP OR GP XDCR

4.2.1	2015103-001, 100 PSIA
4.2.2	2015103-002, 500 PSIA
4.2.3	2015103-003, 1500 PSIA
4.2.4	2015103-005, 2000 PSIA
4.2.5	2015103-006, 3500 PSIA
4.2.6	2018497-001, 100 PSIG
4.2.7	2018497-002, 500 PSIG
4.2.8	2018497-003, 1500 PSIG

4.3 DP XDCR

4.3.1	2015214-001/005	200 IN H ₂ O FOXBORO IADP
4.3.2	2015214-002/006	840 IN H ₂ O FOXBORO IADP
4.3.3	2015214-007	30 IN H ₂ O FOXBORO IADP

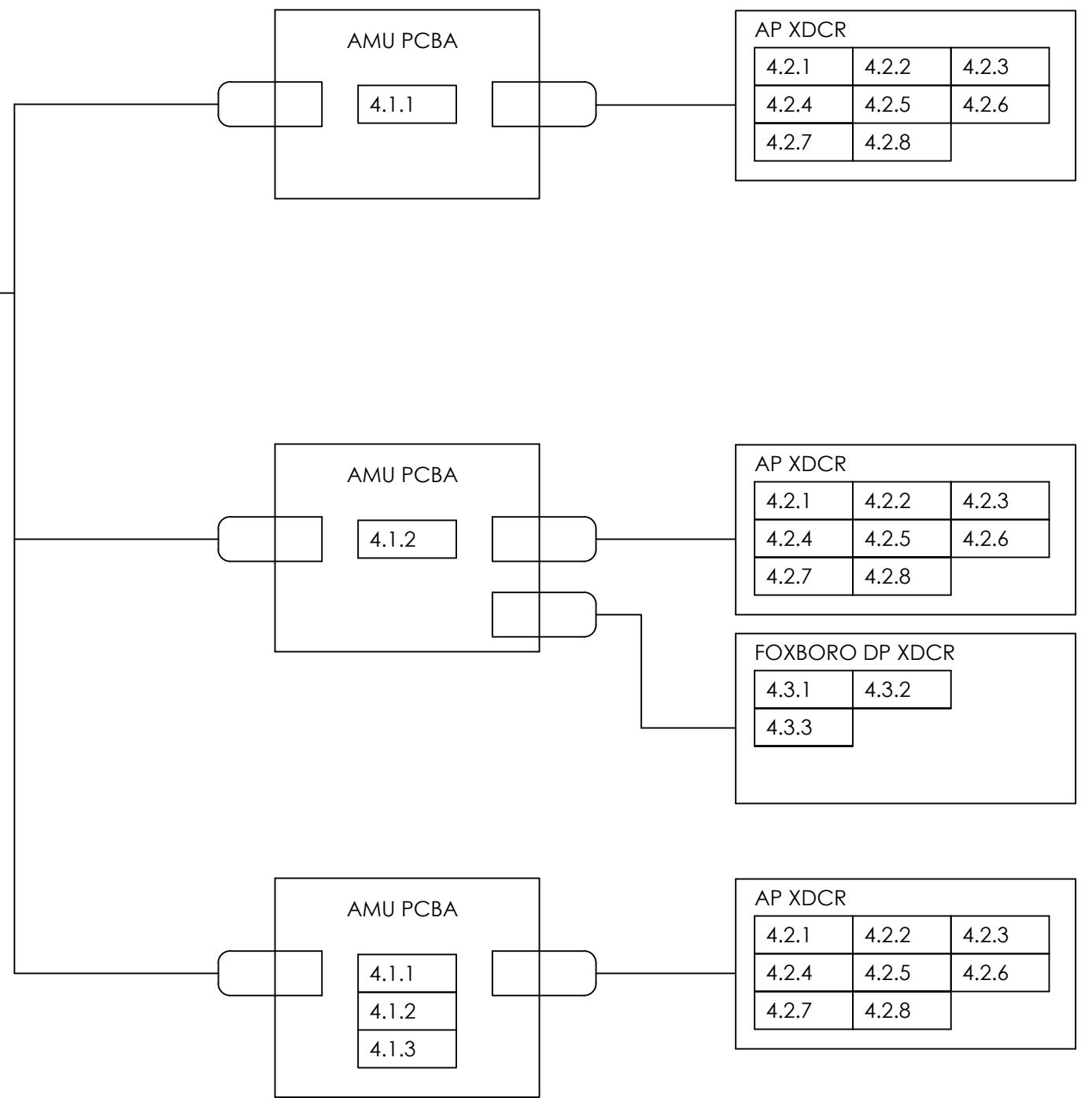
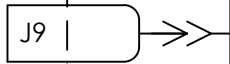
4.4 MULTIVARIABLE TRANSDUCER

4.4.1	2102127-XXX	XDCR DP/AP OPTIMIZED ABB MINDEN
4.4.2	2102949-XXX	XDCR DP/AP FOXBORO IAMV W/BSHG
4.4.3	2103101-XXX	XDCR DP/AP LIQUID FOXBORO IAMV W/BSHG

MODEL 6410, 6411, 6413, 6414, 6713, 6714

ELECTRONIC BD

3.1.3
3.3.1
3.3.2



AP XDCR

4.2.1	4.2.2	4.2.3
4.2.4	4.2.5	4.2.6
4.2.7	4.2.8	

AP XDCR

4.2.1	4.2.2	4.2.3
4.2.4	4.2.5	4.2.6
4.2.7	4.2.8	

FOXBORO DP XDCR

4.3.1	4.3.2
4.3.3	

AP XDCR

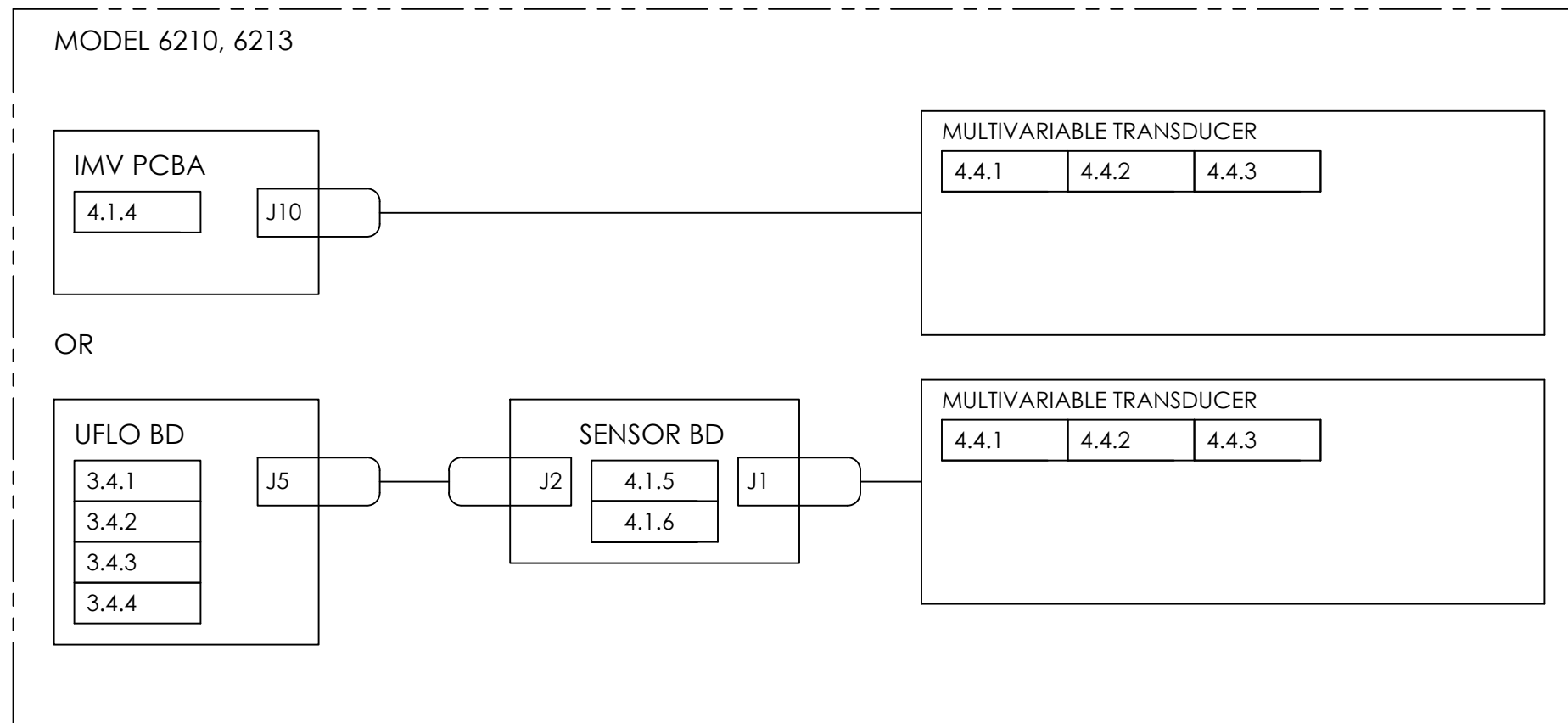
4.2.1	4.2.2	4.2.3
4.2.4	4.2.5	4.2.6
4.2.7	4.2.8	

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



5 BATTERY OPTION

5.1 BATTERIES

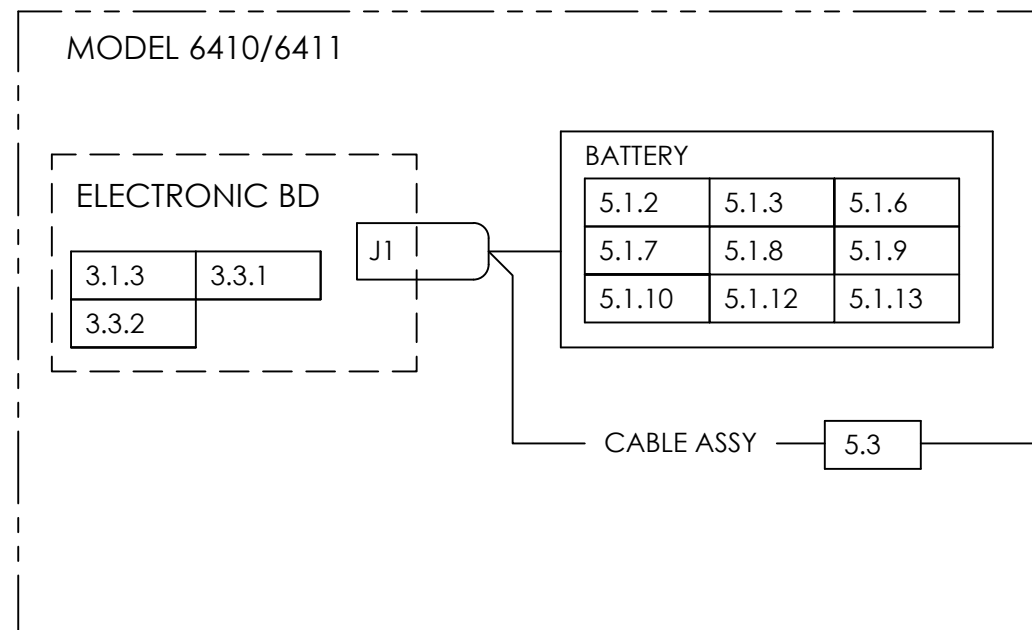
5.1.1	— WITHOUT BATTERY	
5.1.2	— 12V, 8.0 AH CYCLONE	(2015113-003)
5.1.3	— 12V, 26.0 AH GENESIS G12V26AH10EP	(2015052-001)
5.1.4	— 12V, 45.0 AH DOUGLAS	(2012909-002)
5.1.5	— 12V, 42.0 AH GENESIS G12V42AH10EP	(2015052-004)
5.1.6	— 12V, 16.0 AH GENESIS G12V16AH10EP	(2015052-003)
5.1.7	— 12V, 13.0 AH GENESIS G12V13AH10EP	(2015052-002)
5.1.8	— 12V, 26.0 AH POWER-SONIC PS12260-(NB,F)	(2015052-005)
5.1.9	— 12V, 12.0 AH POWER-SONIC PS12120	(2015052-006)
5.1.10	— 12V, 18.0 AH POWER-SONIC PS12180	(2015052-007)
5.1.11	— 12V, 40.0 AH POWER-SONIC PS12400	(2015052-008)
5.1.12	— 12V, 7.0 AH POWER-SONIC PS12070	(2015052-009)

5.1.13	— 12V, 26.0 AH INTERSTATE DCM0026	(2103487-001)
5.1.14	— 12V, 26.0 AH UNIVERSAL UB12260	(2015052-013)
5.1.15	— 12V, 24.0 AH GENESIS NP24-12D	(2015052-014)

5.2 CHARGER REGULATOR

5.2.1 — SCI ASC #12/8-A CHARGER REGULATOR

5.3 CABLE ASSY, EXTERNAL BATTERY 2015433-001

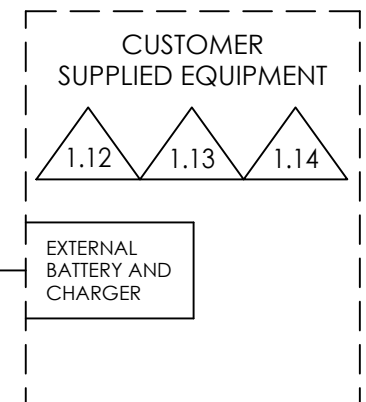


HAZARDOUS AREA
CLASS I, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS I, DIV 1, GROUPS C, D
CLASS I, DIV 2, GROUPS C, D
CLASS I, ZONE 1, 11B
CLASS I, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

WIRING METHODS
PER NEC 500 OR
CEC C22.1

SEAL PER NEC 500
OR CEC C22.1

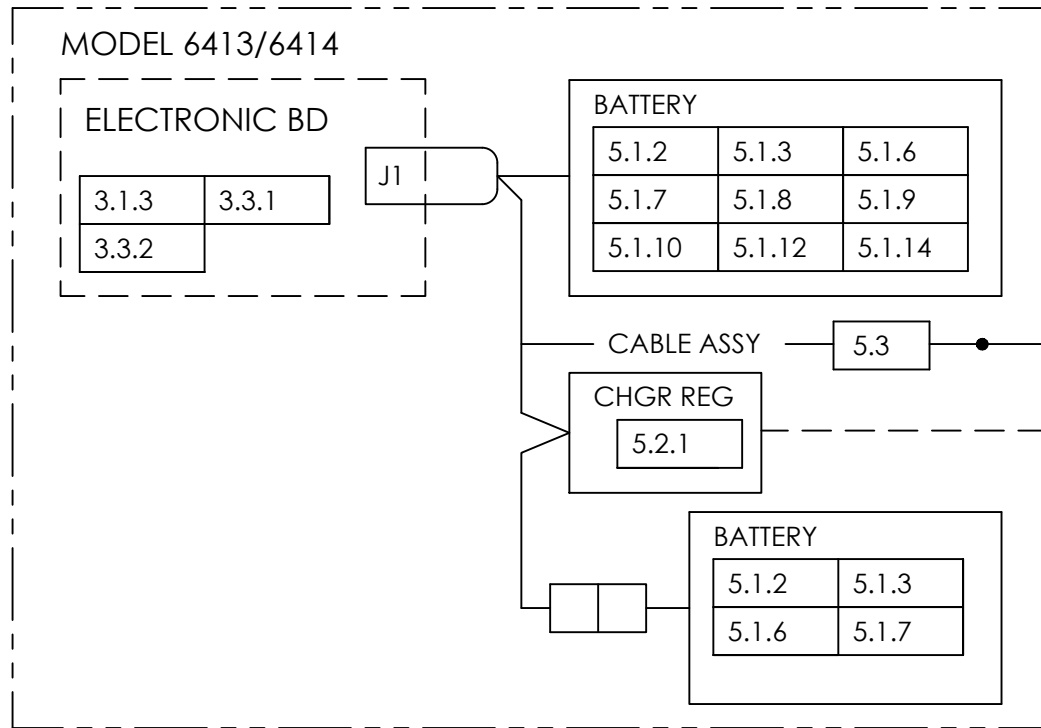


SCALE	SIZE	DOC TYPE	DRAWING NO.	REV	SHEET
NONE	B	CD	2015246-CD	BU	9 OF

5

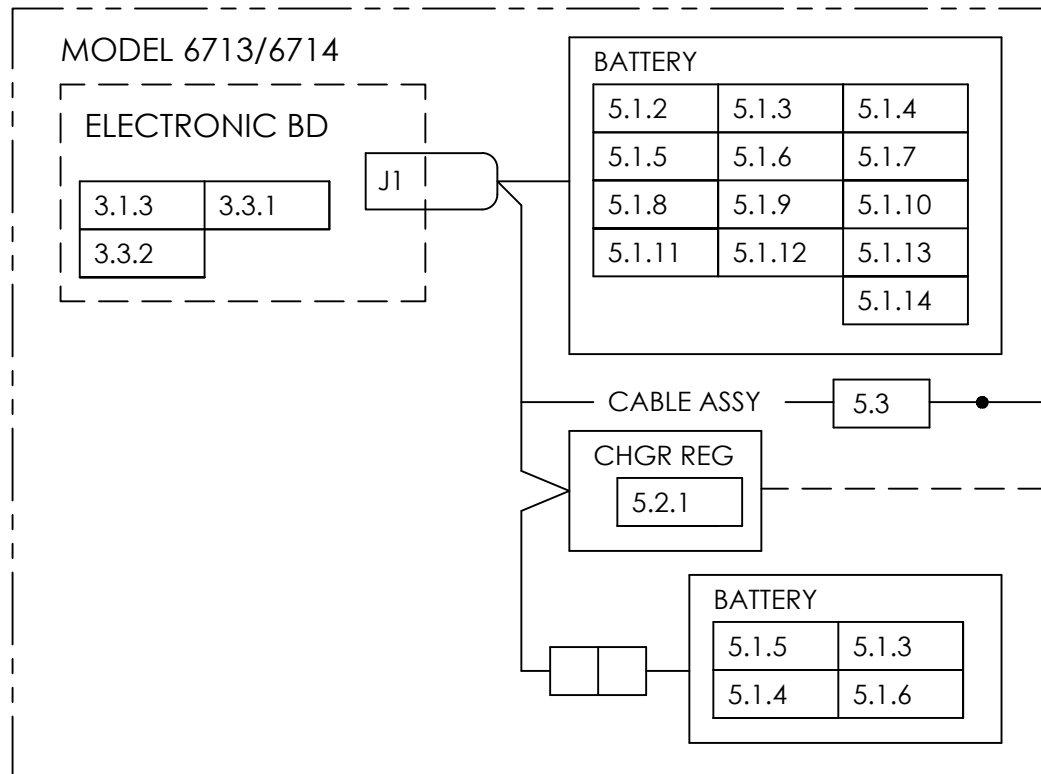
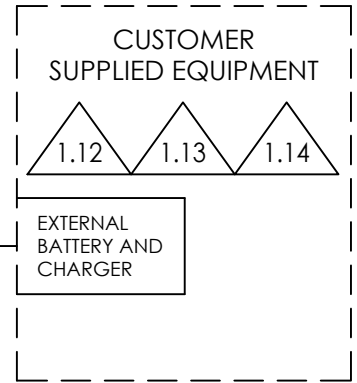
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



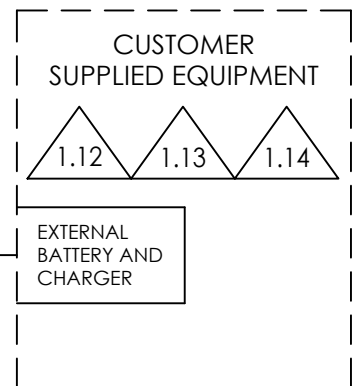
WIRING METHODS
PER NEC 500 OR
CEC C22.1

SEAL PER NEC 500
OR CEC C22.1



WIRING METHODS
PER NEC 500 OR
CEC C22.1

SEAL PER NEC 500
OR CEC C22.1

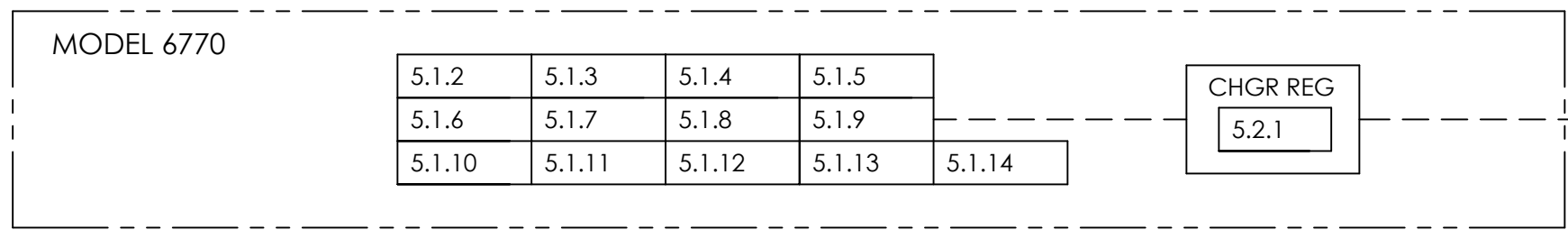
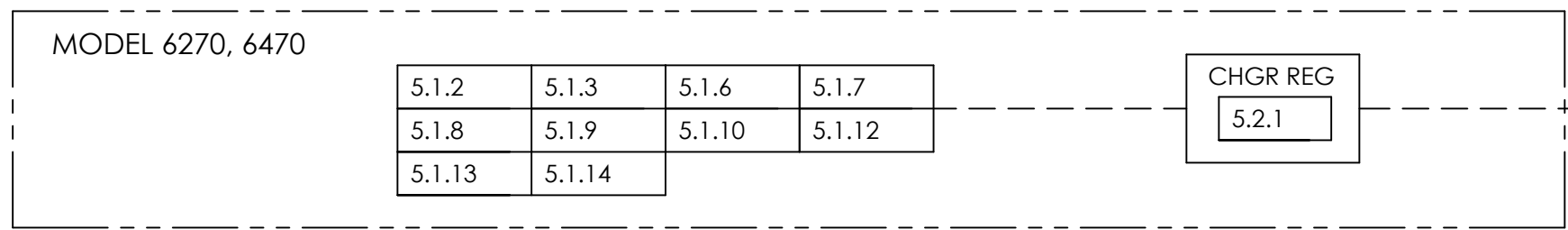
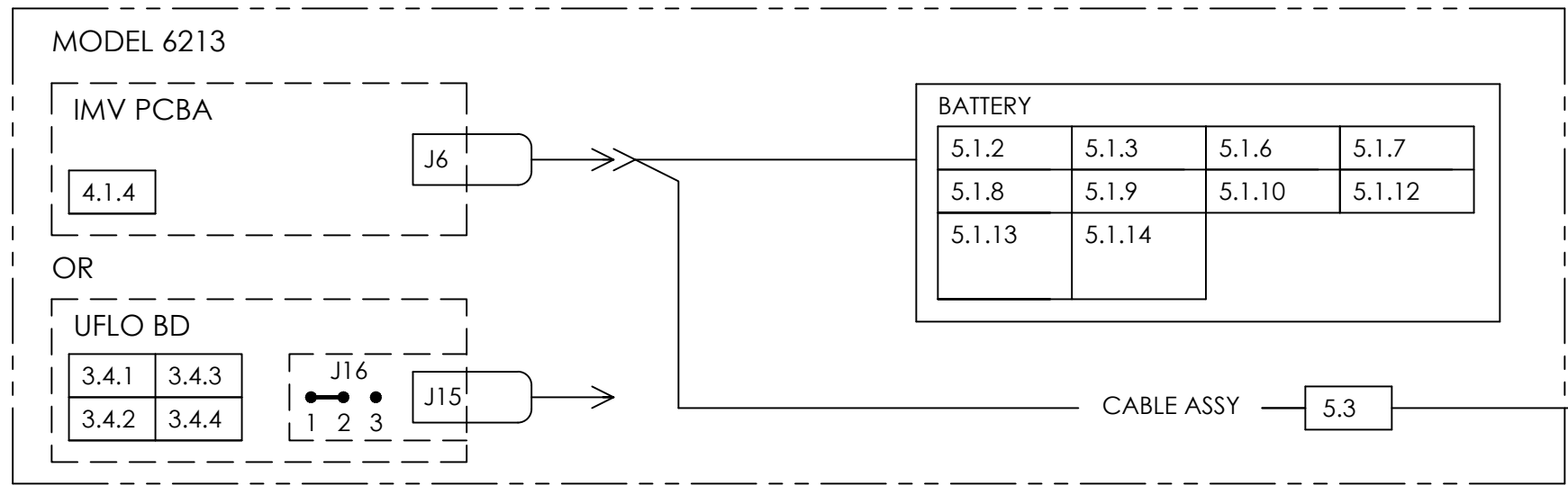
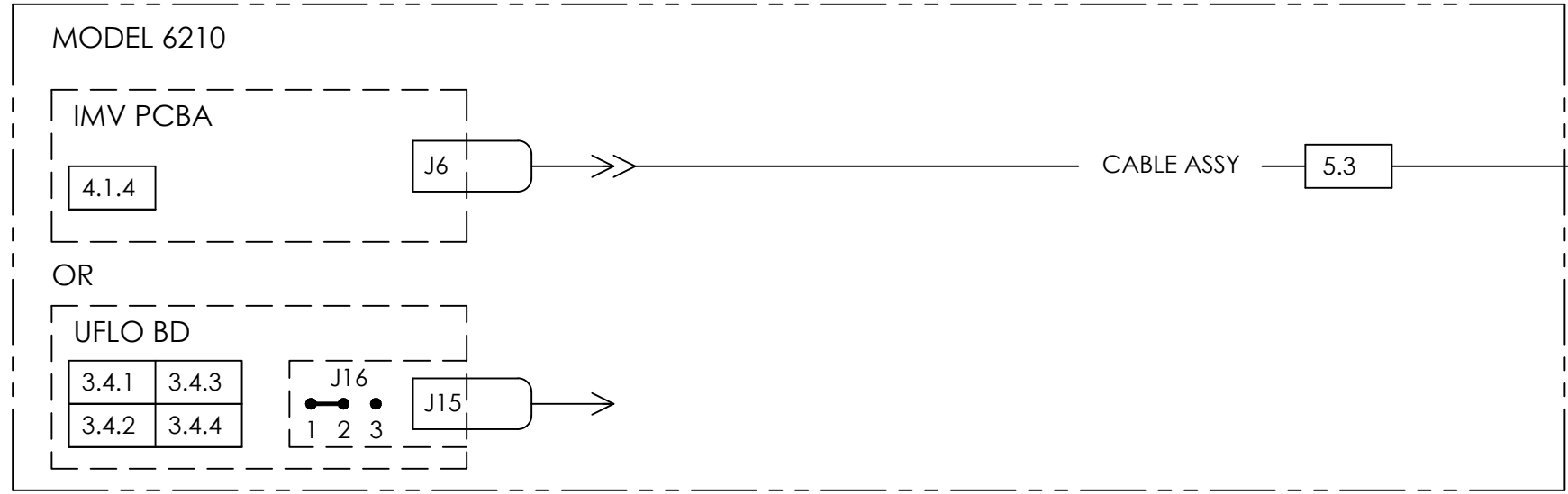


SCALE	SIZE	DOC TYPE	DRAWING NO.	REV	SHEET
NONE	B	CD	2015246-CD	BU	10 OF

5

HAZARDOUS AREA
CLASS I, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS I, DIV 1, GROUPS C, D
CLASS I, DIV 2, GROUPS C, D
CLASS I, ZONE 1, 11B
CLASS I, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

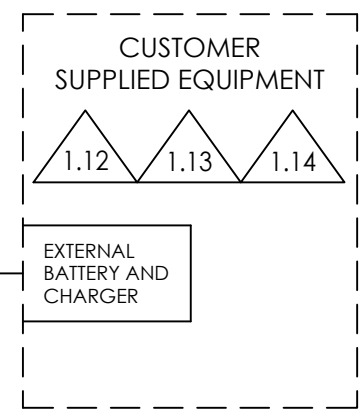
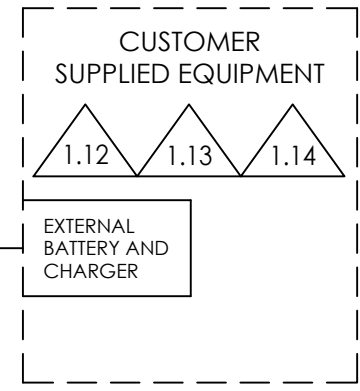


WIRING METHODS
PER NEC 500 OR
CEC C22.1

SEAL PER NEC 500
OR CEC C22.1

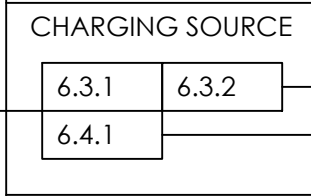
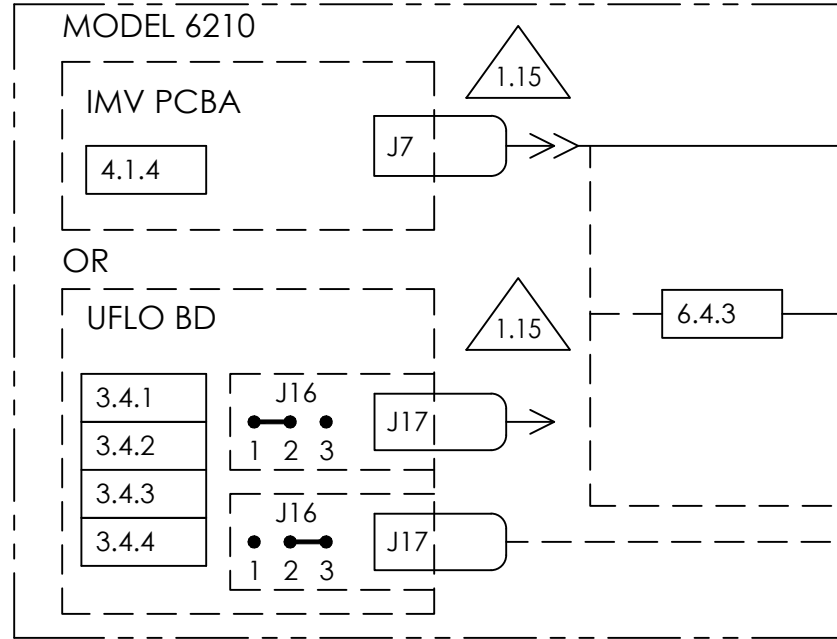
SEAL PER NEC 500
OR CEC C22.1

WIRING METHODS
PER NEC 500 OR
CEC C22.1



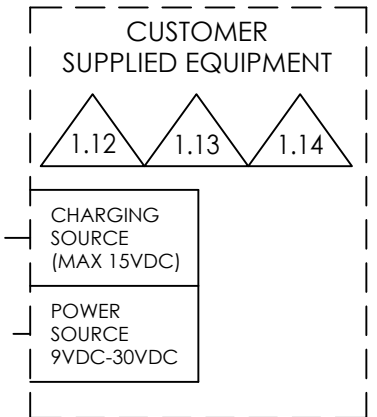
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



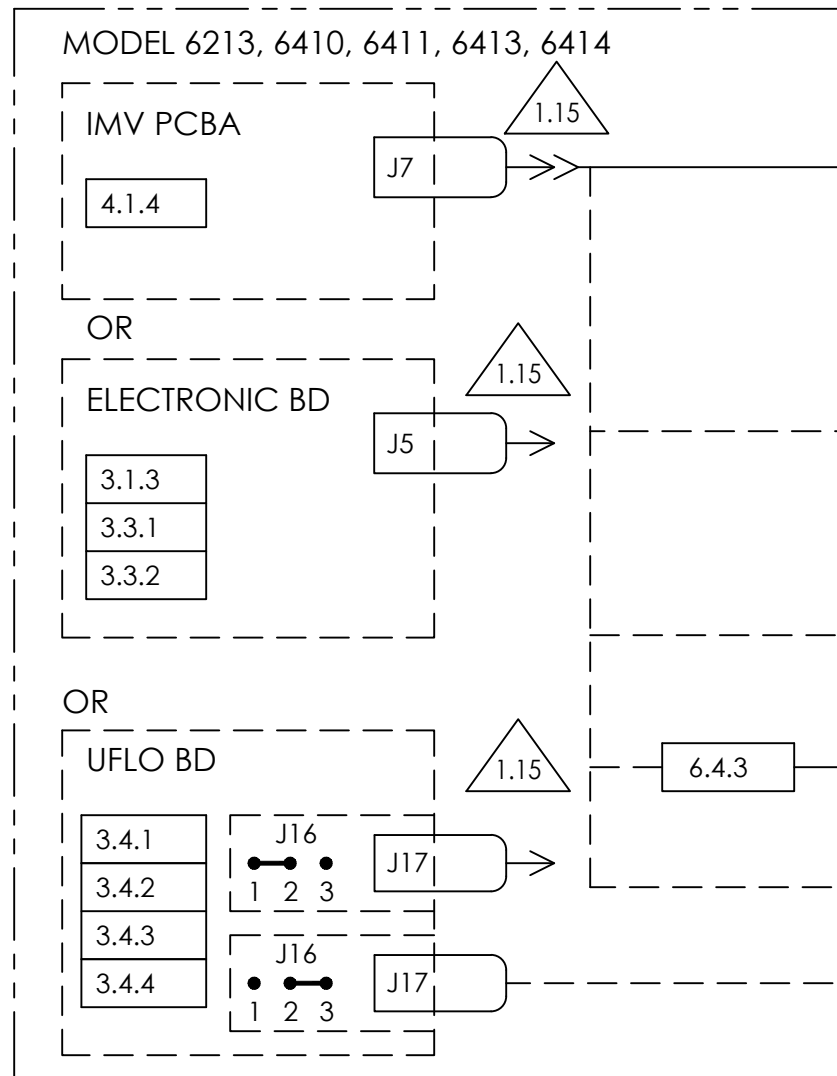
AC SOURCE
DC SOURCE

DC SOURCE (30V MAX)

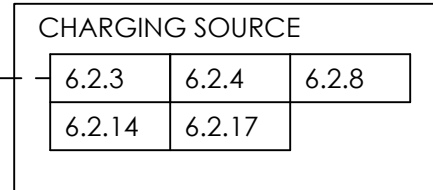


SEAL PER NEC 500 OR CEC C22.1

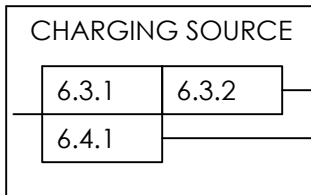
WIRING METHODS PER NEC 500 OR CEC C22.1



WIRING METHODS PER NEC 500 OR CEC C22.1



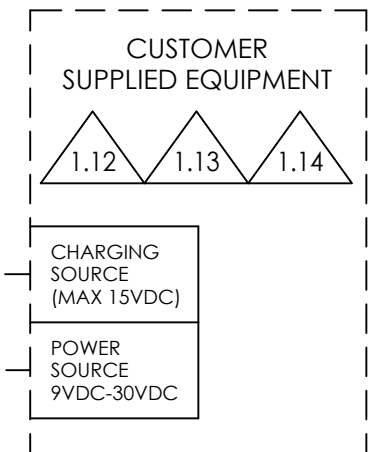
WIRING METHODS PER NEC 500 OR CEC C22.1



AC SOURCE
DC SOURCE

DC SOURCE (30V MAX)

SEAL PER NEC 500 OR CEC C22.1



6

MODEL 6713, 6714

ELECTRONIC BD

- 3.1.3
- 3.3.1
- 3.3.2



NON-INCENDIVE CONNECTION PER ISA 512.12 OR CEC C22.1

CHARGING SOURCE			
6.2.1	6.2.2	6.2.5	6.2.6
6.2.7	6.2.9	6.2.10	6.2.11
6.2.12	6.2.13	6.2.15	6.2.16

HAZARDOUS AREA CLASS 1, DIV 2, GROUPS C, D

CHARGING SOURCE		
6.2.3	6.2.4	6.2.8
6.2.14	6.2.17	

WIRING METHODS PER NEC 500 OR CEC C22.1

CHARGING SOURCE	
6.3.1	6.3.2
6.4.1	

AC SOURCE
DC SOURCE

CHARGING SOURCE		
6.3.3	6.3.4	
6.3.5		
6.4.2	6.4.4	6.4.5
6.4.3		

AC SOURCE
DC SOURCE
DC SOURCE (30V MAX)

PWR SUPPLY ACCESSORY	
6.5.2	6.5.1
6.5.3	

CUSTOMER SUPPLIED EQUIPMENT



CHARGING SOURCE (15VDC MAX)

DCV POWER SOURCE

DC POWERED DEVICE

WIRING METHODS PER NEC 500 OR CEC C22.1

CHARGING SOURCE				
6.2.1	6.2.2	6.2.3	6.2.4	
6.2.5	6.2.6	6.2.7	6.2.8	
6.2.9	6.2.10	6.2.11	6.2.12	
6.2.13	6.2.14	6.2.15	6.2.16	6.2.17

SEAL PER NEC 500 OR CEC C22.1

CHARGING SOURCE	
6.3.1	6.3.2
6.4.1	

AC SOURCE
DC SOURCE

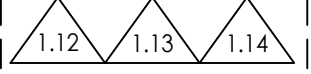
CHARGING SOURCE		
6.3.3	6.3.4	
6.3.5		
6.4.2	6.4.4	6.4.5

AC SOURCE
DC SOURCE

PWR SUPPLY ACCESSORY	
6.5.1	
6.5.2	
6.5.3	

SEAL PER NEC 500 OR CEC C22.1

CUSTOMER SUPPLIED EQUIPMENT

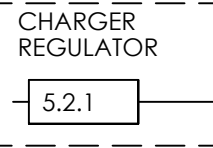
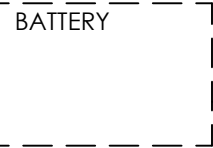


DCV POWER SOURCE

DC POWERED DEVICE

WIRING METHODS PER NEC 500 OR CEC C22.1

MODEL 6270, 6470, 6770



CHARGING SOURCE		
6.3.3	6.3.4	
6.3.5		
6.4.2	6.4.4	6.4.5

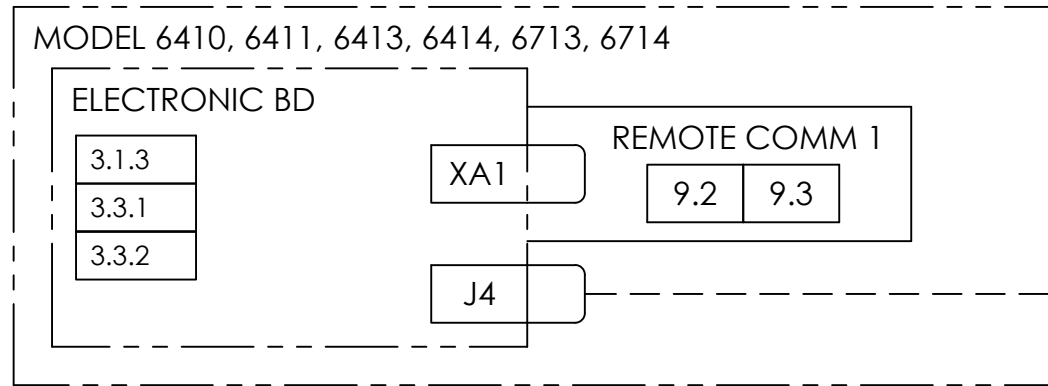
PWR SUPPLY ACCESSORY	
6.5.1	
6.5.2	
6.5.3	

9 REMOTE COMM 1

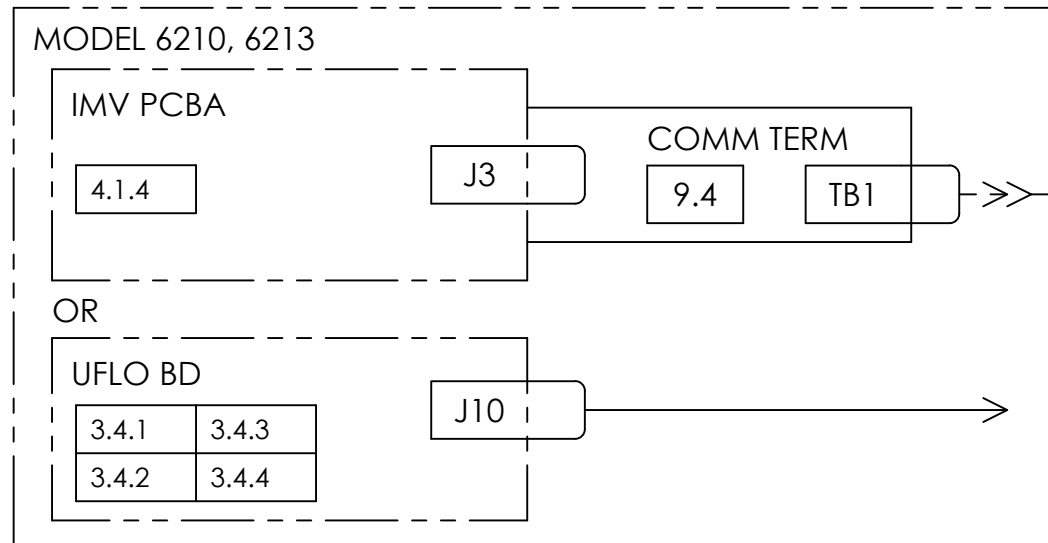
- 9.1 WITHOUT MODULE
- 9.2 RS485 COMM MODULE 2015193
- 9.3 RS232 COMM MODULE 2015192
- 9.4 UFLO COMM TERM WITH I/O PCBA 2101059-001/-002/-003

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



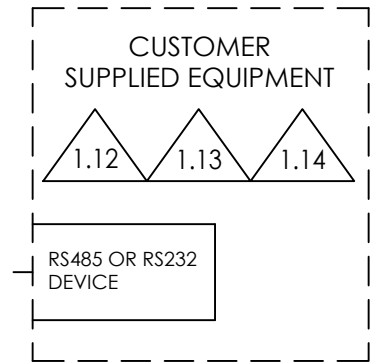
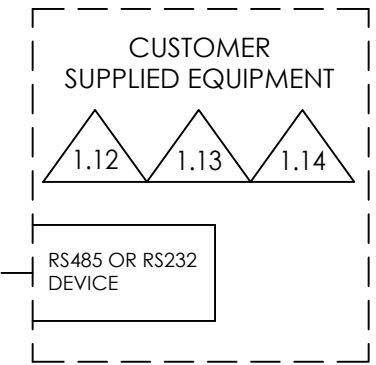
WIRING METHODS PER
NEC 500 OR CEC C22.1



WIRING METHODS PER
NEC 500 OR CEC C22.1

SEAL PER NEC 500
OR CEC C22.1

SEAL PER NEC 500
OR CEC C22.1

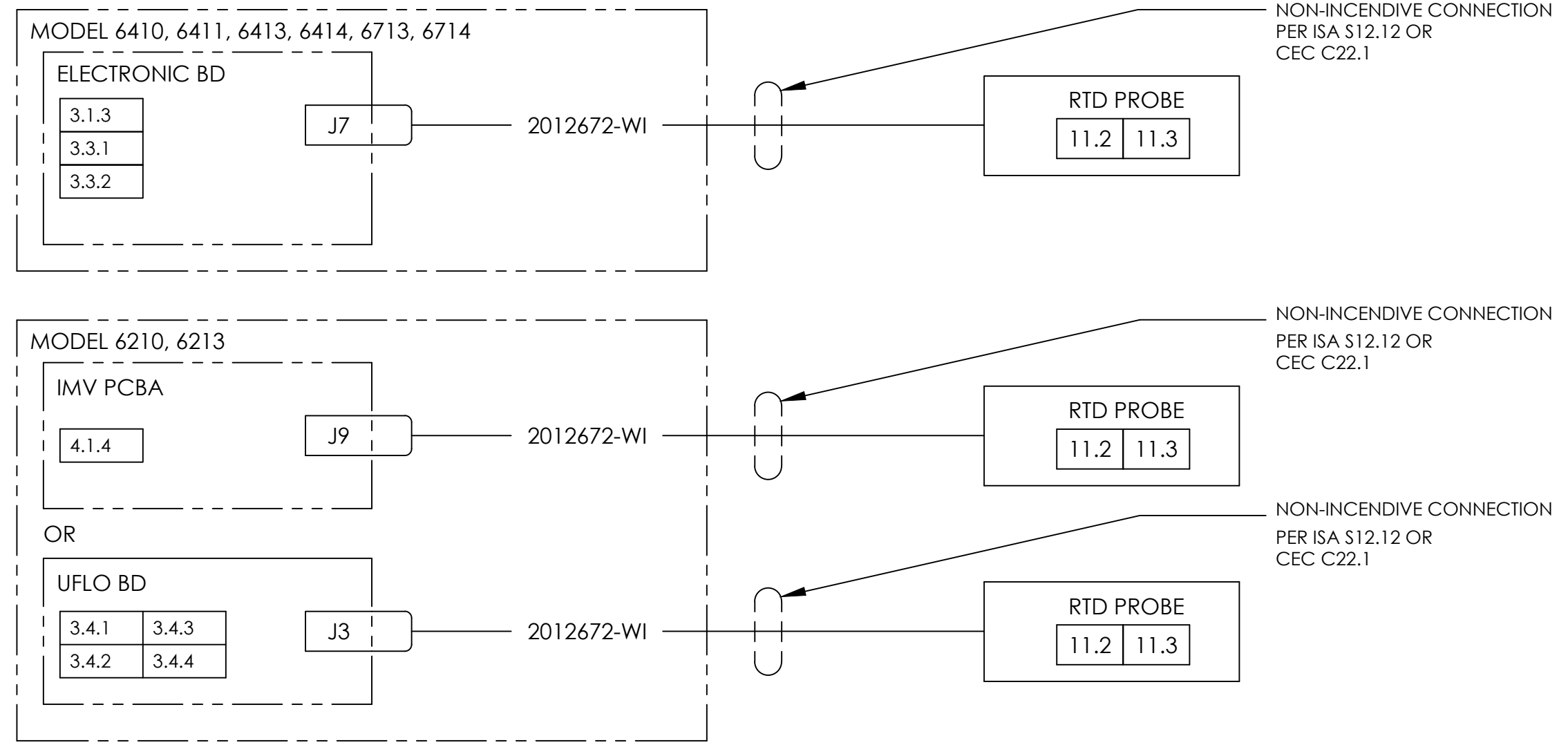


11 RTD PROBE OPTION

- 11.1 WITHOUT RTD
- 11.2 2011905-011, -012, -013, -015, -016, -028, & -029 RTD PROBE, SST ARMOR, 50FT MAX
- 11.3 2011905-021 THRU -026, & -030 RTD PROBE, SST MESH, 50FT MAX

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



12 COMMUNICATION MTG KIT

- 12.1 WITHOUT OPTION
- 12.2 COMMUNICATION BRKT, 2015260
- 12.3 REMOVED
- 12.4 COMM MTG KIT, UCI2
UCI2 - USES 2017266 UCI PCBA
- 12.5 COMM MTG KIT (DIAL-UP MODEM)
UCI2 (DIAL-UP MODEM) - USES 2017266 UCI2 PCBA
WITH 2400 BAUD CERMETEK CHIP CH1786-ET
OR 9600 BAUD CERMETEK CHIP CH1793-ET OR CH1794-ET
- 12.6 SIGNAL LINE PROTECTOR
SIGNAL LINE PROTECTOR TRANSTECTOR #TSP9005 USED WITH
OR WITHOUT UCI2
- 12.7 RS232 TO RS422/RS485 SIGNAL LEVEL ADAPTER
AMPLICON #MODEL 485 M25 (ICS ELECTRONICS)
- 12.8 COMM MTG KIT (DIAL-UP MODEM)
DUAL PORT UCI2 (DIAL-UP MODEM)
USES 2017266 UCI2 PCBA
WITH 2400 BAUD CERMETEK CHIP CH1786-ET
OR 9600 BAUD CERMETEK CHIP CH1793-ET OR CH1794-ET

13 COMMUNICATION OPTION

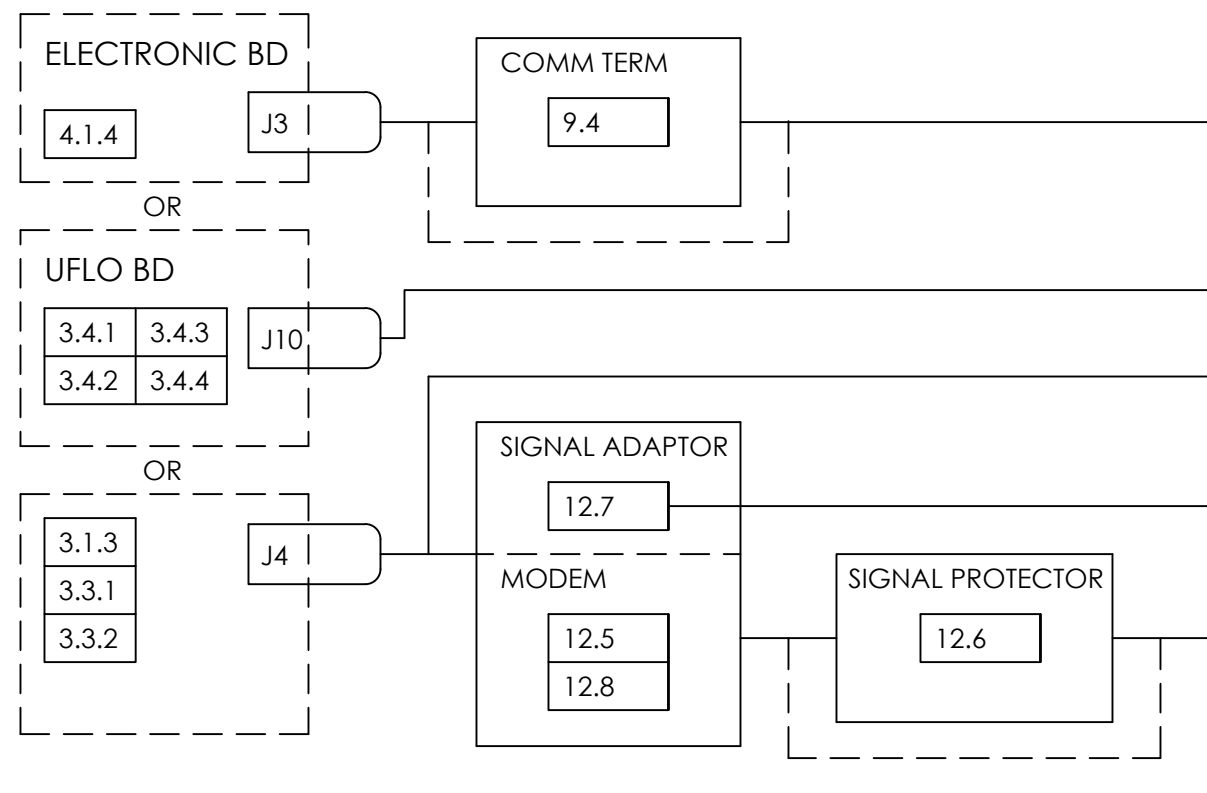
- 13.1 W/O COMMUNICATION OPTION
- 13.2 REMOVED
- 13.3 MDS4310 RADIO, 2015474-AI
- 13.4 MDS2310 RADIO, 2015390-AI
- 13.5 JOHNSON RADIO W/MODEM 4016/4046/4096
- 13.6 MDS9810 RADIO, 2018279-AI
- 13.7 AIRLINK CDPD RAVEN I, MODEL 9700
- 13.8 MDS4710 RADIO, 2100013-AI
- 13.9 MDS9710 RADIO, 2100009-AI
- 13.10 MDS2310 W/O MODEM
- 13.11 REMOVED
- 13.12 AIRLINK CDPD, RAVEN II
- 13.13 AIRLINK CDPD, RAVEN II, OEM PLUS (PCBA)
- 13.14 FREEWAVE RADIO, FGR09
- 13.15 FREEWAVE RADIO, FGRI0-M
- 13.16 FREEWAVE RADIO, FGRI0-S
- 13.17 FREEWAVE RADIO, FGR2-C-U
- 13.18 FREEWAVE RADIO, FGR2-IO5
- 13.19 FREEWAVE RADIO, FGR PLUSRE
- 13.20 FREEWAVE RADIO, HTP-900RE
- 13.21 FREEWAVE RADIO, LRS-140-CSU
- 13.22 FREEWAVE RADIO, LRS-455-CU
- 13.23 AIRLINK, RAVW XT G2212
- 13.24 AIRLINK, RAVW XT V2221
- 13.25 GE/MDS, TRANSNET EL805-0055 DIE CAST
- 13.26 GE/MDS, TRANSNET EL805-0052 PLASTIC
- 13.27 GE/MDS, INET 900 RADIO
- 13.28 GE/MDS, MDS SD4 RADIO (REQUIRES BATTERY OR NEC CLASS 2 P/S)
- 13.29 GE/MDS, MDS SD9 RADIO (REQUIRES BATTERY OR NEC CLASS 2 P/S)
- 13.30 GE/MDS, ENETN-MD9R (ETHERNET REMOTE)
- 13.31 ABB INC, HOST RADIO 2102009, WITH AERO COMM TRANSCEIVER MODULE, AC4490-200
- 13.32 AIRLINK RAVEN RV50 LTE GATEWAY
- 13.33 EATON ELPRO EL-615M ETHERNET CELLULAR MODEM/ROUTER (REQUIRES BATTERY OR NEC CLASS 2 P/S)
- 13.34 TROPOS RADIO ROUTER BOARD AND BRIDGE PCBA P/N 200453

12 13

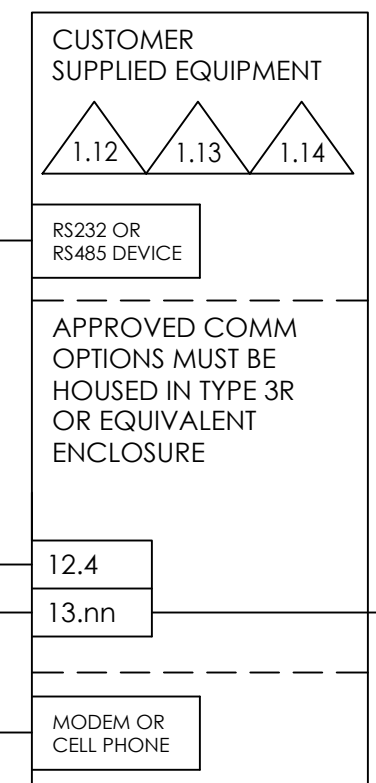
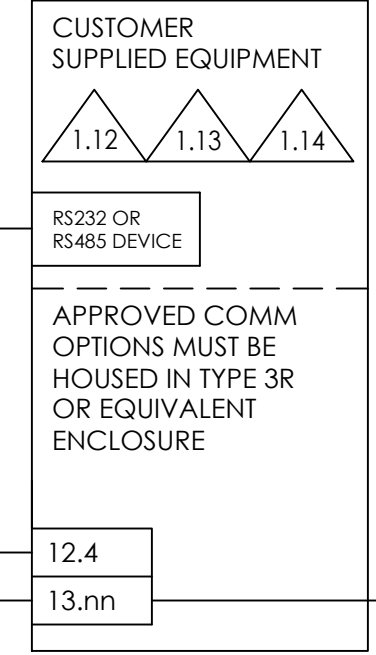
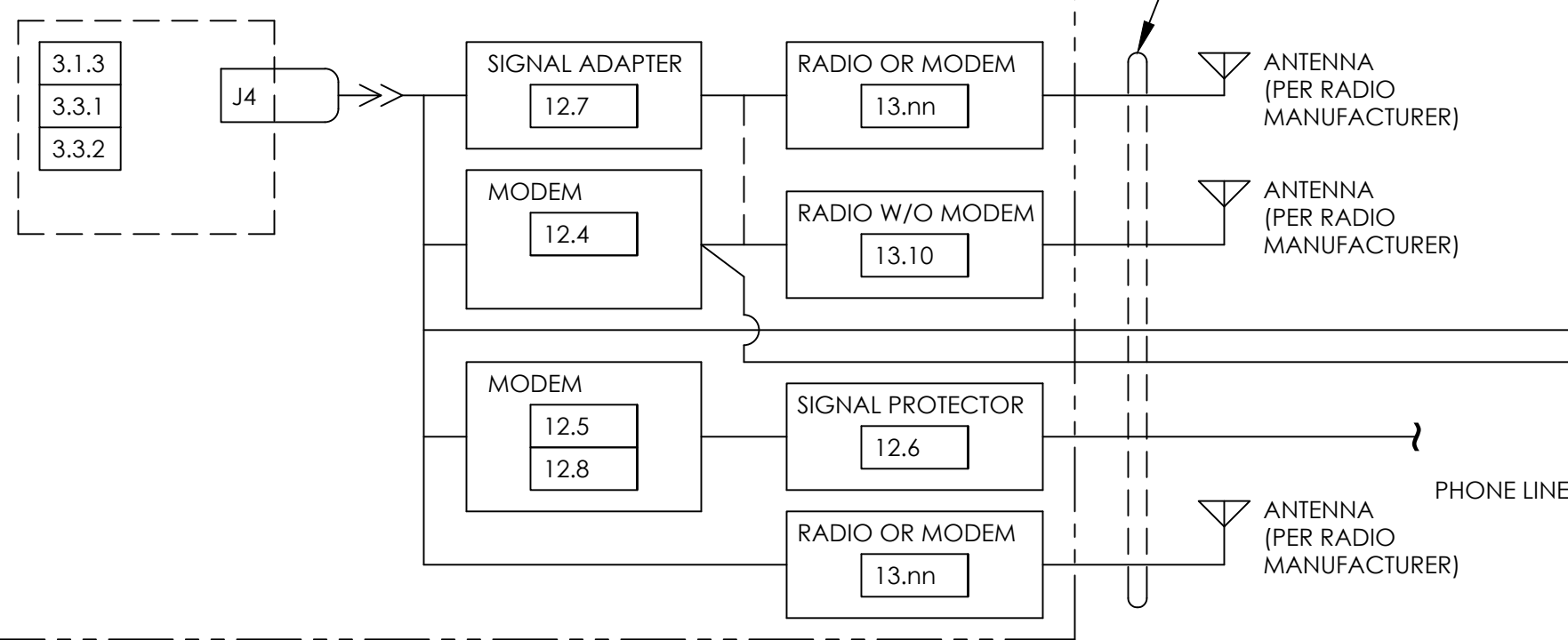
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

MODEL 6210, 6410, 6411



MODEL 6413, 6414, 6713, 6714



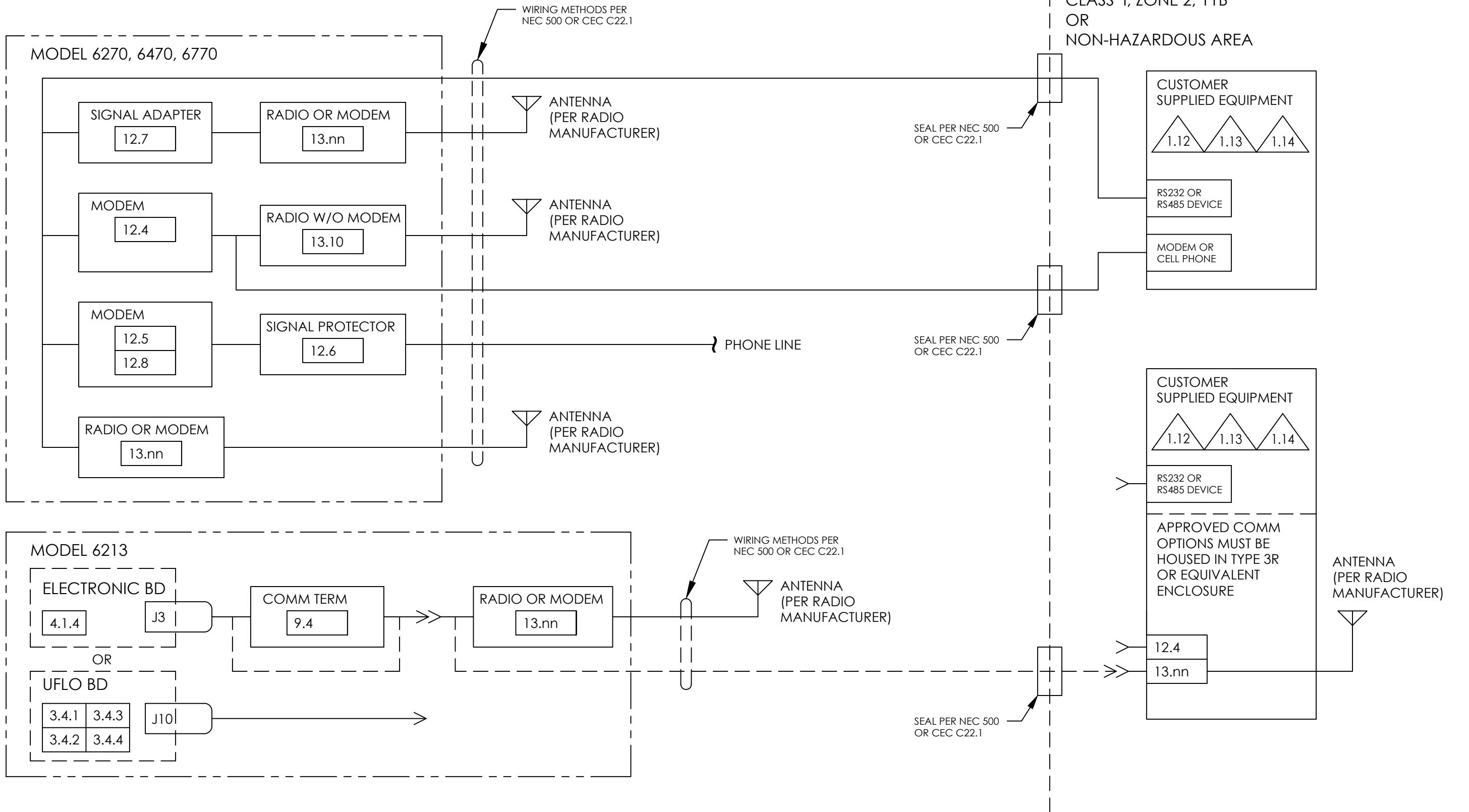
SEAL PER NEC 500 OR CEC C22.1

SEAL PER NEC 500 OR CEC C22.1

12 13

HAZARDOUS AREA
CLASS I, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS I, DIV 1, GROUPS C, D
CLASS I, DIV 2, GROUPS C, D
CLASS I, ZONE 1, 11B
CLASS I, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

14 APPROVED PULSE OPTIONS

14.1 WITHOUT OPTION

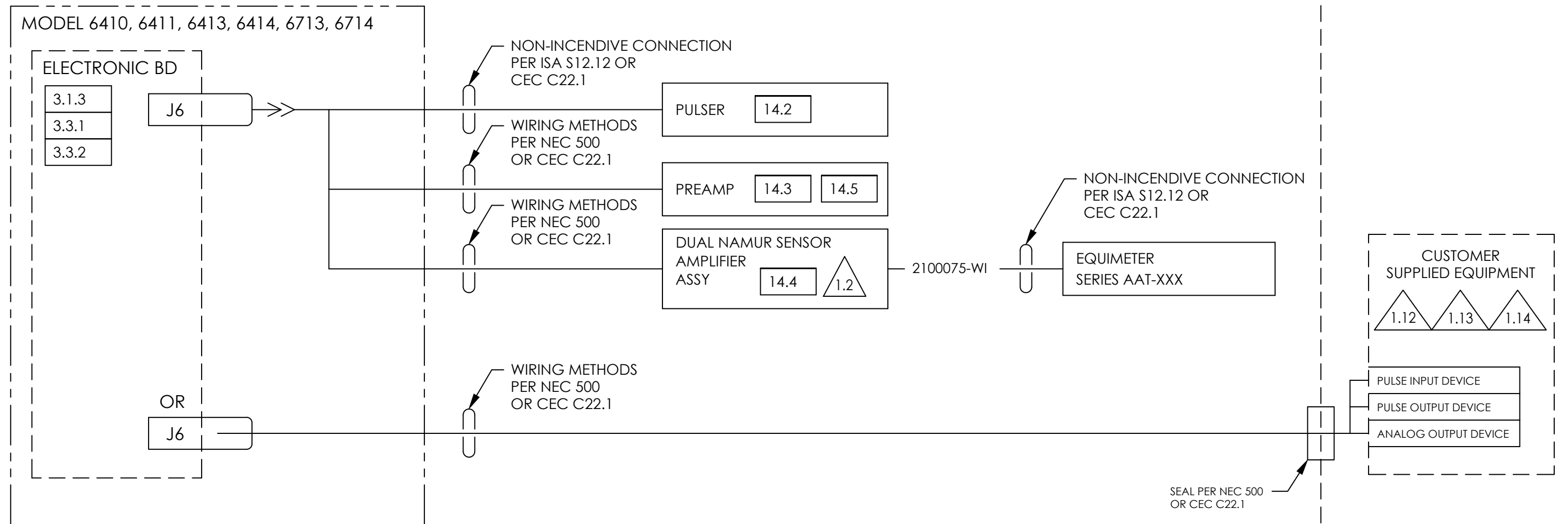
14.2 IMAC PULSER, 50 OR 100 PULSE, IMAC SERIES 300 OR 2015378-001/002 (KIT SUPPLIED WITH STUDS THAT SUPPORT AMERICAN/ROOTS OR ROCKWELL TURBINE METERS), OR 2011855-001 THRU -004

14.3 REMOVED

14.4 DUAL NAMUR SENSOR AMPLIFIER PCBA (2100053-001) MOUNTED IN OUTLET BOX (RED DOT AAGAT-4).

DUAL NAMUR INTERFACES ONLY WITH EQUIMETER SERIES AAT-XXX (WHERE XXX INDICATES MAXIMUM RATED LINE FLOW RATE IN ACFHX1000)

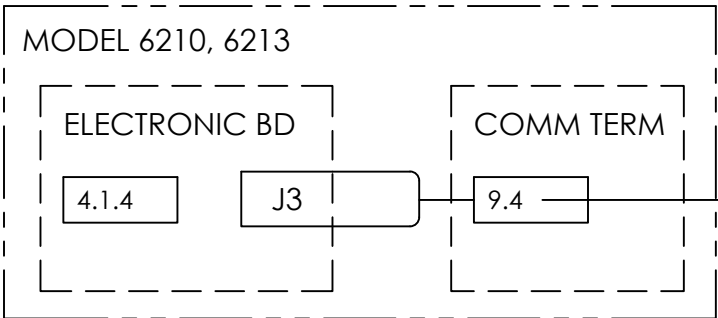
14.5 MAG PICKUP-AMPLIFIER/SIGNAL CONDITIONER PCBA (2100292-001/002/003/004) MOUNTED IN OUTLET BOX (KILLARK GEMT-2)



14

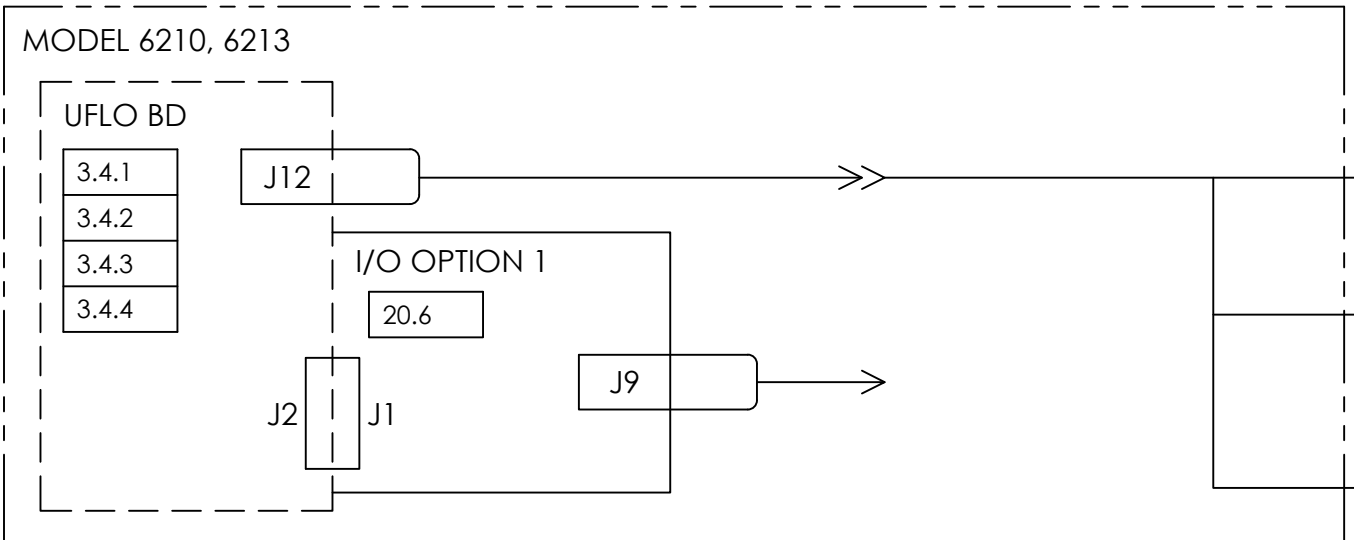
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

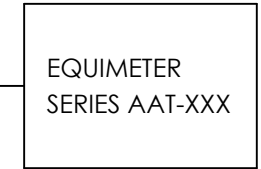
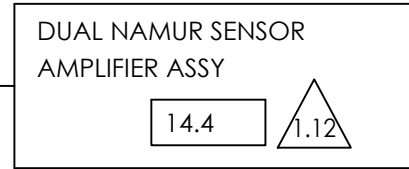
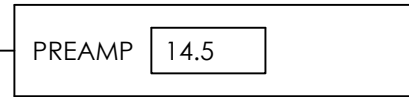
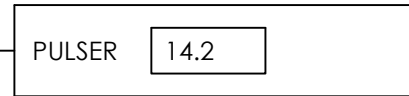


WIRING METHODS
PER NEC 500
OR CEC C22.1

OR



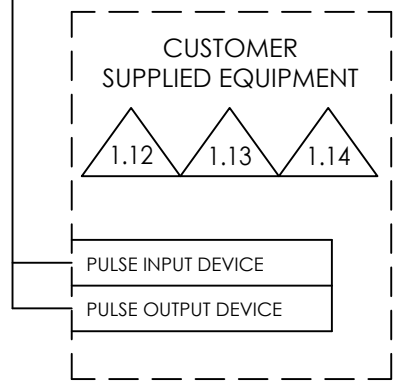
NON-INCENDIVE CONNECTION
PER ISA S12.12 OR
CEC C22.1



WIRING METHODS
PER NEC 500
OR CEC C22.1

NON-INCENDIVE CONNECTION
PER ISA S12.12 OR CEC C22.1

SEAL PER NEC 500
OR CEC C22.1



SCALE NONE	SIZE B	DOC TYPE CD	DRAWING NO. 2015246-CD	REV BU	SHEET 21 OF
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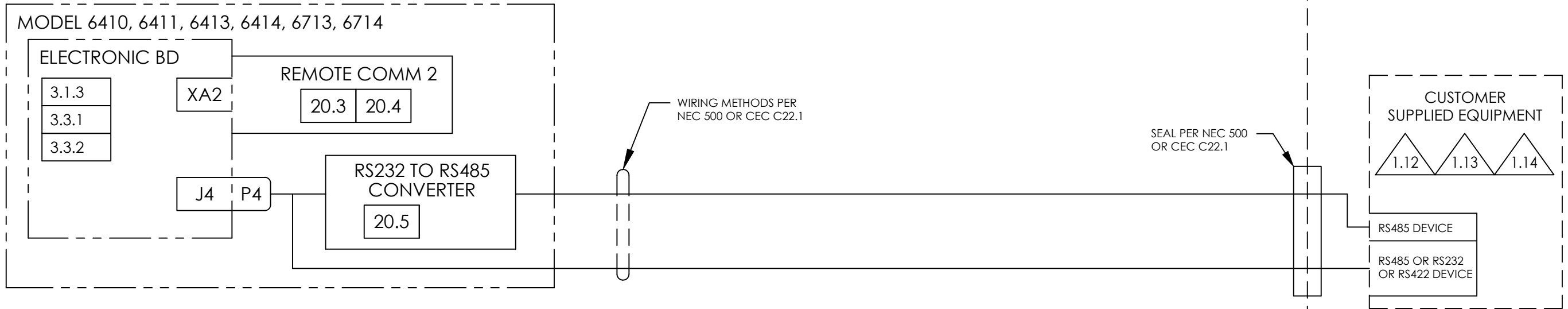
20

REMOTE COMM 2 OPTION

- 20.1 WITHOUT MODULE
- 20.2 REMOVED
- 20.3 COMM MODULE, RS485, 2015193
- 20.4 COMM MODULE, RS232, 2015192
- 20.5 RS232 TO RS485 PATTON CONVERTER 2015445-003
- 20.6 2104395-001 I/O OPTION 1 (COMMUNICATIONS) PCBA

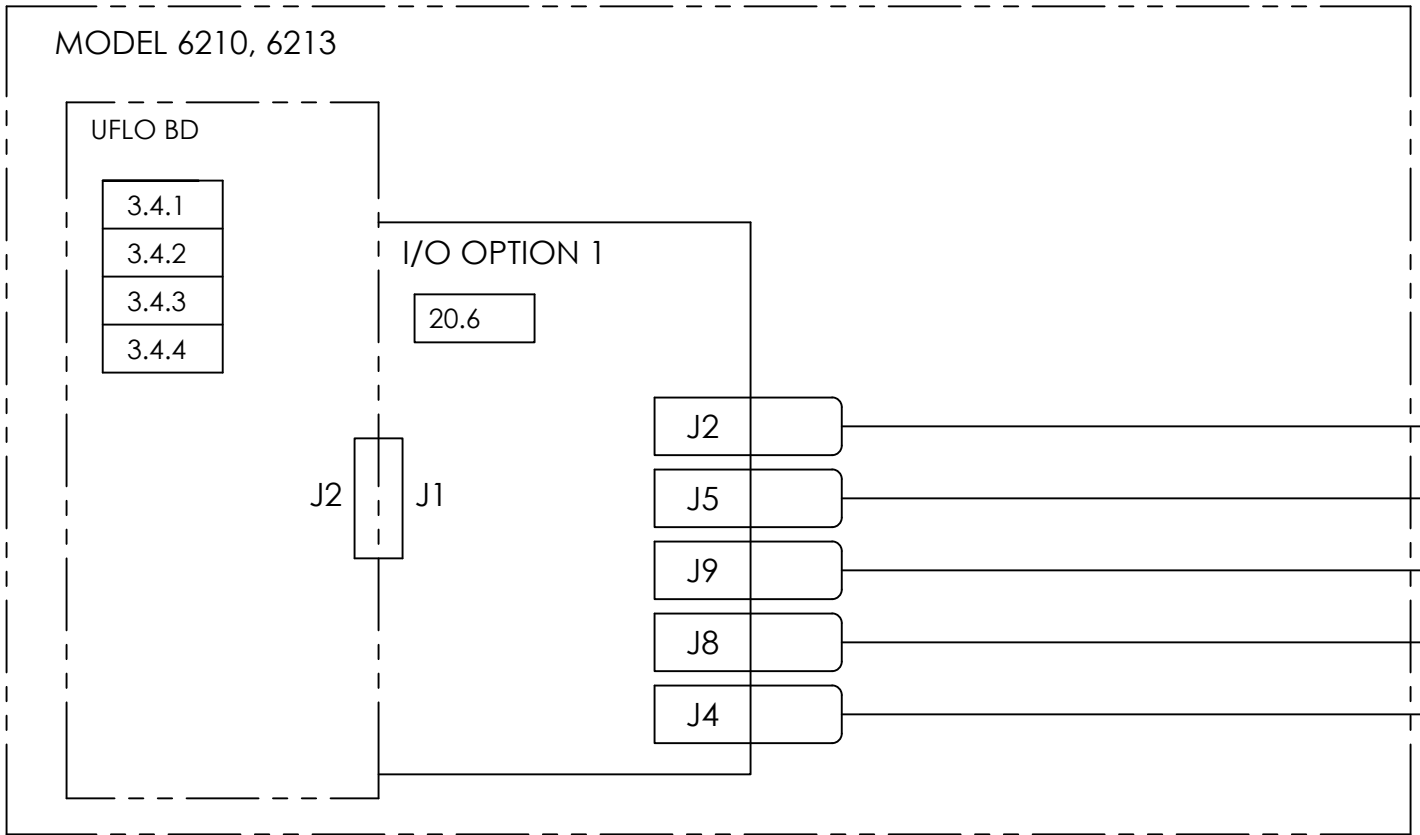
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



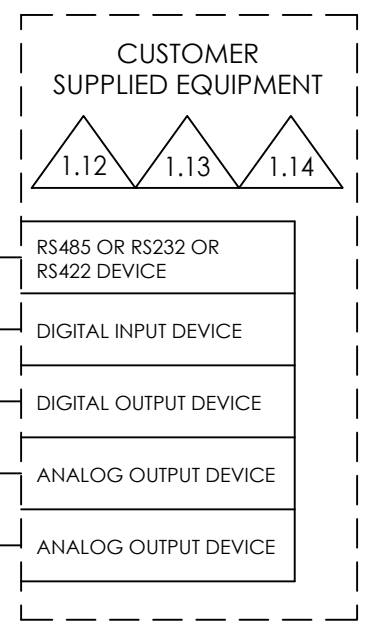
HAZARDOUS AREA
CLASS I, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS I, DIV 1, GROUPS C, D
CLASS I, DIV 2, GROUPS C, D
CLASS I, ZONE 1, 11B
CLASS I, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



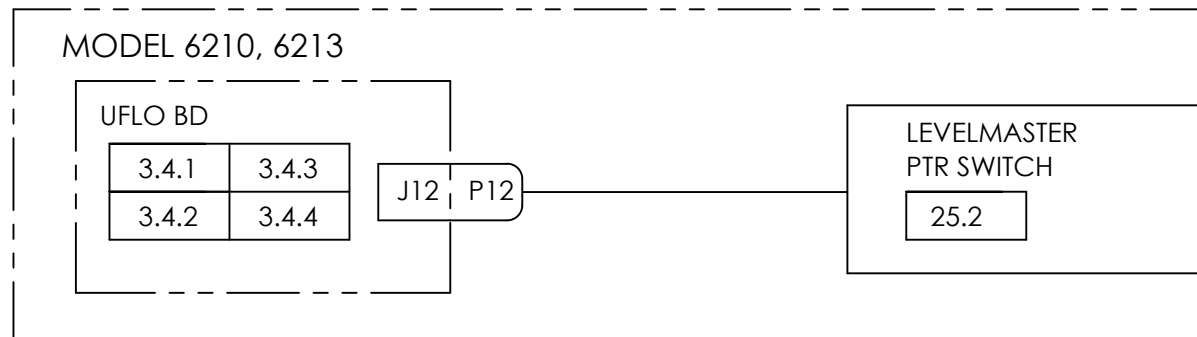
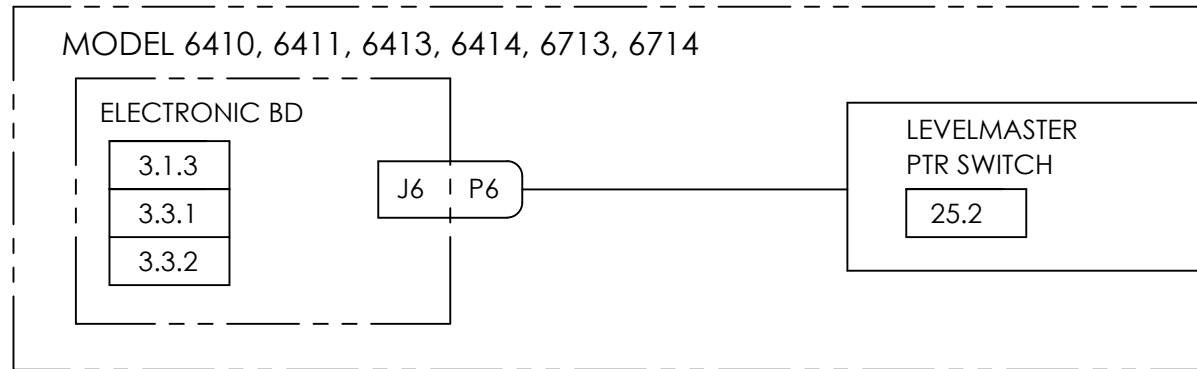
WIRING METHODS
PER NEC 500
OR CEC C22.1

SEAL PER NEC 500
OR CEC C22.1



25 LEVELMASTER PTR SWITCH OPTION

- 25.1 WITHOUT OPTION
- 25.2 LEVELMASTER PTR SWITCH, CUTLER-HAMMER E22PB1A, NORMALLY OPEN



HAZARDOUS AREA
CLASS I, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS I, DIV 1, GROUPS C, D
CLASS I, DIV 2, GROUPS C, D
CLASS I, ZONE 1, 11B
CLASS I, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

28 I/O MODULE KIT

28.1	W/O OPTION
28.2	I/O MODULE MTG KIT (MAXIMUM 3 MODULES, ANY COMBINATION FOR MODELS 6413, 6414)
28.3	I/O MODULE MTG KIT (MAXIMUM 6 MODULES, ANY COMBINATION FOR MODELS 6713, 6714)
28.4	TFIO I/O MODULES
28.4.1	2100543-003, 8/COMBO DIGITAL
28.4.2	2100415-003, 4/AO (4-20 mA)
28.4.3	2100421-003, COMM INTERFACE
28.4.4	2100418-003, 8/AI (TYPE II)
28.4.5	2100412-003, VALVE CONTROL INTERFACE
28.4.6	2101018-003, 4/100 OHM RTD
28.4.7	2100869-003, 4 THERMOCOUPLE

29	THRU	31	I/O MODULE POSITIONS 1 OR UP TO 3 (FOR 6413, 6414)
29	THRU	34	I/O MODULE POSITIONS 1 OR UP TO 6 (FOR 6713, 6714)

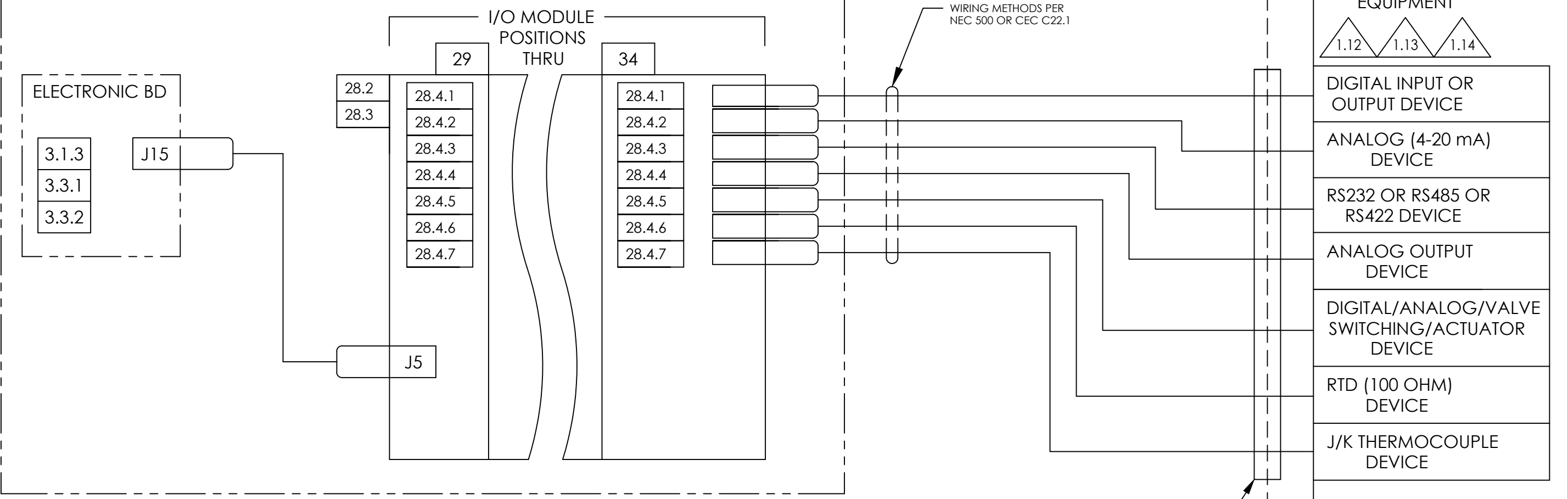
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

MODEL 6413, 6414, 6713, 6714



CUSTOMER SUPPLIED EQUIPMENT

1.12 1.13 1.14

DIGITAL INPUT OR OUTPUT DEVICE

ANALOG (4-20 mA) DEVICE

RS232 OR RS485 OR RS422 DEVICE

ANALOG OUTPUT DEVICE

DIGITAL/ANALOG/VALVE SWITCHING/ACTUATOR DEVICE

RTD (100 OHM) DEVICE

J/K THERMOCOUPLE DEVICE

SEAL PER NEC 500 OR CEC C22.1

TABLE 1

APPROVED MODULES

TFIO MODULE PART NO.	DESCRIPTION	TYPICAL EQUIPMENT	WIRING INTERCONNECT
2100543	8/COMBO DIGITAL	MECHANICAL SWITCHES IMAC PULSERS WELKER SAMPLES SOLENOIDS DUAL NAMUR	2012670-WI 2012671-WI 2100075-WI
2100415	4/AO (4-20 mA)	XDCR, GP, DRUCK PMP 1040 XDCR, GP, DRUCK PMP 1240 XDCR, DP, FOXBORO 843 XDCR, DP FOXBORO IDP10	2100247-WI 2100247-WI 2100247-WI 2100247-WI
2100421	COMM INTERFACE	<ul style="list-style-type: none"> ● ANY RS232 DEVICE (EXCEPT FOR CD & DTR) ● 3 WIRE RS485 [BUS(+), BUS(-), GND] (BLACK BOX ADAPTER) ● SUPPORTS SWITCHED VBAT 	
2100418	8/AI (TYPE II)	<ul style="list-style-type: none"> ● 4-20 mA TRANSMITTERS ● LOW POWER 1-5V XMTRS 	
2100412	VALVE CONTROL INTERFACE	<ul style="list-style-type: none"> ● FAIRCHILD ACTUATOR ● CONTROL ACTUATOR ● VALCON ACTUATOR ● WORCHESTER ACTUATOR 	2012927-WI 2012927-WI 2012927-WI 2012927-WI

45 DIN RAIL MODULE OPTIONS

45.1	W/O OPTION	
45.2	POWER SUPPLY	
45.2.1	PHOENIX, MINI PS 100-240VAC IN/24VDC OUT/1.3, 2866446 (NEC CLASS 2 RATED)	
45.2.2	PULS, QS5.DNET 100-240VAC IN/24VDC OUT/3.8, (NEC CLASS 2 RATED)	
45.2.3	PHOENIX, QUINT PS 12VDC IN/24VDC OUT/5, 2320131	
45.2.4	PHOENIX, MINI PS 12-24VDC IN/24VDC OUT/1, 2866284	
45.3	ACROMAG DEVICES	
45.3.1	900EN-S005 ETHERNET SWITCH MODULE (REQUIRES NEC CLASS 2 P/S)	
45.3.2	952EN-4012 & 6012 ETHERNET I/O CURRENT MODULE COMBINATION (REQUIRES NEC CLASS 2 P/S)	
45.3.3	972EN-4004, 4006, 6004, & 6006 ETHERNET AO DC CURRENT MODULE (REQUIRES NEC CLASS 2 P/S)	
45.3.4	951EN-4012 & 6012 ETHERNET I/O CURRENT MODULES (REQUIRES NEC CLASS 2 P/S)	
45.3.5	973EN-4004, 4006, 6004, & 6006 ETHERNET AO DC VOLTAGE MODULE (REQUIRES NEC CLASS 2 P/S)	
45.4	MOXA DEVICES	
45.4.1	EDS-305A/308A-T ETHERNET SWITCH	
45.4.2	NPORT-IA5150-T & IA5250-T ETHERNET SWITCH	
45.5	SIGNAL LINE SURGE PROTECTION DEVICES	
45.5.1	TYPE 3 SURGE PROTECTION DEVICE DCV, MODEL 2905223 PLT-SEC-T3-24-FM, PHOENIX	
45.5.2	SURGE PROTECTION DEVICE 4-20mA, MODEL 2906824, TTC-6P-1X2-M-EX-24DC-UT-I, PHOENIX	
45.5.3	SURGE PROTECTION DEVICE SIGNAL WIRING, MODEL 2906826, TTC-6P-3-HF-F-M-EX-12DC-UT-I, PHOENIX	

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

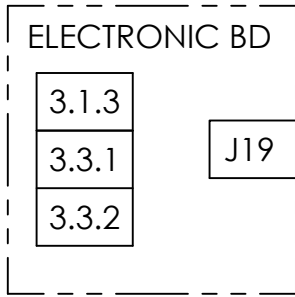
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

MODEL 6413, 6414, 6713, 6714, 6470, 6770

I/O MODULE POSITIONS

29 THRU 34



28.2
28.3

45.2.1

45.2.2

45.2.3

45.2.4

45.4.1

OR

45.4.2

OR

45.3.1

45.3.2

45.3.3

45.5.1

45.5.2

45.5.3

ETHERNET

WIRING METHODS PER
NEC 500 OR CEC C22.1

100-240VDC

24VDC

12VDC

24VDC

24VDC

ETHERNET

ETHERNET

24VDC NEC CLASS 2 RATED P/S

ETHERNET

24VDC

24VDC PROTECTED

DC CURRENT

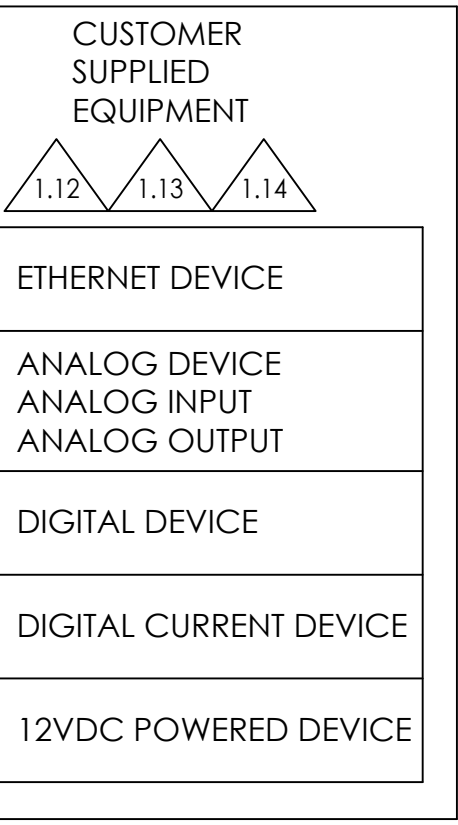
DC CURRENT PROTECTED

SIGNAL WIRING

SIGNAL WIRING PROTECTED

24VDC

SEAL PER NEC 500
OR CEC C22.1



100 APPROVED OPTIONAL EQUIPMENT

100.1 DP TRANSDUCERS

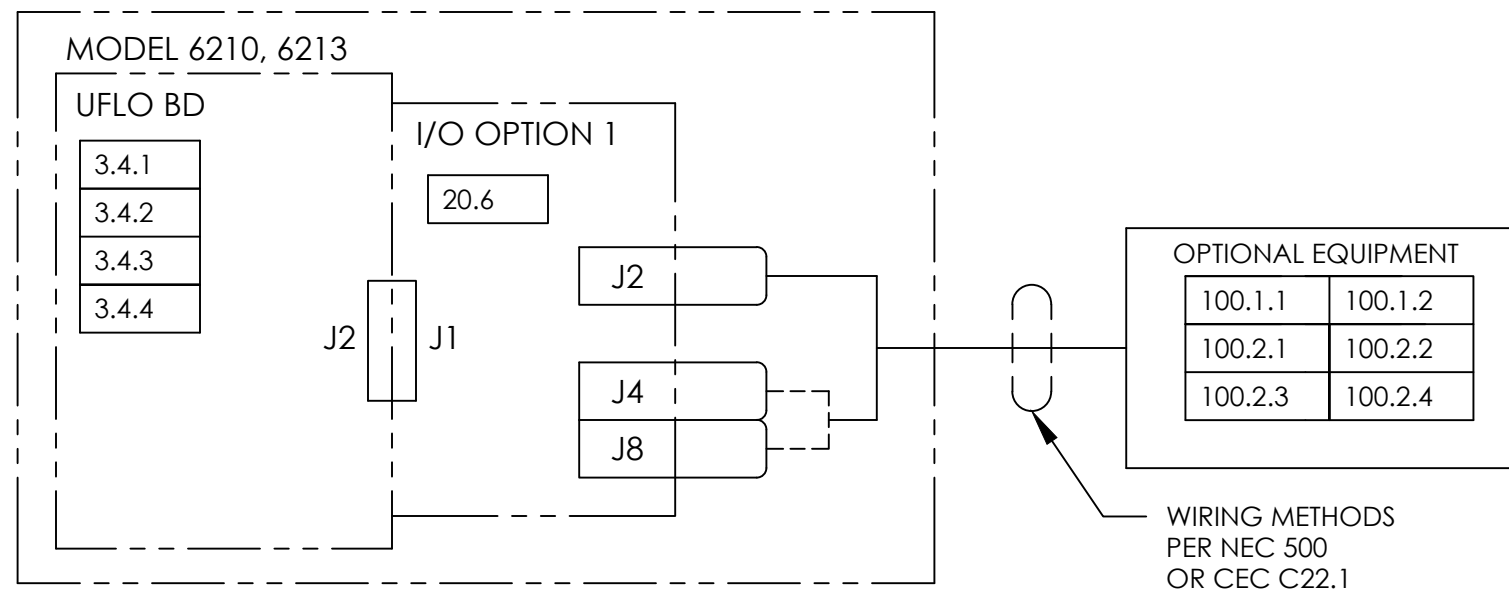
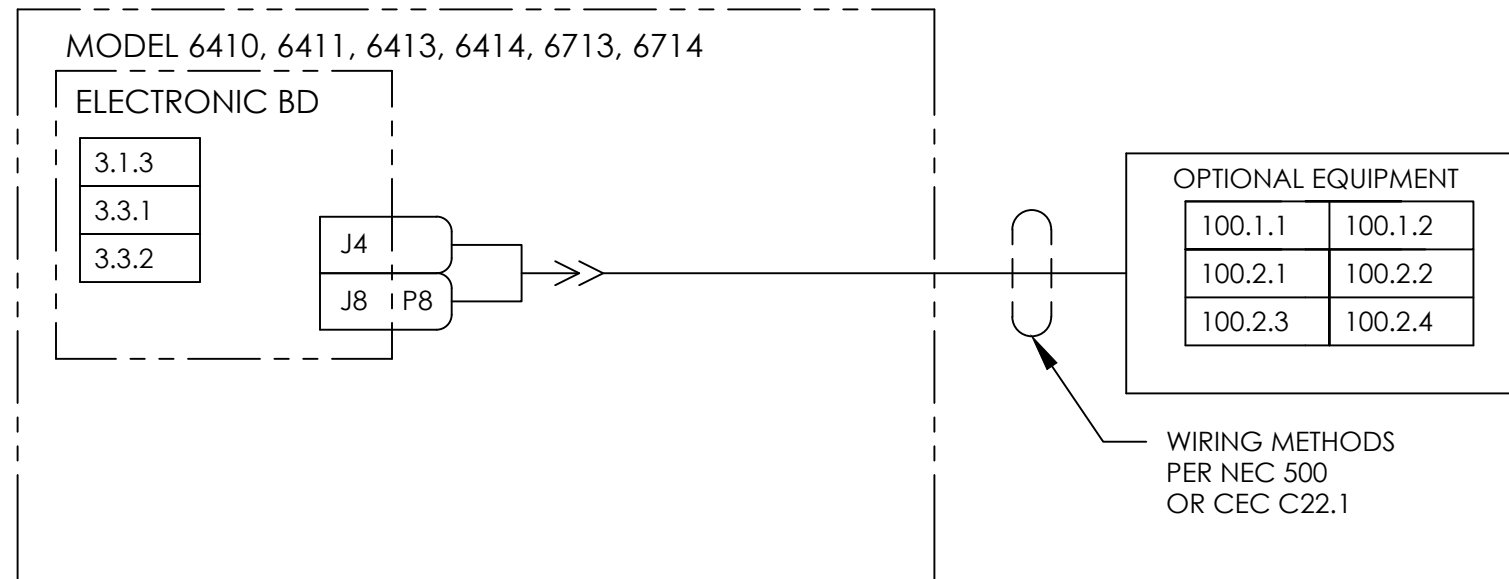
- 100.1.1 FOXBORO 843
- 100.1.2 FOXBORO IDP10

100.2 GP TRANSDUCERS

- 100.2.1 XDCR, GP, DRUCK PMP 1040 (2018213-XXX)
- 100.2.2 XDCR, GP, DRUCK PMP 1240 (2018107-XXX)
- 100.2.3 GP XDCR ASSY, DRUCK PMP 1040 W/TERM BOX (2100015-XXX)
- 100.2.4 GP XDCR ASSY, DRUCK PMP 1240 W/TERM BOX (2100096-XXX)

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

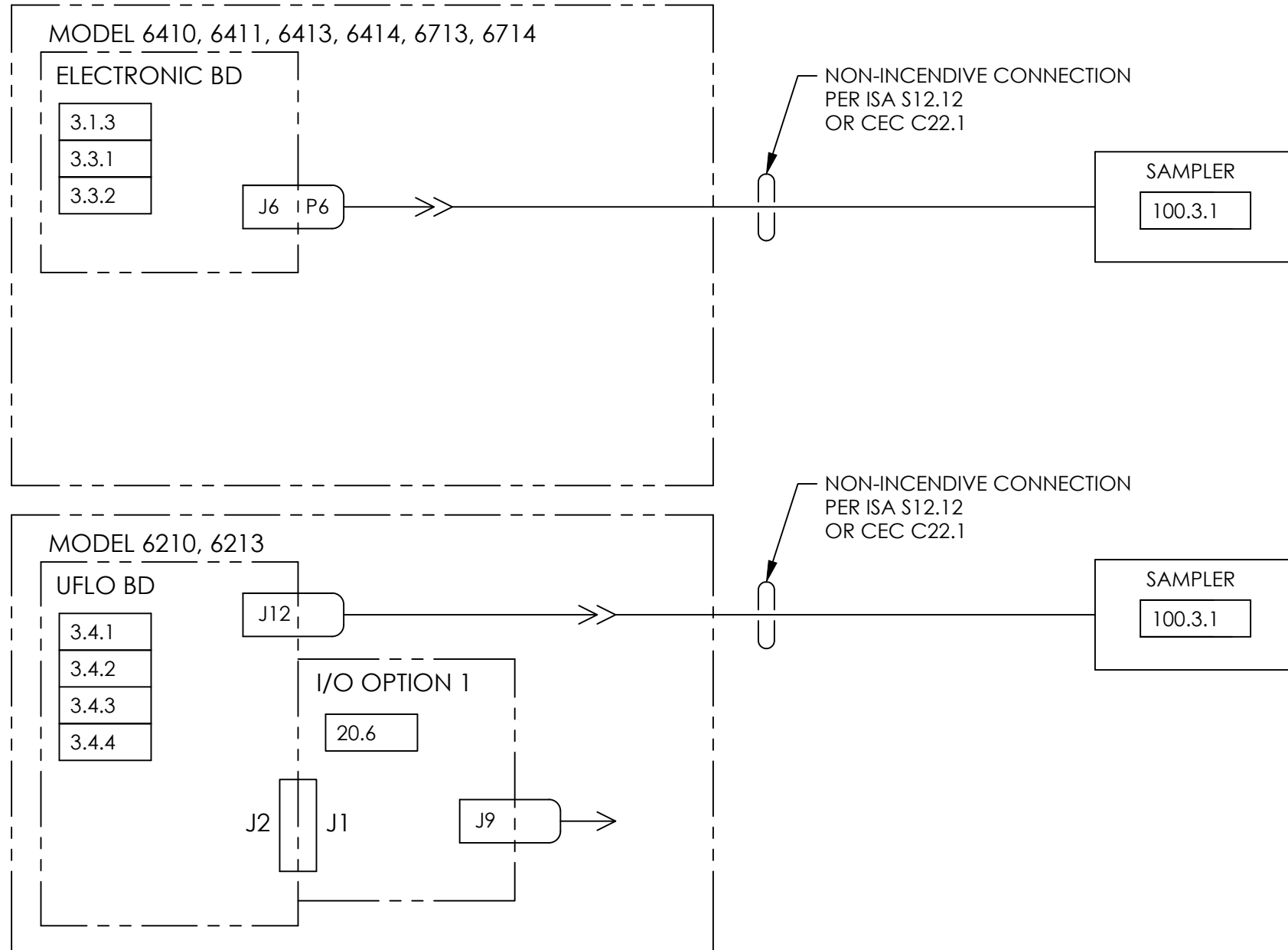


100.3 SAMPLERS

100.3.1 SAMPLER, Y-Z INDUSTRIES, DYNA PAK 2000 SERIES W/Z65 CONTROLLER

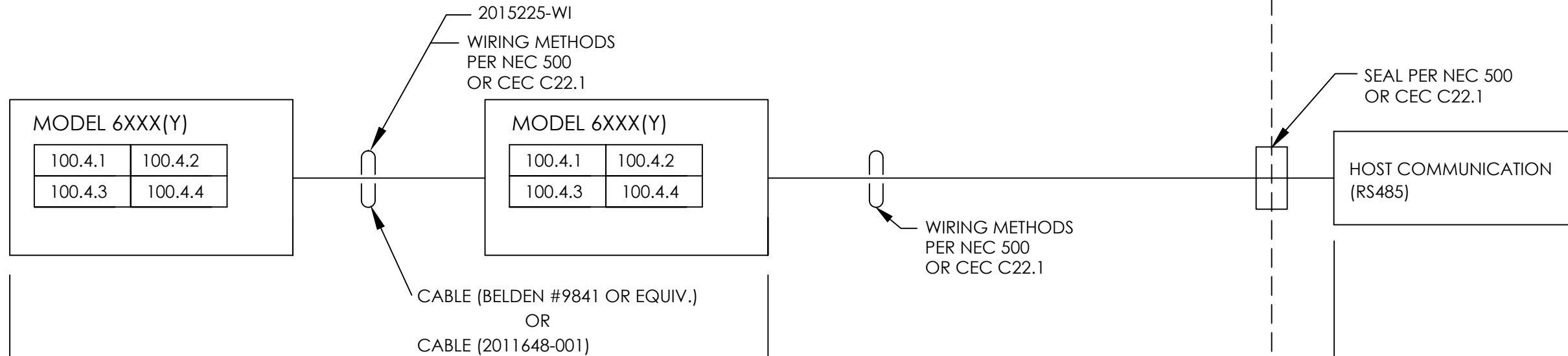
HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



100.4 RS485 HOOK-UP BETWEEN UNITS

100.4.1	MODEL 66XX(Y)
100.4.2	MODEL 64XX(Y)
100.4.3	MODEL 67XX(Y)
100.4.4	MODEL 62XX(Y)



ALL FCU'S OF SAME MODEL
ARE WIRED IDENTICAL EXCEPT
THE LAST FCU

66XX FCU'S & 64XX FCU'S
MAY BE MIXED TOGETHER

MAXIMUM NUMBER OF LOADS THAT MAY BE CONNECTED IN
SERIES USING RS485 COMMUNICATIONS IS 32

TOTAL LENGTH OF RS485 CABLE NOT TO EXCEED 4000 FEET

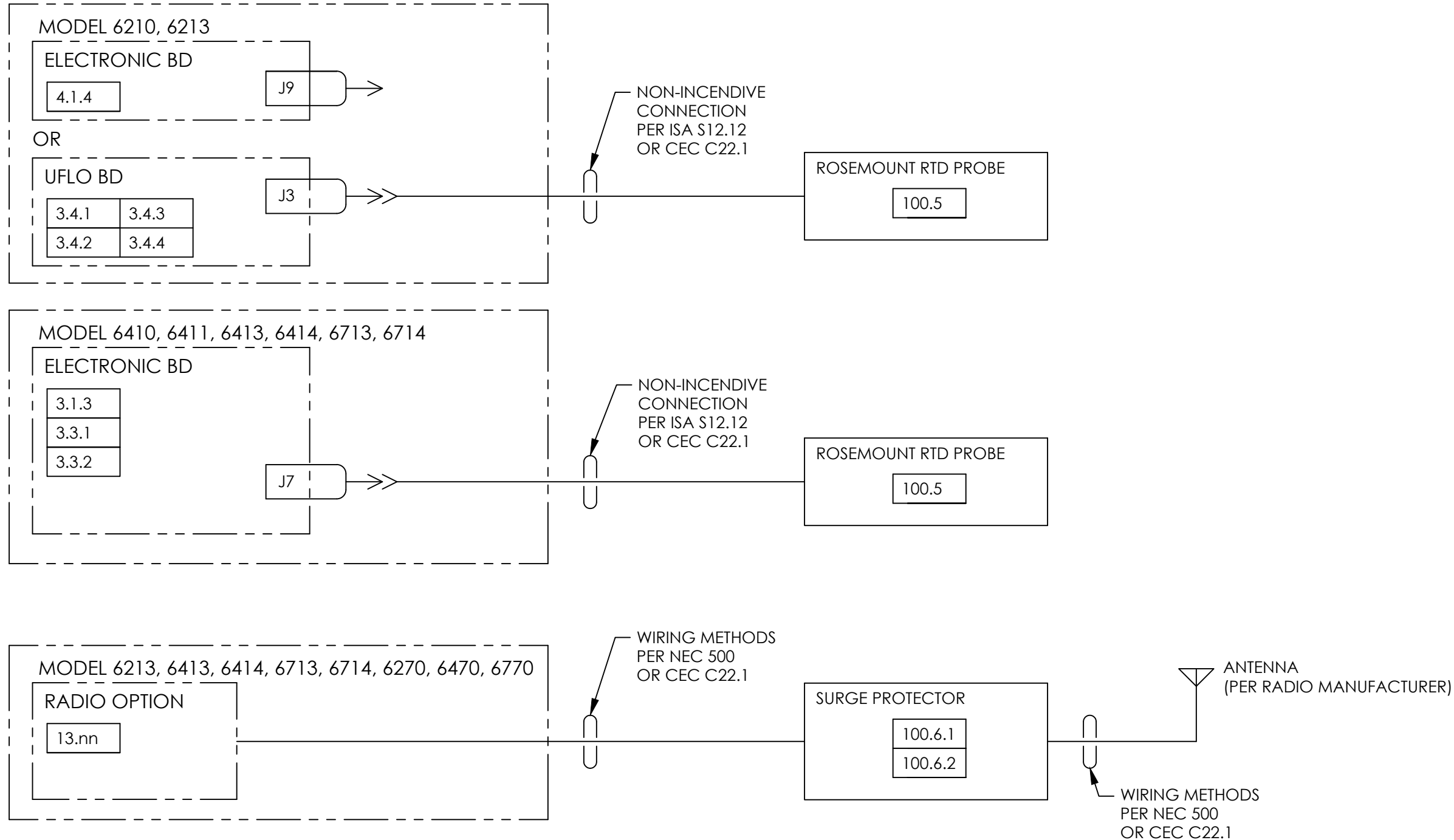
100.5 OPTIONAL RTD PROBE
(ROSEMOUNT MODEL 0068R21N00A020T34E5)

100.6 ANTENNA SURGE PROTECTOR

100.6.1 POLY PHASER CORP: IS-5ONX-C2-ME
100.6.2 ALTELICON: AL-NMNF-9

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA

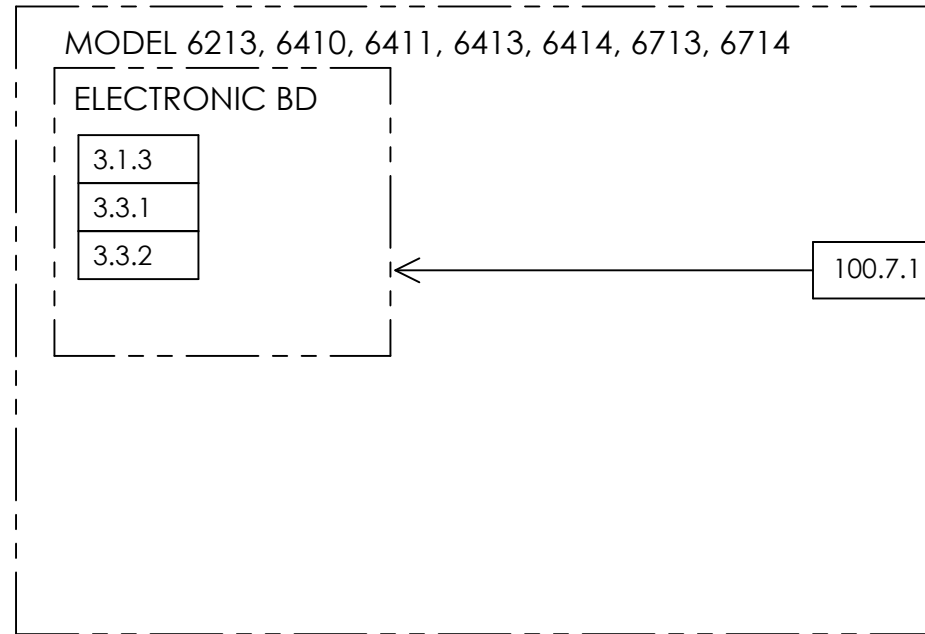


100.7 SIGNAL LINE CONNECTOR

100.7.1 TRUCK SIGNAL LINE FEED THROUGH CONNECTOR/RECEPTACLE P-CKFLV 12-2/\$613

HAZARDOUS AREA
CLASS 1, DIV 2, GROUPS C, D

HAZARDOUS AREA
CLASS 1, DIV 1, GROUPS C, D
CLASS 1, DIV 2, GROUPS C, D
CLASS 1, ZONE 1, 11B
CLASS 1, ZONE 2, 11B
OR
NON-HAZARDOUS AREA



100.7.1

WIRING METHODS
PER NEC 500
OR CEC C22.1

CABLE MUST BE RATED FOR THE CLASSIFIED
HAZARDOUS AREA AND MATE WITH THE
CONNECTOR/RECEPTACLE

SEAL PER NEC 500
OR CEC C22.1

