

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 UNLESS THE AREA IS KNOWN TO BE NON-HAZARDOUS.

1.4 REMOVED

1.5 REMOVED

1.6 REMOVED

1.7 REMOVED

1.8 REMOVED



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



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

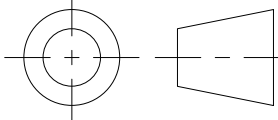


1.11 CUSTOMER SUPPLIED EQUIPMENT MUST BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND THE NFPA 70 "ELECTRICAL CODE" OR THE "CANADIAN ELECTRICAL CODE".

REVISIONS

REV	ACTION	DRAWN	CHECKED	APPROVED	DATE
AL	D37272	B. LEMEN	D. ADAMS	D. ADAMS	14/04/23
AM	D37846	K.KYLER	C. TRESNER	D. ADAMS	17/10/09
AN	D38898	C. WRIGHT	C. TRESNER	D. ADAMS	18/12/10

END PRODUCT APPROVED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES.
NO CHANGES ALLOWED WITHOUT APPROVAL OF AUTHORIZED PERSON(S)
IDENTIFIED BY DRAWING 2101982-AI.

DO NOT SCALE DRAWING		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMAL .XX ± -- ANGULAR ± -- XXX ± ---		PRODUCT LINE TOTALFLOW®		LEVEL 3		ABB TOTALFLOW Products			
THIRD ANGLE PROJECTION 				DESIGN G. HOLLAND		DATE 96/6		TITLE CERTIFICATION DRAWING CONTROL DRAWING, RTU / XRC, DIV 2, C/US C.D.			
				DRAWN A. KASTNER		96/7/2					
				CHECKED A. KASTNER		97/3/12					
BREAK ALL SHARP CORNERS AND EDGES DIMENSIONS APPLY BEFORE FINISH		APPROVED G. HOLLAND		97/3/12		SCALE NONE	SIZE B	DOC TYPE CD	DRAWING NO. 2017275	REV AN	SHEET 1 OF 24

2.0 SPECIFICATION

2.1 MODEL NO. CONFIGURATION FOR RTU OR XRC

MODEL 6790Y -	1	2	3	5	6	8	9	10	12	13	14	20	25	28	29	30	31	32	33	34	-	-	-	-	-	-	-	-	45	-	59	64	90
MODEL 6490Y -	1	2	3	5	6	8	9	10	12	13	14	20	25	28	29	30	31	-	-	-	-	-	-	-	-	-	-	-	45	-	59	64	90
MODEL 6890Y -	1	2	3	5	6	8	9	10	12	13	14	20	25	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	45	50	59	64	90

1. CERTIFICATION

2. ENCLOSURE

3. ELECTRONIC BOARD

5. BATTERY OPTION

6. CHARGING SOURCE (CERTIFICATION NOT APPLICABLE)

8. MOUNTING KIT (CERTIFICATION NOT APPLICABLE)

9. REMOTE COMM 1

10. SPECIAL

12. COMMUNICATION MTG KIT

13. COMMUNICATION OPTION

14. PULSE OPTION

20. REMOTE COMM 2

25. LEVELMASTER P.T.R. SWITCH OPTION

28. I/O MODULE MTG KIT

29. I/O MODULE POSITION NO. 1

30. NO. 2

31. NO. 3

32. NO. 4

33. NO. 5

34. NO. 6

35. NO. 7

36. NO. 8

37. NO. 9

38. NO. 10

39. NO. 11

40. NO. 12

41. NO. 13

42. I/O MODULE POSITION NO. 14

45. DIN RAIL DEVICES

50. XFC/XRC FIRMWARE (CERTIFICATION NOT APPLICABLE)

59. WIFI ANTENNA OPTIONS

64. SD CARD (CERTIFICATION NOT APPLICABLE)

90. MAN/MACHINE INTERFACE OPTION

100. APPROVED OPTIONAL EQUIPMENT. (NOT PART OF MODEL NO.)

1

CERTIFICATION

Y

CLASS I, DIVISION 2, GROUP C,D, T3, -40°F TO 140°F, TYPE 3R

2

ENCL ASSY W/DISPLAY & PCCU CONNECTOR

2.1

6490 ENCLOSURE

2.1.1

REMOVED

2.1.2

2103068-001 ENCL W/2101771-002 STD DOOR

2.1.3

2103068-002 ENCL W/2101751-002 KEYPAD DOOR

2.2

6790 ENCLOSURE

2.2.1

REMOVED

2.2.2

2102976-003 ENCL W/2102977-001 STD DOOR

2.2.3

2102976-004 ENCL W/2102978-001 KEYPAD DOOR

2.3

6890 ENCLOSURE

2.3.1

6890 ENCL 2100462-005 W/210463-002 STD DOOR

2.3.2

6890 ENCL 2100462-005 W/210463-003 KEYPAD DOOR

3

ELECTRONIC BOARD OPTIONS

3.1

REMOVED

3.2

RTU 195 PCBA

3.2.1

2100355-002/-003 RTU195 PCBA

3.3

XRC PCBA ASSY

3.3.1

2103022-001 XRC-G4 MOTHER BD
W/2102427-001 OR W/2103639 EC2410 PROCESSOR CARD

3.3.2

2105825-001 XRC G5 MOTHER BD W/2105708-001
APU AM335X PROCESSOR CARD

43

KEYPAD OPTION

43.1

2100498-002 PROGRAMMED
KEYPAD ASSEMBLY

59

WIFI/BLEETOOTH ANTENNA

59.1

WIFI ANTENNA W/ CABLE AND SURGE ASSEMBLY

90

MAN/MACHINE INTERFACE OPTION

90.1

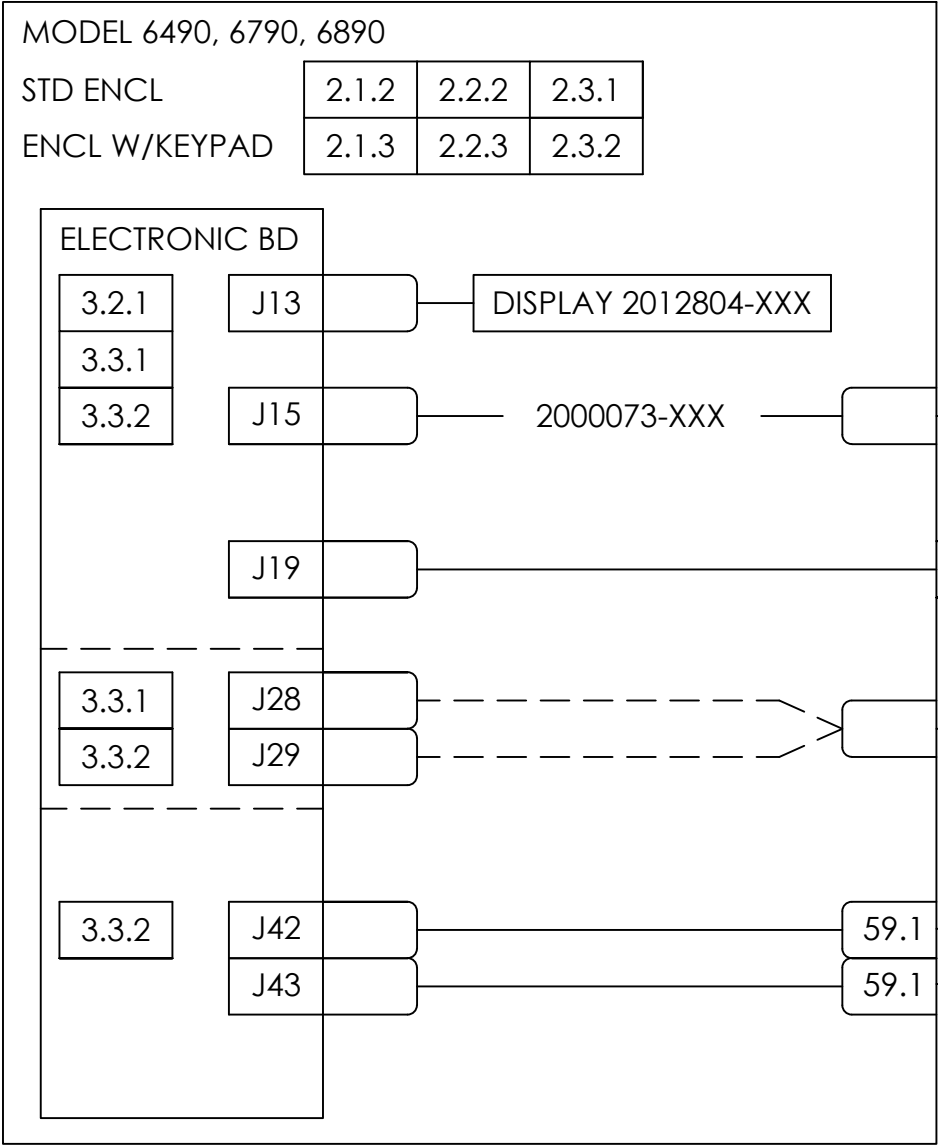
USB TYPE A CONN (1802999-001)
W/CAP (1803005-001)

90.2

USB TYPE B CONN (1803001-001)
W/CAP (1803005-001)

90.3

ETHERNET, CAT5E CONN (1803071-001)
W/CAP (1803005-001)



TO PCCU 

43.1 OPTIONAL
KEYPAD

90.1 90.2
90.3
USB OR
ETHERNET 

ANTENNA (PER
BLUETOOTH/WIFI MODULE
MANUFACTURER)

5 BATTERY OPTION

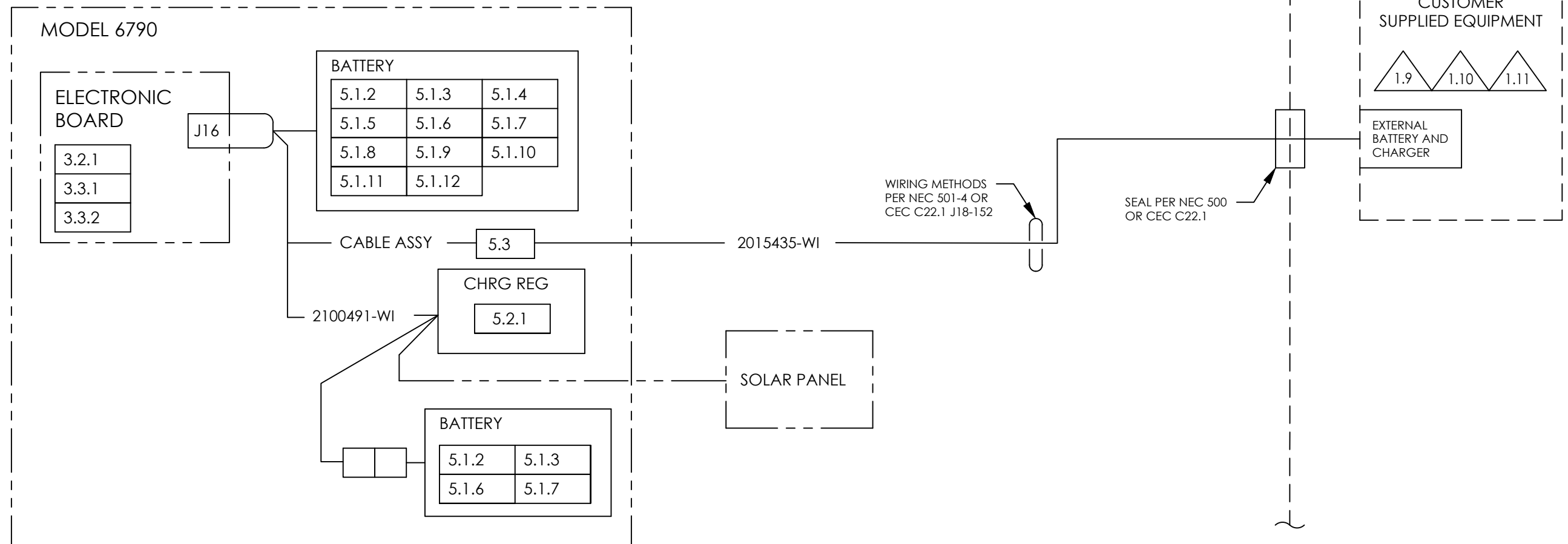
5.1 BATTERIES

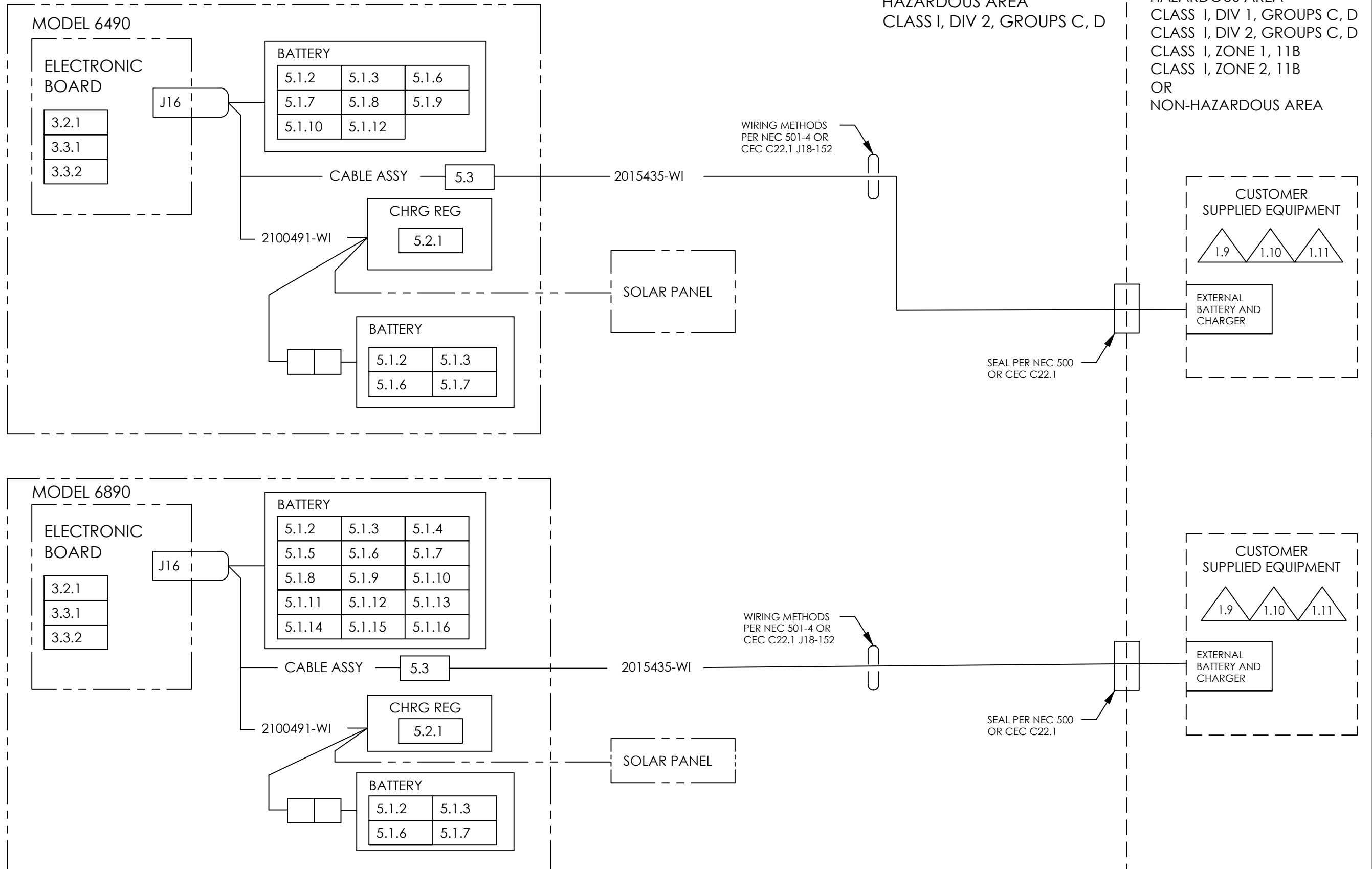
5.1.1	—	WITHOUT BATTERY		5.1.9	—	12V, 12.0 AH POWER-SONIC PS12120	(2015052-006)
5.1.2	—	12V, 8.0 AH CYCLONE	(2015113-003)	5.1.10	—	12V, 18.0 AH POWER-SONIC PS12180	(2015052-007)
5.1.3	—	12V, 26.0 AH GENESIS	(2015052-001)	5.1.11	—	12V, 40.0 AH POWER-SONIC PS12400	(2015052-008)
5.1.4	—	REMOVED		5.1.12	—	12V, 7.0 AH POWER-SONIC PS12070	(2015052-009)
5.1.5	—	12V, 42.0 AH GENESIS G12V42AH10EP	(2015052-004)	5.1.13	—	12V, 70 AH GENESIS G12V70AH10EP	(2015052-010)
5.1.6	—	12V, 17.0 AH GENESIS G12V17AH10EP	(2015052-003)	5.1.14	—	12V, 70 AH GENESIS, 2X	
5.1.7	—	12V, 13.0 AH GENESIS	(2015052-002)	5.1.15	—	12V, 26.0 AH GENESIS, 2X	
5.1.8	—	12V, 26.0 AH POWER-SONIC PS12260-(NB,F)	(2015052-005)	5.1.16	—	12V, 42.0 AH GENESIS, 2X	

5.2 CHARGER REGULATOR

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

5.3 CABLE ASSY, EXTERNAL BATTERY 2015433-001





6

CHARGING SOURCE OPTION

6.1

WITHOUT CHARGING SOURCE

6.2

SOLAR PANELS

6.2.1	—	SOLAR PANEL, 12V, 10W (SOLAREX SX-10) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.2	—	SOLAR PANEL, 12V, 20W (SOLAREX MSX-20) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.3	—	SOLAR PANEL, 12V, 30W (SOLAREX MSX-30) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.4	—	SOLAR PANEL, 12V, 30W (SOLAREX VLX-32) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.5	—	SOLAR PANEL, 12V, 5W (BP SOLAR SX-5M) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.6	—	SOLAR PANEL, 12V, 10W (BP SOLAR SX-10M OR SX-310M) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.7	—	SOLAR PANEL, 12V, 20W (BP SOLAR SX-20U OR SX-320J) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.8	—	SOLAR PANEL, 12V, 30W (BP SOLAR SX-30U OR SX-330J) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.9	—	SOLAR PANEL, 12V, 5W (KYOCERA KS-5) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.10	—	SOLAR PANEL, 12V, 10W (KYOCERA KS-10) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.11	—	SOLAR PANEL, 12V, 20W (KYOCERA KS-20) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.12	—	SOLAR PANEL, 12V, 10W (SOLARTECH SPM010P-BP-A) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.13	—	SOLAR PANEL, 12V, 20W (SOLARTECH SPM020P-BP) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.14	—	SOLAR PANEL, 12V, 30W (SOLARTECH SPM030P-BP) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.15	—	SOLAR PANEL, 12V, 10W (SOLARLAND SLP010-12) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.16	—	SOLAR PANEL, 12V, 20W (SOLARLAND SLP020-12) 135 FT MAX CABLE LENGTH	— — — — — — — — — —
6.2.17	—	SOLAR PANEL, 12V, 30W (SOLARLAND SLP030-12) 135 FT MAX CABLE LENGTH	— — — — — — — — — —

6.3

PWR SPLY, AC IN/DC OUT

6.3.1	—	AC PWR SPLY, 10W, 115V IN/12V OUT, 2017222-003 PCBA IN RED DOT GAT-4 ENCL	— — — — — — — — — —
6.3.2	—	AC PWR SPLY, 10W, 230V IN/12V OUT, 2017222-004 PCBA IN RED DOT GAT-4 ENCL	— — — — — — — — — —
6.3.3	—	REMOVED	— — — — — — — — — —
6.3.4	—	REMOVED	— — — — — — — — — —
6.3.5	—	AC PWR SPLY (POWER-ONE), 120V IN/12V OUT, 2017489-001	— — — — — — — — — —
6.3.6	—	AC PWR SPLY (POWER-ONE), 240V IN/12V OUT, 2017489-002	— — — — — — — — — —
6.3.7	—	AC PWR SPLY, 100-240VAC IN/12VDC OUT, PHOENIX QUINT, 2938811	— — — — — — — — — —

6.4

PWR SPLY, DC IN/DC OUT

6.4.1	—	DC PWR SPLY, 24V IN/12V OUT, 2012541-002 PCBA IN RED DOT GAT-4 ENCL	— — — — — — — — — —
6.4.2	—	DC/DC PWR SPLY ASSY (IPS), 2015440-005	
6.4.3	—	DC/DC PWR SPLY, 24VDC IN/12VDC OUT, PHOENIX QUINT, 2320115	
6.4.4	—	DC/DC PWR SPLY, 24VDC IN/12VDC OUT, PULS, CD5.121, 1890115	

6.5

PWR SPLY ACCESSORY

6.5.1	—	FUSED TERMINAL, 6.3A MAX, PHOENIX, UK5-HESI, (1800693-001) WITH CERAMIC, 5X20mm FUSE
6.5.2	—	POWER DISTRIBUTION BLOCK, PHOENIX, 2295651
6.5.3	—	MICRO TERMINAL BLOCK, PHOENIX, 3100305

WIRING INTERCONNECT

2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100494-WI
2100555-WI
2100555-WI
2100594-WI
2100594-WI
2100585-WI
2100603-WI

6

MODEL 6790, 6890

ELECTRONIC BD

3.2.1
3.3.1
3.3.2

J17

NON-INCENDIVE CONNECTION
PER ISA S12.12 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

WIRING METHODS
PER NEC 500 OR
CEC C22.1

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

6.3.5	6.3.6	
6.3.7		
6.4.2	6.4.3	6.4.4

AC SOURCE

DC SOURCE

PWR SUPPLY
ACCESSORY

6.5.2	6.5.1
6.5.3	

SEAL 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

CUSTOMER
SUPPLIED EQUIPMENT

1.9	1.10	1.11
-----	------	------

CHARGING
SOURCE
(15VDC MAX)

DCV POWER SOURCE

DC POWERED DEVICE

MODEL 6490

ELECTRONIC BOARD

- 3.2.1
- 3.3.1
- 3.3.2

J17

NON-INCENDIVE CONNECTION
PER ISA S12.12 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

WIRING METHODS
PER NEC 500 OR
CEC C22.1

CHARGING SOURCE		
6.2.3	6.2.4	6.2.8
6.2.14	6.2.17	

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

CHARGING SOURCE	
6.3.1	6.3.2
6.4.1	

WIRING METHODS PER
NEC 500 OR CEC C22.1

- AC SOURCE
- DC SOURCE
- AC SOURCE
- DC SOURCE

CHARGING SOURCE		
6.3.5	6.3.6	
6.3.7		
6.4.2	6.4.3	6.4.4

CUSTOMER
SUPPLIED EQUIPMENT

1.9

1.10

1.11

CHARGING
SOURCE
(15VDC MAX)

SEAL PER NEC 500
OR CEC C22.1

9

REMOTE COMM 1

9.1

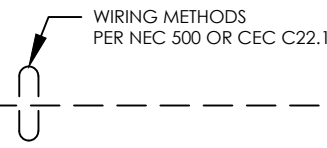
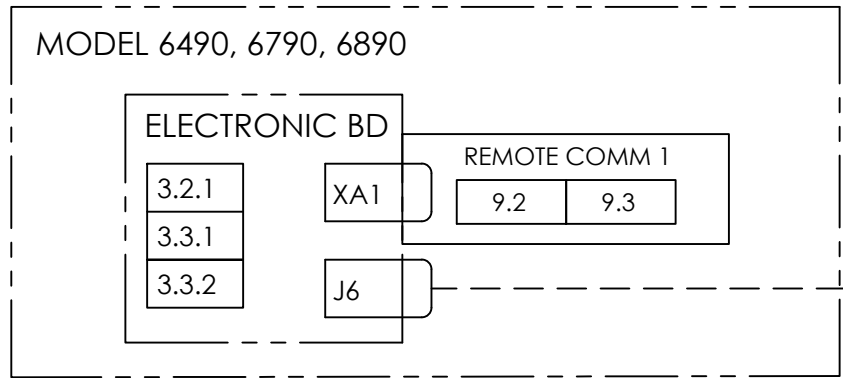
WITHOUT MODULE

9.2

RS485 COMM MODULE 2015193-001/002

9.3

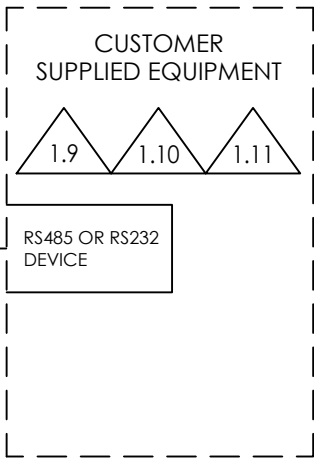
RS232 COMM MODULE 2015192-001



SEAL PER NEC 500
OR CEC C22.1

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

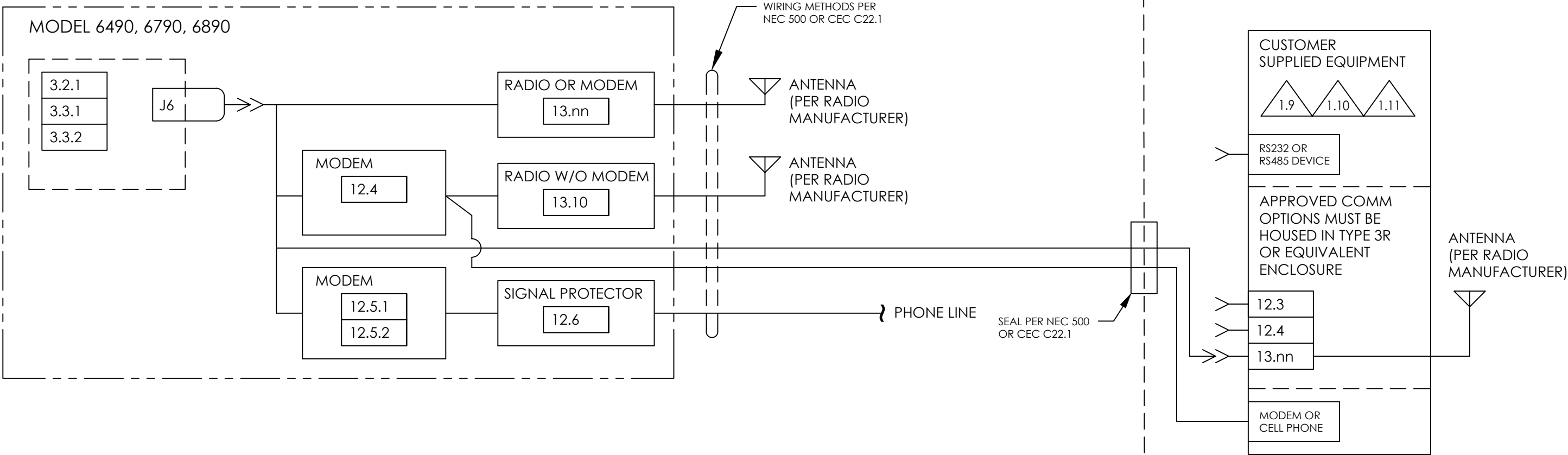


12	COMMUNICATION MTG KIT
12.1	WITHOUT OPTION
12.2	COMMUNICATION BRKT, 2015260-002
12.3	REMOVED
12.4	COMM MTG KIT, UCI2 UCI2 - USES 2017266-001 UCI PCBA
12.5	DIAL-UP MODEM
12.5.1	UCI2 (2017266-001 PCBA) WITH 2400 BAUD CERMETEK CHIP CH1786-ET OR 9600 BAUD CERMETEK CHIP CH1793-ET OR CH1794-ET
12.5.2	DUAL PORT MODEM UCI2 (2017266-004) 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
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, FGRO9CSU (REQUIRES BATTERY OR NEC CLASS 2 P/S)

13.15	ABB INC. HOST RADIO 2102009 WITH AERO COMM TRANSCEIVER MODULE AC4490-200
13.16	TROPOS RADIO ROUTER BOARD AND BRIDGE PCBA P/N 200453
13.17	EATON ELPRO CELLULAR MODEM AND ROUTER 615M (REQUIRES NEC CLASS 2 POWER SOURCE)
13.18	FREEWAVE RADIO, FGRI0-M (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.19	FREEWAVE RADIO, FGRI0-S (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.20	FREEWAVE RADIO, FGR2-C-U (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.21	FREEWAVE RADIO, FGR2-IO5 (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.22	FREEWAVE RADIO, FGR PULSRE (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.23	FREEWAVE RADIO, HTP-900RE (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.24	FREEWAVE RADIO, LRS-140-CSU (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.25	FREEWAVE RADIO, LRS-455-CU (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.26	AIRLINK, RAVEN XT G2212
13.27	AIRLINK, RAVEN XT V2221
13.28	GE/MDS, TRANSNET EL805-0055 DIE CAST
13.29	GE/MDS, TRANSNET EL805-0052 PLASTIC
13.30	GE/MDS, INET 900 RADIO
13.31	GE/MDS, SD4 RADIO (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.32	GE/MDS, SD9 RADIO (REQUIRES BATTERY OR NEC CLASS 2 P/S)
13.33	GE/MDS, ENETN-MD9R (ETHERNET REMOTE)
13.34	AIRLINK, RAVEN RV50 LTE GATEWAY

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



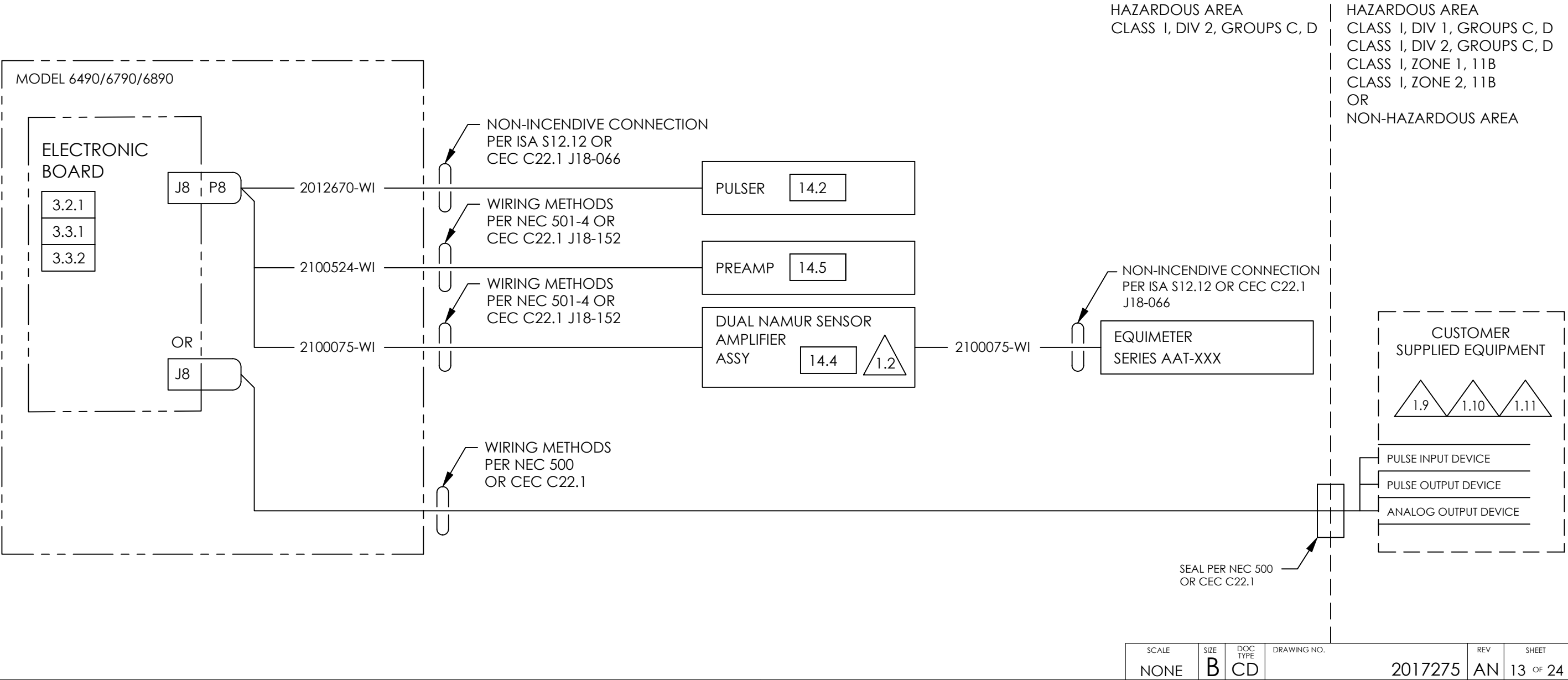
14 APPROVED PULSE OPTIONS

- 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

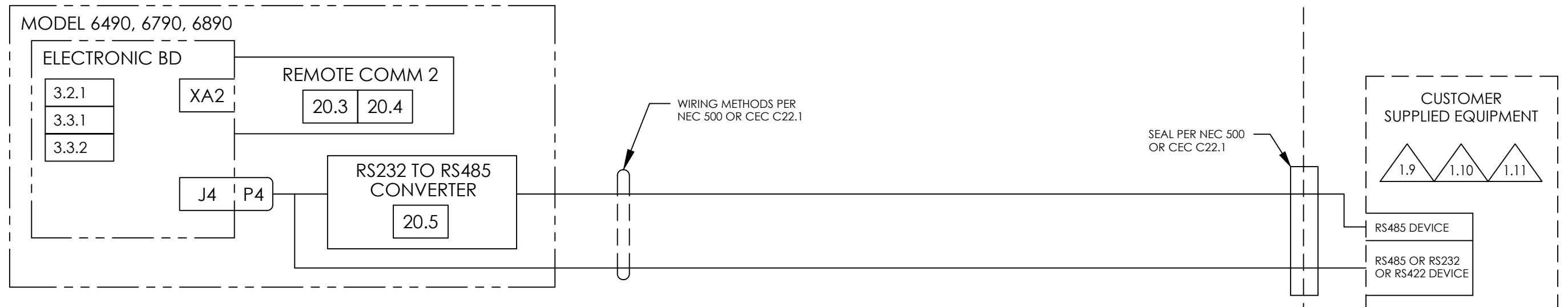
14.4 DUAL NAMUR SENSOR AMPLIFIER PCBA (2100053-001)
MOUNTED IN OUTLET BOX (RED DOT AAGAT-4).
DUAL NAMUR INTERFACES ONLY WITH EQUIMETER SERIES
AAT-XXX (WHERE XXX INDICATES MAXIMUM RATED LINE
FLOW RATE IN ACFHX1000)

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



20 REMOTE COMM 2 OPTION

20.1	WITHOUT OPTION
20.2	REMOVED
20.3	COMM MODULE, RS485, 2015193-001/002
20.4	COMM MODULE, RS232, 2015192-001
20.5	RS232 TO RS485 PATTON CONVERTER 2015445-003



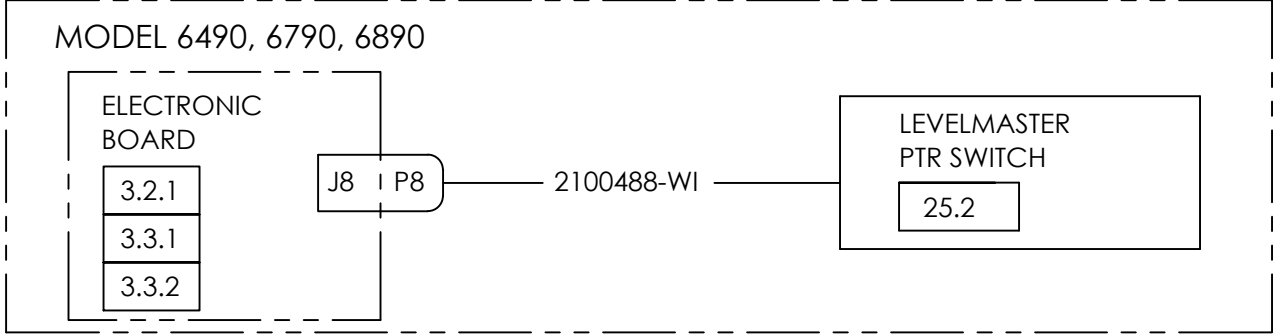
HAZARDOUS AREA
CLASS I, DIV 2, GROUPS C, D

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

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)
28.3	I/O MODULE MTG KIT (MAXIMUM 14 MODULES, ANY COMBINATION)
28.4	TFIO I/O MODULES
28.4.1	2100543-003, 8/COMBO DIGITAL
28.4.2	2100415-003, 4/AO (4-20mA)
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, 4/100 OHM RTD
28.4.7	2100869, 4 THERMOCOUPLE

29
29
29

THRU
THRU
THRU

31
34
42

I/O MODULE POSITIONS 1 THRU 3 (FOR 6490)
I/O MODULE POSITIONS 1 THRU 6 (FOR 6790)
I/O MODULE POSITIONS 1 THRU 14 (FOR 6890)

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

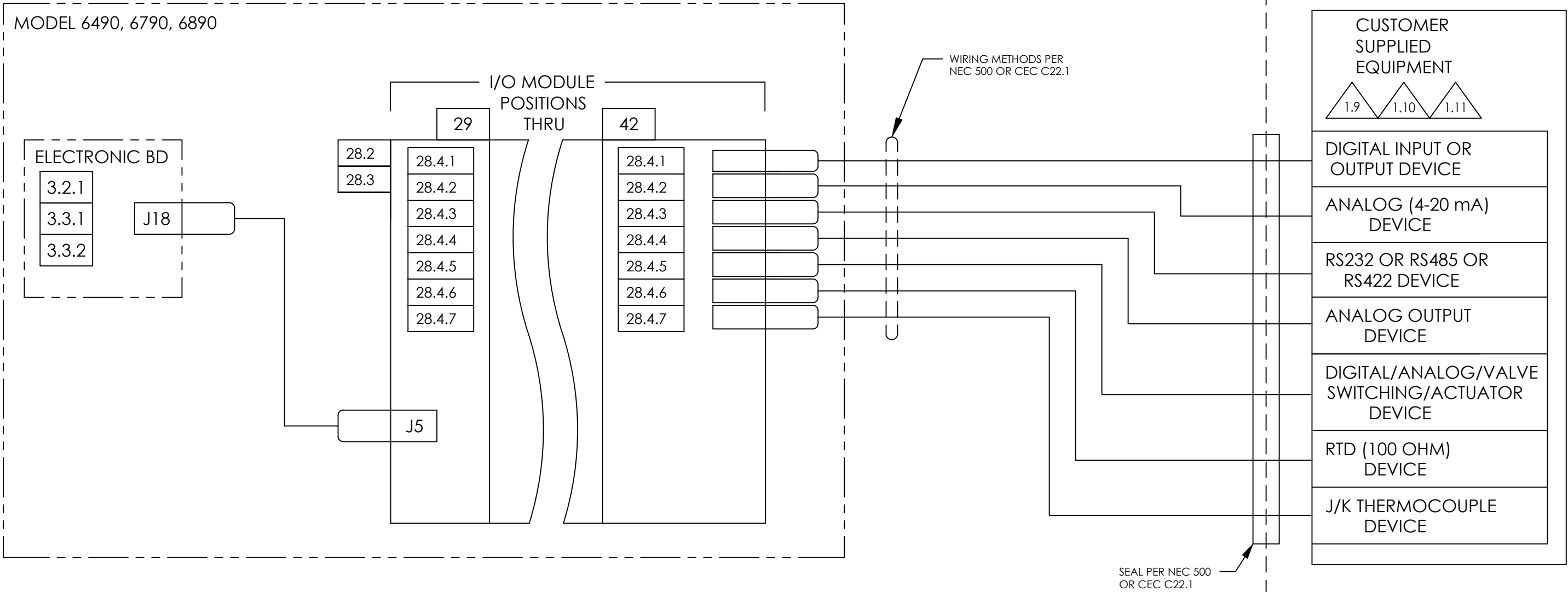


TABLE 1

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	● ANY RS232 DEVICE (EXCEPT FOR CD & DTR) ● 3 WIRE RS485 [BUS(+) , BUS(-) , GND] (BLACK BOX ADAPTER) ● SUPPORTS SWITCHED VBAT	
2100418	8/AI (TYPE II)	● 4-20 mA TRANSMITTERS ● LOW POWER 1-5V XMTRS	
2100412	VALVE CONTROL INTERFACE	● 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 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 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

MODEL 6490, 6790, 6890

ELECTRONIC BD

3.2.1
3.3.1
3.3.2

J28

ETHERNET

I/O MODULE
POSITIONS

29 THRU 34

28.2
28.3

45.2.1
45.2.2

←

→

24VDC

45.2.3
45.2.4

←

→

24VDC

45.4.1

OR

45.4.2

OR

ETHERNET

ETHERNET

45.3.1
45.3.2
45.3.3

→

ETHERNET

45.5.1

←

→

24VDC
PROTECTED

45.5.2

←

→

DC CURRENT
PROTECTED

45.5.3

←

→

SIGNAL WIRING
PROTECTED

24VDC

WIRING METHODS PER
NEC 500 OR CEC C22.1

100-240VDC

12VDC

24VDC

24VDC NEC CLASS 2 RATED P/S

24VDC

DC CURRENT

SIGNAL WIRING

SEAL PER NEC 500
OR CEC C22.1

CUSTOMER
SUPPLIED
EQUIPMENT

1.9 1.10 1.11

ETHERNET DEVICE

ANALOG DEVICE
ANALOG INPUT
ANALOG OUTPUT

DIGITAL DEVICE

DIGITAL CURRENT DEVICE

12VDC POWERED DEVICE

SCALE
NONE

SIZE
B

DOC
TYPE
CD

DRAWING NO.

2017275

REV
AN

SHEET
20 OF 24

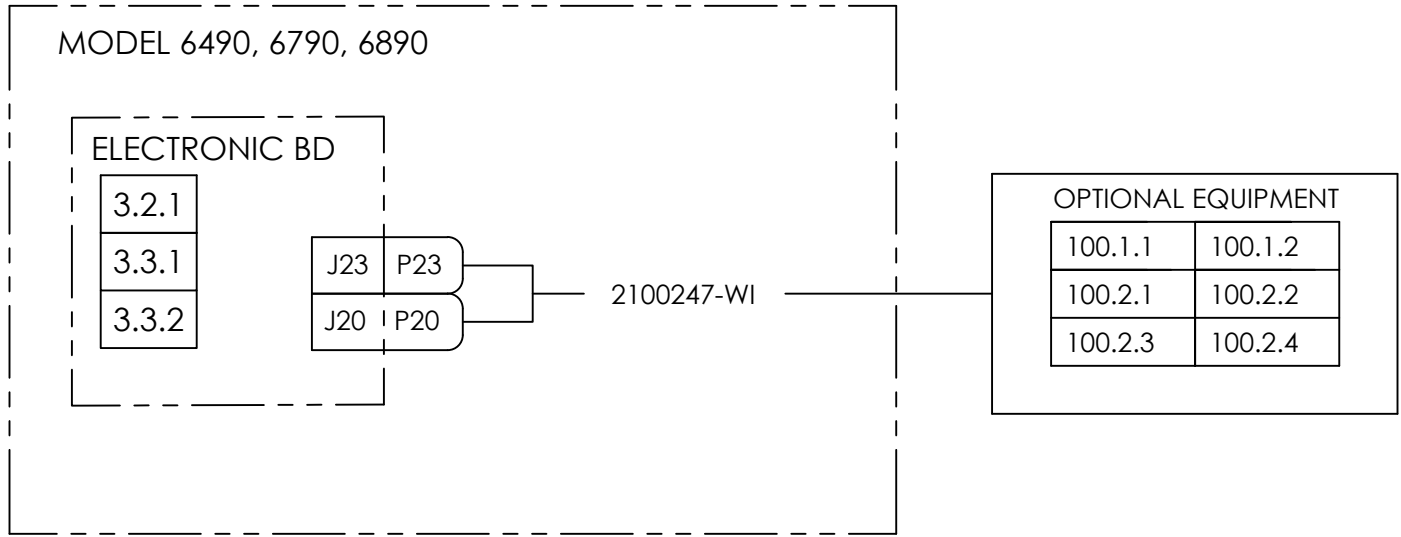
100 APPROVED OPTIONAL EQUIPMENT

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 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

100.3

SAMPLERS

100.3.1

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

MODEL 6490, 6790, 6890

ELECTRONIC BD

3.2.1

3.3.1

3.3.2

J8

P8

2012671-WI

NON-INCENDIVE CONNECTION
PER ISA S12.12 OR
CEC C22.1 J18-066

SAMPLER

100.3.1

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 I, DIV 2, GROUPS C, D

NON-HAZARDOUS AREA

SCALE	SIZE	DOC TYPE	DRAWING NO.	REV	SHEET
NONE	B	CD	2017275	AN	22 OF 24

100.4

RS485 HOOK-UP BETWEEN UNITS

100.4.1
100.4.2
100.4.3
100.4.4
100.4.5
100.4.6

MODEL 66XX(Y)
MODEL 64XX(Y)
MODEL 67XX(Y)
MODEL 6790(Y)
MODEL 6490(Y)
MODEL 6890(Y)

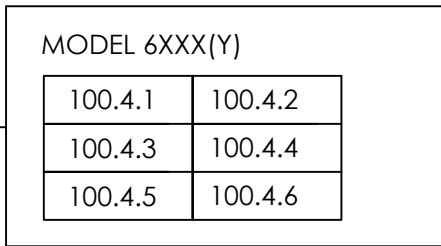
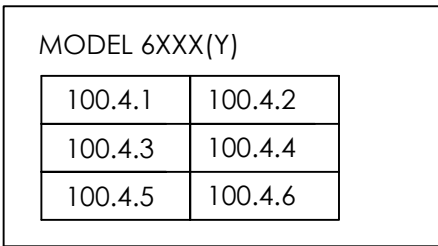
100.5

ANTENNA SURGE PROTECTOR

100.5.1
100.5.2

POLY PHASER CORP: IS-5ONX-C2-ME
ALTELICON: AL-NMNF8-9

WIRING METHODS
PER NEC 501-4 OR
CEC C22.1 J18-152



CABLE (BELDEN #4841 OR EQUIV.)
SEE 2015225-WI

WIRING METHODS
PER NEC 501-4 OR
CEC C22.1 J18-152

SEAL PER NEC 501-5
OR CEC C22.1 J18-154

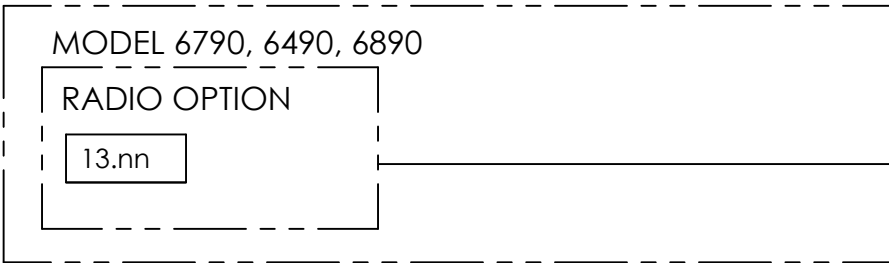
HOST COMMUNICATION
(RS485)

ALL FCU/RTU OF SAME MODEL
ARE WIRED IDENTICAL EXCEPT
THE LAST FCU/RTU

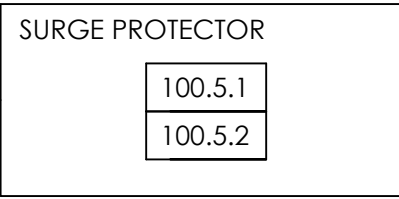
DIFFERENT MODEL 6XXX(Y)
MAY BE MIXED TOGETHER

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



WIRING METHODS
PER NEC 500
OR CEC C22.1



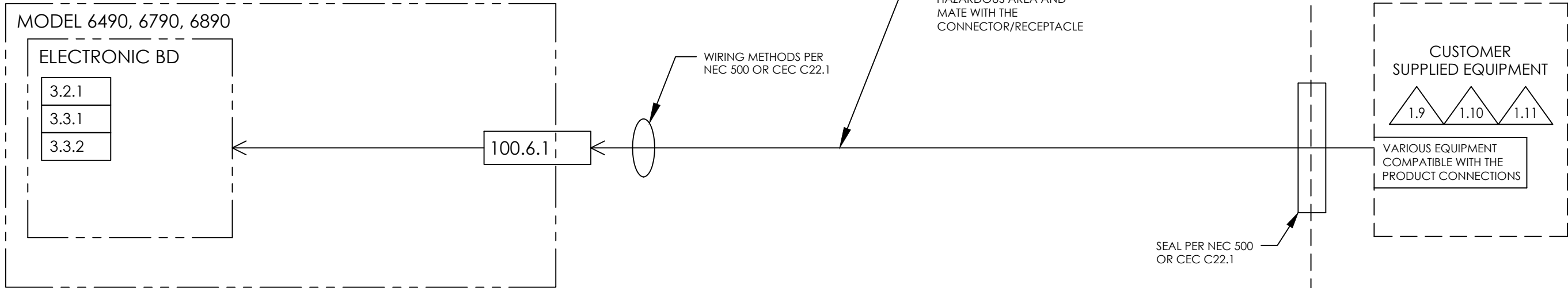
WIRING METHODS
PER NEC 500
OR CEC C22.1

ANTENNA
(PER RADIO
MANUFACTURER)

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

- 100.6 SIGNAL LINE CONNECTOR
- 100.6.1 TURCH SIGNAL LINE FEED THROUGH CONNECTOR/RECEPTACLE



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