

CONNECTION DIAGRAM, ISC PEM, DARB
TECHNOLOGY
ELECTRICAL DIAGRAM:
SCH-1001633

DRAWING LIST		
DWG #	DESCRIPTION	SHT #
ECS	INFORMATION COVERSHEET & DRAWING LIST	1
EDN	INFORMATION DRAWING NOTES	2
E40	CONNECTION DIAGRAM ISC PEM	3
E41	CONNECTION DIAGRAM ISC CAM	4
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E43	CONNECTION DIAGRAM POWER	6

CONDUCTOR INFORMATION

POWER BRANCH CIRCUIT CONDUCTORS COLOR CODING	
CONDUCTOR	INTRALOX COLOR CODE
AFTER MAIN SWITCH	
PHASE 1-3: L1-L3 100-600VAC	BK (BLACK)
NEUTRAL	LB (LIGHT BLUE)
FE (FUNCTION EARTH) GROUND	GN/YE (GREEN/YELLOW STRIPE)
PE (PROTECTIVE EARTH) GROUND	GN/YE (GREEN/YELLOW STRIPE)

CONTROL CIRCUIT CONDUCTOR COLOR CODING	
CONDUCTOR	INTRALOX COLOR CODE
UNGROUND AC CONTROL CIRCUIT	RD (RED)
POSITIVE 48VDC	VT (VIOLET)
COMMON 48VDC	WHVT (WHITE/VIOLET STRIPE)
POSITIVE 24VDC	BU (BLUE)
COMMON 24VDC	WHBU (WHITE/BLUE STRIPE)
INTRLOCK CIRCUITS EXTERNAL POWER SOURCE(AC OR DC)	OR (ORANGE)
GROUND	GNYE (GREEN/YELLOW STRIPE)
POSITIVE JUMPER	RD (RED)
NEGATIVE JUMPER	BU (BLUE)

WIRE SIZES	
IEC 60204-1 CLAUSE 12.4 TABLE 6 METHOD E	
CROSS-SECTIONAL AREA (mm²)	CURRENT-CARRYING CAPACITY (A) AT +40°C
CONTROL CIRCUIT PAIRS	
0.20	4.4
0.50	7.8
0.75	10.0
THREE PHASE CIRCUITS	
0.75	10.4
1.00	12.4
1.50	16.1
2.50	22.0
4.00	30.0
6.00	37.0
SEE ANNEX D FOR TEMPERATURE CORRECTION (TABLE D.1) AND GROUPING DERATING (TABLE D.2)	

WIRE COLOR DESIGNATION	
DESIGNATION	COLOR
WH	WHITE
GN	GREEN
YE	YELLOW
BN	BROWN
GY	GREY
PK	PINK
VT	VOILET
BK	BLACK
RD	RED
DB	DARK BLUE
LB	LIGHT BLUE
BU	BLUE
TA	TAN
OR	ORANGE
SH	SHIELD
WHBU	WHITE/BLUE STRIPE
WHOR	WHITE/ORANGE STRIPE
WHVT	WHITE/VIOLET STRIPE
GNYE	GREEN/YELLOW STRIPE

COMPONENT TAGGING INFORMATION

COMPONENT DESIGNATIONS (IEC 81346-2 TABLE 1 - ENTRY CLASSES)	
CLASS CODE	CLASS DEFINITION
B	OBJECT FOR PICKING UP INFORMATION AND PROVIDING A REPRESENTATION
C	OBJECT FOR STORING FOR SUBSEQUENT RETRIEVAL
E	OBJECT FOR EMITTING
F	OBJECT FOR PROTECTING AGAINST THE EFFECTS OF DANGEROUS OR UNDESIRABLE CONDITIONS
G	OBJECT FOR PROVIDING A CONTROLLABLE FLOW
H	OBJECT FOR TREATING MATTER
K	OBJECT FOR TREATING INPUT SIGNAL AND PROVIDING AN APPROPRIATE OUTPUT
M	OBJECT FOR PROVIDING MECHANICAL MOVEMENT OR FORCE
N	OBJECT FOR ENCLOSING PARTLY OR FULLY ANOTHER OBJECT
P	OBJECT FOR PROVIDING PERCEPTIBLE INFORMATION
Q	OBJECT FOR CONTROLLING ACCESS OR FLOW
R	OBJECT FOR RESTRICTING OR STABILISING
S	OBJECT FOR DETECTING A HUMAN ACTION AND PROVIDING AN APPROPRIATE RESPONSE
T	OBJECT FOR TRANSFORMING
U	OBJECT FOR LOCALISING OTHER OBJECTS
W	OBJECT FOR LEADING FROM ONE PLACE TO ANOTHER
X	OBJECT FOR INTERFACING AN OBJECT
THE LETTERS A, I AND O SHALL NOT BE USED AS AN ENTRY CLASS CODE.	

DRAWING SPECIFIC DESIGNATIONS	
ALL DESIGNATIONS ARE IN ACCORDANCE WITH THE CURRENT NFPA 79 ANNEX E SPECIFICATION EXCEPT FOR THE FOLLOWING:	
DESIGNATION	DESCRIPTION
AIR	PNEUMATIC VALVE SIGNAL
CAM	CARRYWAY AUTOMATION MODULE
CONN	CONNECTION CABLE
CONV	CONVERSION CABLE
ENC	ENCODER
ETH	ETHERNET
EXT	EXTENSION CABLE
GEN	GENDER CHANGER
INF	INFEED SENSOR
ISC	INTRALOX SMART CARRYWAY
PE	PHOTOEYE
PEM	PRIMARY EDGE MODULE
PWR	POWER
TEE	SPLIT CONNECTOR

TERMINAL STRIP DESIGNATIONS	
DESIGNATION	DESCRIPTION
X0	INFEED POWER
XPE	MAIN EARTH CONNECITONS
X1.0	MAIN SUPPLY
X2.0	SPARE
X3.0	FUSE TERMINAL GENERAL
X3.5	FUSE TERMINAL SAFETY CIRCUIT
X4.x	POWER DISTRIBUTION STEPPER MOTORS
X5.0	POWER DISTRIBUTION 24VDC
X6.0	ANALOG PLC INPUTS
X6.5	ANALOG PLC OUTPUTS
X7.0	DIGITAL PLC INPUTS
X7.5x	DIGITAL PLC OUTPUTS VALVE BANKS (x)
X8.0	SPARE
X9.0	DRY CONTACTS, EXTERNAL POWER
X21-40	I/O INTERFACE STEPPER MOTORS

COMPONENT LABEL IDENTIFICATION	
	DESCRIPTION
-	TAGS IN SCHEMATICS
%D	DRAWING NUMBER
%F	IEC 81346-2 DESIGNATION
%N	NUMBER OF %F USED IN SHEET
EXAMPLE	-%D%F%N
POWER SUPPLY	-10TB1

WIRE LABEL IDENTIFICATION	
	DESCRIPTION
-	TAGS IN SCHEMATICS
%D	DRAWING NUMBER
X#	TERMINAL STRIP DESIGNATION
:	TERMINAL STRIP TO TERMINAL
TERM	TERMINAL DESTINATION POINT
EXAMPLE	-%DX#:TERM
WIRE POWER SUPPLY	-10X1.0:L1
WIRE LABELS TO BE APPLIED CLOSE TO THE TERMINAL CONNECTION POINT	

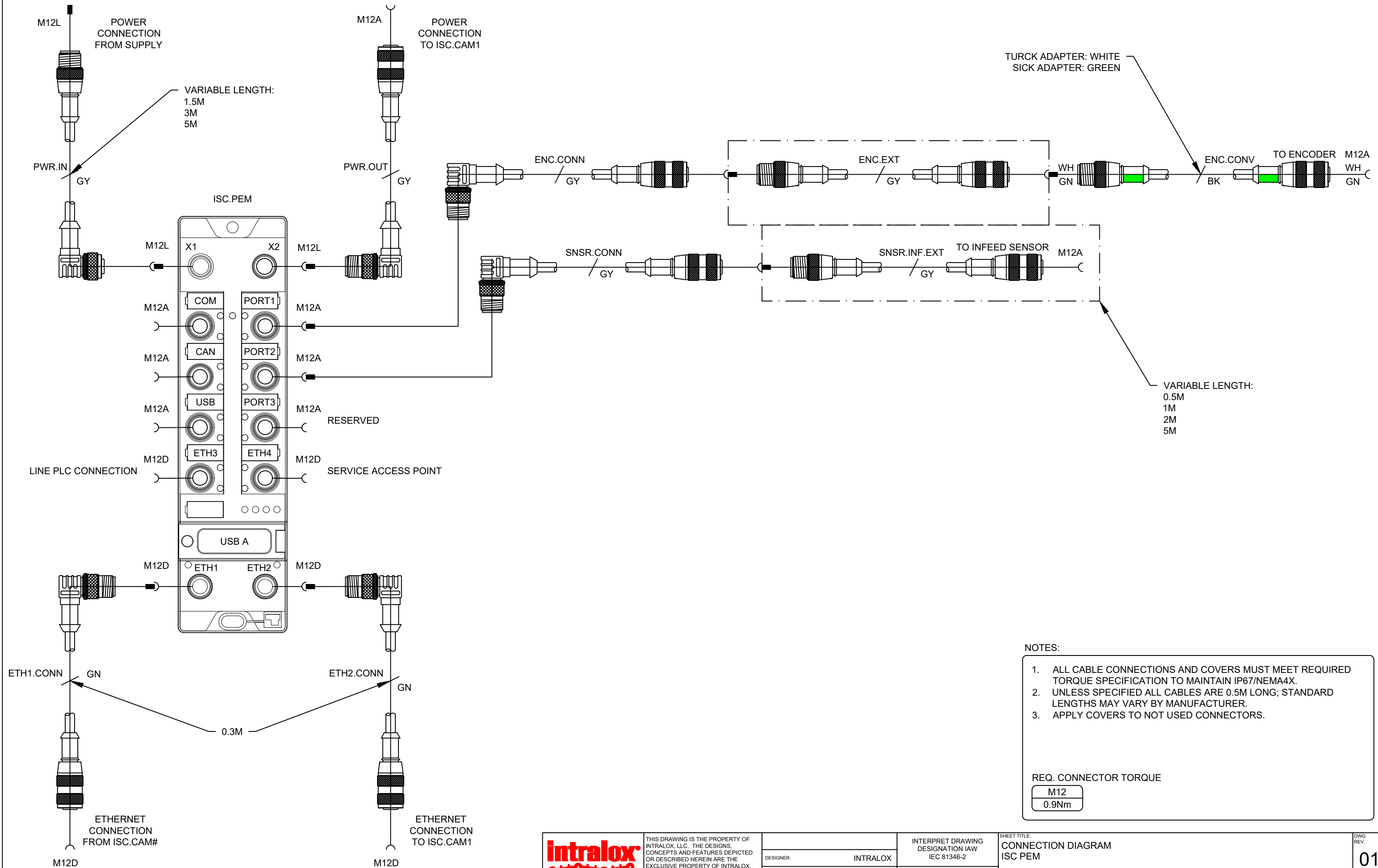


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DESIGNER:	INTRALOX
DETAILER:	INTRALOX
DATE:	9/25/2025

INTERPRET DRAWING DESIGNATION IAW IEC 81346-2
INSTALLATION: INFO
LOCATION: NOTE

SHEET TITLE: INFORMATION DRAWING NOTES		STATE:	SIZE	DWG NO.	SHEET	DWG REV.
RELEASED		A3	SCH-1001633-EDN	2 OF 6		01



- NOTES:
-
1. ALL CABLE CONNECTIONS AND COVERS MUST MEET REQUIRED TORQUE SPECIFICATION TO MAINTAIN IP67/NEMA4X.
 2. UNLESS SPECIFIED ALL CABLES ARE 0.5M LONG; STANDARD LENGTHS MAY VARY BY MANUFACTURER.
 3. APPLY COVERS TO NOT USED CONNECTORS.

REQ. CONNECTOR TORQUE

M12
0.9Nm

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DESIGNER:	INTRALOX
DETAILER:	INTRALOX
DATE:	9/25/2025

INTERPRET DRAWING
DESIGNATION IAW
IEC 81346-2

INSTALLATION: I/O

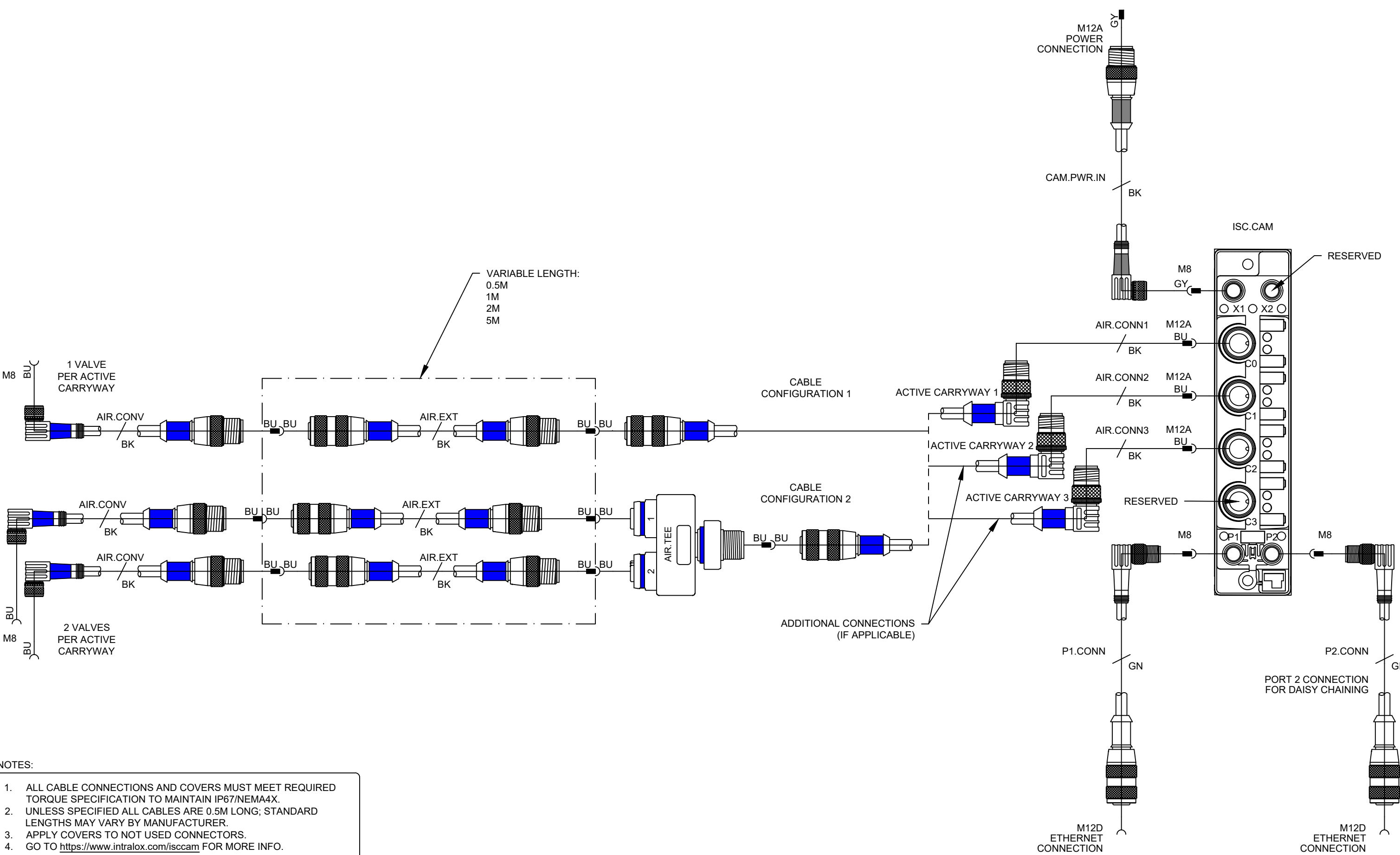
OPERATION: PEM

SHEET TITLE:
CONNECTION DIAGRAM
ISC PEM

STATE:	SIZE	DWG
RELEASED	A3	

SCH-1001633-E40

3 OF 6

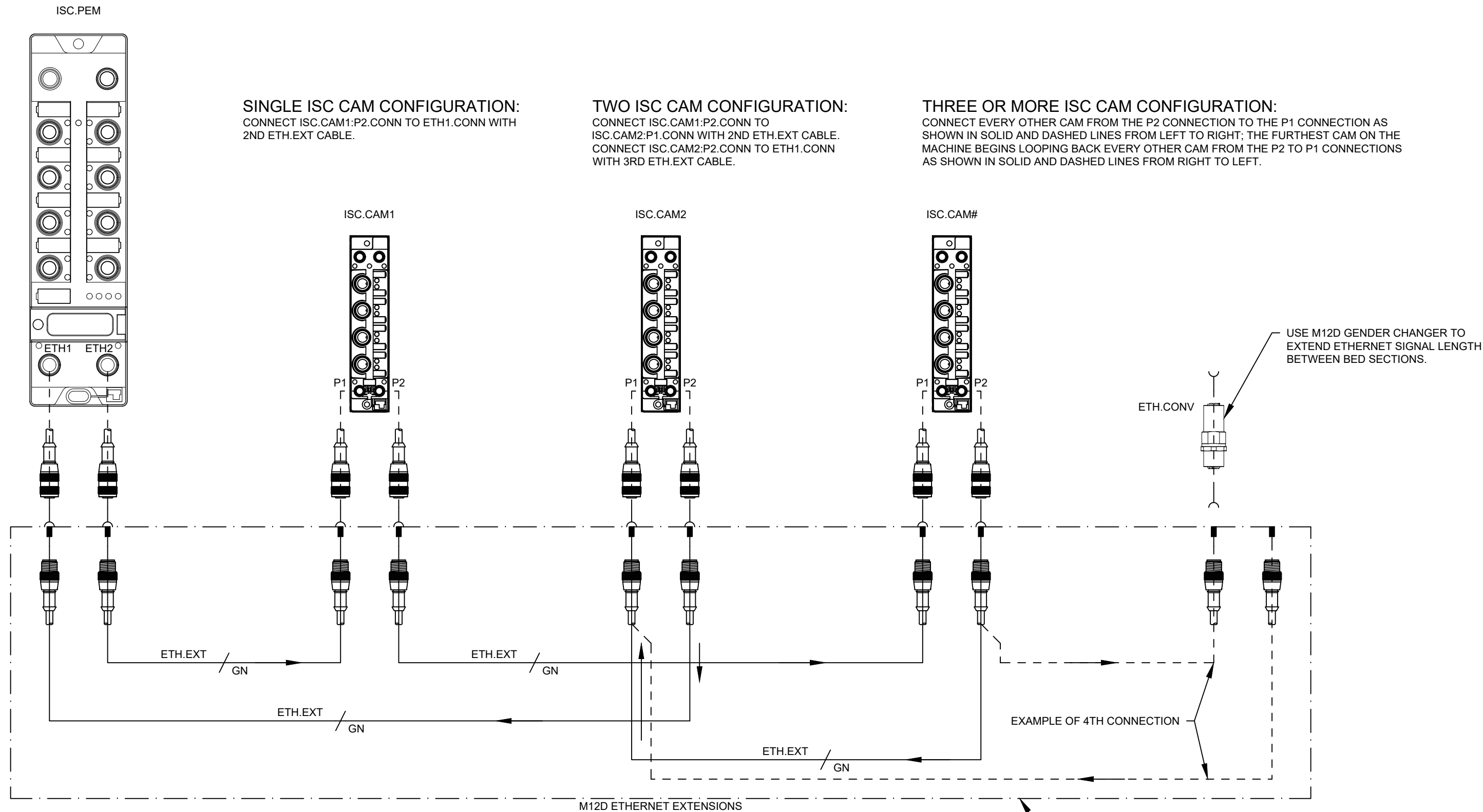


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- APPLY COVERS TO NOT USED CONNECTORS.
- GO TO <https://www.intralox.com/isccam> FOR MORE INFO.

REQ. CONNECTOR TORQUE

M8	M12
0.5Nm	0.9Nm

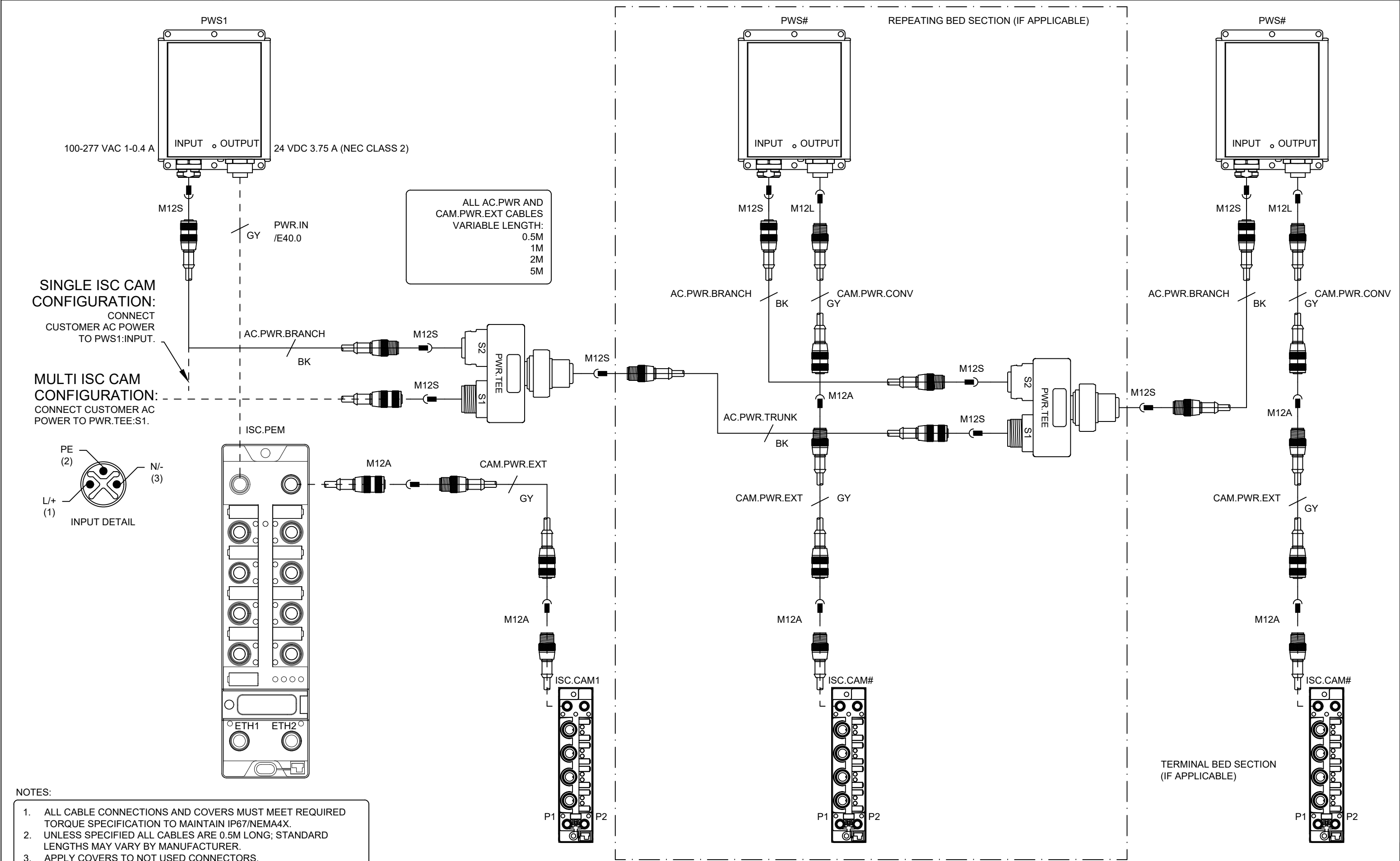


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- 3. APPLY COVERS TO NOT USED CONNECTORS.
- 4. ONE ISC CAM PER BED SECTION.

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