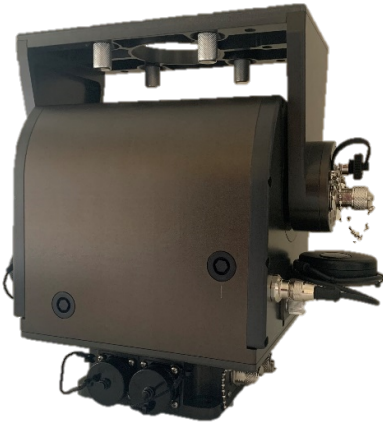


QLA-360VPR-20

AUTO ACQUISITION ANTENNA POSITIONER WITH OPTIONAL ENCODERS



The QLA-360VPR-20 is a Power Over Ethernet (PoE) antenna positioner designed from the ground up to automatically point and peak directional antennas for microwave or millimeter wave line of sight or satellite communications.

The built in GPS and digital compass with full featured web based user interface provides rapid and accurate antenna pointing. The user interface includes a stored locations database that allows easy recall of known target locations followed by a final auto peak using radio signal strength.

The QLA-360VPR-20 is typically paired with up to 2ft antennas, payloads up to 50 lbs (22.68 kg), and offers 360° of azimuth & +/-95° of elevation range. Download the Interface Control Drawing (ICD) for more details.

The VPR series offers optional encoders that improve pointing accuracy and feedback resolution in both axis. Optional pole mount adapter, tripods, polarization axis, and, antenna adapter brackets are also available.

TECHNICAL SPECIFICATIONS - QLA-360VPR-20

Power	Power Over Ethernet (POE) 48VDC Supply Included
Material / Finish	Aluminum with stainless steel hardware / Hard coat anodize
Positioner Travel	
Azimuth	400° (+/-200°)
Elevation	190° (+/-95°)
Positioner Drive Rate	
Azimuth	Variable, up to 3.9°/sec no load
Elevation	Variable, up to 1.2°/sec no load
Temperature	
Operational	-22 to 140°F (-30 to 60°C)
Non-Operational	-40 to 158°F (-40 to 70°C)
Feedback Resolution	0.1° standard and 0.01° with encoder options
Backlash (Az/El)	less than 0.15°
Torque	
Operational (Az&El)	50 ft-lbs (67.8 Nm)
Survival (Az&El)	100 ft-lbs (135.6 Nm)
Payload	50 lbs (22.7 kg)
Dimensions	Height: 11.83" (30.0 cm), Width: 11.88" (30.2 cm), Depth: 6.75" (17.1 cm)
Weight	29.5 lbs (13.4 kg)
Mounting Interface	Table top mount with optional 2" pole mount adapter (See ICD for details)
Antenna Mount Options	1/4-20 thumb nuts (tool-less) and 5/16 clearance holes (See ICD for details)
Communication Interface	
User Interfaces	Web based hosted internal to unit or company proprietary command protocol
Ethernet	10/100 Ethernet
Serial	RS-232
Other	SNMP radio Interfaces for Acquisition and Peaking

REV	DESCRIPTION	DATE	APPROVED
A	IR800624	2020-06-03	CLC

NOTES: UNLESS OTHERWISE SPECIFIED

1. QLA-360VPR-20 CONFIGURABLE OPTIONS PER TABLE I
2. USE INTERFACE CONTROL DRAWING IN CONJUNCTION WITH DATASHEET N500178
3. SEE TABLE II FOR AVAILABLE QLA-360VPR-20 ACCESSORY OPTIONS
4. 48VDC POWER SUPPLY INCLUDED WITH POSITIONER. NOT SHOWN IN DRAWING
5. HARD COAT ANODIZE ALUMINUM CONSTRUCTION WITH STAINLESS STEEL HARDWARE
6. 400° (+/-200°) AZIMUTH TRAVEL WITH 3.9°/SEC DRIVE RATE (NO LOAD)
7. 190° (+/-95°) ELEVATION TRAVEL WITH 1.2°/SEC DRIVE RATE (NO LOAD)
8. -40° TO 140°F (-30° TO 60°C) OPERATIONAL TEMPERATURE RANGE. -40° TO 158°F (-40 TO 70°C) NON-OPERATIONAL TEMPERATURE RANGE
9. 0.1° FEEDBACK RESOLUTION FOR STANDARD POSITIONER IN ALL AXES. 0.01° FEEDBACK RESOLUTION FOR POSITIONERS WITH ENCODER OPTIONS IN ALL AXES
10. AZIMUTH AND ELEVATION BACKLASH LESS THAN 0.15°
- 11 11.83" (30.0 cm) HIGH X 11.88" (30.2 cm) WIDE X 6.75" (17.1 cm) DEEP. DIMENSIONS APPLY WHEN POSITIONER IS AT 0° AZIMUTH AND 0° ELEVATION ANGLES
12. WEIGHT APPROXIMATELY 29.5 LBS (13.4 kg)
13. PAYLOAD SHALL NOT EXCEED 50 LBS (45.4 kg) OR 50 FT-LBS (67.8 Nm) OF TORQUE ABOUT THE ELEVATION AXIS. TO CALCULATE TORQUE, TAKE THE DISTANCE FROM THE PAYLOAD CENTER OF GRAVITY TO DATUM -B- IN FEET AND MULTIPLY BY THE PAYLOAD WEIGHT
- 14 TABLE TOP MOUNTING HOLES
- 15 CENTER OF GRAVITY 0.5" (1.3 cm) IN THE X-DIRECTION, 5.2" (13.2cm) IN THE Y-DIRECTION AND 0.1" (0.3 cm) IN THE Z-DIRECTION

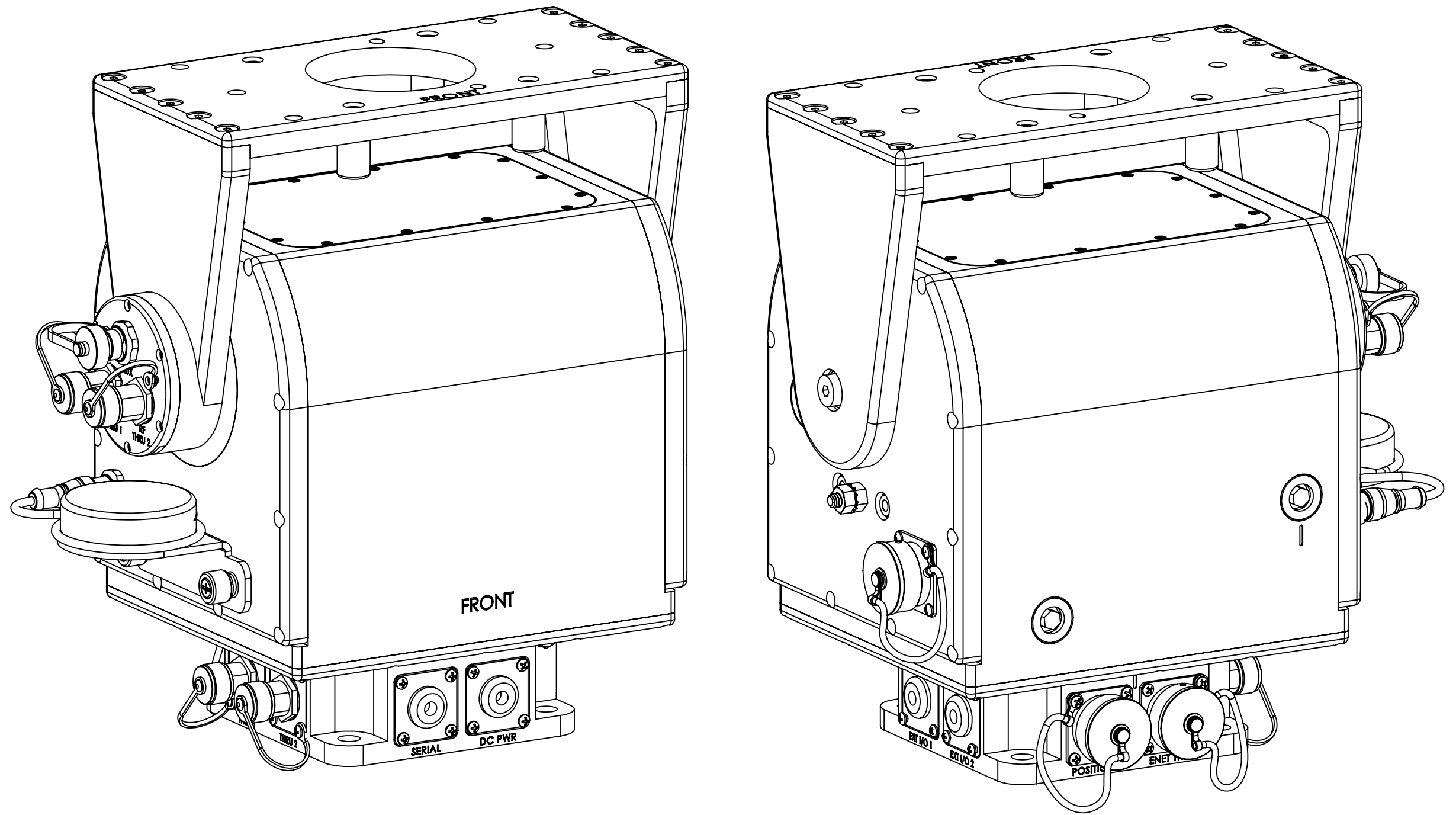

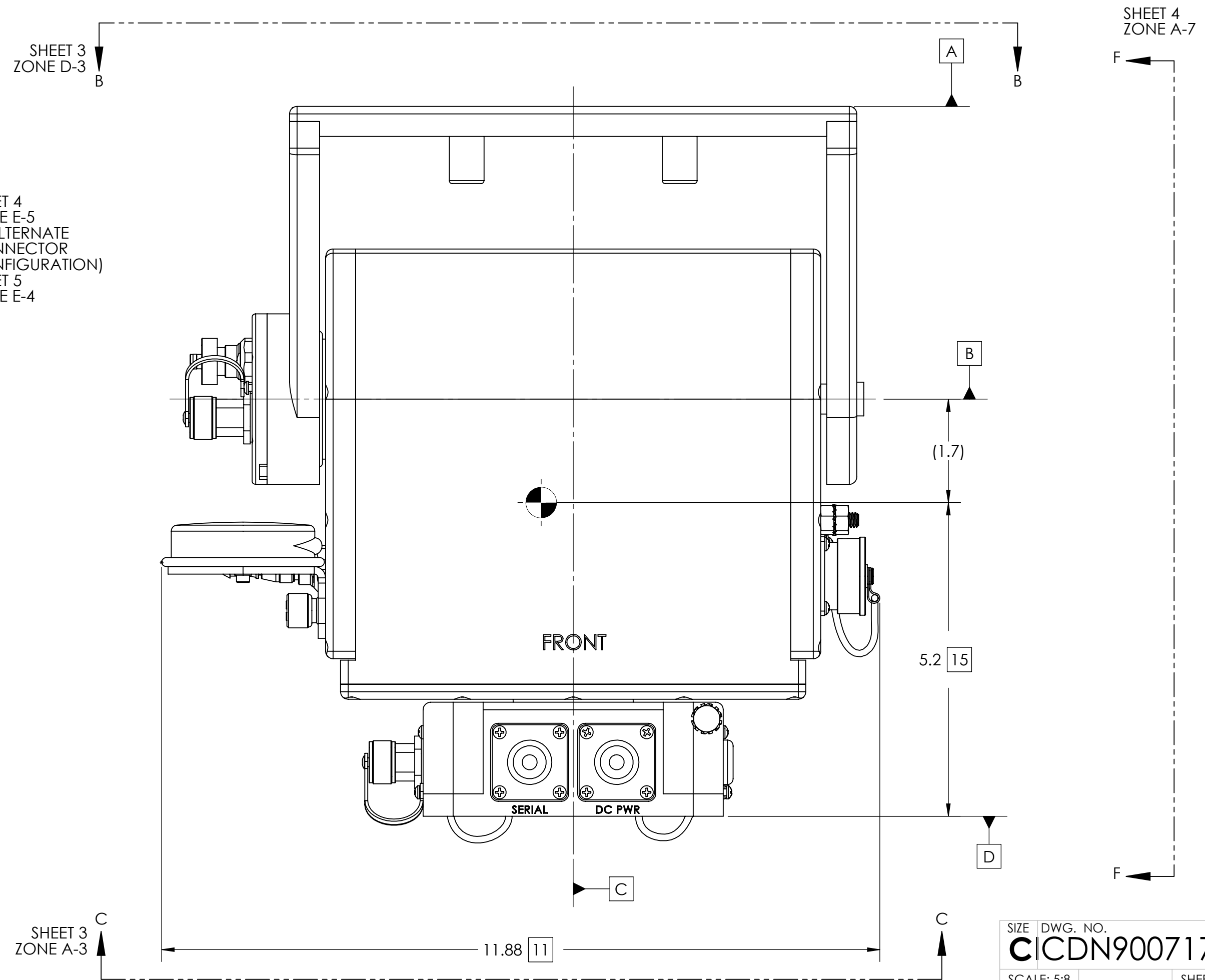
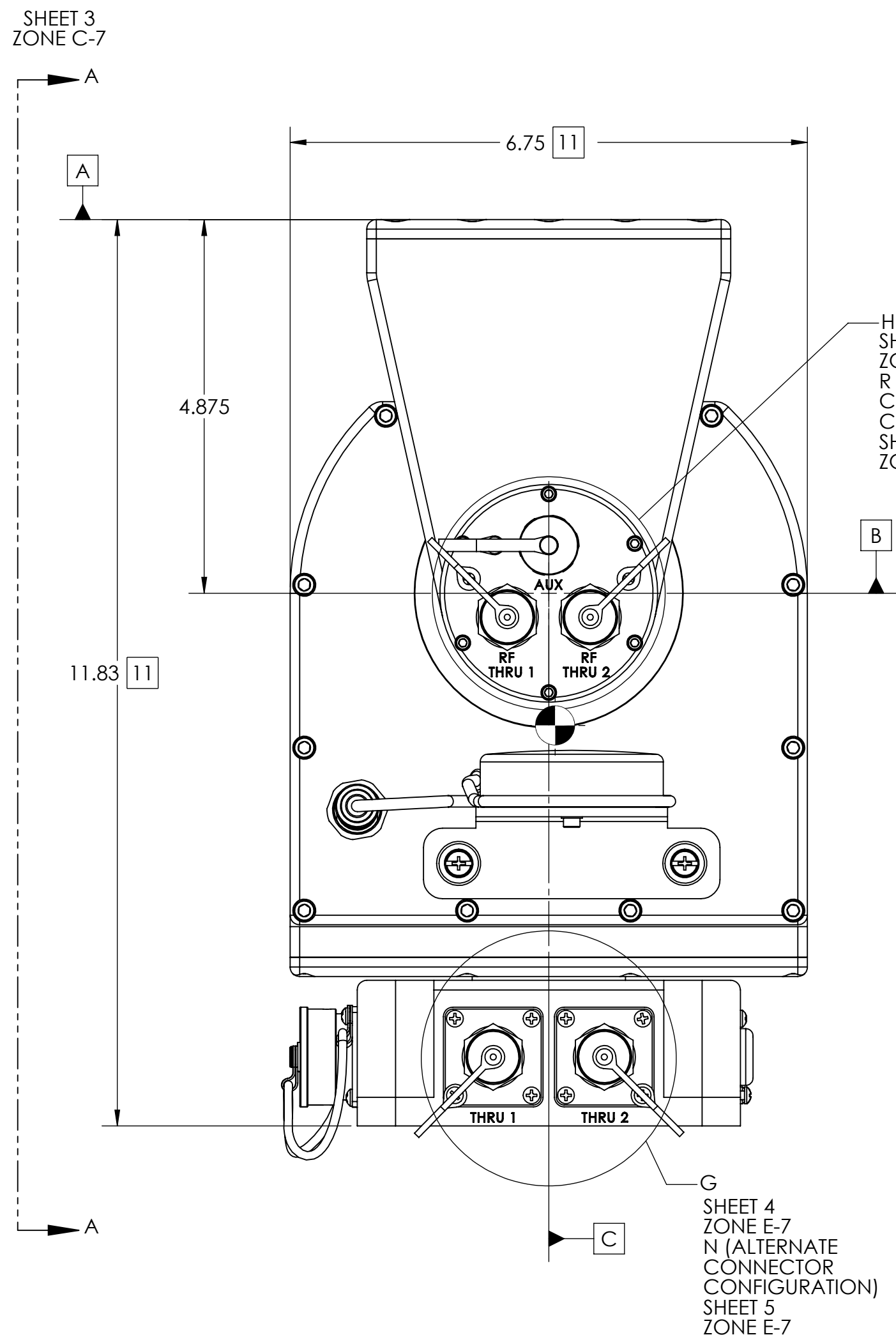
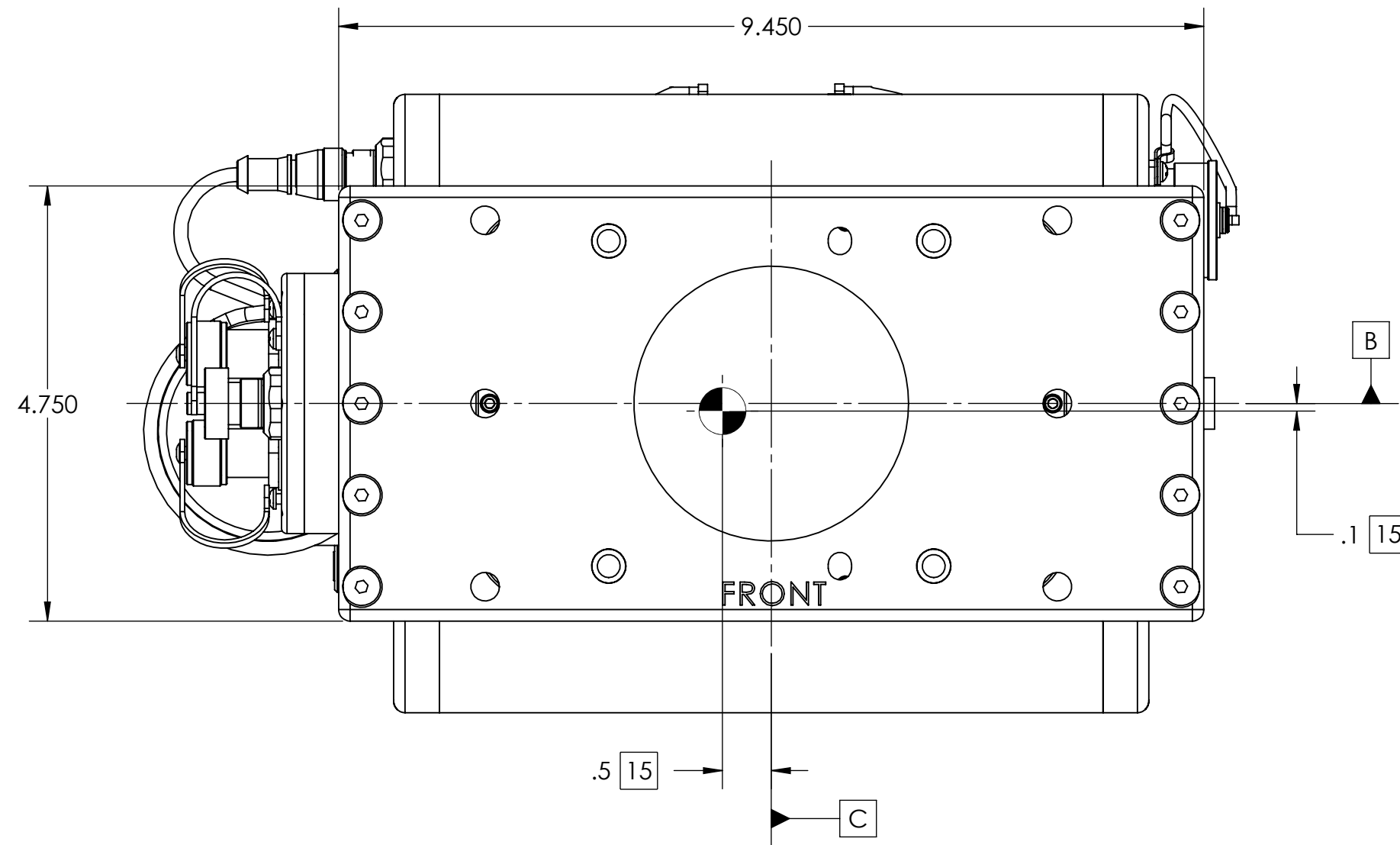
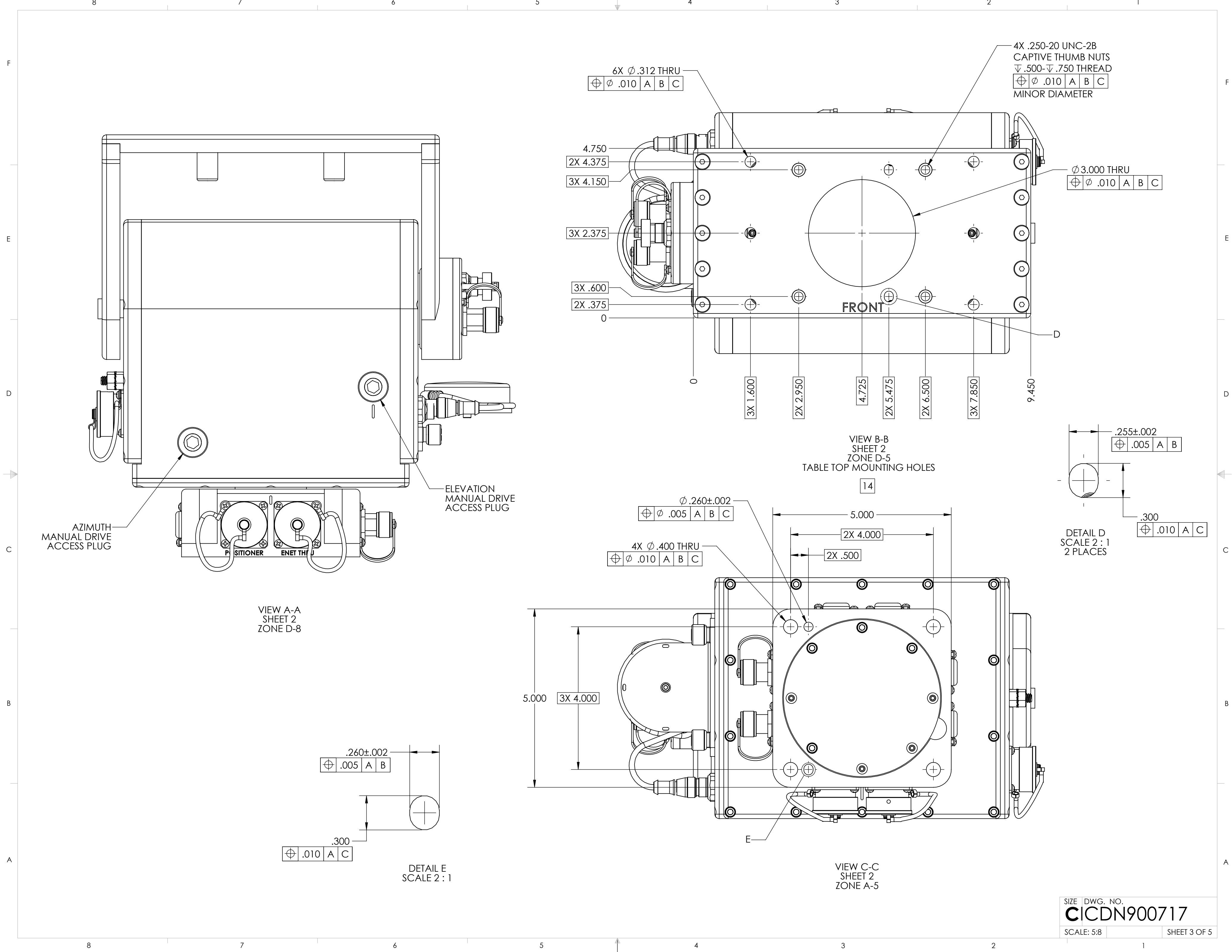


TABLE I	
BUILDING A PART NUMBER	STANDARD OPTIONS
LA-360VPR - 20 - - - 100	<<EXAMPLE
	SHIELDED ETHERNET CABLE STANDARD LENGTHS
	050 = 50 ft
	100 = 100 ft
	150 = 150 ft
	200 = 200 ft
	250 = 250 ft
	300 = 300 ft
	XXX = Custom length in feet
	XXXC = Add "C" to end of cable length for unterminated mating connector
	CUSTOM CONFIGURATION
	= Standard options - leave blank
	POSITION FEEDBACK CONFIGURATION
	= Standard options - leave blank
	ME = Motor with Integral Encoder
	OE = On-Axis Absolute Encoder
	MOTOR DRIVES AND PAYLOAD
	20 = Az 25 ft-lbs @ 3.9°/s, El 50 ft-lbs @ 1.2°/s
	50 lb payload. Typically paired with up to 2 ft antenna
	MODEL
	LA-360VPR = LinkAlign-360VPR (+/-200° azimuth, +/-95° elevation)

TABLE II (VPR-2X ACCESSORY OPTIONS)		
ACCESSORY DESCRIPTION	ACCESSORY PART NUMBER	ACCESSORY ICD
VPR QUICKMOUNT KIT FOR 2 INCH OD OR QPARUSA TRIPOD	ACC-N900728-1	ICDN900728

SYMBOL KEY <input type="checkbox"/> NOTE <input type="checkbox"/> PL ITEMS PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF QPAR ANTENNAS USA. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF QPAR ANTENNAS USA IS PROHIBITED. QPAR ANTENNAS USA, LLC San Diego, CA 92020 www.qparusa.com	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: ANGLE ± 5 DEGREES TWO PLACE DECIMAL ±.030 THREE PLACE DECIMAL ±.010 INTERPRET DIM AND TOL PER ASME Y14.5M - 1994 THIRD ANGLE PROJECTION  DO NOT SCALE DRAWING	DRAWN C. CHEYNE 2020-06-03 CHECKED S. CHEYNE 2020-06-03 ME APPR. C. CHEYNE 2020-06-03 EE APPR.	QPAR ANTENNAS USA, LLC TITLE: INTERFACE CONTROL DRAWING, QLA-360VPR-20 SIZE DWG. NO. REV C ICDN900717 A SCALE: 1:2 SHEET 1 OF 5
		PART NO. SEE TABLE I	

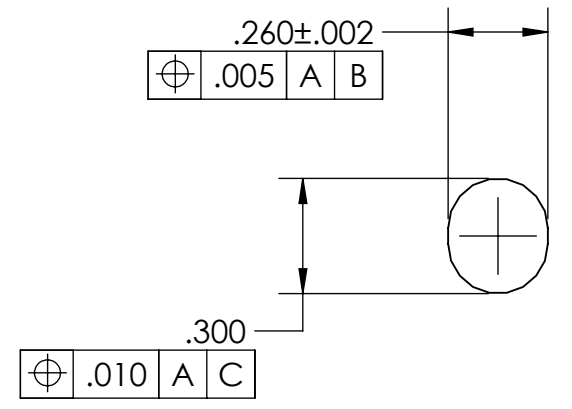




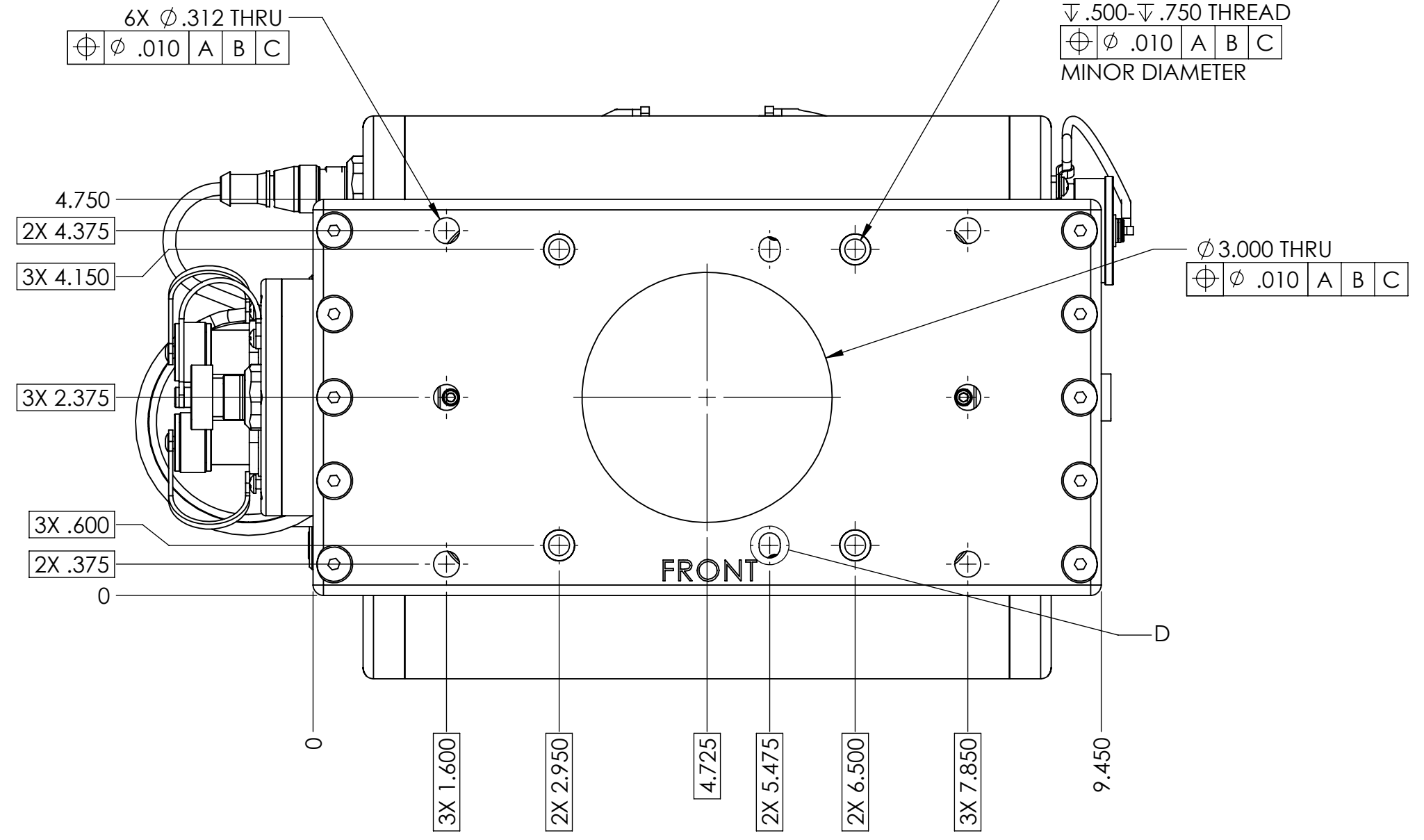
AZIMUTH
MANUAL DRIVE
ACCESS PLUG

ELEVATION
MANUAL DRIVE
ACCESS PLUG

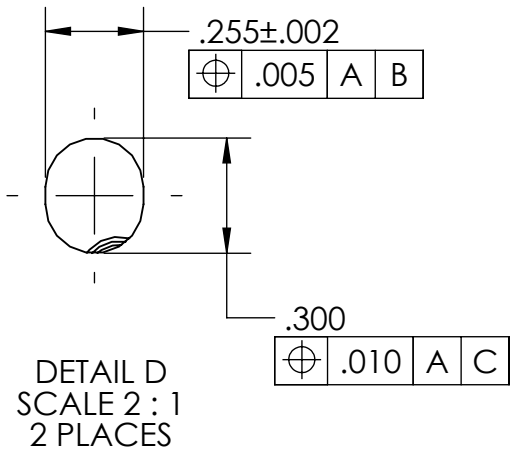
VIEW A-A
SHEET 2
ZONE D-8



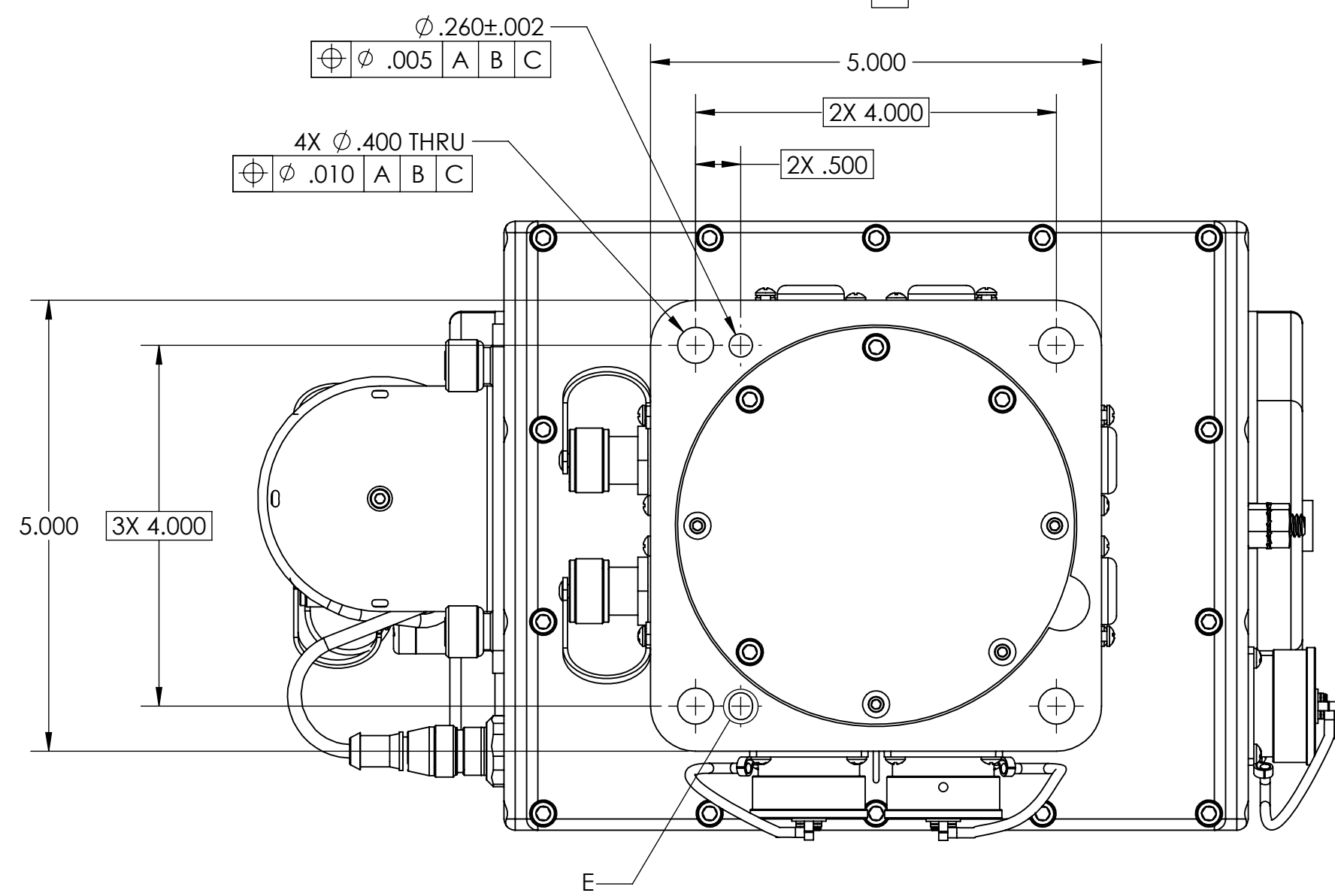
DETAIL E
SCALE 2 : 1



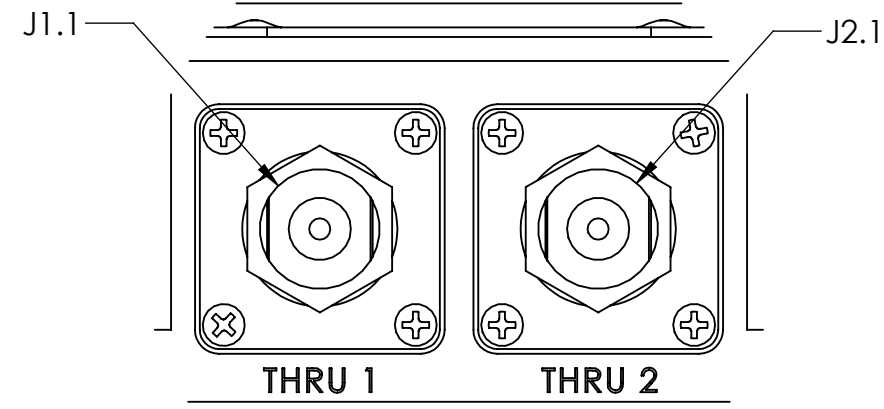
VIEW B-B
SHEET 2
ZONE D-5
TABLE TOP MOUNTING HOLES
14



DETAIL D
SCALE 2 : 1
2 PLACES

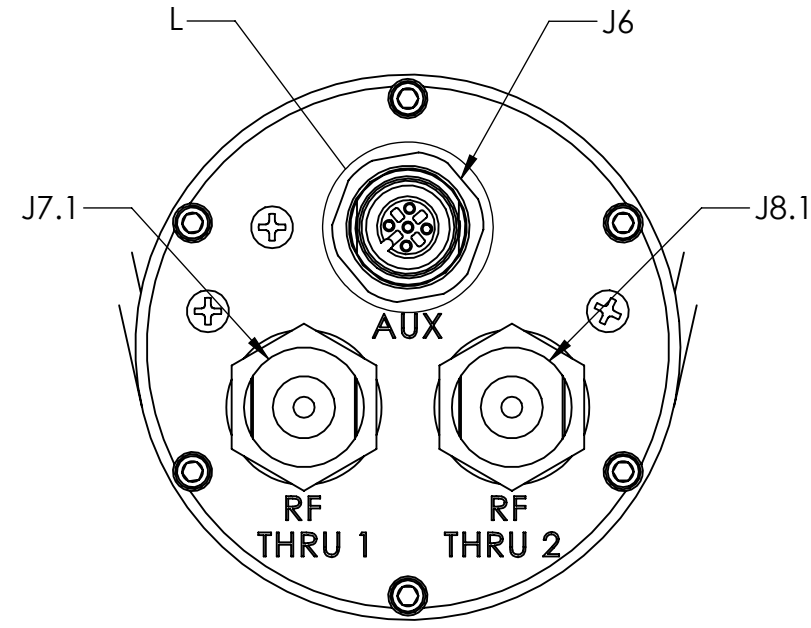


VIEW C-C
SHEET 2
ZONE A-5



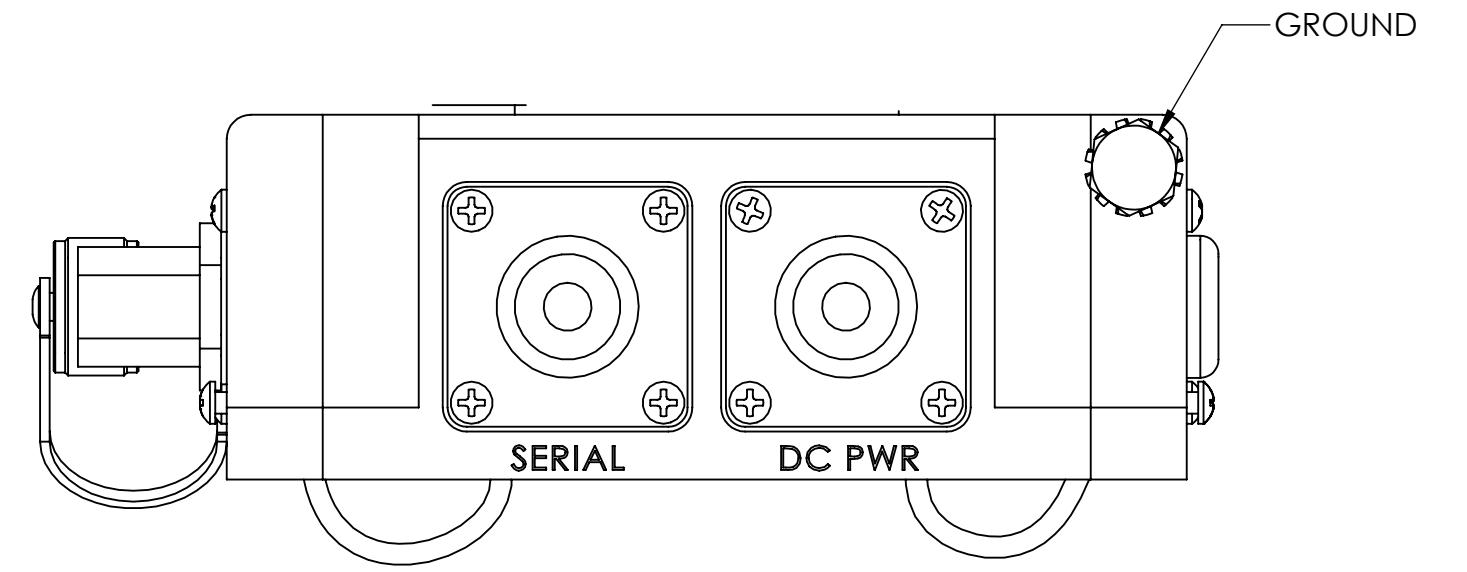
DETAIL G
SCALE 1 : 1
SHEET 2 ZONE A-6

SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE V FOR STANDARD CONNECTOR PINOUT DETAILS
SEE SHEET 5 DETAIL N ZONE E-7 FOR ALTERNATE CONNECTOR CONFIGURATIONS



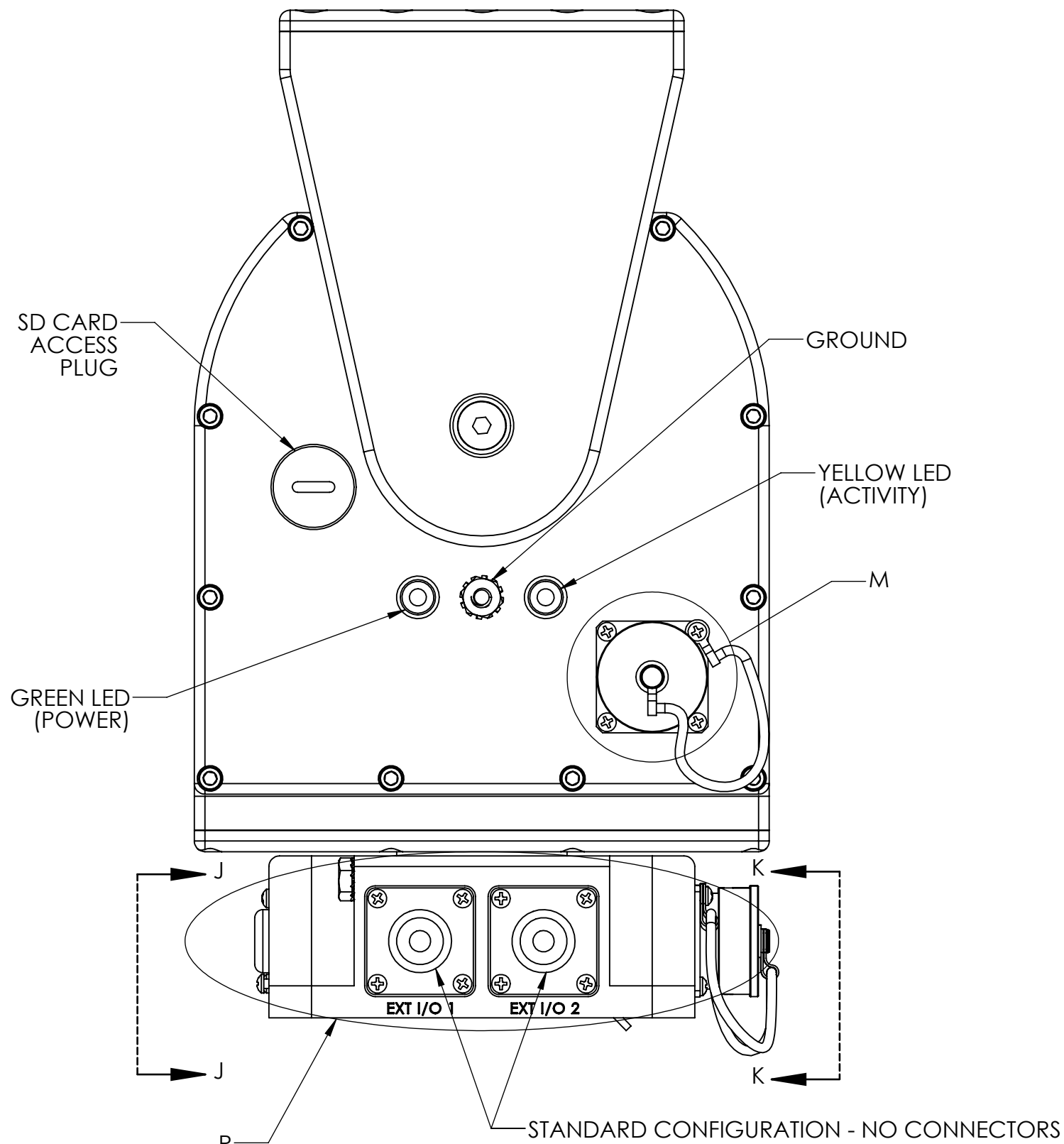
DETAIL H
SCALE 1 : 1
SHEET 2 ZONE C-5

SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE V FOR STANDARD CONNECTOR PINOUT DETAILS
SEE SHEET 5 DETAIL T ZONE E-4 FOR ALTERNATE CONNECTOR CONFIGURATIONS

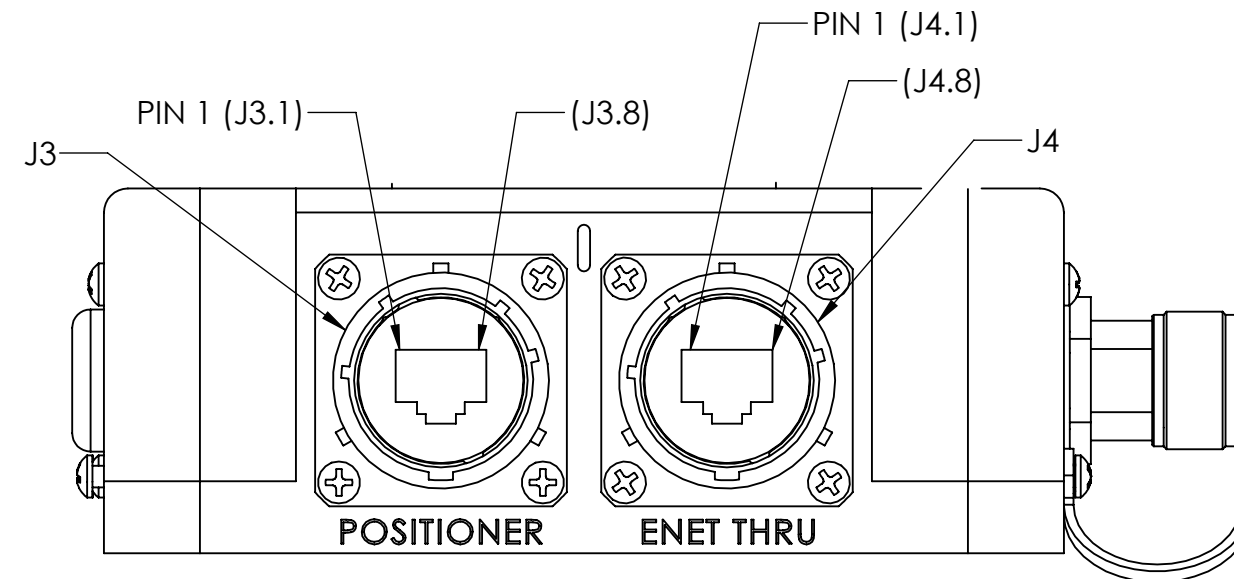


SECTION J-J
SCALE 1 : 1

STANDARD CONFIGURATION - NO CONNECTORS
SEE SHEET 5 VIEW R ZONE A-7 FOR ALTERNATE CONNECTOR CONFIGURATIONS



VIEW F-F
SHEET 2
ZONE D-1

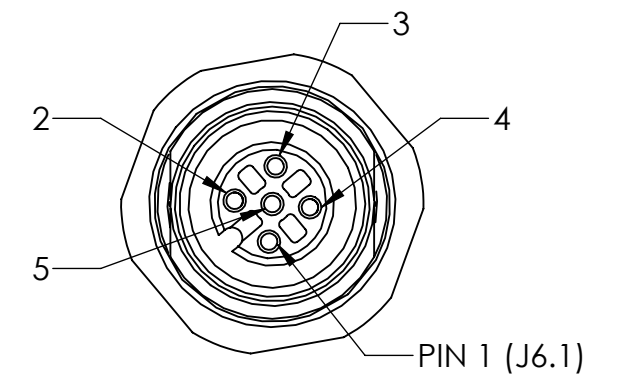


VIEW K-K
SCALE 1 : 1
SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE III FOR J3 PINOUT DETAILS & TABLE V FOR J4 PINOUT DETAILS

TABLE III (PoE CONNECTOR)	
CONNECTOR DESIGNATION	FUNCTION
J3.1	DATA PAIR 1
J3.2	DATA PAIR 1
J3.3	DATA PAIR 2
J3.4	+48 VDC PoE POWER INPUT
J3.5	+48 VDC PoE POWER INPUT
J3.6	DATA PAIR 2
J3.7	DC RETURN FOR PoE INPUT
J3.8	DC RETURN FOR PoE INPUT

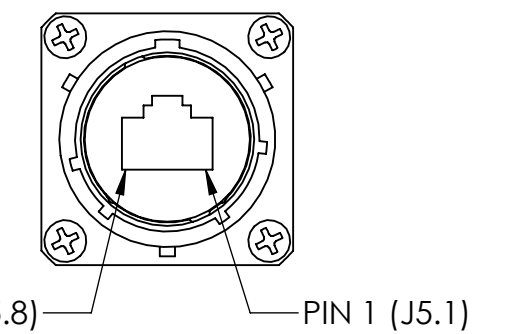
TABLE IV (AUX/POLARIZATION CONNECTOR)	
CONNECTOR DESIGNATION	FUNCTION
J6.1	GND
J6.2	+/-12 VDC MOTOR
J6.3	+/-12 VDC MOTOR
J6.4	POT WIPER
J6.5	+3.3V

TABLE V (PASS THRU CONNECTORS)	
FROM	TO
J1.1	J7.1
J2.1	J8.1
J4.1	J5.1
J4.8	J5.8



J6 CONNECTOR SHOWN FROM MATING SIDE
MATES WITH TURCK P/N RS 4.5-T-* (*LENGTH IN METERS)

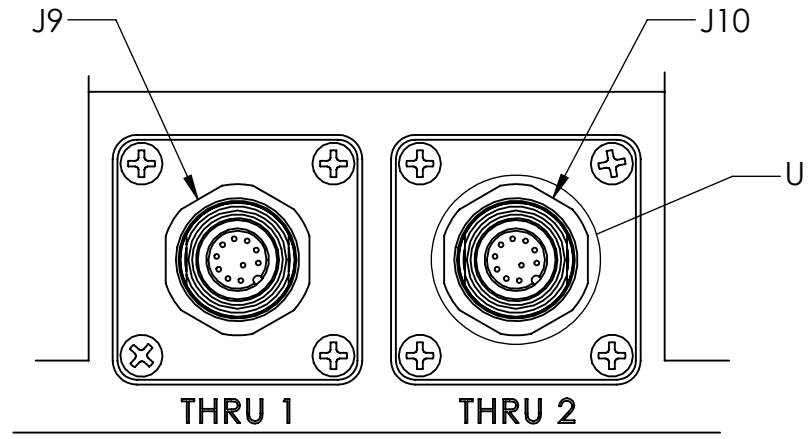
DETAIL L
SCALE 2 : 1
SEE TABLE IV FOR PINOUT DETAILS



J5 CONNECTOR SHOWN FROM MATING SIDE
MATES WITH AMPHENOL P/N - RJF6B

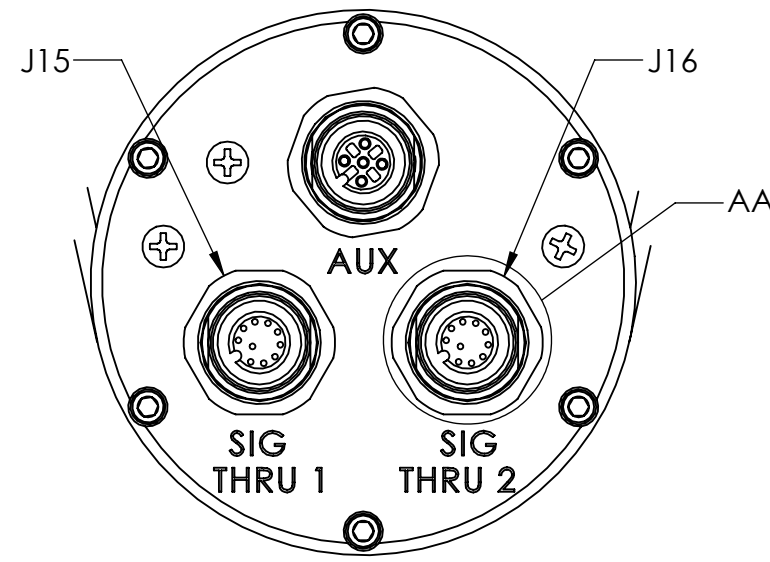
DETAIL M
SCALE 1 : 1
SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE V FOR PINOUT DETAILS

ALTERNATE CONNECTOR CONFIGURATIONS



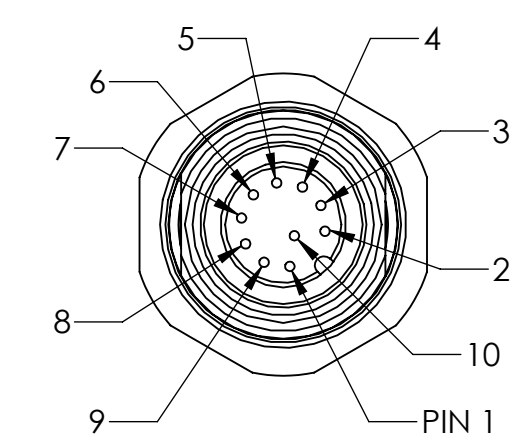
DETAIL N
SCALE 1 : 1
SHEET 2 ZONE A-6

SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE IX FOR FOR ALTERNATE CONNECTOR CONFIGURATIONS



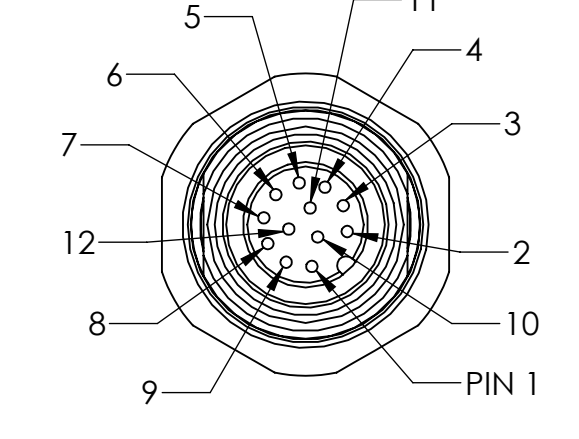
DETAIL T
SCALE 1 : 1
SHEET 2 ZONE C-6

SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE VII FOR FOR ALTERNATE CONNECTOR CONFIGURATIONS



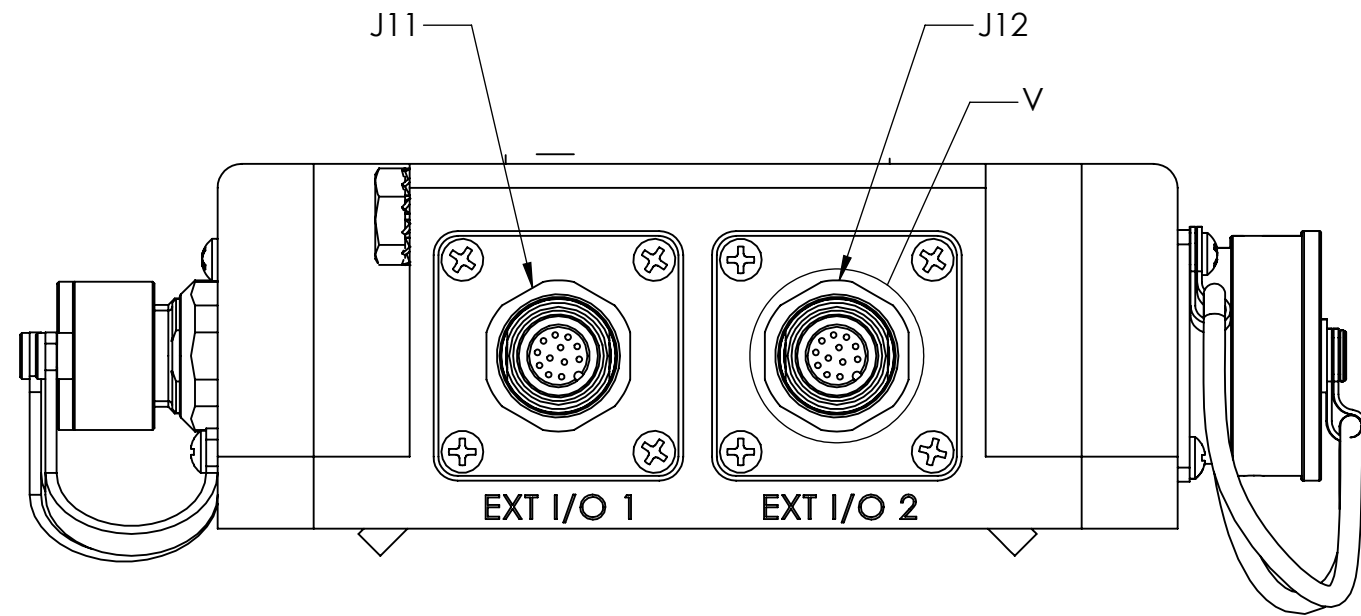
J9 & J10 CONNECTORS,
SHOWN FROM MATING SIDE,
MATES WITH TURCK
P/N RK 10-T-* (* LENGTH IN METERS)

DETAIL U
SCALE 2 : 1
2 PLACES
SEE TABLE VIII FOR
CONNECTOR PINOUT DETAILS



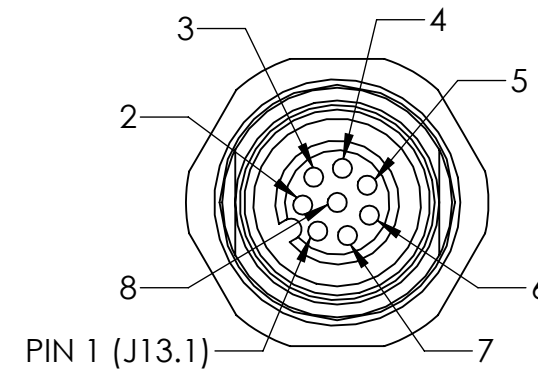
J11 & J12 CONNECTORS,
SHOWN FROM MATING SIDE,
MATES WITH TURCK
P/N RK 12-T-* (* LENGTH IN METERS)

DETAIL V
SCALE 2 : 1
2 PLACES
SEE TABLE VI FOR
CONNECTOR PINOUT DETAILS



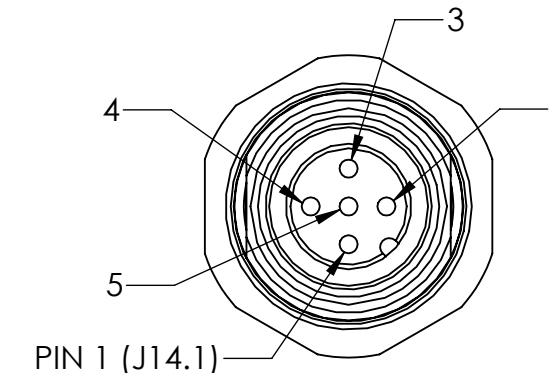
DETAIL P
SCALE 1 : 1
SHEET 4 ZONE A-8

SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE VI FOR FOR ALTERNATE CONNECTOR CONFIGURATIONS



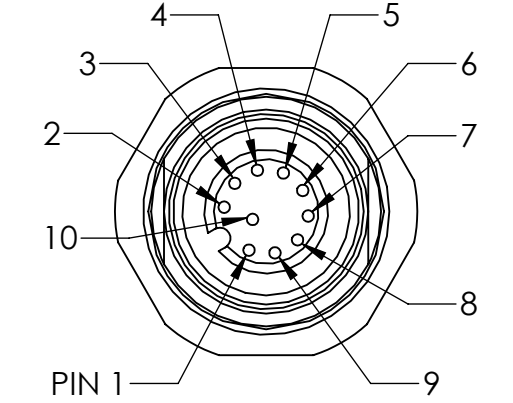
J13 CONNECTOR,
SHOWN FROM MATING SIDE,
MATES WITH TURCK
P/N RS 8-T-* (* LENGTH IN METERS)

DETAIL W
SCALE 2 : 1
SEE TABLE VII FOR
CONNECTOR PINOUT DETAILS



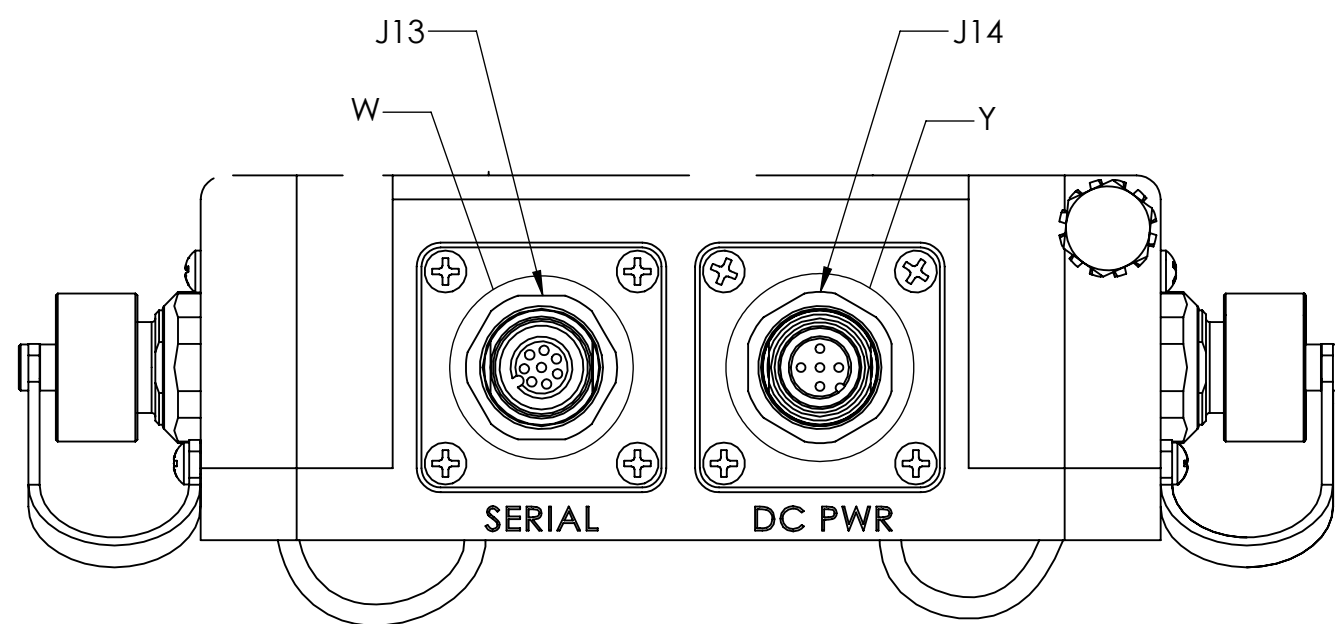
J14 CONNECTOR,
SHOWN FROM MATING SIDE,
MATES WITH TURCK
P/N RK 4.5-T-* (* LENGTH IN METERS)

DETAIL Y
SCALE 2 : 1
SEE TABLE VIII FOR
CONNECTOR PINOUT DETAILS



J15 & J16 CONNECTORS,
SHOWN FROM MATING SIDE,
MATES WITH TURCK
P/N RS 10T-* (* LENGTH IN METERS)

DETAIL AA
SCALE 2 : 1
2 PLACES
SEE TABLE IX FOR
CONNECTOR PINOUT DETAILS



DETAIL R
SCALE 1 : 1
SHEET 4 ZONE E-2

SHOWN WITHOUT PROTECTIVE CAPS
SEE TABLE VII & VIII FOR FOR ALTERNATE CONNECTOR CONFIGURATIONS

TABLE VI (EXT I/O)	
CONNECTOR DESIGNATION	FUNCTION
J11.1	ADC_1+
J11.2	GND
J11.3	IN2, IN_GPIO_1_27
J11.4	IN1, IN_GPIO_1_16
J11.5	COM
J11.6	IN3, IN_GPIO_1_24
J11.7	OUT1, OUT_GPIO_1_15
J11.8	OUT4, OUT_GPIO_1_22
J11.9	ADC_1-
J11.10	OUT3, OUT_GPIO_1_21
J11.11	IN4, IN_GPIO_1_14
J11.12	OUT2, OUT_GPIO_1_17
J12.1	ADC_2+
J12.2	GND
J12.3	IN6, IN_GPIO_0_6
J12.4	IN5, IN_GPIO_3_16
J12.5	COM
J12.6	IN7, IN_GPIO_1_26
J12.7	OUT5, OUT_GPIO_0_13
J12.8	OUT8, OUT_GPIO_1_28
J12.9	ADC_2-
J12.10	OUT7, OUT_GPIO_1_25
J12.11	IN 8, IN_GPIO_2_0
J12.12	OUT6, OUT_GPIO_3_21

TABLE VII (SERIAL CONNECTOR)	
CONNECTOR DESIGNATION	FUNCTION
J13.1	5V
J13.2	GND
J13.3	12V
J13.4	GND
J13.5	RS232, UART4 Tx
J13.6	RS232, UART4 Rx
J13.7	RS232, UART5 Tx
J13.8	RS232, UART5 Rx

TABLE VIII (POWER CONNECTOR)	
CONNECTOR DESIGNATION	FUNCTION
J14.1	N/C
J14.2	N/C
J14.3	+20-48 VDC POWER INPUT
J14.4	N/C
J14.5	GND

TABLE IX (PASS THRU CONNECTORS)	
FROM	TO
J9.1	J15.1
↓	↓
J9.10	J15.10
J10.1	J16.1
↓	↓
J10.10	J16.10