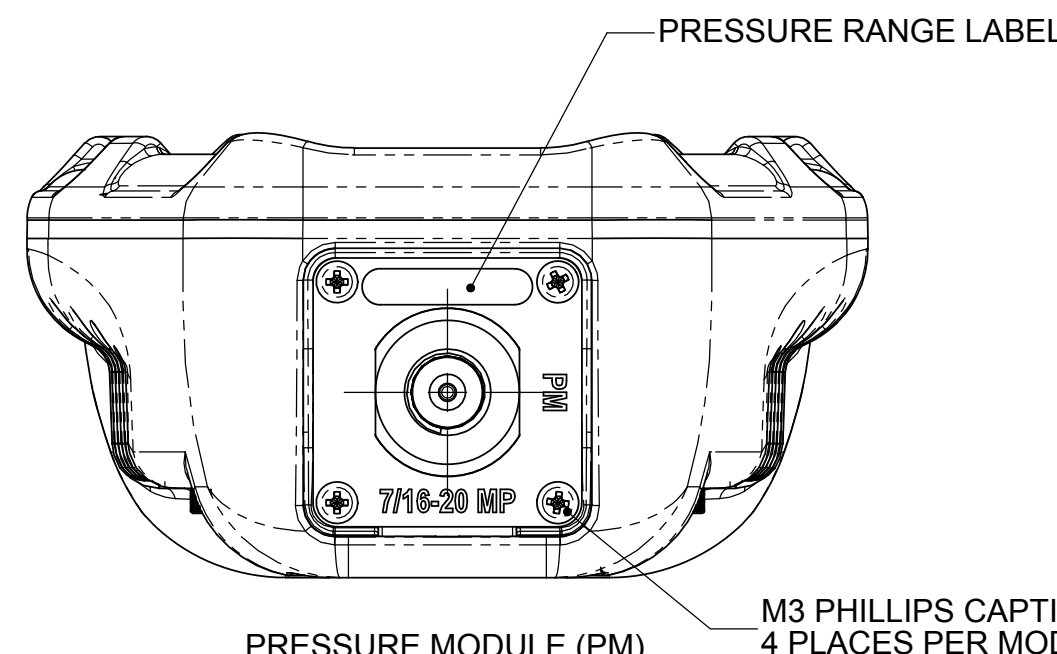
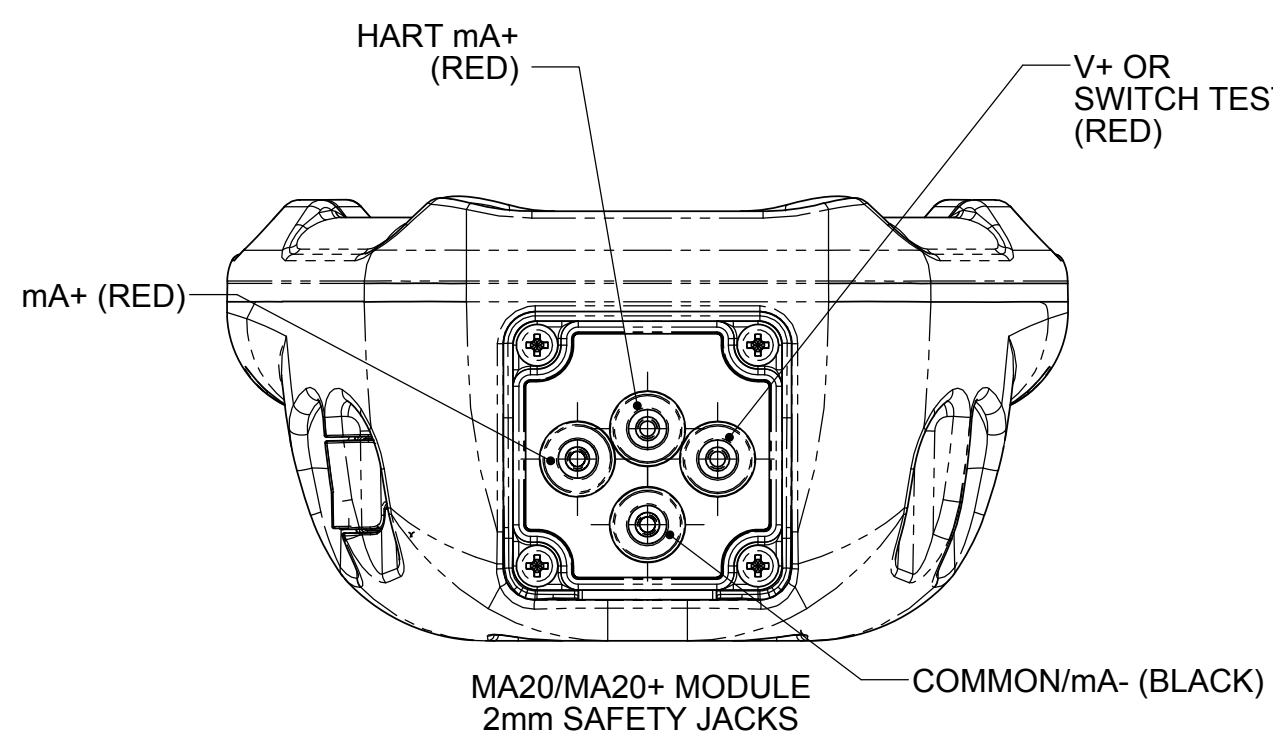
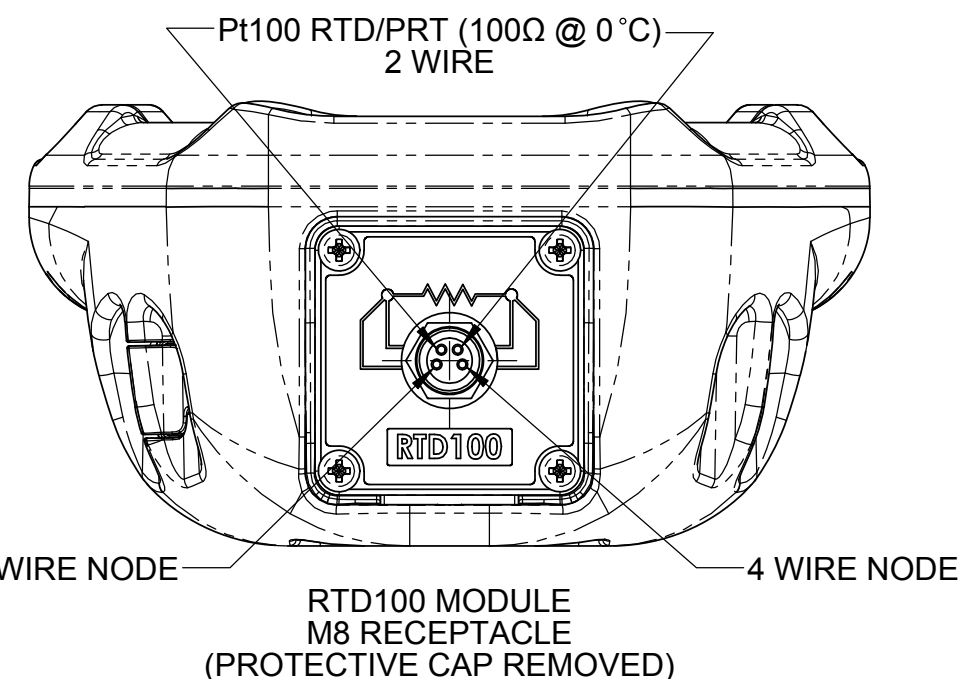


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	8/19/2009	ON FILE
B	CLARIFIED SPECIFICATIONS	8/30/10	ON FILE
C	ADDED 15KPSI PM & VACUUM SPEC	12/15/11	ON FILE
D	ADDED MA20+	4/4/2012	ON FILE
E	UPDATED % OF READING	12/8/2015	ON FILE



CRYSTAL CPF SYSTEM:
MEDIUM PRESSURE FEMALE (MPF)
(1/4" MEDIUM PRESSURE TUBE SYSTEM
WITH 7/16"-20 INTERNAL THREADS)



SPECIFICATIONS

CHASSIS: ENCLOSURE: POLYESTER/POLYCARBONATE BLEND, POLYESTER LABELS, AND COATED KEYS OVER MEMBRANE SWITCH PANEL. PROPRIETARY POLYPROPYLENE BLEND PROTECTIVE BOOT.

ENCLOSURE RATING: IP67 (1m IMMERSION FOR 30 MIN) PER IEC 60529

WEIGHT: 1.5 LBS [680g] FOR TYPICAL CONFIGURATION (ONE PM, RTD100 MODULE, 4AA BATTERY MODULE AND PROTECTIVE BOOT)

OPERATING AND COMPENSATED TEMPERATURE RANGE: -20°C TO +50°C (4°F TO 122°F).

STORAGE TEMPERATURE RANGE: -40°C TO +75°C (-40°F TO 167°F).

CERTIFICATIONS: [RATINGS SUBJECT TO BATTERY TYPE USED - SEE POWER MODULE SPECIFICATIONS]
ATEX: II 1G Ex ia IIB T4 Ga
IECEX SCHEME: II 1G Ex ia IIB T4 Ga

PRESSURE MODULE (PM): **PRESSURE ACCURACY:** 30 - 110% OF FULL SCALE ±(0.025% OF READING) OR ±(0.05% OF READING)
0 - 30% OF FULL SCALE ±(0.0075% OF FULL SCALE) OR ±(0.015% OF FULL SCALE)

VACUUM ACCURACY: FOR 300 PSI, 30 bar, 3 MPa, 30 kg/cm2, AND LOWER PRESSURE MODULES:
±(0.06% OF FULL SCALE), WHERE F.S. = -14.5 PSIG, -1.0 bar, -100.0 kPa, -1.0 kg/cm2

PRESSURE RANGE: SEE PRESSURES AND RESOLUTIONS CHART

PRESSURE CONNECTION: CRYSTAL CPF SYSTEM: MEDIUM PRESSURE FEMALE (MPF) (1/4" MEDIUM PRESSURE TUBE SYSTEM WITH 7/16"-20 INTERNAL THREADS)

PRESSURE PORT MEDIA COMPATABILITY: LIQUID AND GASES COMPATIBLE WITH 316L SS SENSOR.

RTD100 MODULE: **ACCURACY:** ± (0.015% OF READING + 0.02Ω)
RANGE: 0-400 OHMS
RESOLUTION: 0.01 Ω

MA20 MODULE: **CURRENT (mA) INPUT:**
ACCURACY: ±(0.015% OF READING + 0.002mA)
RANGE: 0-25 mA (mA20)
0-55 mA (mA20+)
MAXIMUM ALLOWABLE CURRENT: 55mA
RESOLUTION: 0.001mA OR 0.01%
UNITS: mA, % 4-20, % 10-50
INPUT RESISTANCE: <17.2Ω
VOLTAGE BURDEN @ 20mA: < 0.35V
VOLTAGE BURDEN @ 50mA: < 0.86V
HART RESISTANCE: 250Ω

VOLTAGE (VDC) INPUT:
ACCURACY: ±(0.015% OF READING + 0.002VDC)
RANGE: 0-28VDC
MAXIMUM ALLOWABLE VOLTAGE: 30VDC
RESOLUTION: 0.001VDC
UNITS: VDC

SWITCH TEST:
SWITCH TYPE: DRY CONTACT
CLOSED STATE RESISTANCE: < 10Ω
OPEN STATE RESISTANCE: > 10MΩ

POWER MODULE: **4AA:** FOUR AA (1.5V) ALKALINE BATTERIES. REFER TO APPROVED BATTERY TABLE.
USE OF ANY OTHER BATTERY VOIDS INTRINSIC SAFETY RATINGS

SPECIFICATIONS INCLUDE ALL EFFECTS OF LINEARITY, HYSTERESIS, REPEATABILITY, TEMPERATURE, AND STABILITY FOR ONE YEAR. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

APPROVED BATTERY TABLE		
APPROVED BATTERY	Ta=	MARKING
RAYOVAC MAXPLUS 815	-20°C TO +50°C	Ex ia IIB T4 Ga
DURACELL MN1500	-20°C TO +45°C	
ENERGIZER E91, EN91	-20°C TO +50°C	Ex ia IIB T3 Ga
DURACELL MN1500		

PRESSURES AND RESOLUTIONS																
	AVAILABLE PRESSURE MODULES					AVAILABLE UNITS AND DISPLAYED RESOLUTION										
	PSI	bar	kPa	MPa	kg/cm2	PSI	kg/cm2	in Hg	in H2O	mmHg	mmH2O	kPa	bar	mbar	MPa	
0.025% OF RDG	30					0.001	0.0001	0.001	0.01	0.01	1	0.01	0.0001	0.1		
		3				0.001	0.0001	0.001	0.01	0.01	1	0.01	0.0001	0.1		
			300									0.01	0.0001	0.1		
				1		3	0.001	0.0001	0.001	0.01	0.01	1	0.01	0.0001	0.1	0.00001
			10			10	0.001	0.0001	0.01	0.1	0.1	1	0.01	0.0001	0.1	0.00001
						300	0.01	0.001	0.01	0.1	0.1	1	0.1	0.001	1	0.0001
0.05% OF RDG		30			3	0.01	0.001	0.01	0.1	0.1	1	0.1	0.001	1	0.0001	
					1000	0.1	0.001	0.1				0.1	0.001	1	0.0001	
		100				0.1	0.001	0.1				0.1	0.001	1	0.0001	
				10								0.1	0.001	1	0.0001	
					100	0.1	0.001	0.1				0.1	0.001	1	0.0001	
					3000	0.1	0.01	0.1				1	0.01	1	0.001	
		300				0.1	0.01	0.1				1	0.01	1	0.001	
				30								1	0.01	1	0.001	
					300	0.1	0.01	0.1				1	0.01	1	0.001	
					10000	1	0.01					1	0.01	1	0.001	
		700				1	0.01					1	0.01	1	0.001	
				70								1	0.01	1	0.001	
				700	1	0.01					1	0.01	1	0.001		
	15000				1	0.01					1	0.01	1	0.001		
		1000			1	0.01					1	0.01	1	0.001		
			100		1	0.01					1	0.01	1	0.001		

DIFFERENTIAL PRESSURE PRESSURE MEASUREMENT UNCERTAINTIES								
FULL SCALE OF BOTH SENSORS								
PSI	bar	kPa	MPa	kg/cm2	PSI	mbar	inH2O	mmH2O
30	3	300		3	0.0005	0.04	0.014	0.4
100	10		1	10	0.0015	0.1	0.04	1.0
300	30		3	30	0.005	0.4	0.14	4.0
1 000	100		10	100	0.02	1.0	0.4	10.0
3 000	300		30	300	0.05	4.0	1.4	
10 000	700		70	700	0.2	10.0	4.0	
15 000	1 000		100	1 000	0.3	15.0	6.0	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:	
FRACTIONS	DECIMALS ANGLES
XXX ± .005	
.XXXX ± .001	

CRYSTAL (805) 595-5477
engineering corporation www.crystalengineering.net

VISION, PRESSURE RECORDER

APPROVALS	DATE
DRAWN M.J.Cain	8/19/09
CHECKED D.Porter	8/30/10
MFG. ENGR. T.Leger	8/30/10
Q.A. D.Porter	8/30/10

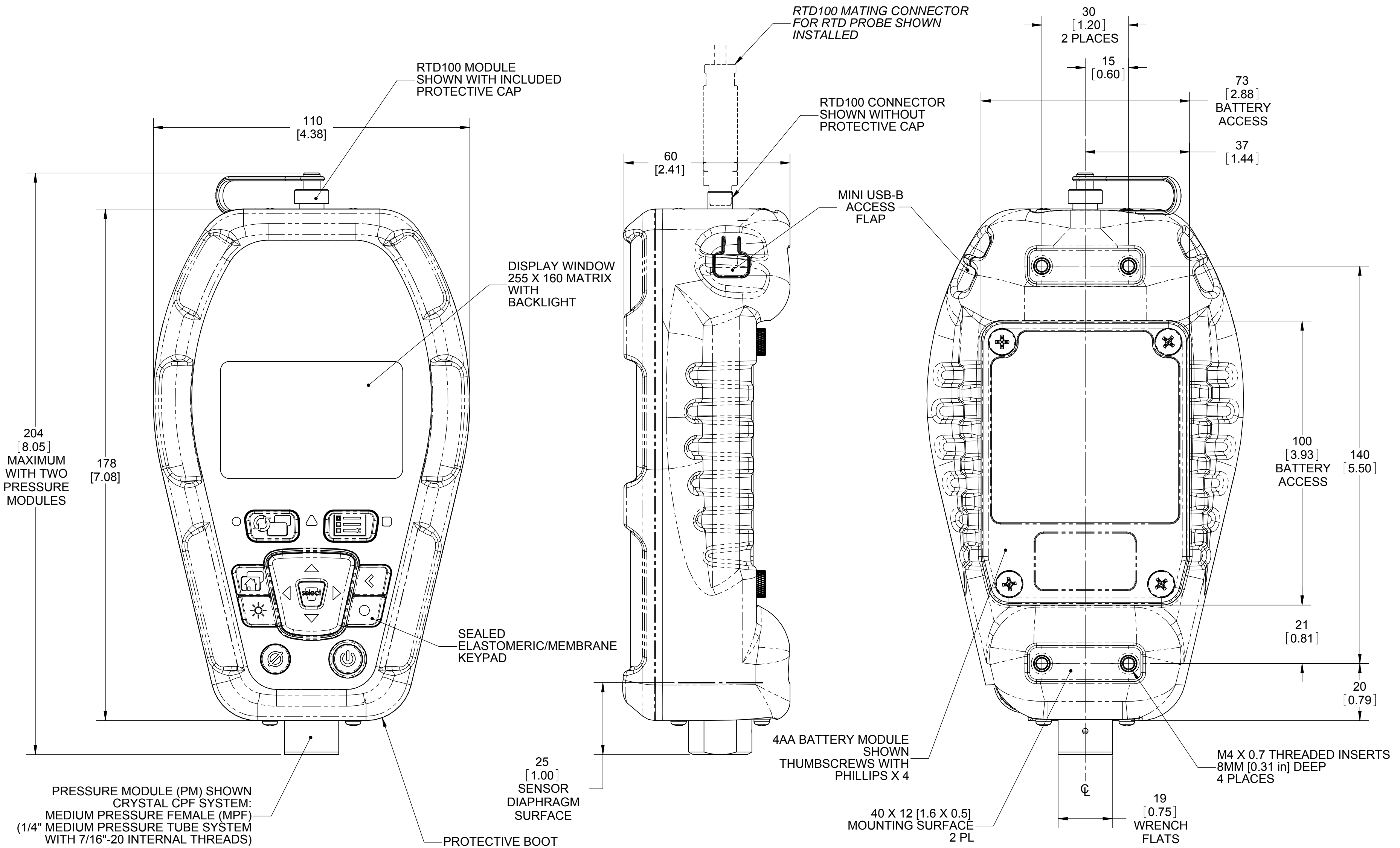
SCALE: 1:2

SIZE **C** DRAWING NO. **4121** REV **E**

DO NOT SCALE DRAWING SHEET 1 OF 2

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	See Sheet 1	-	-



ALL DIMENSIONS ARE IN MILLIMETERS [INCHES]
REFER TO SHEET 1 FOR SPECIFICATIONS

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
XXX ± .005
.XXXX ± .001

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VISION, PRESSURE RECORDER

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Q.A. D.Porter	8/30/10	DO NOT SCALE DRAWING		SHEET 2 OF 2	