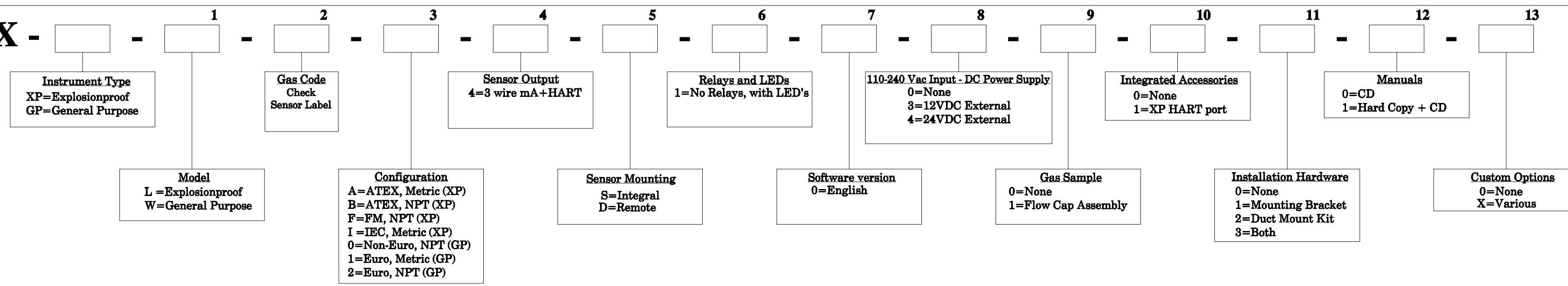
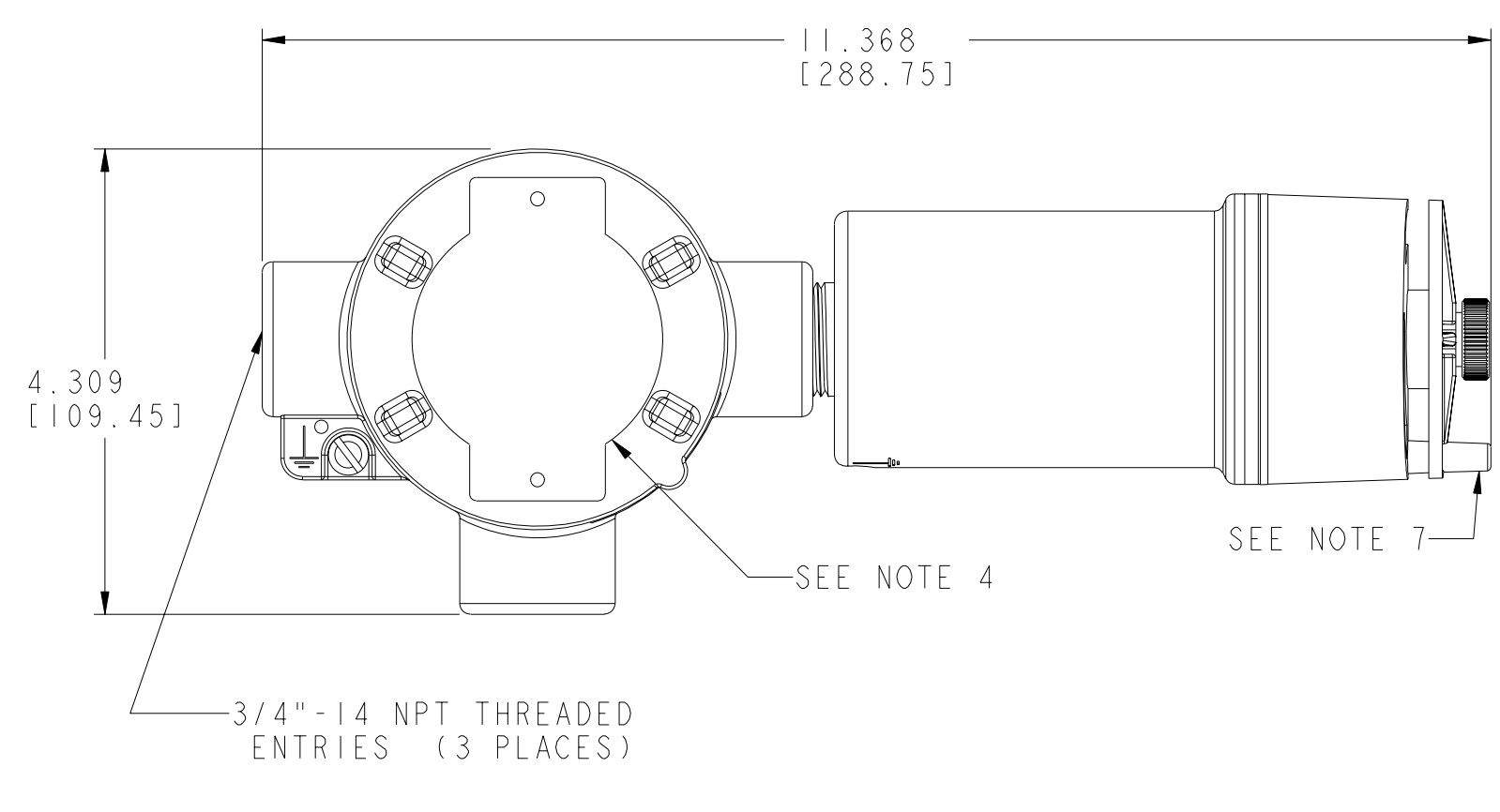


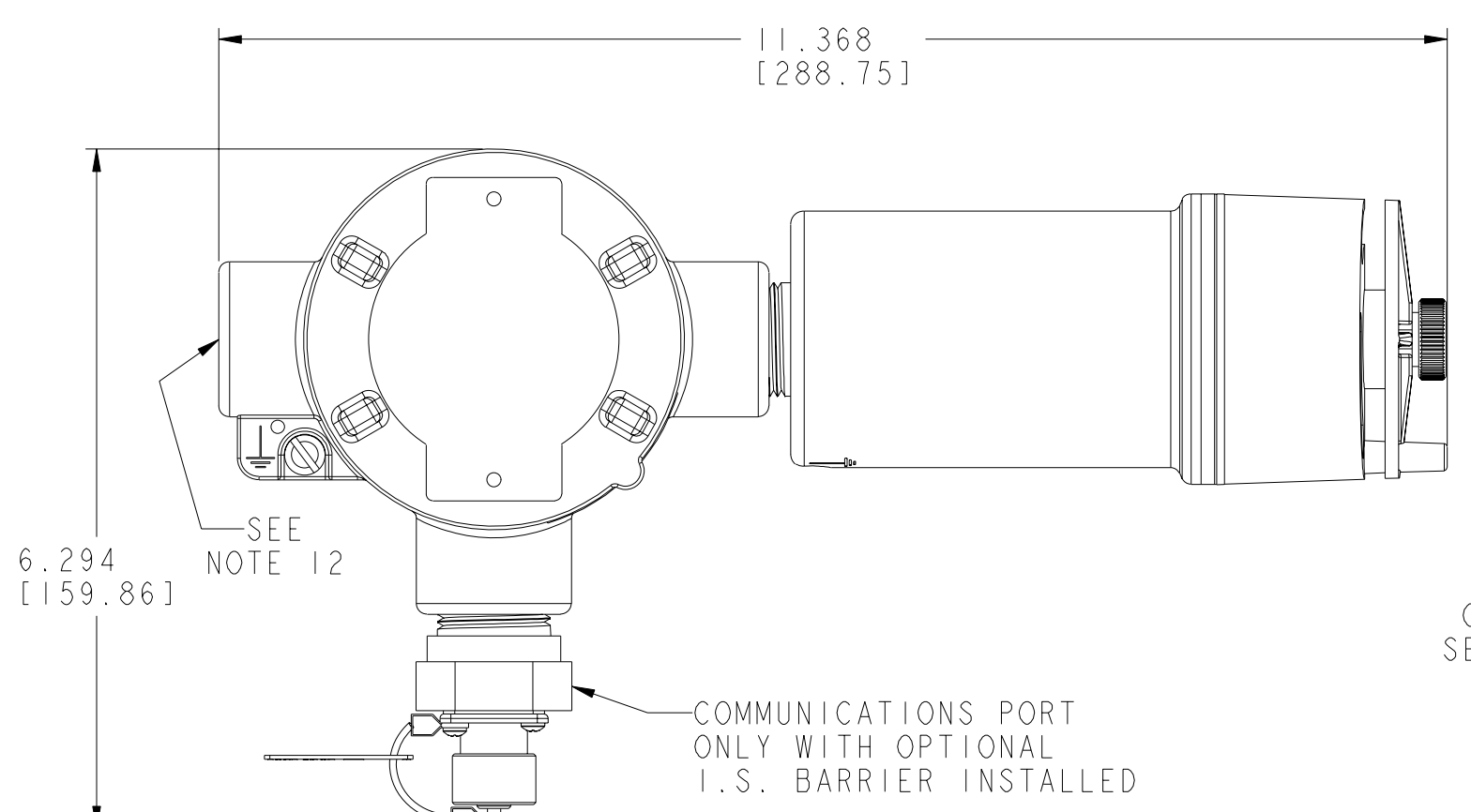
A - ULTIMAX -



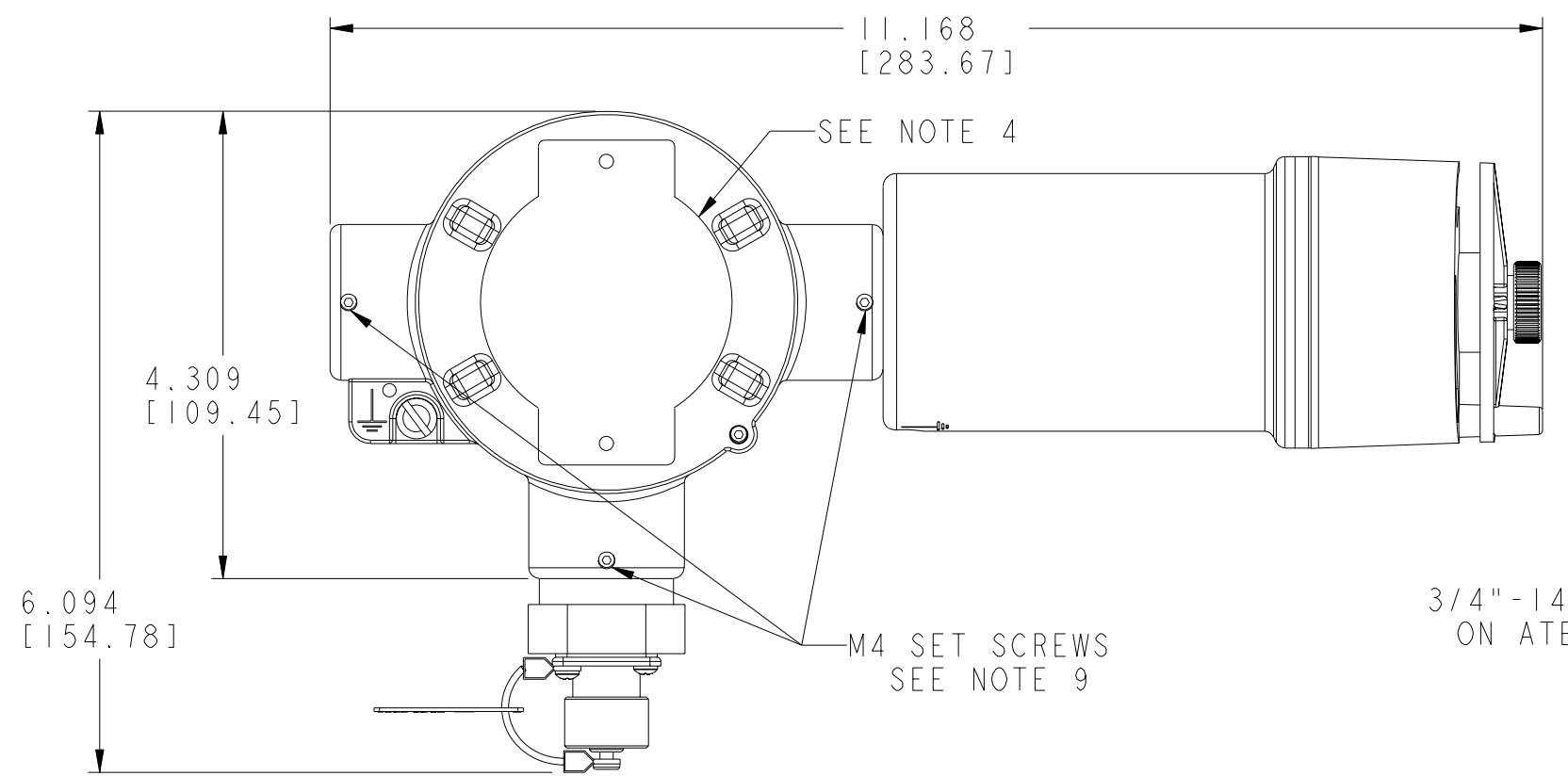
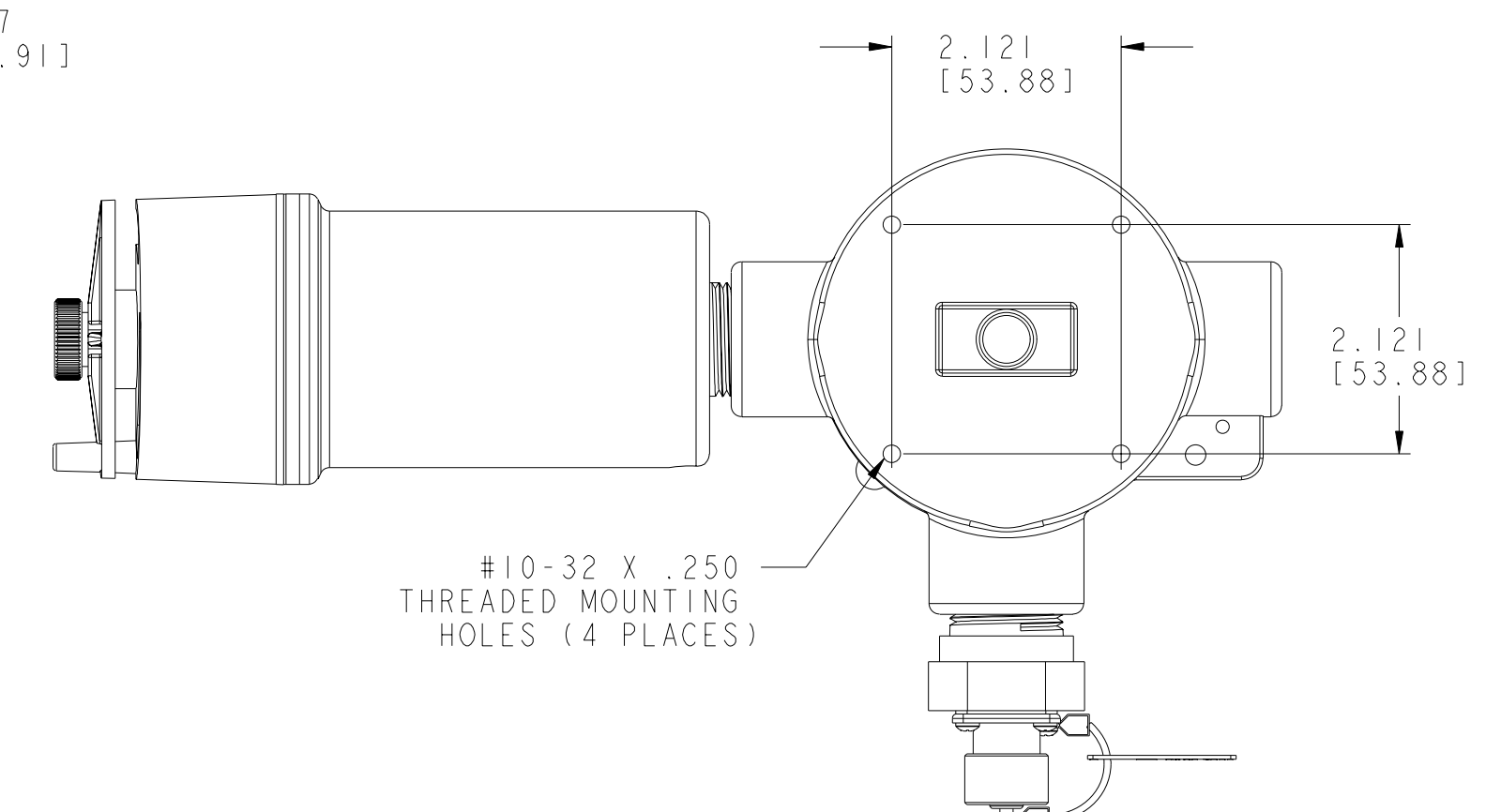
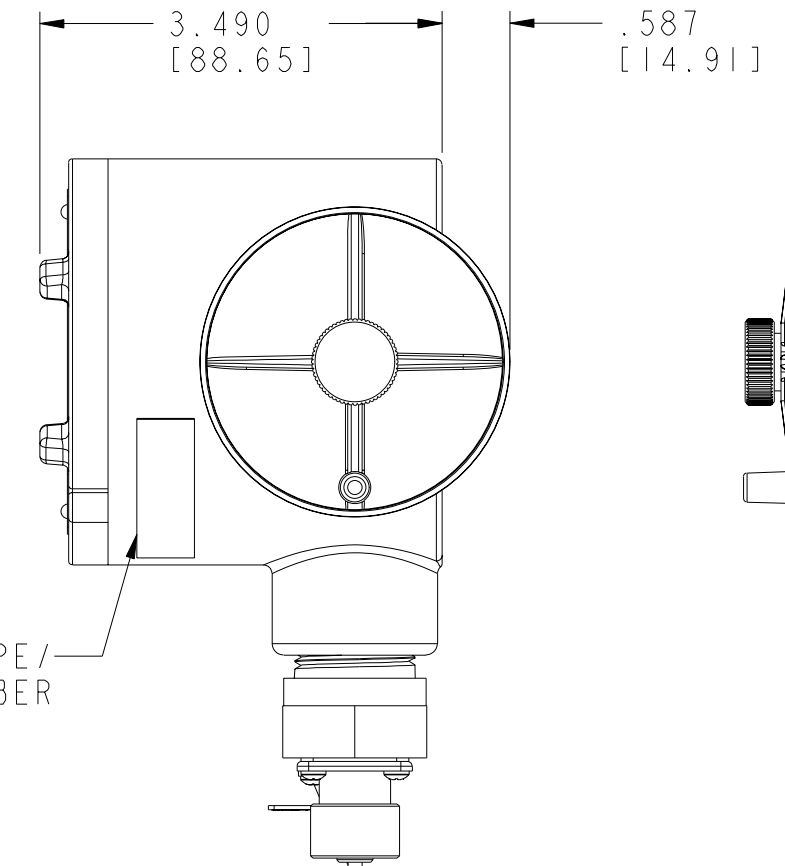
REVISIONS	
MAR 26 2007	10-29-2008 REPLACED OLD ATO MATRIX WITH NEW ONE ECO-7000002331A GJT CL
OCT 29 2008	



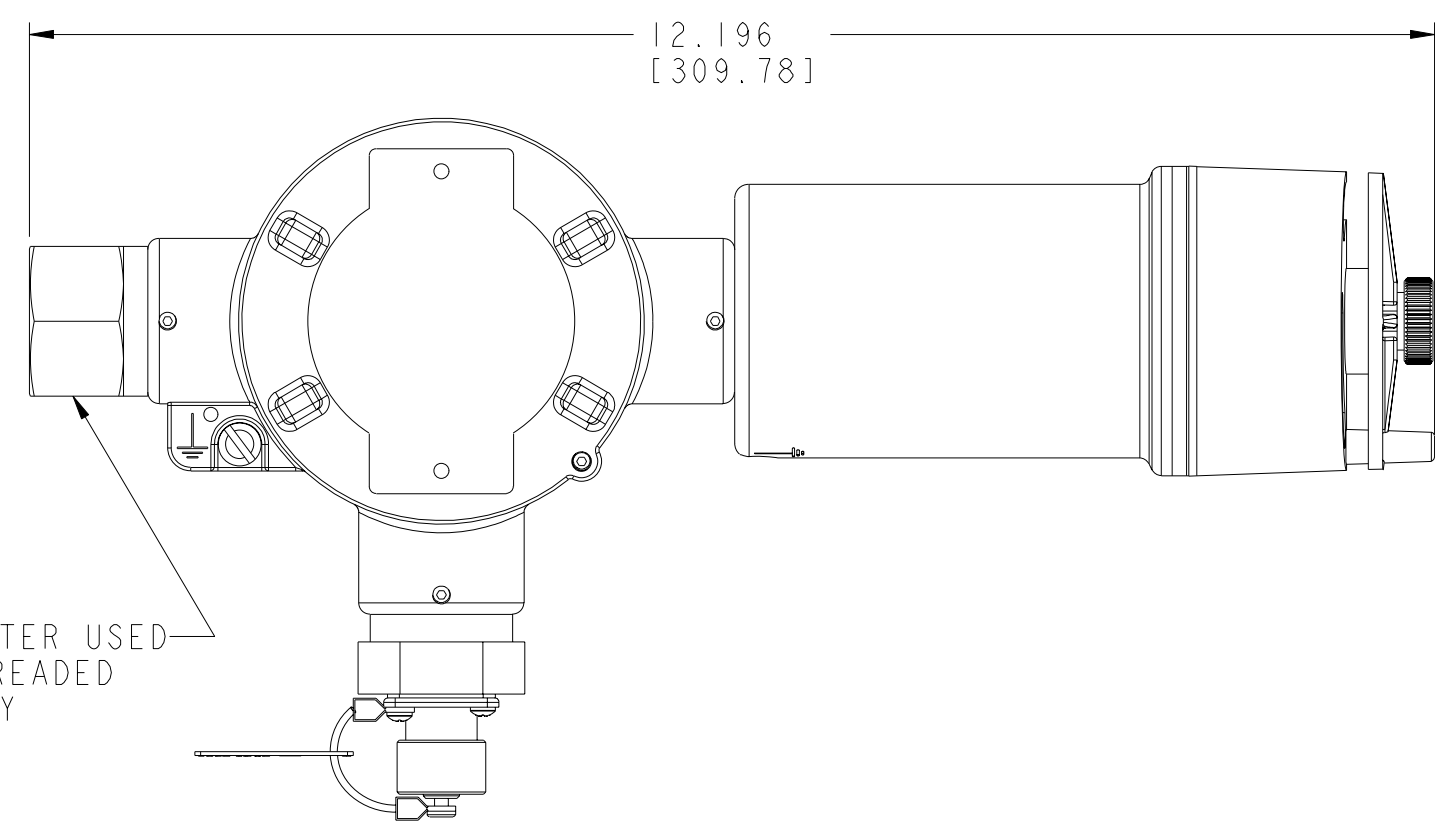
ULTIMA XL WITH XIR SENSOR
3/4"-14 NPT THREADED ENTRIES SHOWN
WEIGHT = 7.48 LBS (3.39 KG.)



ULTIMA XL WITH XIR SENSOR (OPTIONAL HART PORT)
3/4"-14 NPT THREADED ENTRIES SHOWN WITH OPTIONAL I.S. BARRIER AND COM PORT INSTALLED
WEIGHT = 8.02 LBS (3.64 KG.)

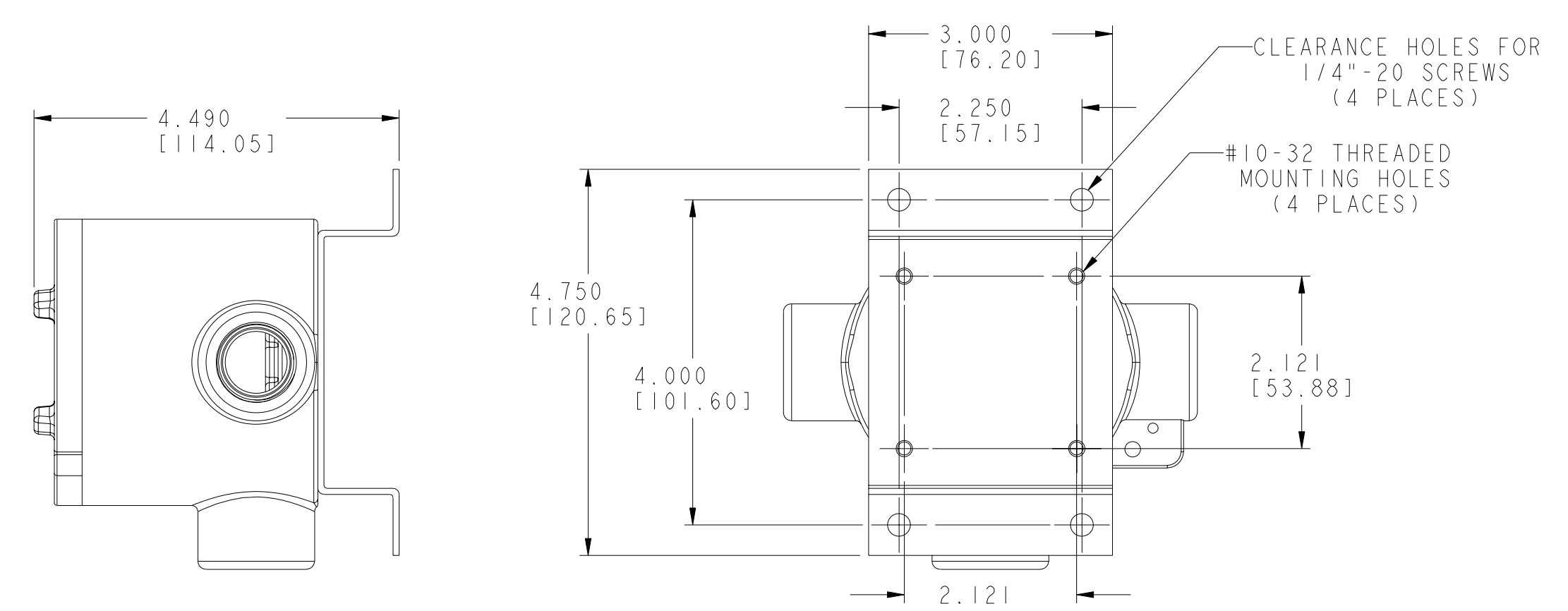


ULTIMA XL WITH XIR SENSOR (OPTIONAL HART PORT)
M25 X 1.5 THREADED ENTRIES SHOWN WITH OPTIONAL BARRIER AND COM PORT INSTALLED
WEIGHT = 8.02 LBS (3.64 KG.)



CONTROL DRAWINGS REFERENCED ON PRODUCT LABELS CAN BE FOUND AT www.msanorthamerica.com
FIXED GAS DETECTION, GAS SENSORS, ULTIMA XL/XLT SERIES GAS MONITORS, LITERATURE TAB

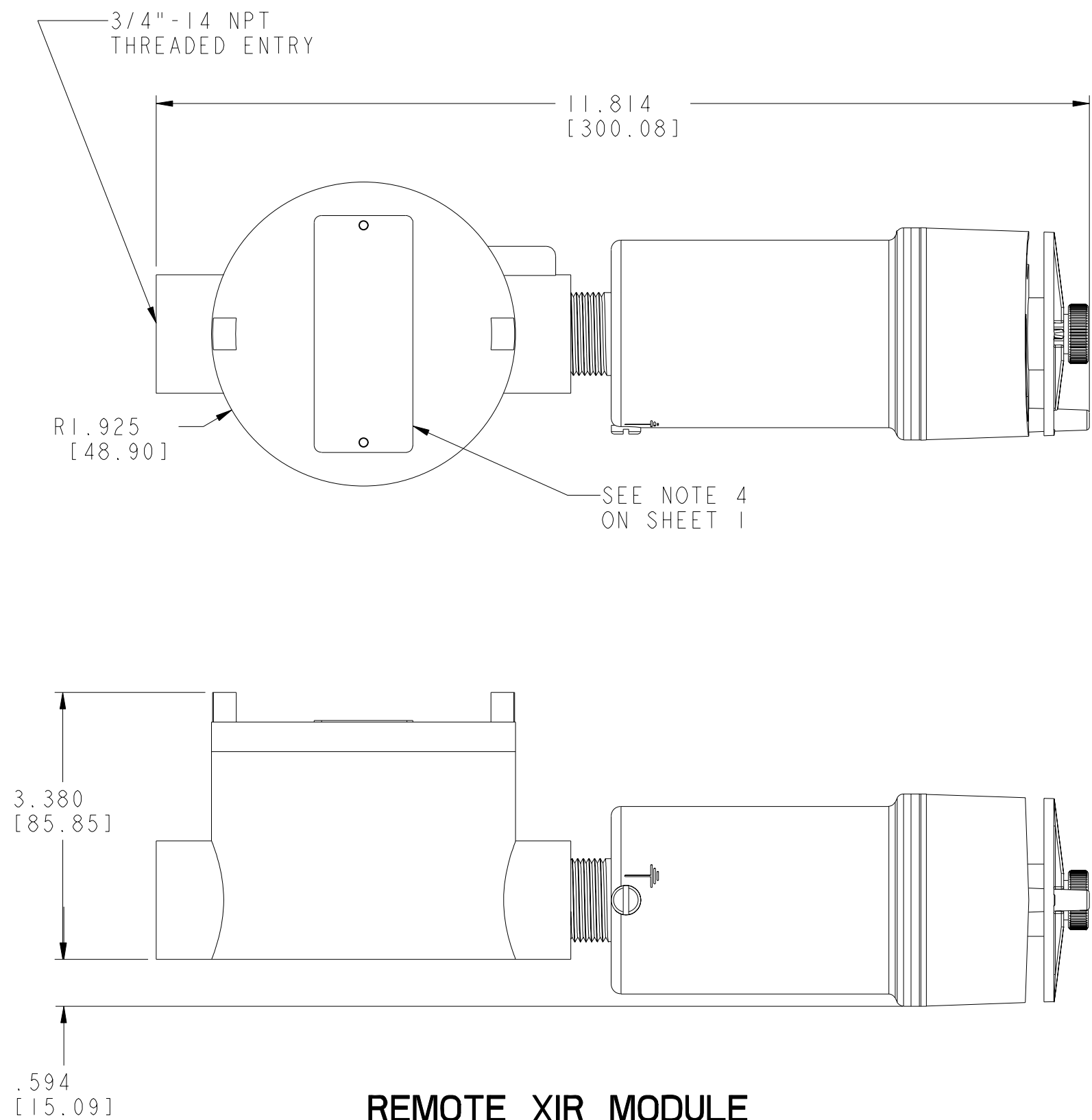
- NOTES:
- INSTRUMENT WEIGHTS ARE THE SAME FOR NPT OR METRIC THREADED HOUSINGS.
 - INSTRUMENT AND SENSOR HOUSINGS ARE MADE OF 316 STAINLESS STEEL.
 - DIMENSIONS SHOWN IN INCHES [MILLIMETERS].
 - CHECK TAG FOR AREA CLASSIFICATIONS.
 - - - - INDICATES FIELD CONNECTIONS MADE BY OTHERS.
 - CHECK SENSOR LABEL FOR GAS TYPE, RANGE, AND ATO ORDERING NUMBER.
 - MOUNT UNIT WITH SENSOR INLET HORIZONTAL.
 - P/N 10047562 IS OPTIONAL MOUNTING BRACKET.
 - APPLY TEFLON TAPE TO ALL THREADED ENTRIES FOR WATER TIGHT APPLICATIONS.
 - CERTIFIED STOPPING PLUGS OR CERTIFIED ENTRIES SHALL BE INSTALLED AT ALL THREADED ENTRIES AT INSTALLATION.
 - INCOMING POWER AND SIGNAL CABLE SHIELD SHOULD BE EARTH GROUNDED AT THE POWER SOURCE. CONNECT POWER AND REMOTE SENSOR CABLE SHIELDS TOGETHER IN THE MAIN HOUSING. PROVIDE SHIELD TERMINATIONS INSIDE THE SENSOR HOUSING.



OPTIONAL MOUNTING BRACKET
SEE NOTE 8

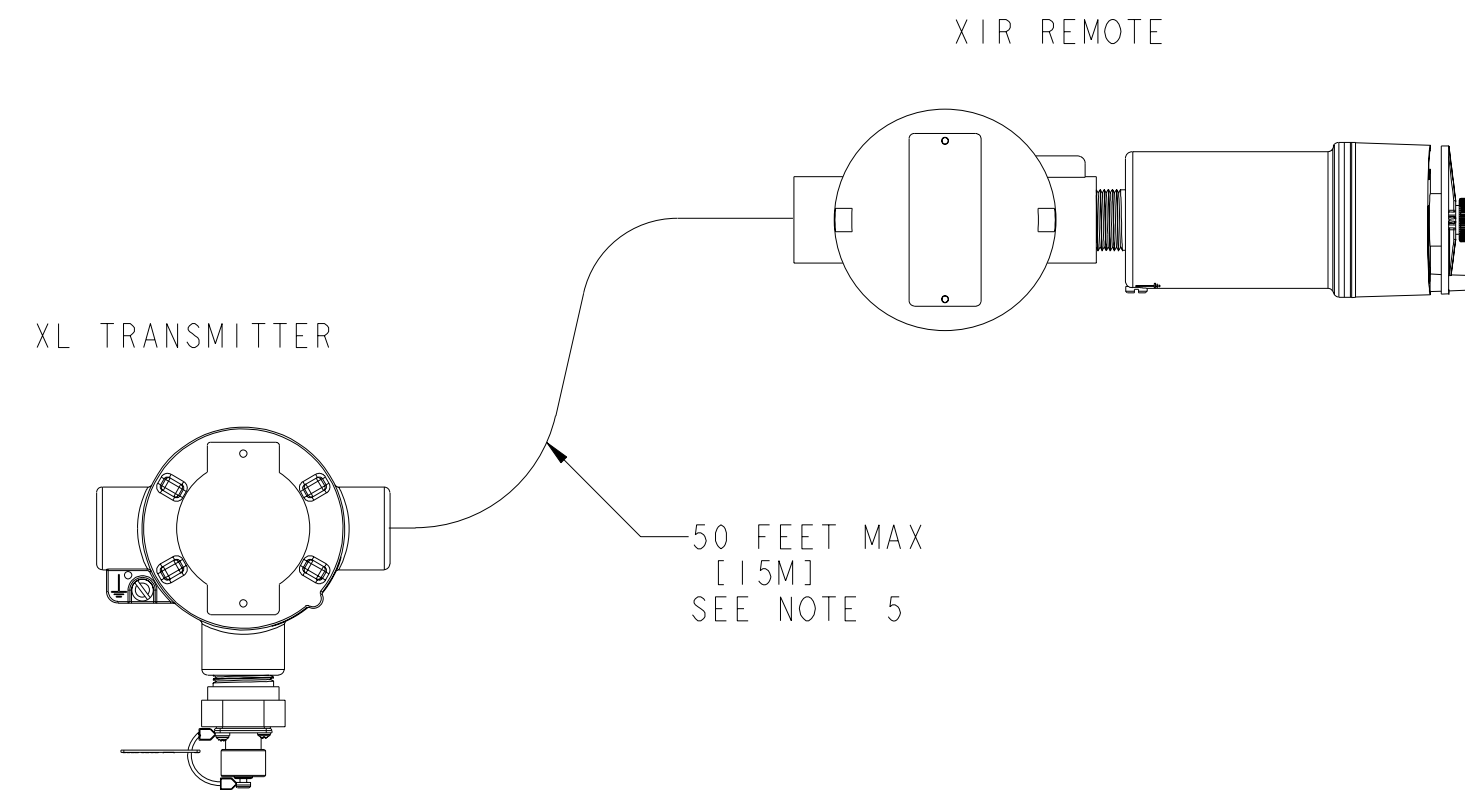
CUSTOMER _____
P.O. NO. _____
MSA NO. _____
LOCATION _____
TAG NO. _____
TOTAL NO. OF UNITS _____

AUTHORIZED COUNTRY	MSA	MINE SAFETY APPLIANCES CO. PITTSBURGH, PA 15230, USA	THIS DRAWING IS THE PROPERTY OF MSA AND IS MADE AVAILABLE TO YOU IN CONFIDENCE AND SUBJECT TO THE FOLLOWING: NO PERMISSION IS GRANTED TO PUBLISH, USE, REPRODUCE, TRANSMIT OR DISCLOSE THIS DRAWING, OR ANY INFORMATION CONTAINED THEREIN TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF MSA EXCEPT FOR THE MANUFACTURE OF ARTICLES FOR MSA. SCHUTZVERMERK NACH DIN 34 BEACHTEN. MSA AUER GmbH.	DO NOT SCALE DWG.
	MSA STANDARD SHOP PRACTICES APPLY	JOB NO. 30007082 PH0722	APPROVAL AGENCY CODE: YES NIOSH ATTR. DOC.:	
	CODE SYMBOLS	DRAWN BY WJE DATE 3-12-2007	INSTALLATION OUTLINE, ULTIMA XL WITH XIR SENSOR	
	CRITICAL MAJOR A MAJOR B	CHECKED BY D.MAST 3-22-07		
	100 ± INSPECTION	PROJ. ENGR. S.TURNER 3-22-07		
	TOLERANCES UNLESS OTHERWISE SPECIFIED	QUALITY ASSURANCE J.DANNHARDT 3-22-07		
	FRACTIONAL ± 1/64	MANUFACTURING H.TRACHSEL 3-26-07	CADD REF: SK3015-1018	SCALE: 1:000
	2 PL DEC. ± 0.01			SHEET 1 OF 2
	3 PL DEC. ± 0.005			
	ANGULAR ± 1 deg			
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			



REMOTE XIR MODULE

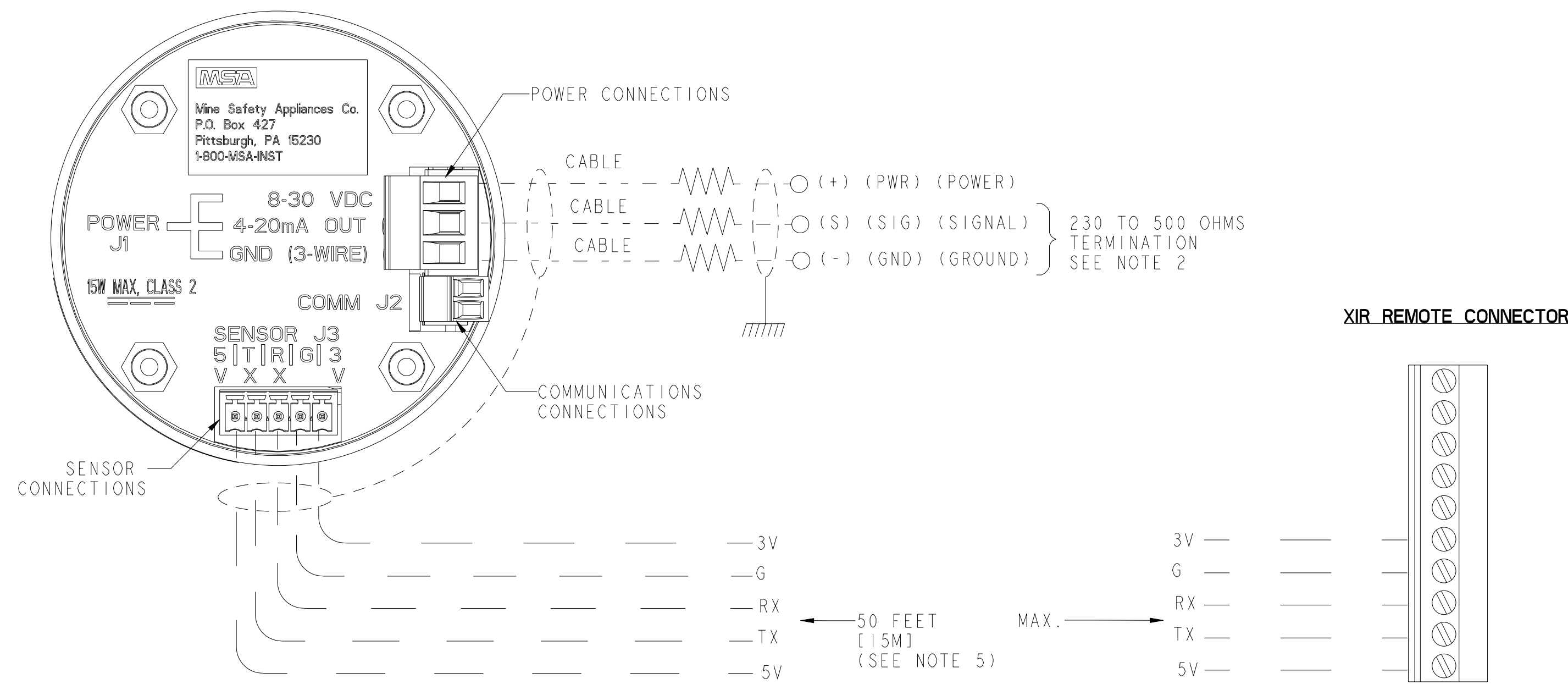
EXPLOSION-PROOF HOUSING
 MATERIAL: CAST ALUMINUM (NORTH AMERICA) or STAINLESS STEEL (INTERNATIONAL)
 TOTAL WEIGHT = 5 LBS. (2.3 KG).
 SEE NOTE 4



WIRE SIZE	MAXIMUM CABLE LENGTH @ 24 VDC	MAXIMUM LOAD RESISTANCE	MAXIMUM CABLE LENGTH @ 12 VDC	MAXIMUM LOAD RESISTANCE
18 AWG (1.00 mm ²)	2000 FT. (610 m)	500 Ohms	300 FT. (91 m)	300 Ohms
16 AWG (1.50 mm ²)	3500 FT. (1070 m)		500 FT. (152 m)	
12 AWG (2.50 mm ²)	5000 FT. (1524 m)		900 FT. (274 m)	

SENSOR TYPE	MINIMUM WIRE SIZE	MAXIMUM CABLE LENGTH
*IR COMBUSTIBLE	16 AWG (1.50 mm ²)	50 FT. (15 m)
	12 AWG (2.50 mm ²)	100 FT. (30 m)

* - CE APPROVED INSTRUMENTS HAVE A MAXIMUM 50FT (15 m) DISTANCE



WIRING CONNECTIONS
 ULTIMA XL MAIN PCBA
 NETWORK 6 - HART

SENSOR FIELD WIRING ONLY NECESSARY FOR REMOTE APPLICATIONS

NOTE:

- ULTIMA XL SERIES MONITORS OPERATE IN THE CURRENT SOURCE MODE.
- THE HART COMMUNICATIONS REQUIRE THE LOAD ON THE 4-20 mA TO BE BETWEEN 230 TO 500 OHMS.
- FOUR CONDUCTORS ARE REQUIRED FOR THE ULTIMA XIR REMOTE SENSOR MODULE. THE ULTIMA X SERIES MONITOR HAS A FIVE-WIRE TERMINAL TO ACCOMMODATE UP TO #16 AWG (1.32 mm²) CONDUCTORS. CABLES LARGER THAN #16 AWG (1.32 mm²) WILL REQUIRE A SPLICE OF SMALLER CABLE TO FIT THE CONNECTOR.
- FOR INTERNATIONAL INSTALLATIONS, REMOTE HOUSING WILL HAVE (3) M25 THREADED ENTRIES.
- REMOTE CABLES MAX. 50 FT. [15M] OF 16 AWG CABLE OR 100 FT. [30M] OF 12 AWG CABLE. 12 AWG CABLE MUST HAVE ADAPTER TO 16 AWG TO CONNECT TO J3 ON MAIN CIRCUIT BOARD. FOR EUROPEAN INSTALLATIONS, 15 METERS MAXIMUM DISTANCE.

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	MSA STANDARD SHOP PRACTICES APPLY	JOB NO. 30007082 PH0722	APPROVAL AGENCY CODE: YES NIOSH ATTR. DOC.: .	
	CODE SYMBOLS	DRAWN BY DATE	INSTALLATION OUTLINE, ULTIMA XL WITH XIR SENSOR	
	CRITICAL Δ	WJE 3-12-2007		
	MAJOR A Δ MINOR (NO MARK)	CHECKED BY		
	MAJOR B Δ	D.MAST 3-22-07		
	100% INSPECTION Δ	PROJ. ENGR.		
	TOLERANCES UNLESS OTHERWISE SPECIFIED	S.TURNER 3-22-07	CADD REF: SK3015-1018. SCALE: 1:000	
	FRACTIONAL $\pm 1/64$	QUALITY ASSURANCE		
	2 PL DEC. ± 0.01	J.DANNHARDT 3-22-07	SHEET 2 OF 2	
	3 PL DEC. ± 0.005	MANUFACTURING		
	ANGULAR ± 1 deg.	H.TRACHSEL 3-26-07	SK3015-1018	
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			