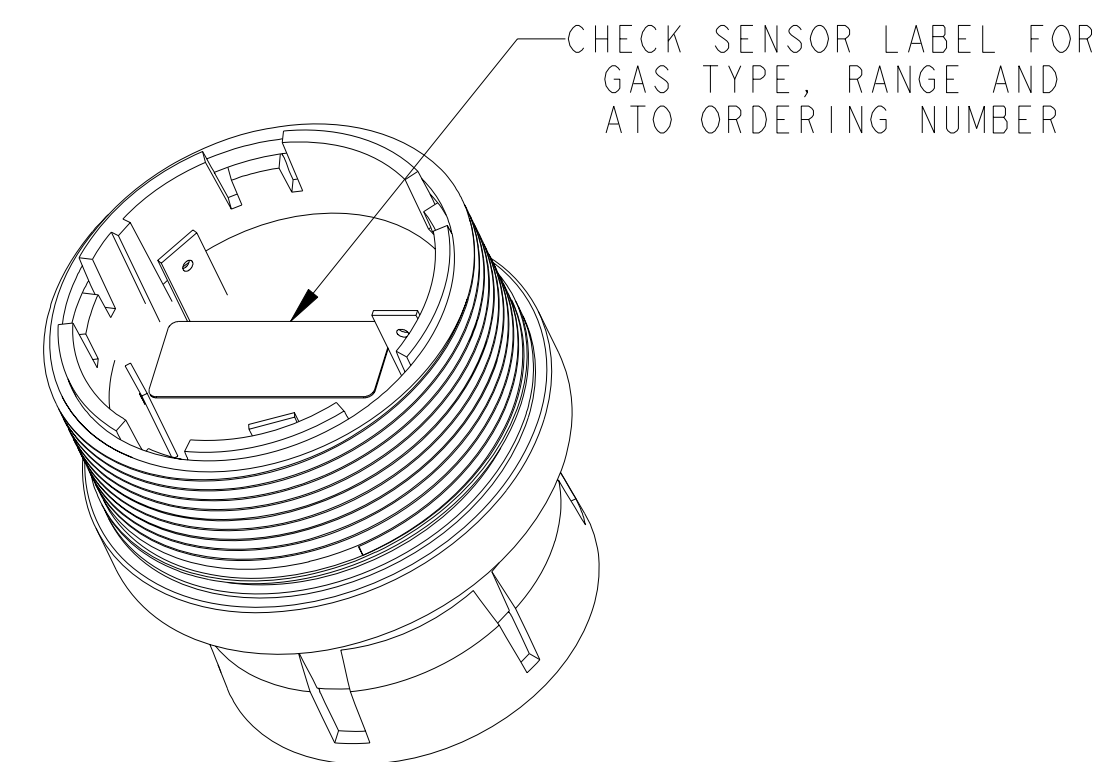
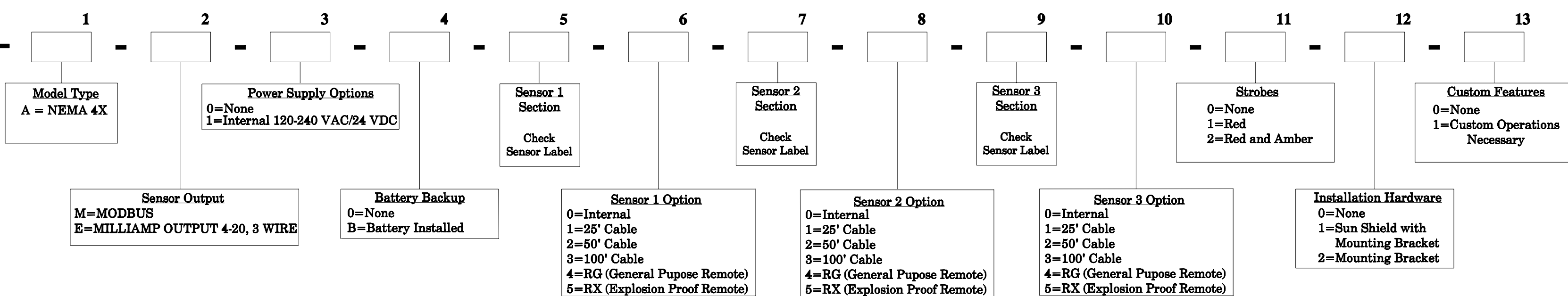
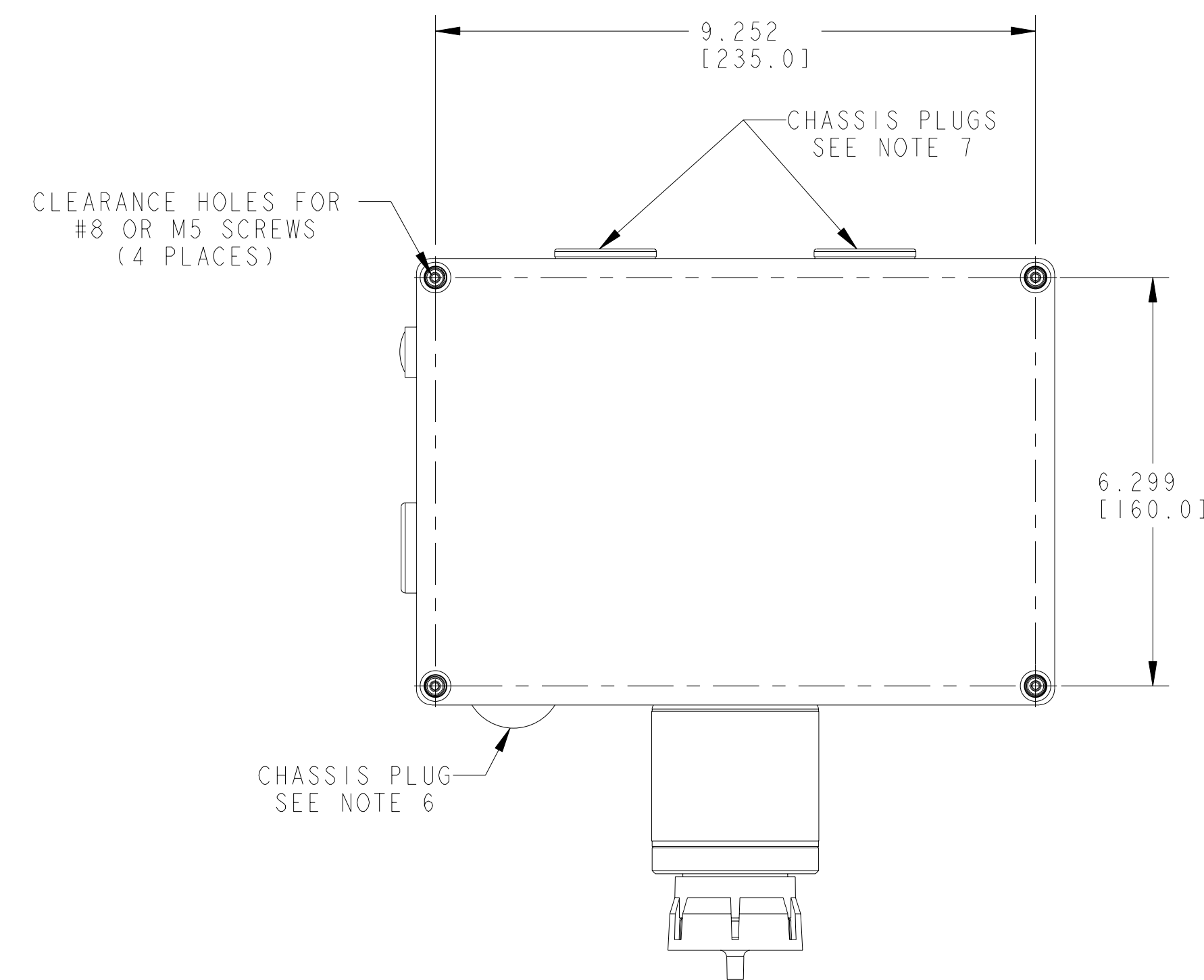
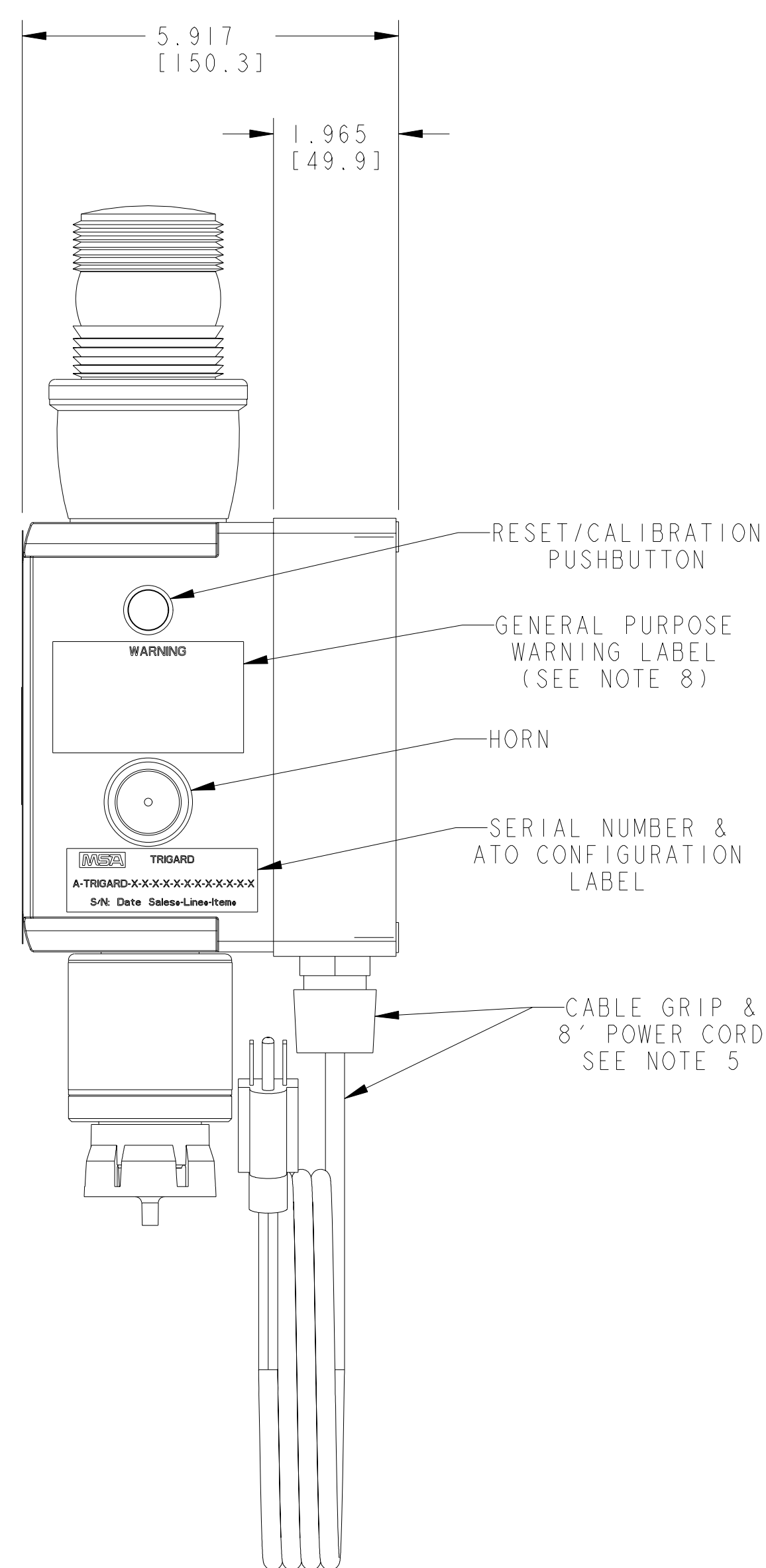
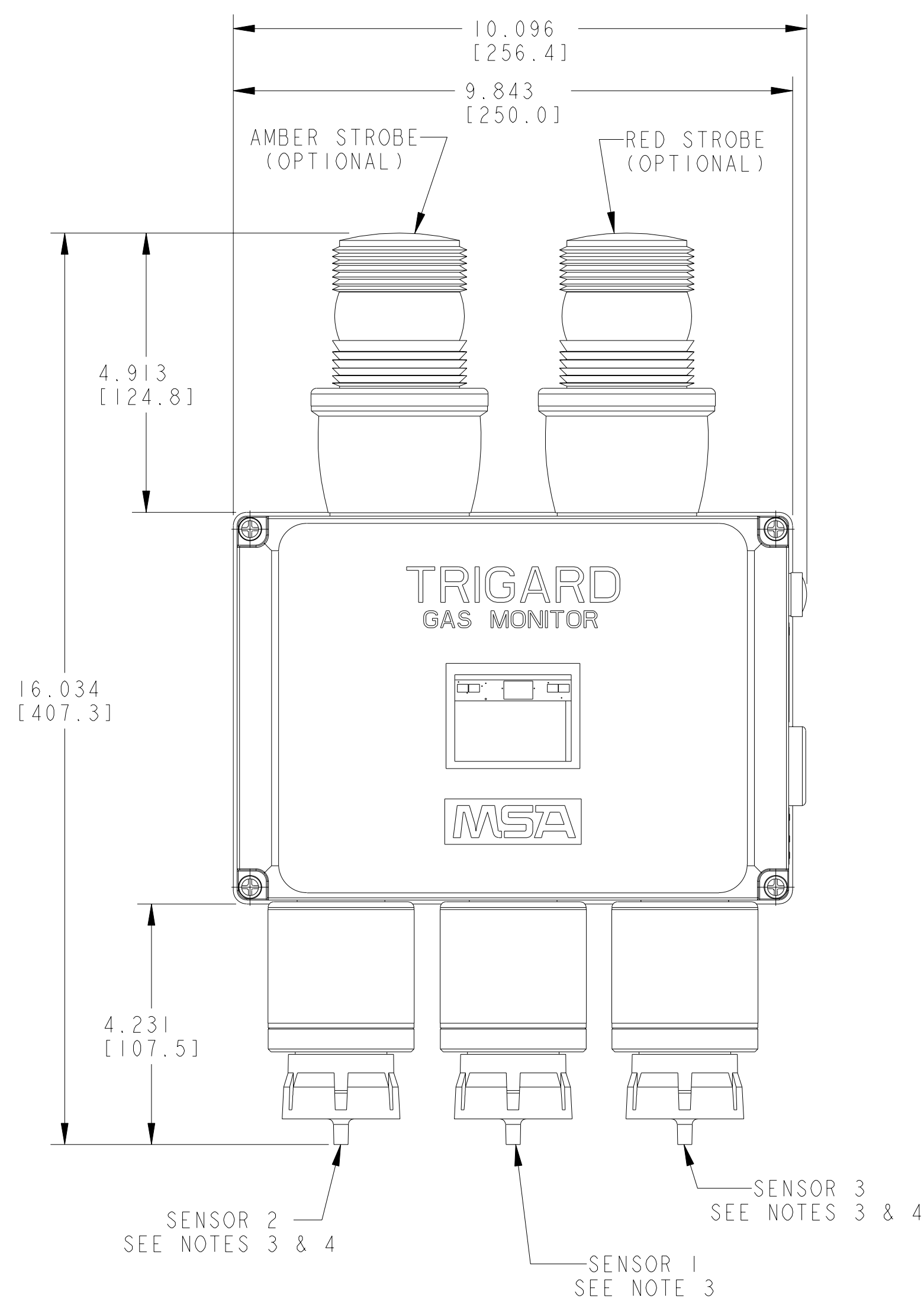


A - TRIGARD -



REVISIONS	
①	12-18-2008 INITIAL RELEASE EXTENSIVELY REVISED GJT ST
	JAN 30 2009

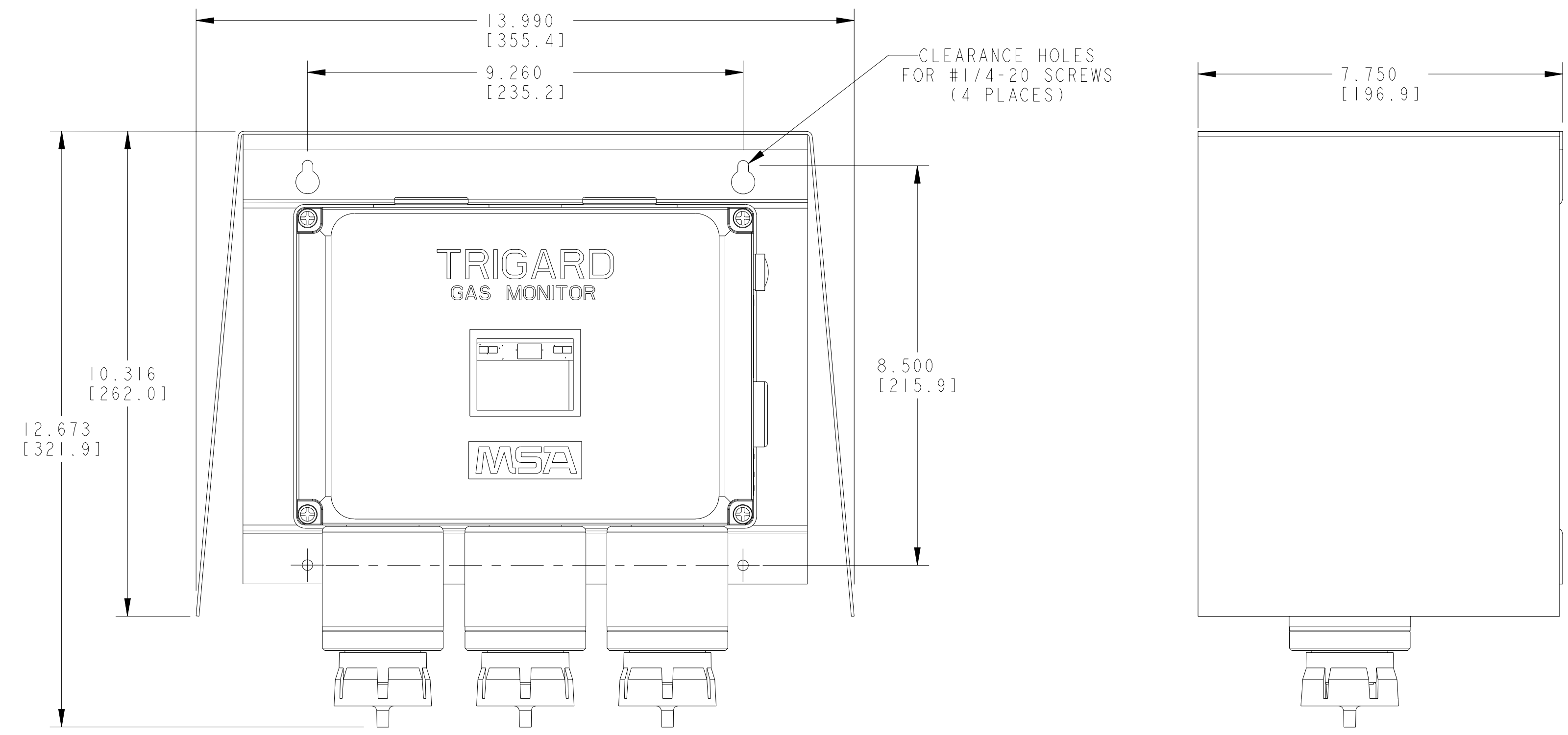


- NOTE:
- INSTRUMENT HOUSING IS MADE OF POLYCARBONATE PLASTIC.
 - DIMENSIONS SHOWN IN INCHES [MILLIMETERS].
 - SENSOR INLET MUST FACE DOWN.
 - OPTION ONLY AVAILABLE ON MODBUS OUTPUT UNITS.
 - ONLY AVAILABLE ON UNITS WITH INTERNAL AC POWER SUPPLY.
 - ONLY ON UNITS WITHOUT AC POWER CORD OPTION.
 - ONLY ON UNITS WITHOUT RED OR AMBER STROBES.
 - INSTRUMENT IS FOR USE IN NON-HAZARDOUS AREAS ONLY.
 - FOR "RG" OR "RX" SENSORS, WIRE NOT PROVIDED.
 - BATTERY LIFE 24 HOURS (MAX) WITH UP TO 3 ELECTROCHEMICAL SENSORS.
 - CONNECT BATTERY (+) LEAD PRIOR TO OPERATION.
 - DISCONNECT BATTERY (+) LEAD TO SHUT DOWN.
 - ALLOW SYSTEM TO CHARGE FOR 24 HOURS BEFORE USING.
 - ALARM RELAYS RATED: 5 AMPS @ 125 VAC (NON-INDUCTIVE), 5 AMPS @ 30 VDC (NON-INDUCTIVE).

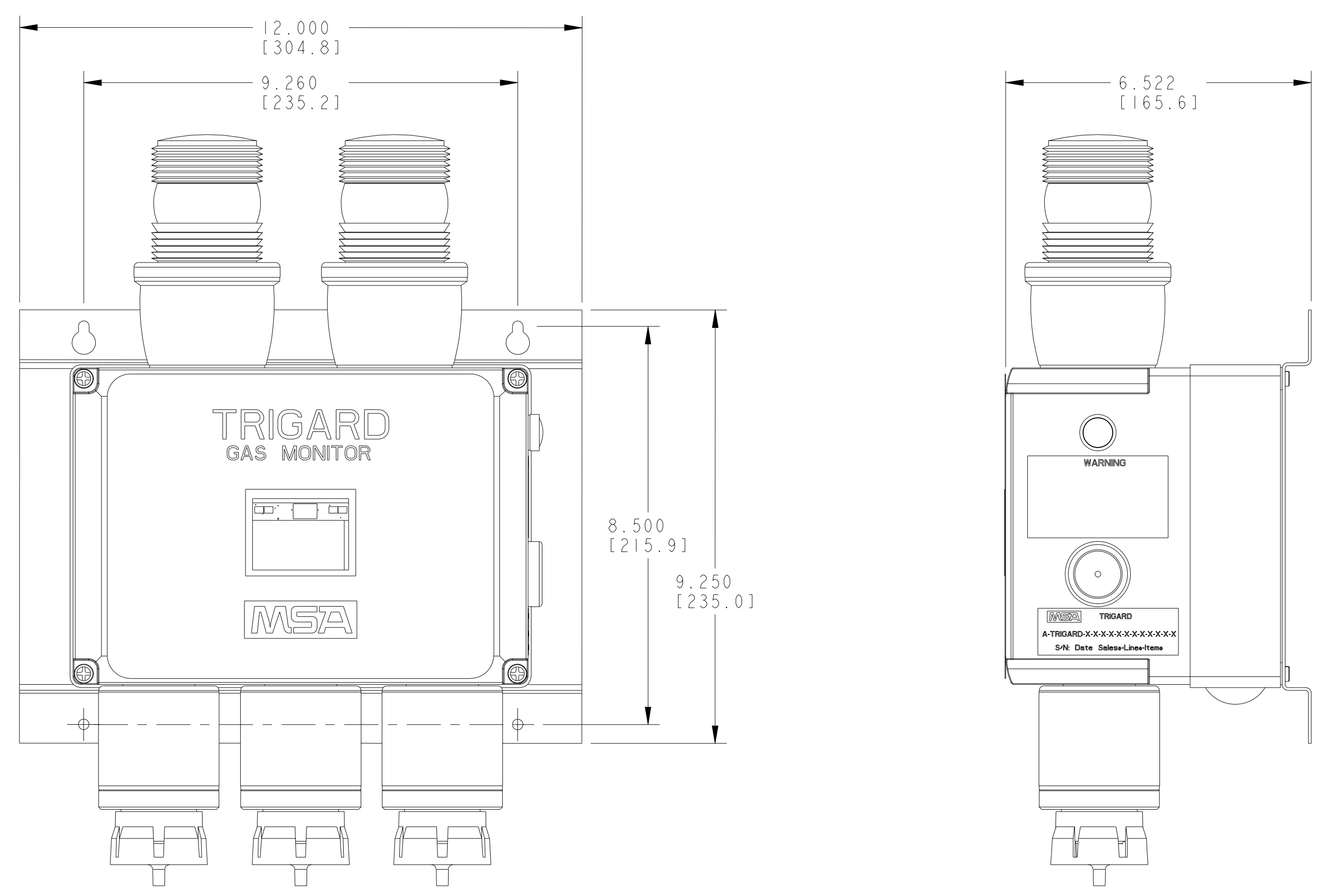
CUSTOMER _____
P.O. NO. _____
MSA NO. _____
LOCATION _____
TAG NO. _____
TOTAL NO. OF UNITS _____

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. 30010260 PH0729	APPROVAL AGENCY CODE: NO NOSH ATTR. DOC.:	
CRITICAL	MAJOR A	MAJOR B	100% INSPECTION	TOLERANCES UNLESS OTHERWISE SPECIFIED
				FRACTIONAL ± 1/64
				2 PL DEC. ± 0.01
				3 PL DEC. ± 0.005
				ANGULAR ± 1 deg.
				SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES
		DRAWN BY GJT	DATE 12-12-2008	
		CHECKED BY M. BRADLEY	1-29-09	
		PROJ. ENGR. S. TURNER	1-29-09	
		QUALITY ASSURANCE J. DANNHARDT	1-29-09	
		MANUFACTURING J. BRYER	1-29-09	
			CADD REF: SK3015-1032	SCALE: 1:000
			D.	SK3015-1032
				SHEET 1 OF 7

INSTALLATION OUTLINE, TRIGARD

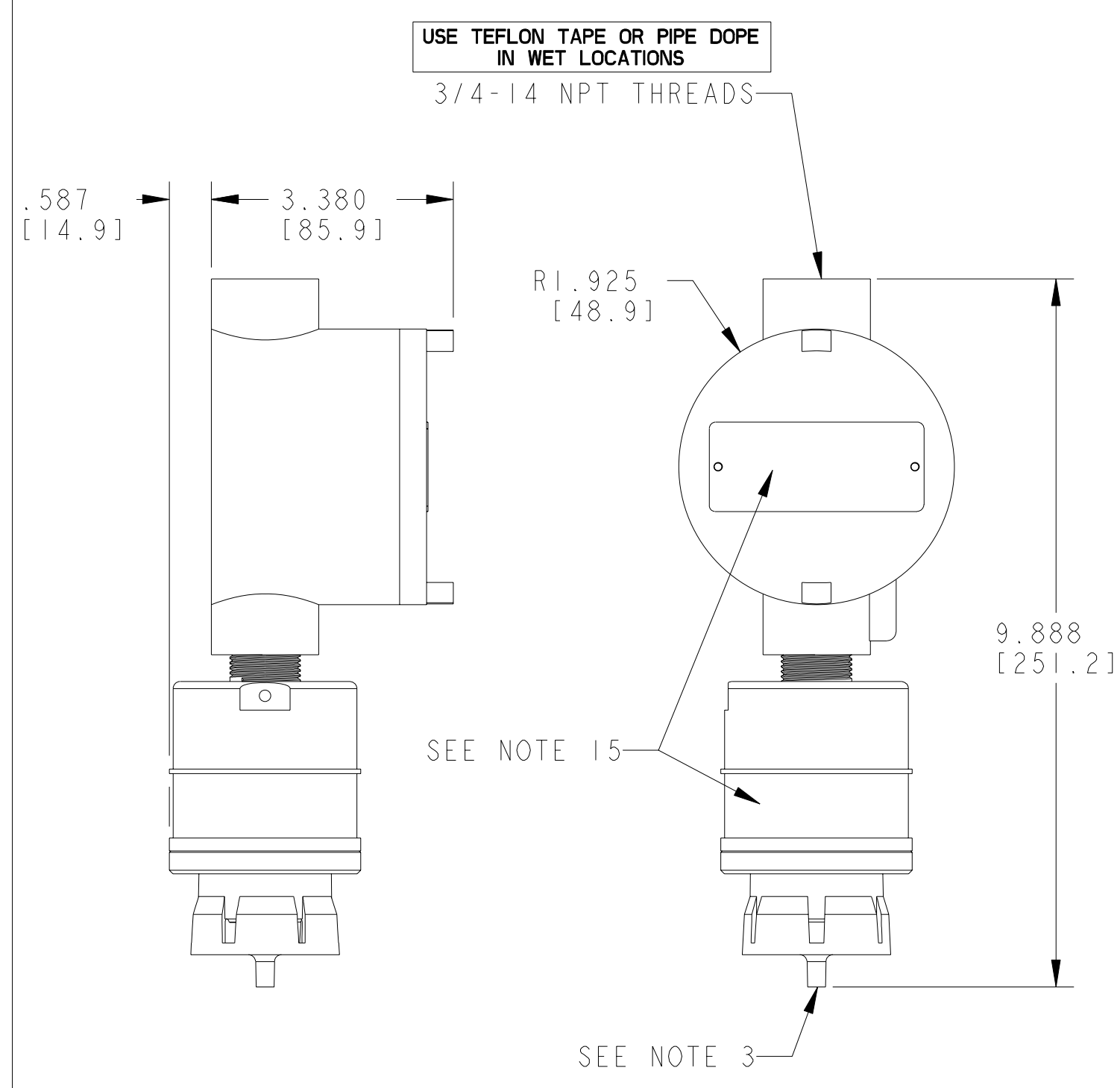


SUN SHIELD (OPTIONAL)
 (NOT AVAILABLE WITH STROBE OPTIONS)

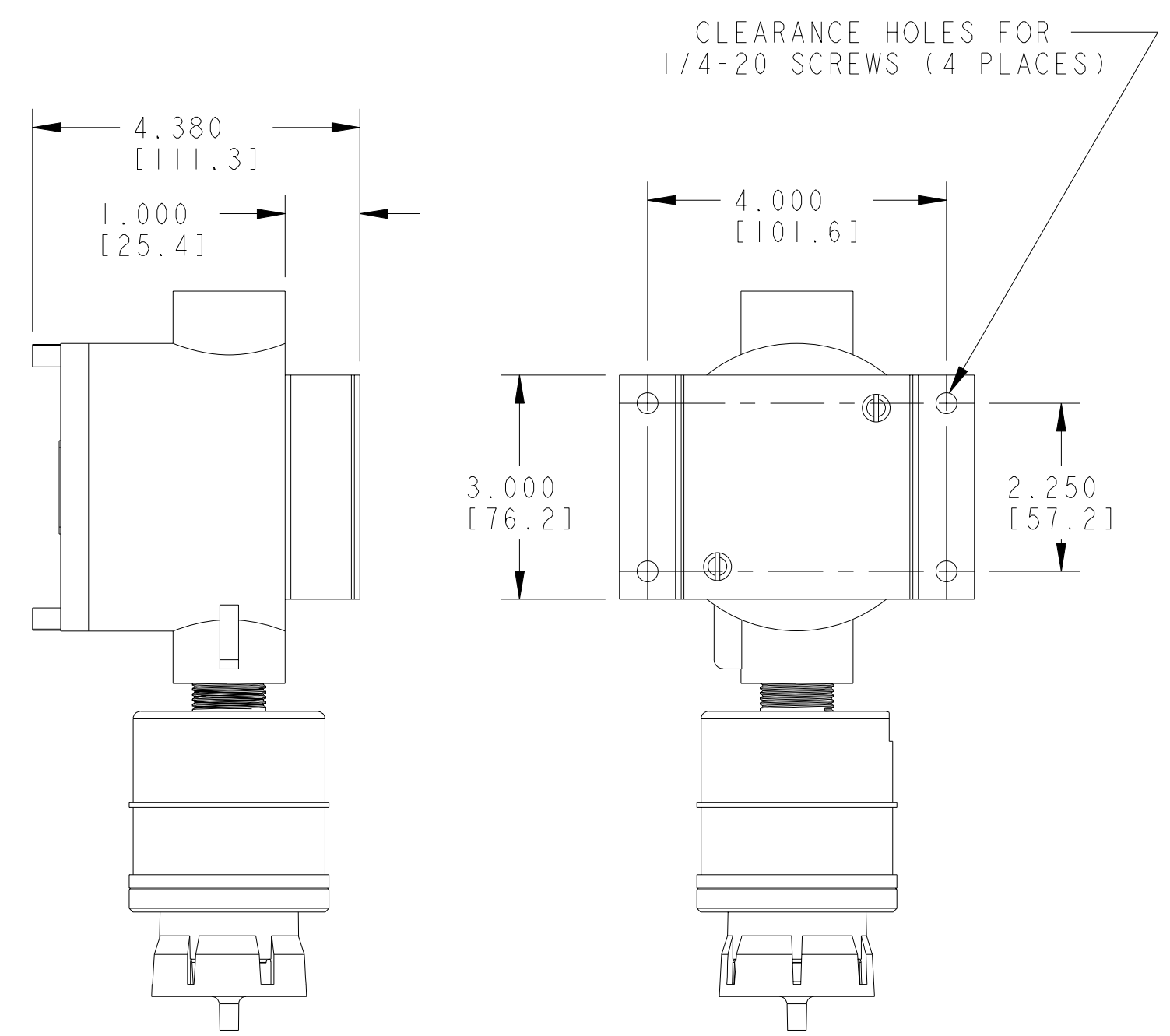


MOUNTING BRACKET (OPTIONAL)

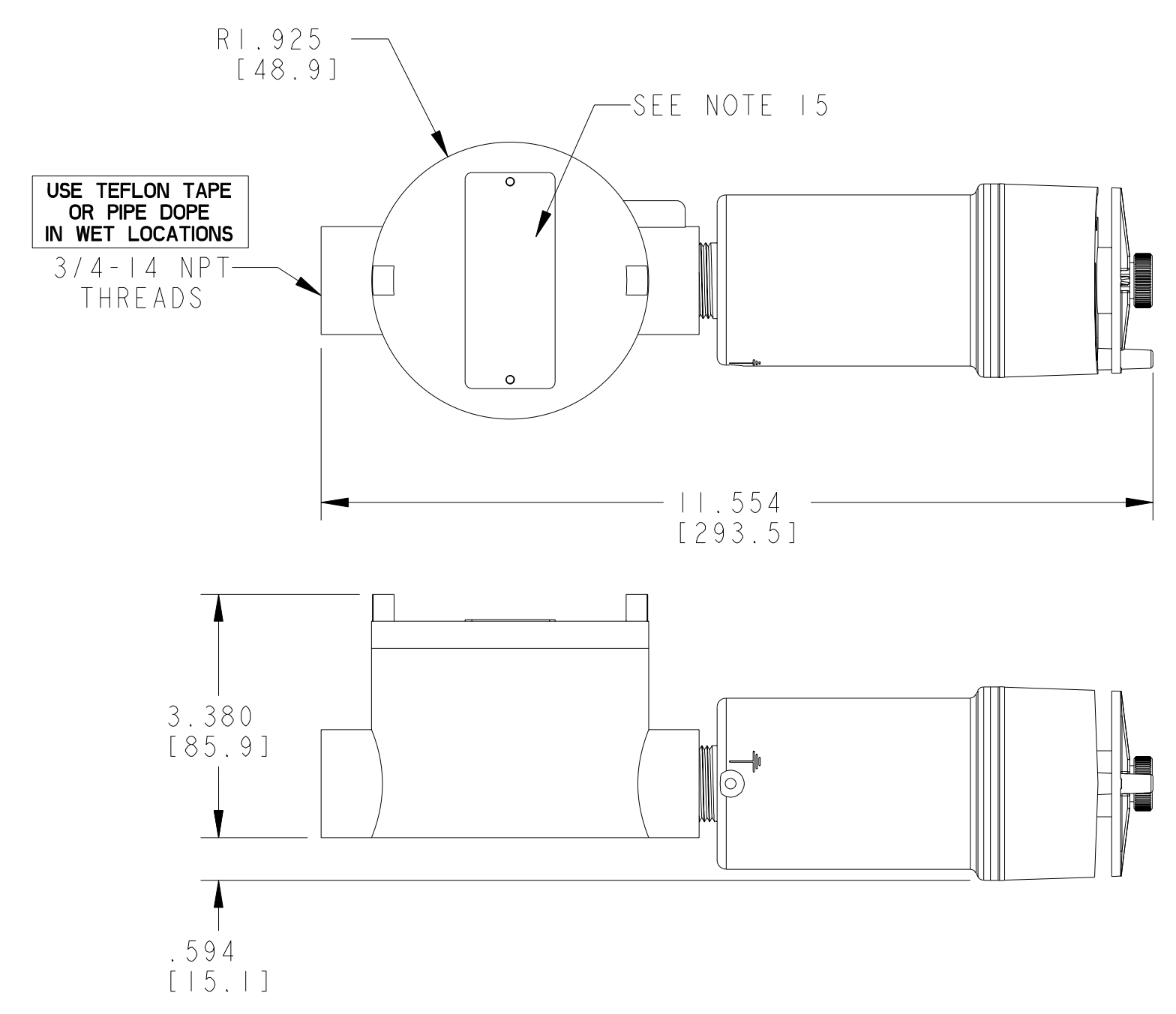
AUTHORIZED COUNTRY	MSA	MINE SAFETY APPLIANCES CO. PITTSBURGH, PA 15230, USA	THIS DRAWING IS THE PROPERTY OF MSA AND IS MADE AVAILABLE TO YOU IN CONFIDENCE AND SUBJECT TO THE FOLLOWING: NO PERMISSION IS GRANTED TO PUBLISH, USE, REPRODUCE, TRANSMIT OR DISCLOSE THIS DRAWING, OR ANY INFORMATION CONTAINED 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		
	CODE SYMBOLS	JOB NO. 30010260 PH0729	DATE 12-12-2008	INSTALLATION OUTLINE, TRIGARD
	CRITICAL Δ	DRAWN BY GJT	CHECKED BY M. BRADLEY	
	MAJOR A Δ	PROJ. ENGR. S. TURNER	QUALITY ASSURANCE J. DANNHARDT	
	MAJOR B Δ	MANUFACTURING J. BRYER		
	100% INSPECTION Δ			
	TOLERANCES UNLESS OTHERWISE SPECIFIED			
	FRACTIONAL $\pm 1/64$			
	2 PL DEC. ± 0.01			
	3 PL DEC. ± 0.005			
	ANGULAR ± 1 deg.			
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			
		D.	SK3015-1032	SCALE: 1:000
				SHEET 2 OF 7



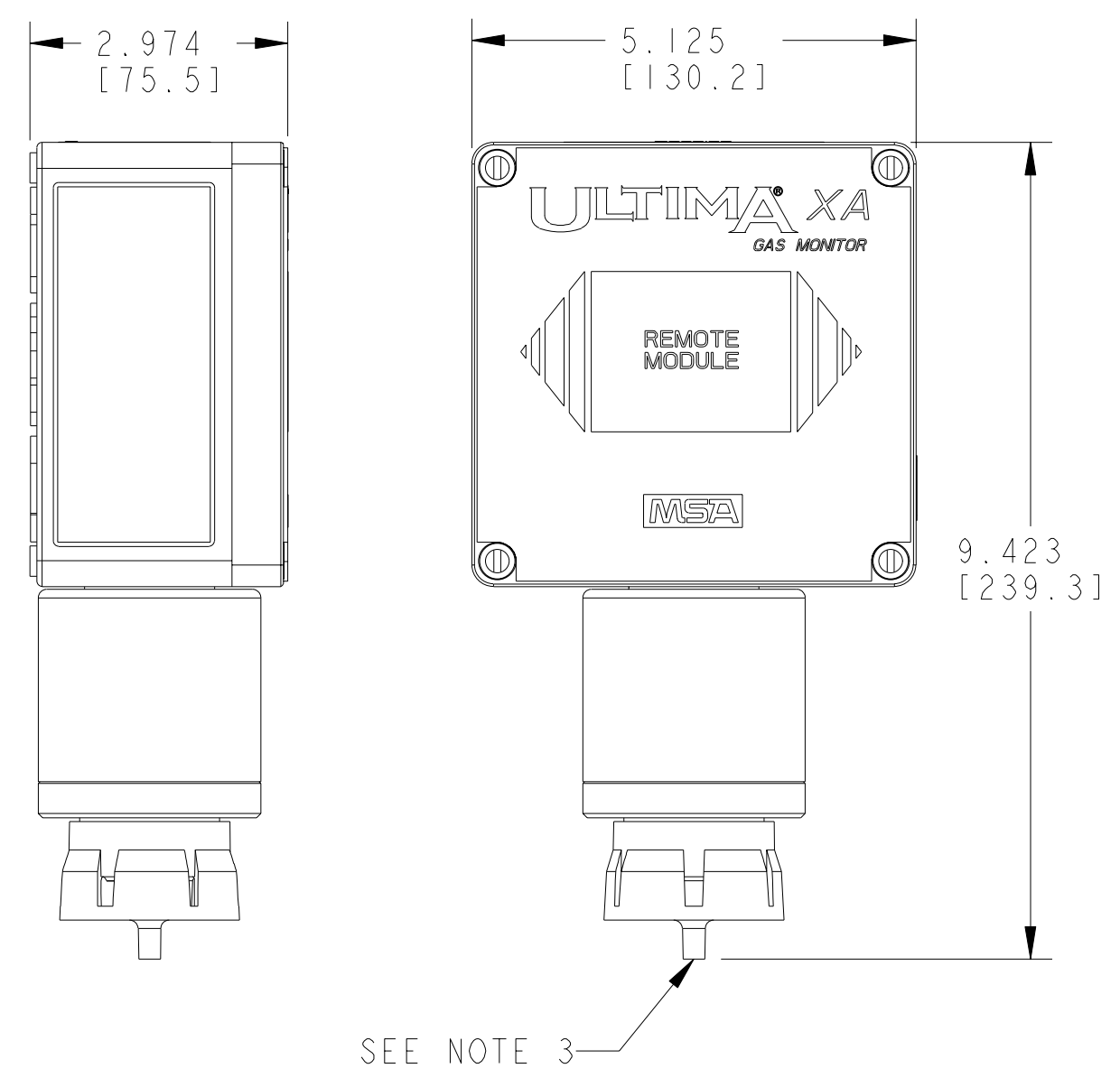
EXPLOSION PROOF XE REMOTE
 (RX OPTION)



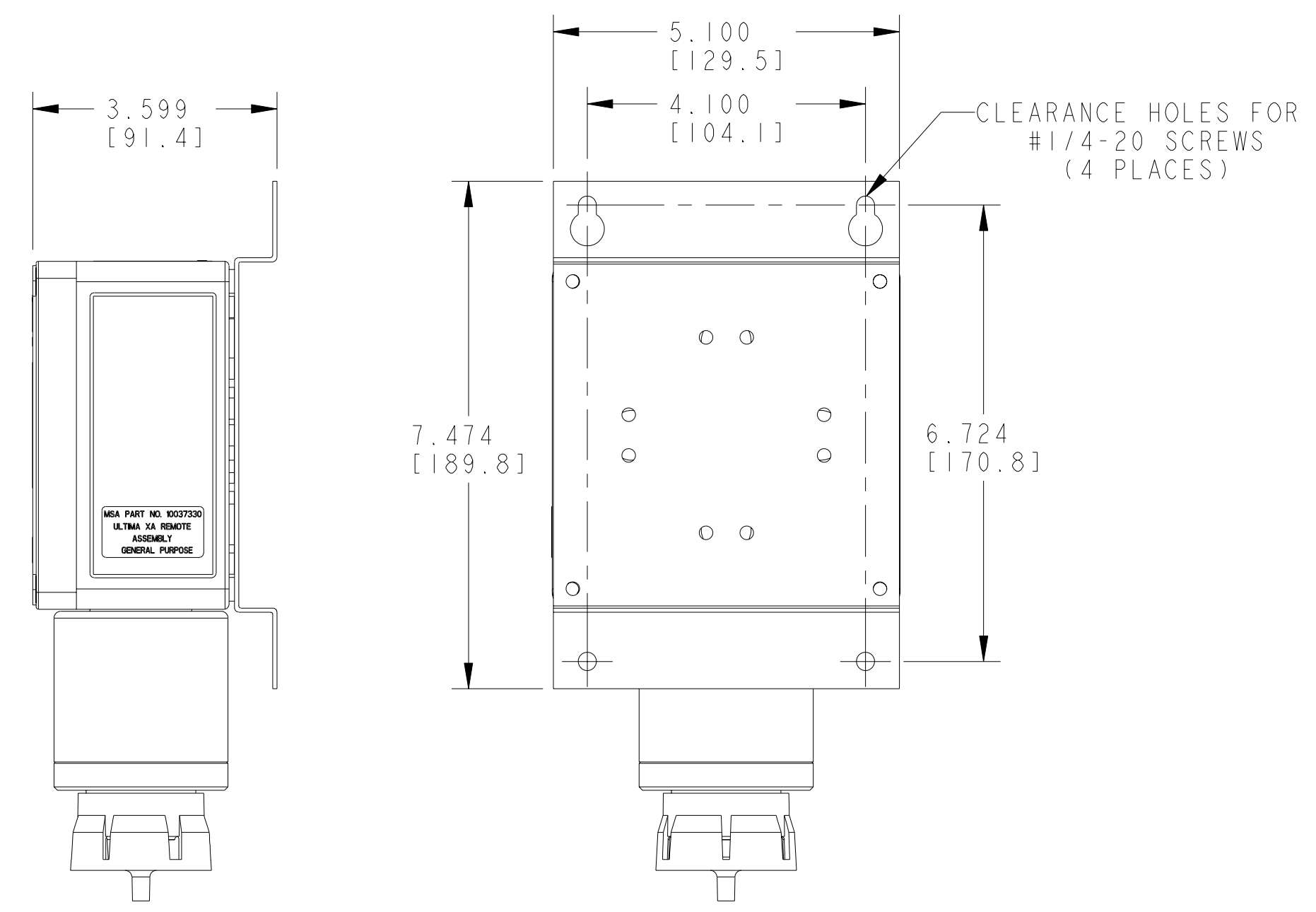
XE REMOTE WITH OPTIONAL MOUNTING BRACKET
 MOUNTING BRACKET PART NUMBER 10047562



EXPLOSION PROOF XIR REMOTE
 (RX OPTION)
 XIR SENSOR MUST BE MOUNTED AS SHOWN



GENERAL PURPOSE XA REMOTE
 (RG OPTION)
 SEE NOTE 8

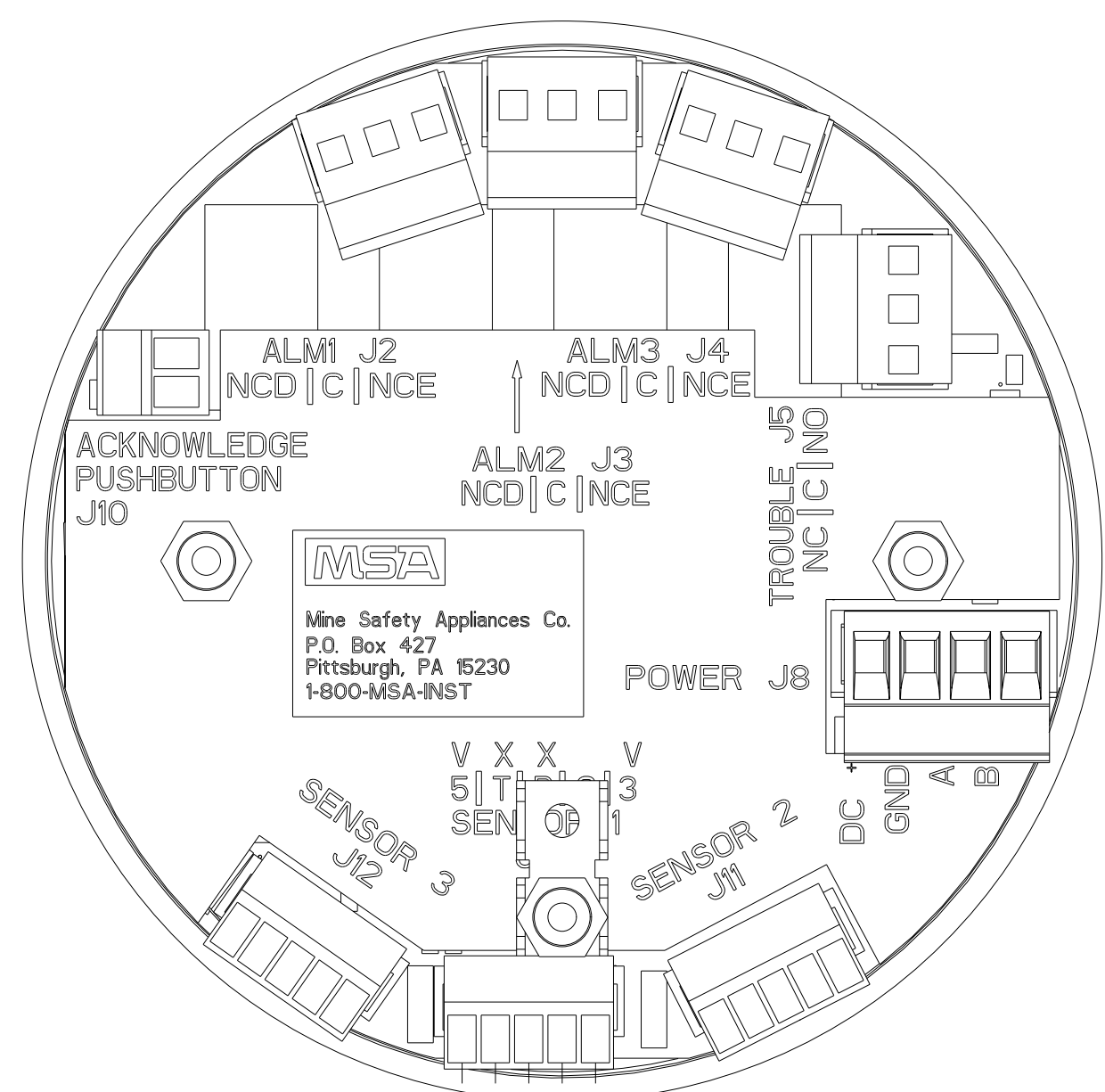
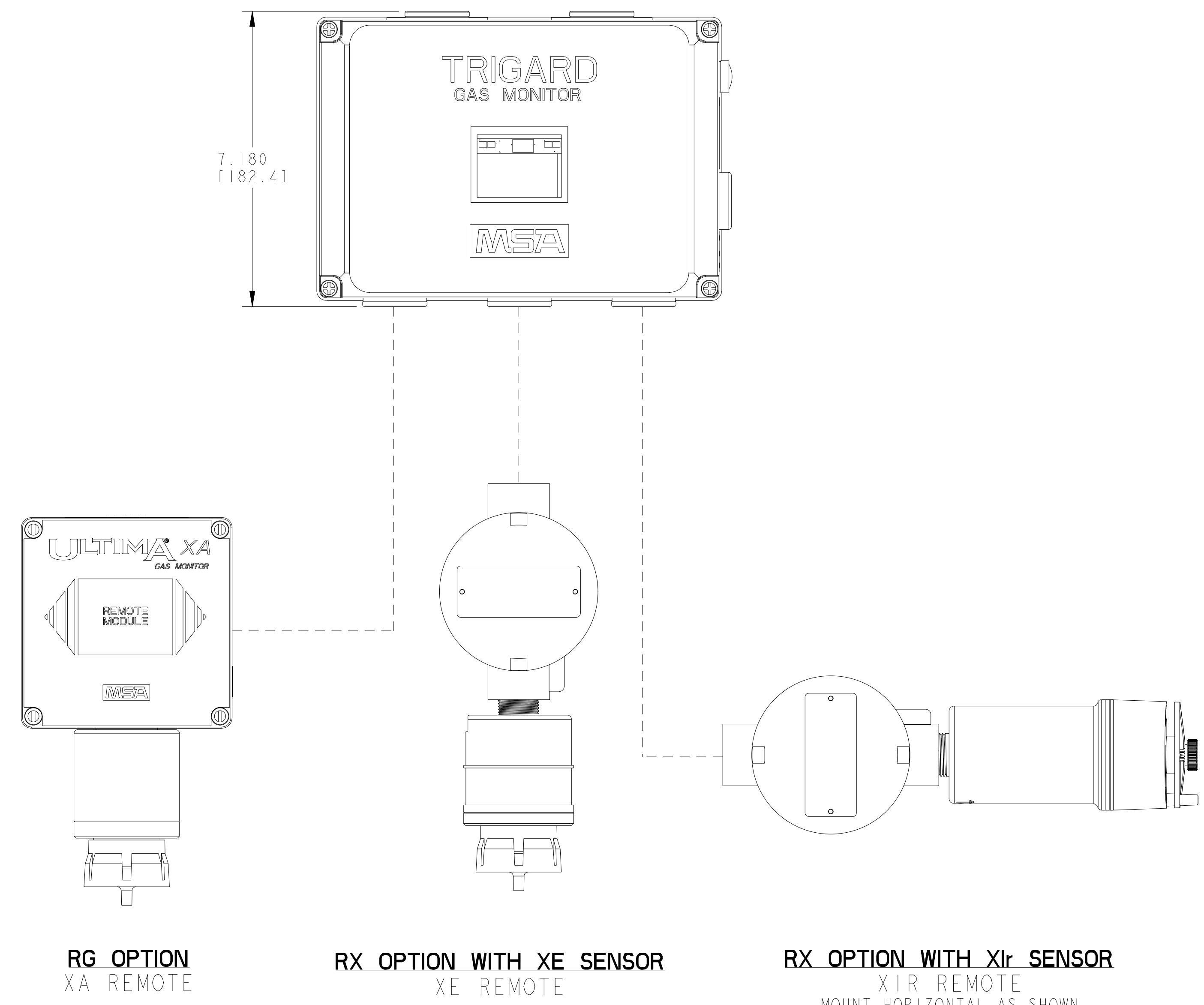
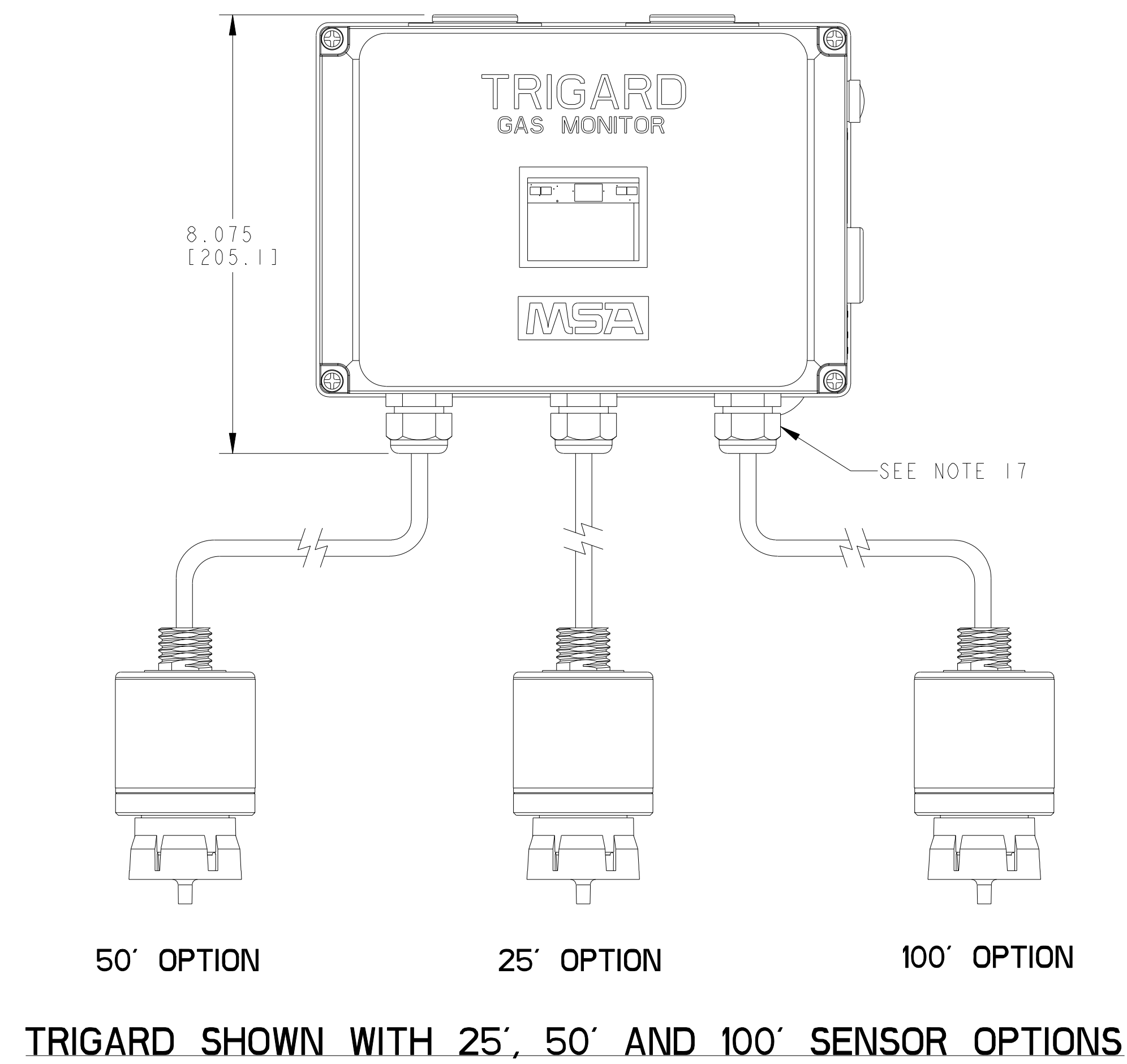


XA REMOTE WITH OPTIONAL MOUNTING BRACKET
 MOUNTING BRACKET PART NUMBER 10047561

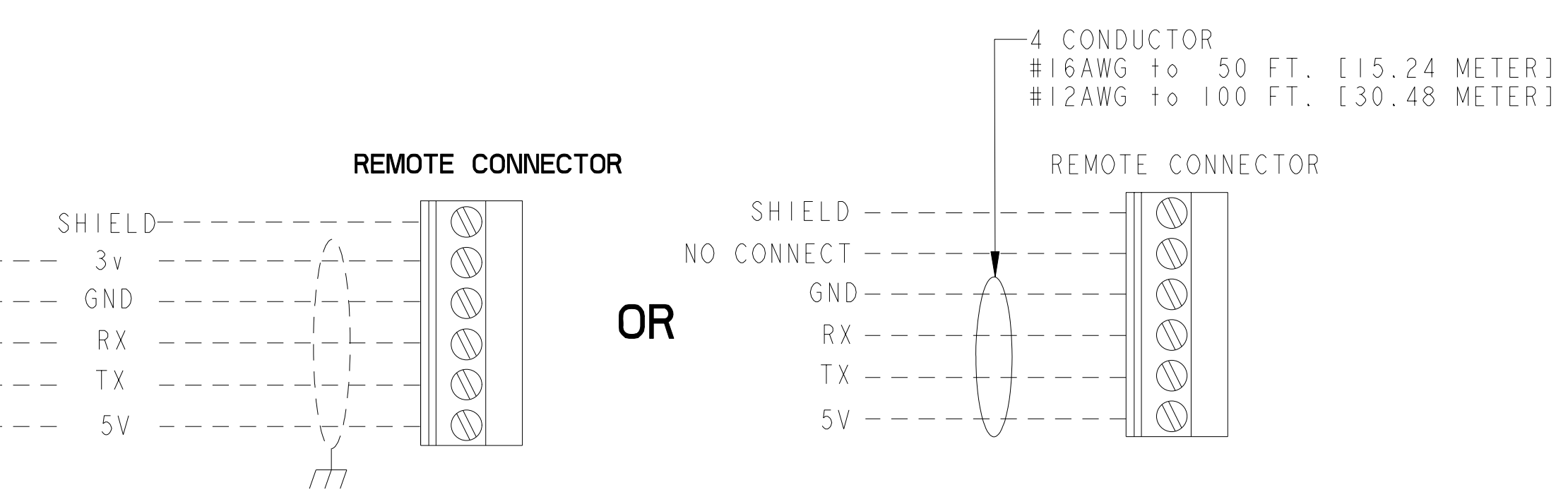
NOTES: (Continued)
 15. CHECK TAG FOR AREA CLASSIFICATION.

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. 30010260 PH0729	APPROVAL AGENCY CODE: NO INTOSH ATTR. DOC.:	
CODE SYMBOLS	CRITICAL Δ	MINOR (NO MARK) \triangle	100% INSPECTION Δ	TOLERANCES UNLESS OTHERWISE SPECIFIED
MAJOR A	MAJOR B	100% INSPECTION	FRACTIONAL $\pm 1/64$	2 PL DEC. ± 0.01
			3 PL DEC. ± 0.005	ANGULAR $\pm 1 \text{ deg.}$
			SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES	
		DRAWN BY GJT	DATE 12-12-2008	
		CHECKED BY M. BRADLEY	1-29-09	
		PROJ. ENGR. S. TURNER	1-29-09	
		QUALITY ASSURANCE J. DANNHARDT	1-29-09	
		MANUFACTURING J. BRYER	1-29-09	
			CADD REF: SK3015-1032	SCALE: 1:000
			D.	SK3015-1032
				SHEET 3 OF 7

INSTALLATION OUTLINE, TRIGARD

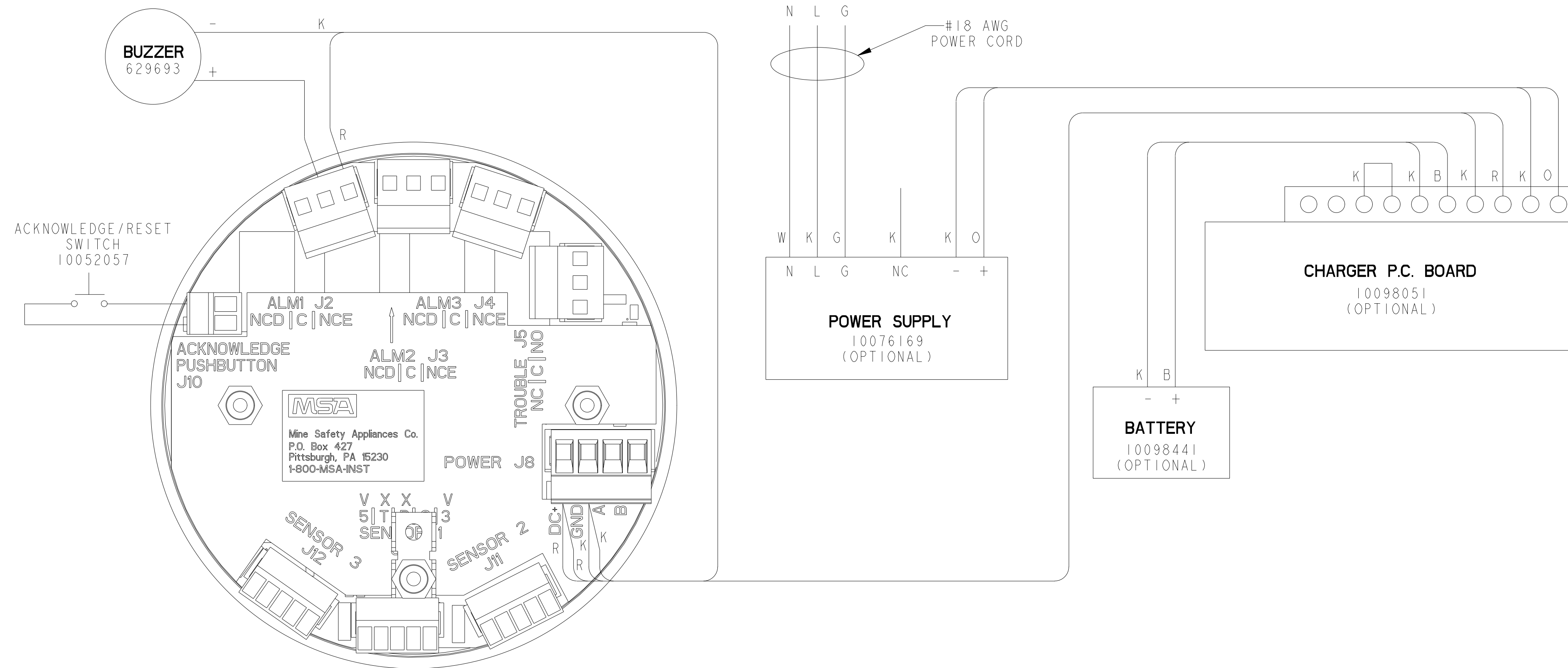


XE/XIR COMBUSTIBLE SENSORS



NOTES: (Continued)
16. - - - - - INDICATES FIELD CONNECTIONS BY OTHERS.
17. CABLE GLANDS SUPPLIED WITH 25', 50' AND 100' SENSOR OPTIONS ONLY.
18. REMOTE WIRING DISTANCE IS 100 FT. [30.48 METERS] MAX.

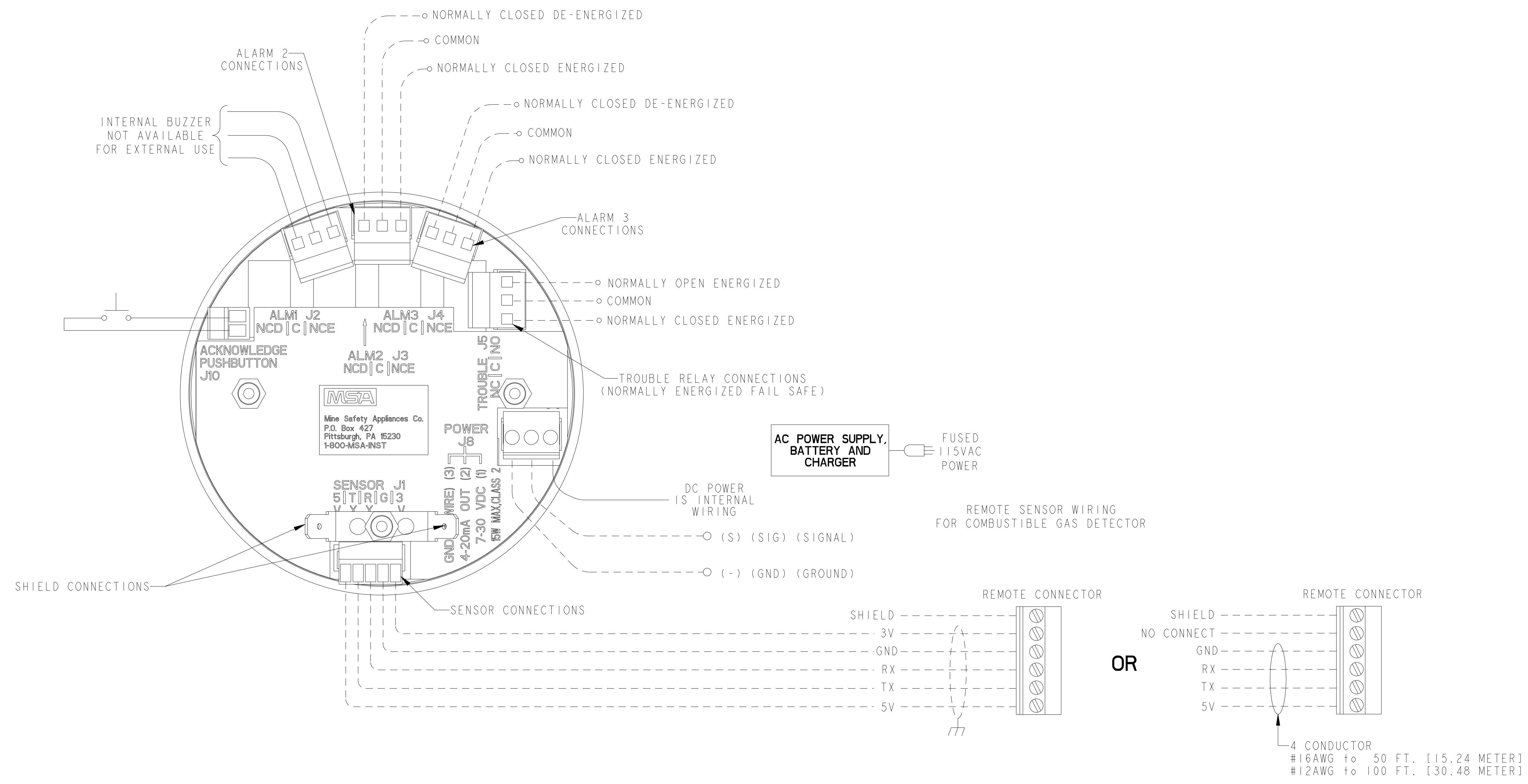
AUTHORIZED COUNTRY	MSA	MINE SAFETY APPLIANCES CO. PITTSBURGH, PA 15230, USA	THIS DRAWING IS THE PROPERTY OF MSA AND IS MADE AVAILABLE TO YOU IN CONFIDENCE AND SUBJECT TO THE FOLLOWING: NO PERMISSION IS GRANTED TO PUBLISH, USE, REPRODUCE, TRANSMIT OR DISCLOSE THIS DRAWING, OR ANY INFORMATION CONTAINED 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. 30010260 PH0729	APPROVAL AGENCY CODE: NO INTOSH ATTR. DOC.:	
	CODE SYMBOLS	DRAWN BY GJT DATE 12-12-2008	INSTALLATION OUTLINE, TRIGARD	
	CRITICAL Δ	CHECKED BY M. BRADLEY 1-29-09		
	MAJOR A Δ MINOR (NO MARK)	PROJ. ENGR. S. TURNER 1-29-09		
	MAJOR B Δ	QUALITY ASSURANCE J. DANNHARDT 1-29-09		
	100% INSPECTION Δ	MANUFACTURING J. BRYER 1-29-09	CADD REF: SK3015-1032	SCALE: 1:000
	TOLERANCES UNLESS OTHERWISE SPECIFIED			
	FRACTIONAL $\pm 1/64$			
	2 PL. DEC. ± 0.01			
	3 PL. DEC. ± 0.005			
	ANGULAR $\pm 1 \text{ deg.}$			
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			
		D.	SK3015-1032	SHEET 4 OF 7



Modbus P.C. BOARD ASSEMBLY SHOWN

COLOR CODE	
BLACK = K	GREEN = G
BROWN = N	BLUE = B
RED = R	VIOLET = V
ORANGE = O	GRAY = A
YELLOW = Y	WHITE = W
PINK = P	TAN = T

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		APPROVAL AGENCY CODE: NO INTOSH ATTR. DOC.:	
CODE SYMBOLS	JOB NO. 30010260 PH0729	DATE 12-12-2008	INSTALLATION OUTLINE, TRIGARD	
CRITICAL Δ	DRAWN BY GJT	CHECKED BY M. BRADLEY		
MAJOR A Δ	PROJ. ENGR. S. TURNER	QUALITY ASSURANCE J. DANNHARDT		
MAJOR B Δ	MANUFACTURING J. BRYER			
100% INSPECTION Δ	TOLERANCES UNLESS OTHERWISE SPECIFIED	2 PL DEC. ± 0.01	CADD REF: SK3015-1032	SCALE: 1:000
FRACTIONAL $\pm 1/64$	3 PL DEC. ± 0.005	ANGULAR $\pm 1 \text{ deg.}$	SK3015-1032	
SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES	D.			



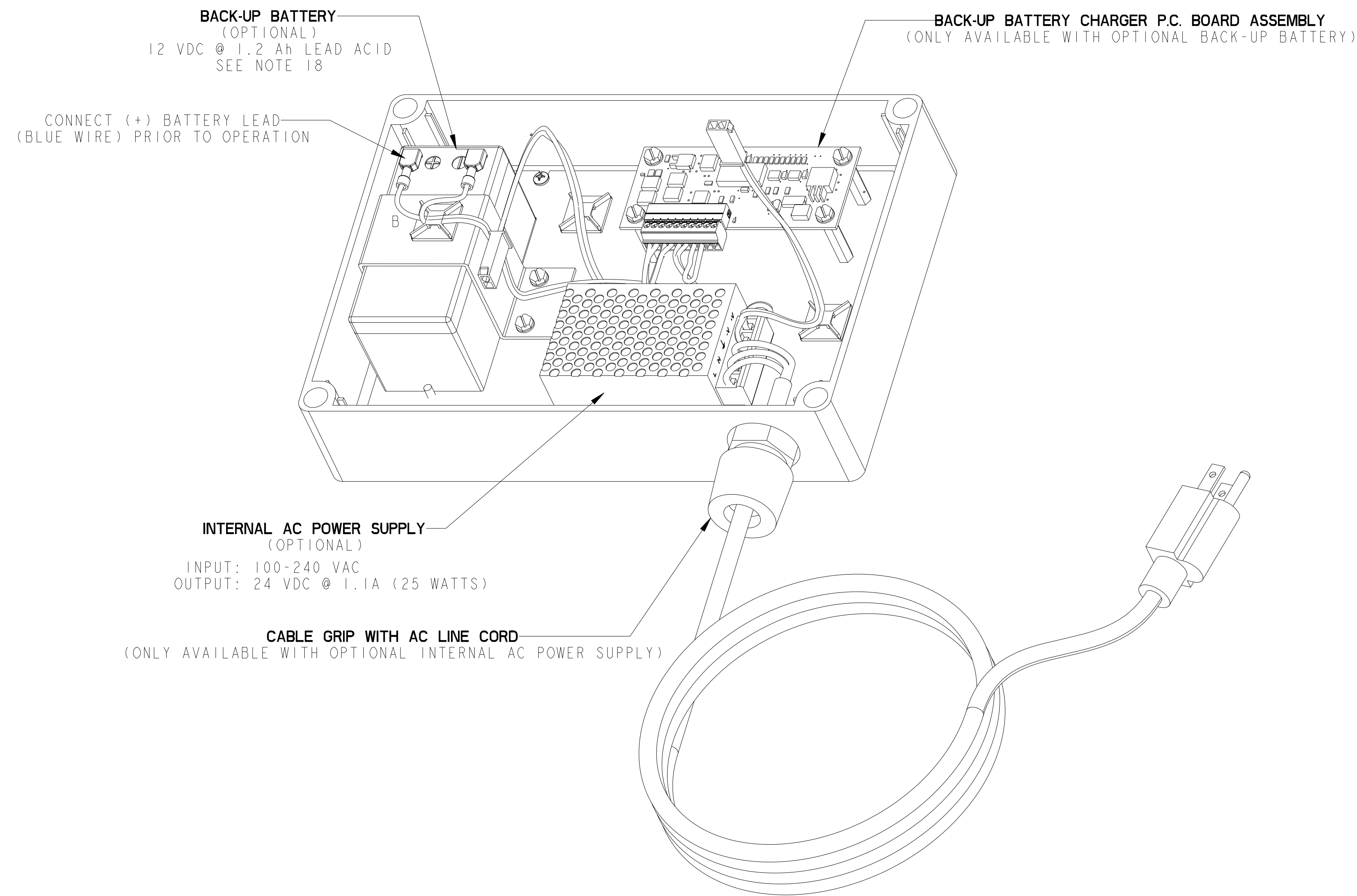
Milliamper P.C. BOARD ASSEMBLY SHOWN

XE/XIR COMBUSTIBLE SENSORS

COLOR CODE

BLACK = K	GREEN = G
BROWN = N	BLUE = B
RED = R	VIOLET = V
ORANGE = O	GRAY = A
YELLOW = Y	WHITE = W
PINK = P	TAN = T

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	APPROVAL AGENCY CODE: NO INTOSH ATTR. DOC.:	
	CODE SYMBOLS	JOB NO. 30010260 PH0729	
	CRITICAL Δ	DRAWN BY GJT	DATE 12-12-2008
	MAJOR A Δ	CHECKED BY M. BRADLEY	1-29-09
	MAJOR B Δ	PROJ. ENGR. S. TURNER	1-29-09
	100% INSPECTION Δ	QUALITY ASSURANCE J. DANNHARDT	1-29-09
	TOLERANCES UNLESS OTHERWISE SPECIFIED	MANUFACTURING J. BRYER	1-29-09
	FRACTIONAL $\pm 1/64$		
	2 PL DEC. ± 0.01		
	3 PL DEC. ± 0.005		
	ANGULAR $\pm 1 \text{ deg.}$		
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES		
	D.	SK3015-1032	INSTALLATION OUTLINE, TRIGARD
		CADD REF: SK3015-1032	SCALE: 1:000
			SHEET 6 OF 7



NOTES: (Continued)
 18. BATTERY BACKUP RUNTIME VARIES WITH TEMPERATURE, SENSOR CONFIGURATION AND BATTERY CONDITION. RUNTIME WITH 1 TOXIC SENSOR IS 24 HOURS MINIMUM AT ROOM TEMPERATURE. RUNTIME WITH 2 COMBUSTIBLE XIR UNITS AND 1 TOXIC SENSOR IS 20 MINUTES MINIMUM AT ROOM TEMPERATURE.

COLOR CODE			
BLACK	= K	GREEN	= G
BROWN	= N	BLUE	= B
RED	= R	VIOLET	= V
ORANGE	= O	GRAY	= A
YELLOW	= Y	WHITE	= W
PINK	= P	TAN	= T

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		APPROVAL AGENCY CODE: NO NIOSH ATTR. DOC.: .	
	CODE SYMBOLS	JOB NO. 30010260 PH0729	DATE	
	CRITICAL Δ		12-12-2008	
	MAJOR A Δ			
	MINOR (NO MARK)			
	MAJOR B Δ			
	100 % INSPECTION Δ			
	TOLERANCES UNLESS OTHERWISE SPECIFIED			
	FRACTIONAL \pm 1/64			
	2 PL DEC. \pm 0.01			
	3 PL DEC. \pm 0.005			
	ANGULAR \pm 1 deg.			
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			
		DRAWN BY GJT		
		CHECKED BY M. BRADLEY		
		PROJ. ENGR. S. TURNER		
		QUALITY ASSURANCE J. DANNHARDT		
		MANUFACTURING J. BRYER		
		1-29-09		
		CADD REF: SK3015-1032		SCALE: 1.000
		D.		SK3015-1032
				SHEET 7 OF 7

**INSTALLATION OUTLINE,
 TRIGARD**