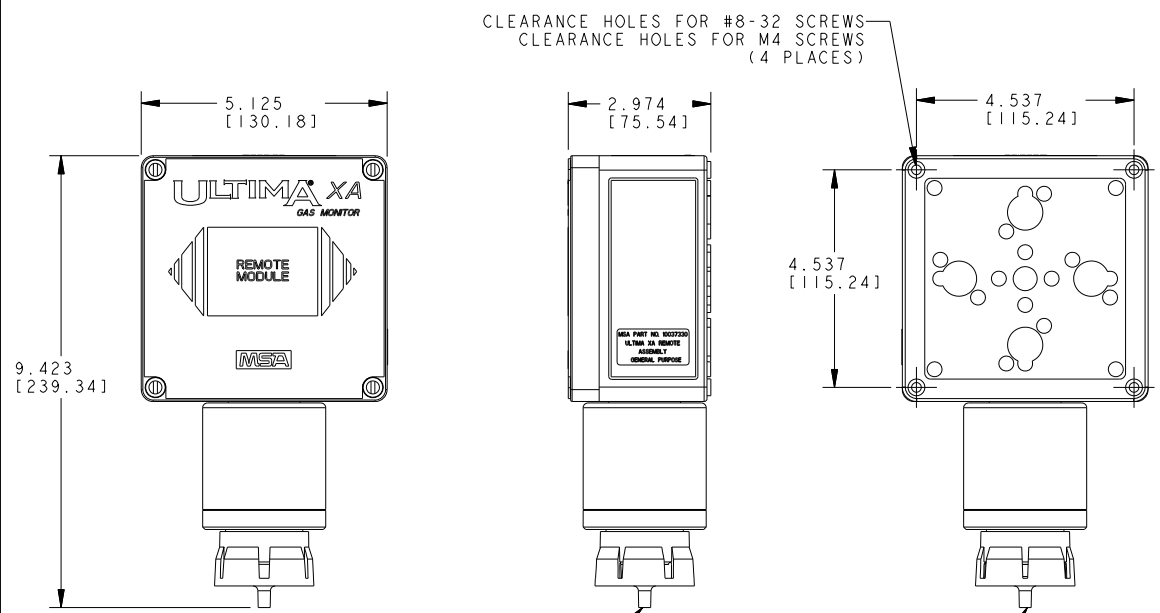
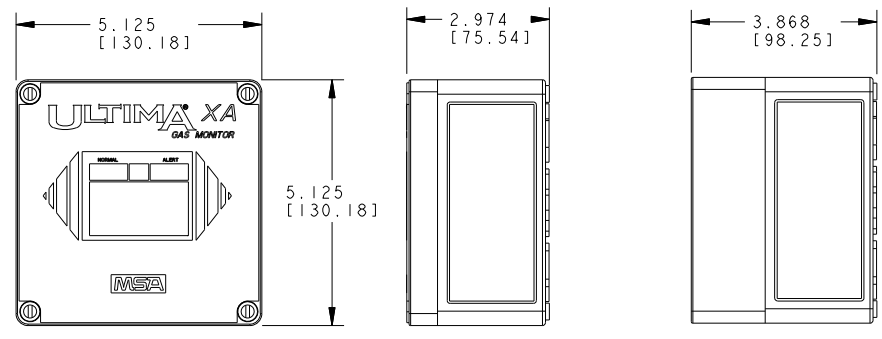


PARTS LIST			
ITEM NO.	MATERIAL MASTER NO.	QTY. REQD.	DESCRIPTION

REVISIONS	
NOV 16 2004	12-17-2007
①	A. ADDED "COMMON" & NOTE 2 TO SHEET 2 B. ADDED NOTES 3 THRU 5 & REVISED NOTATIONS ON SHEET 4 ECO#70000001760A LRB KDH
DEC 20 2007	
②	1-12-2010 ADDED TABLE 5 TO SHT. 3 ECO#70000002819A LRB CZL
JAN 12 2010	

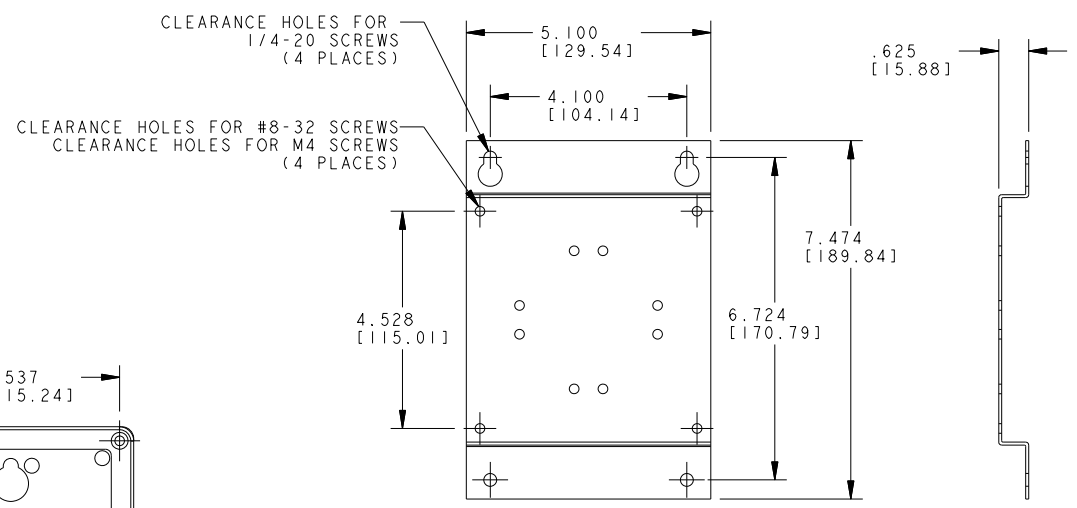


**MODULE "A"
GENERAL PURPOSE REMOTE HOUSING**
MATERIAL: POLYCARBONATE PLASTIC
WEIGHT =

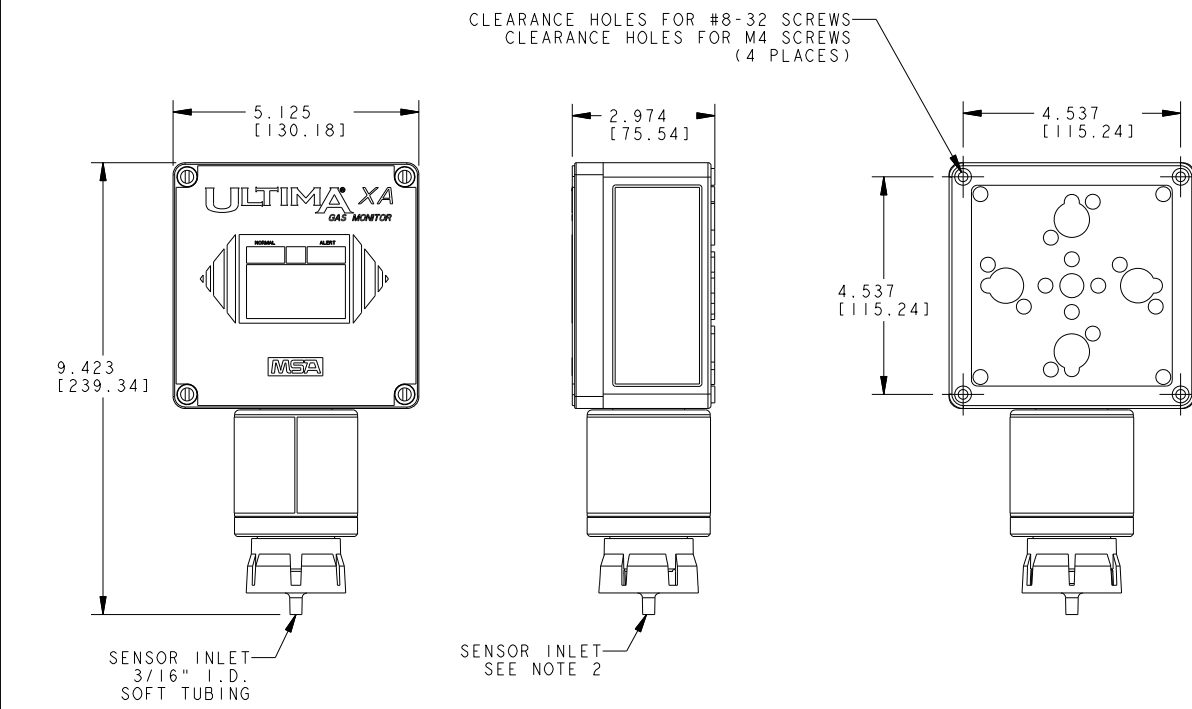


**MODULE "B"
GENERAL PURPOSE TRANSMITTER HOUSING**
MATERIAL: POLYCARBONATE PLASTIC
WEIGHT =

**MODULE "B"
WITH INTERNAL POWER SUPPLY
(OPTIONAL)**
WEIGHT =



**MODULE "A" OR "B"
MOUNTING STRAP METHOD
(OPTIONAL)**
SEE NOTE 3



**ULTIMA XA TRANSMITTER
WITH XE SENSOR ATTACHED
(STANDARD CONFIGURATION)**
WEIGHT =

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

- NOTE:
1. DIMENSIONS SHOWN IN INCHES (MILLIMETERS).
2. SENSOR INLET MUST FACE DOWN.
3. P/N 10047561 IS OPTIONAL MOUNTING STRAP KIT.
4. CALIBRATION TUBING IS SUPPLIED IN CALIBRATION KIT.

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CODE SYMBOLS		DRAWN BY BP	DATE 10-21-2004	
CRITICAL Δ		CHECKED BY D. BRUCE	DATE 11-12-2004	
MAJOR A Δ	MINOR (NO MARK)	PROJ. ENGR. S. TURNER	DATE 11-12-2004	
MAJOR B Δ		QUALITY ASSURANCE J. DANNHARDT	DATE 11-12-2004	
100% INSPECTION Δ		MANUFACTURING D. ALWARD	DATE 11-12-2004	
TOLERANCES UNLESS OTHERWISE SPECIFIED		CADD REF: 10000021204		SCALE: 1:000
FRACTIONAL ± 1/64		DOCUMENT NO. D SK 10000021204		SHEET 1 OF 4
2 PL DEC. ± 0.01				
3 PL DEC. ± 0.005				
ANGULAR ± 1 deg.				
SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES				

INSTALLATION OUTLINE, MODBUS, ULTIMA XA

ITEM NO.	MATERIAL MASTER NO.	QTY. REQD.	DESCRIPTION
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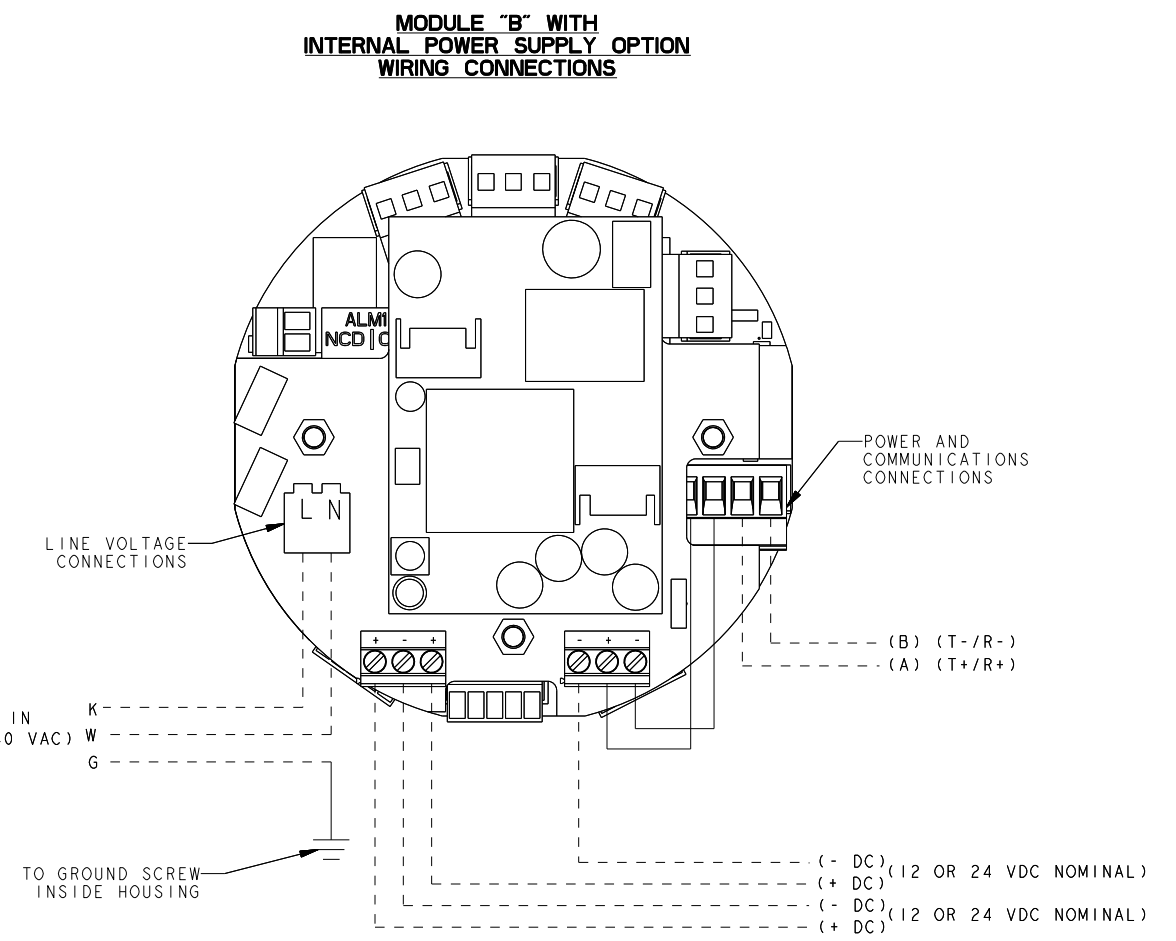
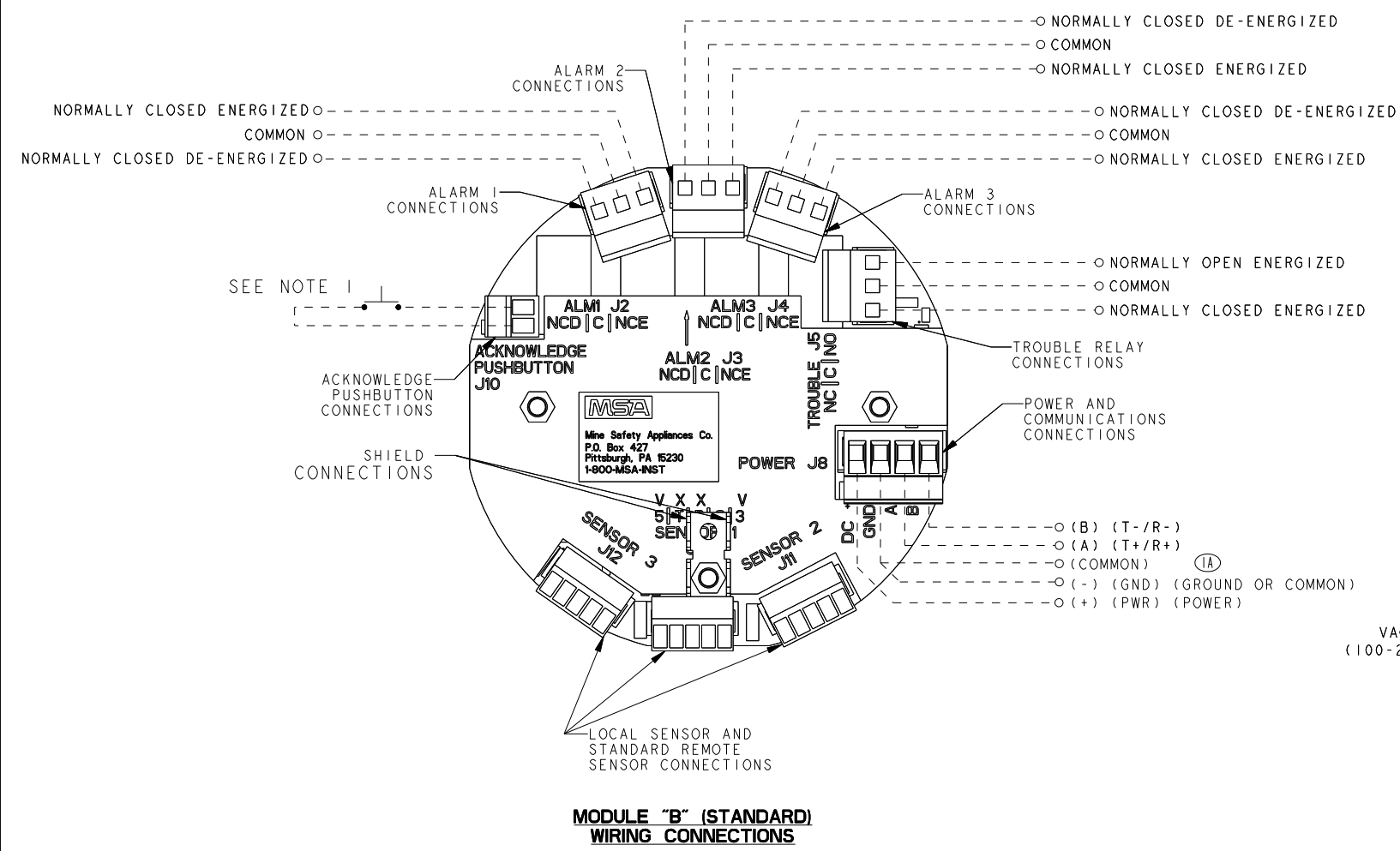


TABLE 1
TRANSMITTER POWER CONSUMPTION (7-30 VDC SUPPLY)

CONFIGURATION			MAX POWER WITH RELAYS	MAX POWER WITHOUT RELAYS
CATALYTIC	XIR	ECEM		
0	0	3	2.5W	1.5W
0	2	1	9.5W	8.5W
0	1	2	7W	6W
1	0	2	6W	5W
1	1	1	6.5W	5.5W
2	0	1	8W	7W
3	0	0	10W	9W

- NOTE:**
1. NORMALLY OPEN PUSH BUTTON SWITCH (OPTIONAL).
 2. CONNECT POWER SUPPLY GROUND TO COMMUNICATIONS COMMON (SEE PAGE 4).

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

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	CODE SYMBOLS	DRAWN BY BP DATE 10-21-2004		
	CRITICAL Δ	CHECKED BY D. BRUCE DATE 11-12-2004		
	MAJOR A Δ (NO MARK)	PROJ. ENGR. S. TURNER DATE 11-12-2004		
	MAJOR B Δ	QUALITY ASSURANCE J. DANNHARDT DATE 11-12-2004		
	100% INSPECTION Δ	MANUFACTURING D. ALWARD DATE 11-12-2004		
	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			
		D SK	DOCUMENT NO. 10000021204	SHEET 2 OF 4
			CADD REF: 10000021204	SCALE: 1.000
			INSTALLATION OUTLINE, MODBUS, ULTIMA XA	

LIFECYCLE STATE
Production

PARTS LIST			
ITEM NO.	MATERIAL MASTER NO.	QTY. REQD.	DESCRIPTION

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**MODULE "B" (SIGNAL BOOST OPTION)
WIRING CONNECTIONS**

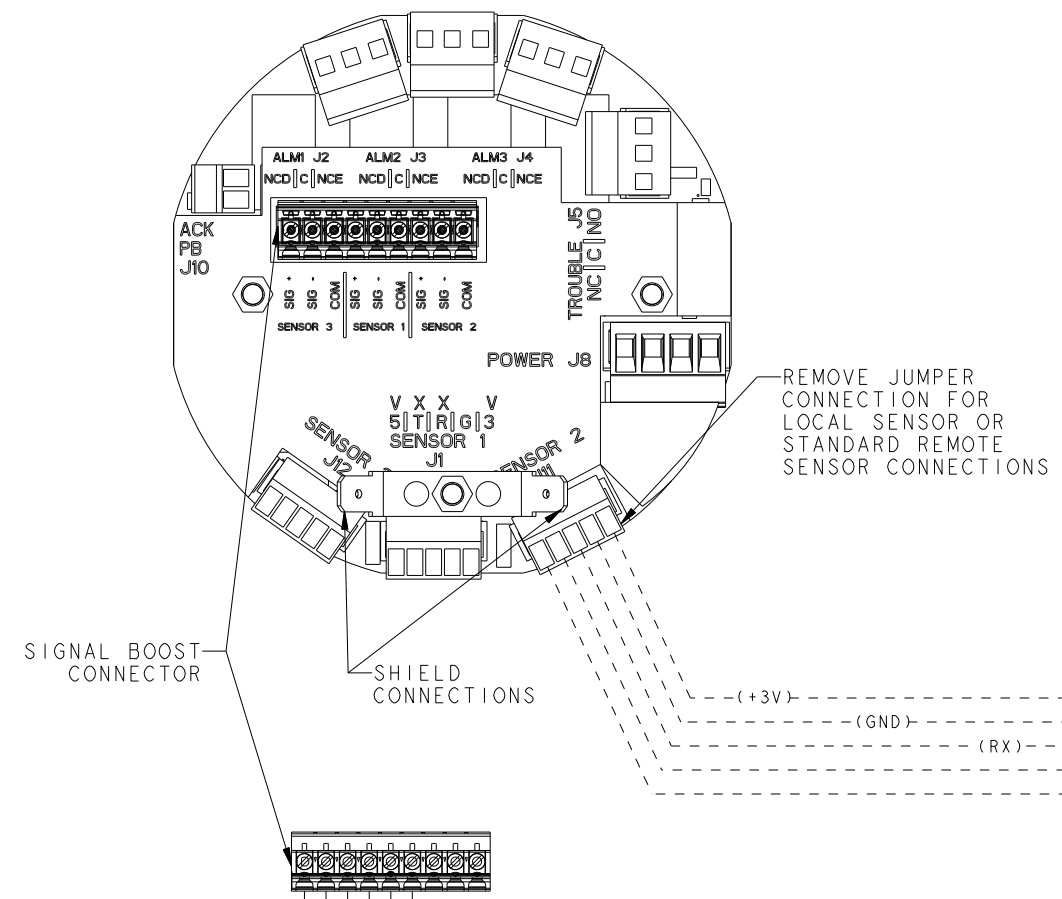


TABLE 2
REMOTE SENSOR POWER CONSUMPTION
(AC OR DC VERSION)

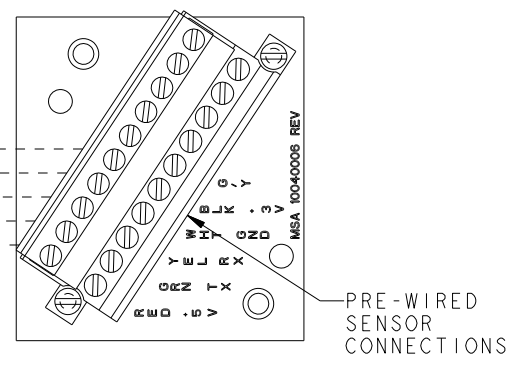
SENSOR TYPE	MAXIMUM POWER CONSUMPTION
CATALYTIC	4.5 WATTS
XIr	5 WATTS
E-CHEM	1.5 WATTS

TABLE 4
TRANSMITTER POWER CONSUMPTION

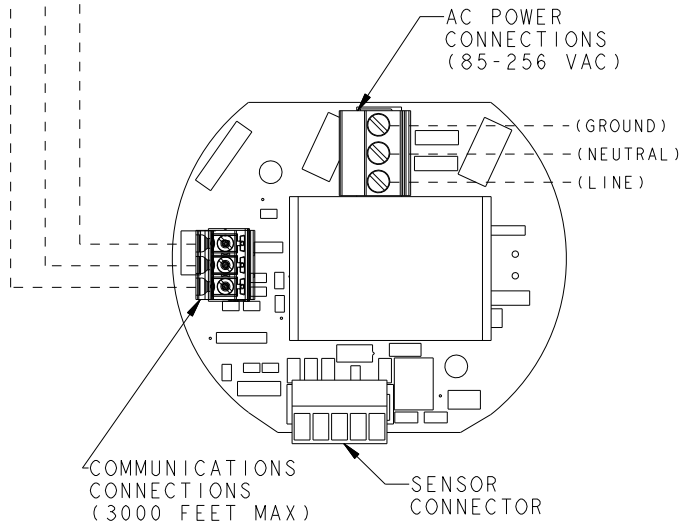
TRANSMITTER WITHOUT RELAYS	0.5 WATTS
TRANSMITTER WITH RELAYS	1.5 WATTS

TABLE 5
REMOTE MODULE WIRING AND PLACEMENT

GAS TYPE	MINIMUM WIRE SIZE	MAXIMUM DISTANCE	NO. SHIELDED, CONDUCTOR WIRE
OXYGEN OR TOXIC	20 AWG	100 FT.	5
COMBUSTIBLE	18 AWG	50 FT.	5
	16 AWG	100 FT.	



**MODULE "A" (STANDARD REMOTE)
WIRING CONNECTIONS (100 FEET MAX)
SEE NOTE 2**



**MODULE "A" (SIGNAL BOOST REMOTE)
WIRING CONNECTIONS (AC VERSION)
SEE NOTE 3**

**MODULE "A" (SIGNAL BOOST REMOTE)
WIRING CONNECTIONS (DC VERSION)
SEE NOTE 3**

- NOTE:
- - - - - INDICATES FIELD CONNECTIONS BY OTHERS.
 - MAXIMUM TRANSMITTER-SENSOR DISTANCE IS 100 FT WITHOUT THE SIGNAL BOOST OPTION.
 - USE OF THIS OPTION REQUIRES THE SENSOR TO BE POWERED LOCALLY.

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CRITICAL	MAJOR A	MAJOR B	100% INSPECTION	<p>INSTALLATION OUTLINE, MODBUS, ULTIMA XA</p> <p>CADD REF: 10000021204</p> <p>SCALE: 1:000</p> <p>DOCUMENT NO. D SK 10000021204</p> <p>SHEET 3 OF 4</p>
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY BP	DATE 10-21-2004	
FRACTIONAL	± 1/64	CHECKED BY D. BRUCE	DATE 11-12-2004	
2 PL DEC.	± 0.01	PROJ. ENGR. S. TURNER	DATE 11-12-2004	
3 PL DEC.	± 0.005	QUALITY ASSURANCE J. DANNHARDT	DATE 11-12-2004	
ANGULAR	± 1 deg.	MANUFACTURING D. ALWARD	DATE 11-12-2004	
SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES				

PARTS LIST			
ITEM NO.	MATERIAL MASTER NO.	QTY. REQD.	DESCRIPTION

REVISIONS	
NOV 16 2004	REV. 1
DEC 20 2007	REV. 2
JAN 12 2010	

TYPICAL ModBUS NETWORK TOPOGRAPHY

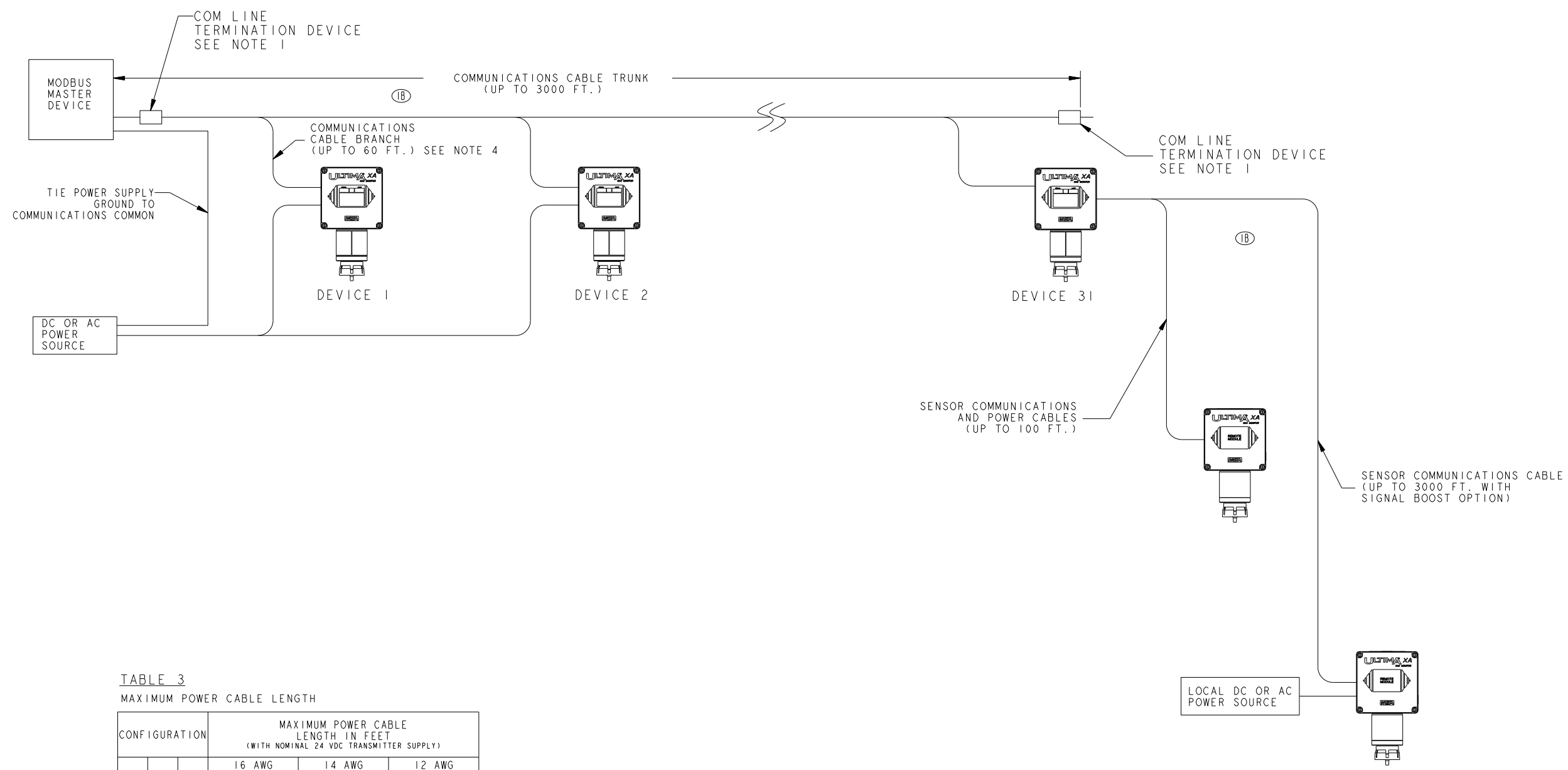


TABLE 3
MAXIMUM POWER CABLE LENGTH

CONFIGURATION			MAXIMUM POWER CABLE LENGTH IN FEET (WITH NOMINAL 24 VDC TRANSMITTER SUPPLY)					
CATA- LYTIC	XIR	E- CHEM	16 AWG CABLE (4.2 OHM PER 1K FT.)		14 AWG CABLE (2.6 OHM PER 1K FT.)		12 AWG CABLE (1.8 OHM PER 1K FT.)	
			NO RELAYS	RELAYS OPTION	NO RELAYS	RELAYS OPTIONS	NO RELAYS	RELAYS OPTION
0	0	3	4500	3500	7200	5500	10000	7500
0	2	1	2000	1500	2750	2500	4000	3500
0	1	2	3000	2250	4500	3500	6250	5000
1	0	2	3500	2750	5500	4250	7500	6000
1	1	1	2000	1500	2750	2500	4000	3500
2	0	1	2500	1750	3500	3000	5000	4000
3	0	0	2000	1500	2750	2500	3750	3500

- NOTE:
1. LINE TERMINATION DEVICE MUST MATCH COM LINE (TYPICALLY 120 OHMS).
 2. TYPICAL RS485 COMMUNICATIONS WIRING SCHEME IS 3 WIRE CABLE, 22 AWG, LABELED (A) T+ / R+, (B) T- / R- AND (C) COMMON.
 3. POWER SUPPLY GROUND SHOULD BE CONNECTED TO COMMUNICATIONS COMMON.
 4. BRANCHES TO 60FT. ARE ALLOWED, BUT WILL REDUCE OVERALL TRUNK LENGTH AND INCREASE NOISE. BRANCHES OVER 1FT. ARE NOT RECOMMENDED.
 5. ALWAYS USE TWISTED PAIRS FOR POWER AND COMMUNICATION.

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2

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	TOLERANCES UNLESS OTHERWISE SPECIFIED	CADD REF: 10000021204	SCALE: 1:000	
	FRACTIONAL $\pm 1/64$	DOCUMENT NO. D SK 10000021204	SHEET 4 OF 4	
	2 PL DEC. ± 0.01			
	3 PL DEC. ± 0.005			
	ANGULAR ± 1 deg.			
	SEE MSA STANDARD SHOP PRACTICES FOR DRILLED HOLE TOLERANCES			