QTY.		A	9000	0	1	2	3	4	5	6	7	8
	REVISION CODE											

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

0 MATRIX REVISION LEVEL

-

4 1 ENCLOSURE TYPE: 1

R - Rack Mount
P - General Purpose Plastic
MS - Nema 4X Metal, 5 card
MD - Nema 4X Metal,10 card
XS - XP Single Board
XD - XP Dual Board
SS - Nema 4X Stainless Steel, 5 card
SD - Nema 4X Stainless Steel, 10 card
Z - No Enclosure (Replacement Modules Only)

2 No. OF 9020 SENSOR CHANNEL 2-WIRE BOARDS (Dual Channel) *
0-10 (2 Sensor Points per Channel) ie: 5 = 10 points)

3 No. OF 9010 SENSOR CHANNEL 2-WIRE BOARDS (Single Channel) *
(0 - 10)

4 No. OF 9020 SENSOR CHANNEL 3-WIRE BOARDS FOR 3-WIRE SENSORS (Dual Channel)
(0 - 10) (2 Sensor Points per Channel) ie 5 = 10 points

5 No. OF 9010 SENSOR CHANNEL 3-WIRE BOARDS FOR 3-WIRE SENSORS (Single Channel)
(0 - 10)

6 POWER SUPPLY VOLTAGE:

1 - 110 VAC
2 - 220 VAC
3 - 24VDC

7 TLV STEL AND TWA FUNCTIONS:

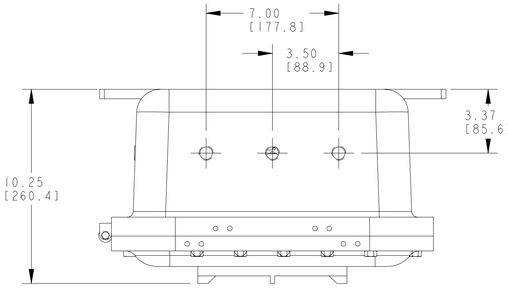
0 - NONE
1 - YES

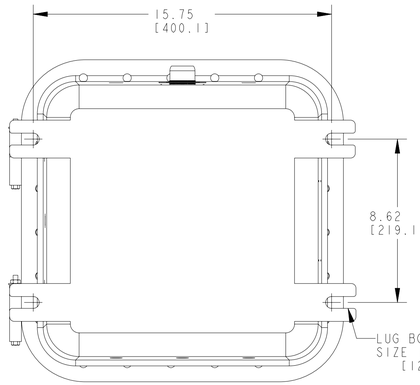
8 CUSTOM:

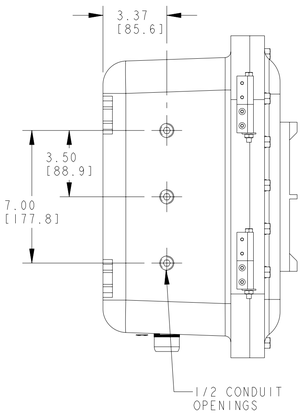
C -

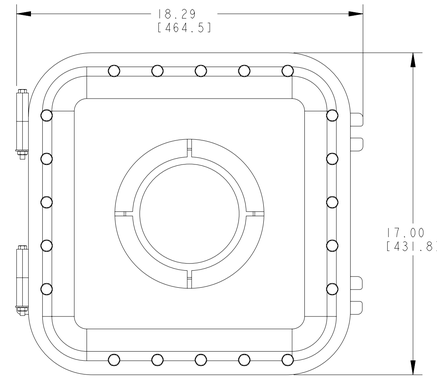
* IF 1 = R, 2 & 3 & 4 & 5 ≤ 10
* IF 1 = P, 2 & 3 & 4 & 5 ≤ 1
* IF 1 = MS, 2 & 3 & 4 & 5 ≤ 5
* IF 1 = MD, 2 & 3 & 4 & 5 ≤ 10
* IF 1 = XS, 2 & 3 & 4 & 5 ≤ 1
* IF 1 = XD, 2 & 3 & 4 & 5 ≤ 2
* IF 1 = SS, 2 & 3 & 4 & 5 ≤ 5
* IF 1 = SD, 2 & 3 & 4 & 5 ≤ 10

6









REVISIONS		
1	7-22-2005	INITIAL RELEASE REVISED MATRIX CODE 1, ADDED OPTIONS SS AND SD, REMOVED ITEM # REFERENCE
	GJT	WLB
2	8-18-2006	INITIAL RELEASE REMOVED "TYPICAL SENSOR CONFIGURATIONS" TABLE
	GJT	WLB
3	8-22-2006	INITIAL RELEASE ADDED NOTE 2
	GJT	WLB
4	8-28-2006	INITIAL RELEASE REVISED MATRIX CODE 1, OPTION P: General Purpose Plastic (WAS Nema 4X Plastic
	GJT	WLB
5	9-28-2006	INITIAL RELEASE A. REVISED MATRIX CODE 1, ADDED OPTION Z B. REVISED MATRIX CODE 7, ADDED OPTIONS 1 & 2
	WJE	WLB
6	11-2-2006	INITIAL RELEASE REVISED IF STATEMENTS TO ADD OPTIONS SS & SD AND ADD MATRIX CODES 4 & 5
	WJE	WLB
	DEC 05 2006	

ULTIMA XE CABLE LENGTH AND WIRE SIZE (TOXIC GAS OR OXYGEN) SENSOR, 4-20 mA SIGNAL OUTPUT (TWO WIRE SENSOR)

WIRE SIZE	MAXIMUM CABLE LENGTH IN FEET @ 24 VDC	MAXIMUM LOAD RESISTANCE
22 AWG	7000	600 Ohms

ULTIMA XE CABLE LENGTH AND WIRE SIZE (COMBUSTIBLE GAS) SENSOR, 4-20 mA SIGNAL OUTPUT (THREE WIRE SENSOR)

WIRE SIZE	MAXIMUM CABLE LENGTH IN FEET @ 24 VDC	MAXIMUM LOAD RESISTANCE
22 AWG	1000	600 Ohms
18 AWG	2500	
16 AWG	4200	
12 AWG	10000	

ULTIMA XE CABLE LENGTH AND WIRE SIZE (POWER SUPPLY 24 VDC) (TOXIC GAS OR OXYGEN) SENSOR, 4-20 mA SIGNAL OUTPUT (THREE WIRE SENSOR)

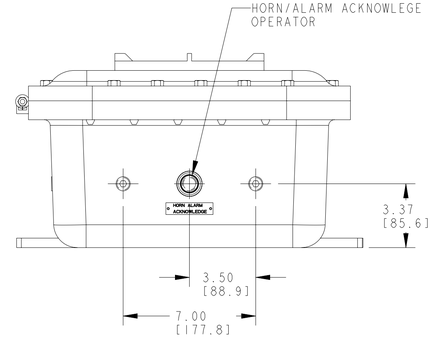
WIRE SIZE	MAXIMUM CABLE LENGTH IN FEET @ 24 VDC	MAXIMUM LOAD RESISTANCE
22 AWG	12000	600 Ohms

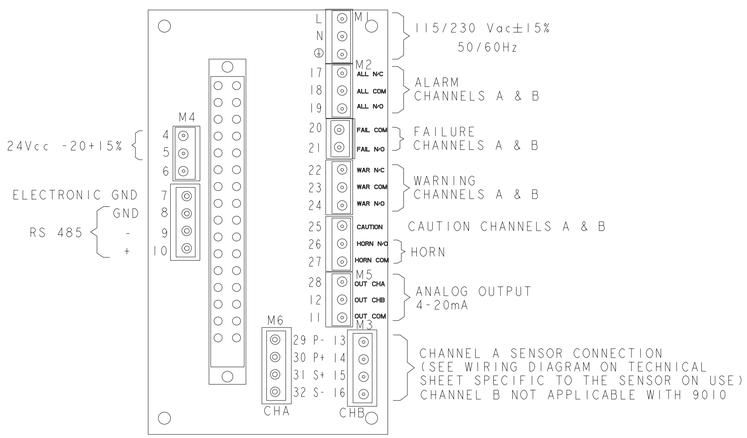
ULTIMA XE POWER CABLE DISTANCES WITH INTERNAL RELAYS (4-20 mA MODEL)

SENSOR TYPE	POWER SUPPLY VOLTAGE	WIRE SIZE	MAXIMUM CABLE LENGTH (IN FEET)	MAXIMUM LOAD RESISTANCE (mA OUTPUT ONLY)
CATALYTIC COMBUSTIBLE	12 VDC	16 AWG	900	300 Ohms
CATALYTIC COMBUSTIBLE	24 VDC		3000	600 Ohms
TOXIC OR OXYGEN	12 VDC		2500	300 Ohms
TOXIC OR OXYGEN	24 VDC		8000	600 Ohms

ULTIMA XIR MAXIMUM CABLE LENGTH AND 4-20 mA SIGNAL LOAD

POWER SUPPLY	24 VOLTS	
CONFIGURATION	NO RELAYS	RELAYS INSTALLED
18 AWG CABLE (6.6 OHMS/1000 FT,)	2000 FT.	1500 FT.
16 AWG CABLE (4.2 OHMS/1000 FT.)	3500 FT.	2500 FT.
14 AWG CABLE (2.6 OHMS/1000 FT.)	5000 FT.	4000 FT.
MAXIMUM LOAD ON 4-20 mA SIGNAL	600 OHMS	





TYPICAL ELECTRICAL CONNECTIONS

NOTES: 1. DIMENSIONS SHOWN IN INCHES AND [MILLIMETERS].
3 2. THE BOTTOM MODULE REFERRED TO AS "MODULE 2" MUST ALWAYS BE IN PLACE FOR THE SYSTEM TO FUNCTION PROPERLY.

WEIGHT: APPROX. WEIGHT 86 LBS. (39 KG.)
MATERIAL: ALUMINUM

AUTHORIZED COUNTRY

MSA — MINE SAFETY APPLIANCES CO. PITTSBURGH, PA 15230, USA

MSA STANDARD SHOP PRACTICES APPLY

DO NOT SCALE DWG.

CODE SYMBOLS
CRITICAL 1
MAJOR A 2
MAJOR B 3
100 % INSPECTION 4
MINOR (NO MARK)

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

JOB NO. 30006520PH0705
APPROVAL AGENCY CODE: NO | NIOSH ATTR. DOC.: .

DRAWN BY GT DATE 1-14-05
CHECKED BY W.BARBISH 11-9-06
PROJ. ENGR. W.BARBISH 11-9-06
QUALITY ASSURANCE J.DANNHARDT 11-29-06
MANUFACTURING H.TRACHSEL 12-5-06

INSTALLATION OUTLINE, XD, XP DUAL BOARD, MODEL 9010/9020

CADD REF: SK3015-1004 | SCALE: 0.250

D. SK3015-1004 | SHEET 1 OF 1