

AMS Intrinsically Safe Alarm Panels

GENERAL:

The AMS Monitoring Alarm Systems are ideal for above as well as below ground storage tank monitoring applications that include "High Level" and Low Level" and Leak Detection. The AMS panel comes standard with auxiliary contacts for interfacing to remote alarms, computers tank gauging systems and auto dialers.



FEATURES:

- Low Cost
- Audible / Visual Alarm
- NEMA 4X Fiberglass Enclosure
- 100,000 Hour Life L.E.D. Lights
- Easily Installed and Wired
- Reliable and Flexible
- 1—8 Channels Standard
- U/L 698-A Relating to Hazardous Locations
- Form "C" Auxiliary Contacts Standards

SPECIFICATIONS:

- Primary supply voltage is: 120 VAC. (plus) + 10%, minus 15%
- Out put sensor voltage: Nominal 12 VAC @ 6ma. RMS
- Temperature Range: (minus)-40° deg. F. to (plus) +150° F.
- Contact Rating 120 VAC or 30 VDC, 5A 1/10H.P.
- Contact life : Electrical @ rated load = 100,000 cycles minimum. Mechanical = 10,000,000 cycles
- Auxiliary Contacts rated : 120 VAC Or 30 VDC 10A 1/3 H.P.
- Auxiliary Contacts Design: SPDT (1 form "C") per channel
- L.E.D. Indication Lights rated for 100,000 hours
- Lights and Pushbuttons rated at NEMA 4X
- U.L. 913 listed control
- U.L. 698-A enclosed controls relating to hazardous locations



Modern Klerwater Technologies
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Fax: 740-344-6244

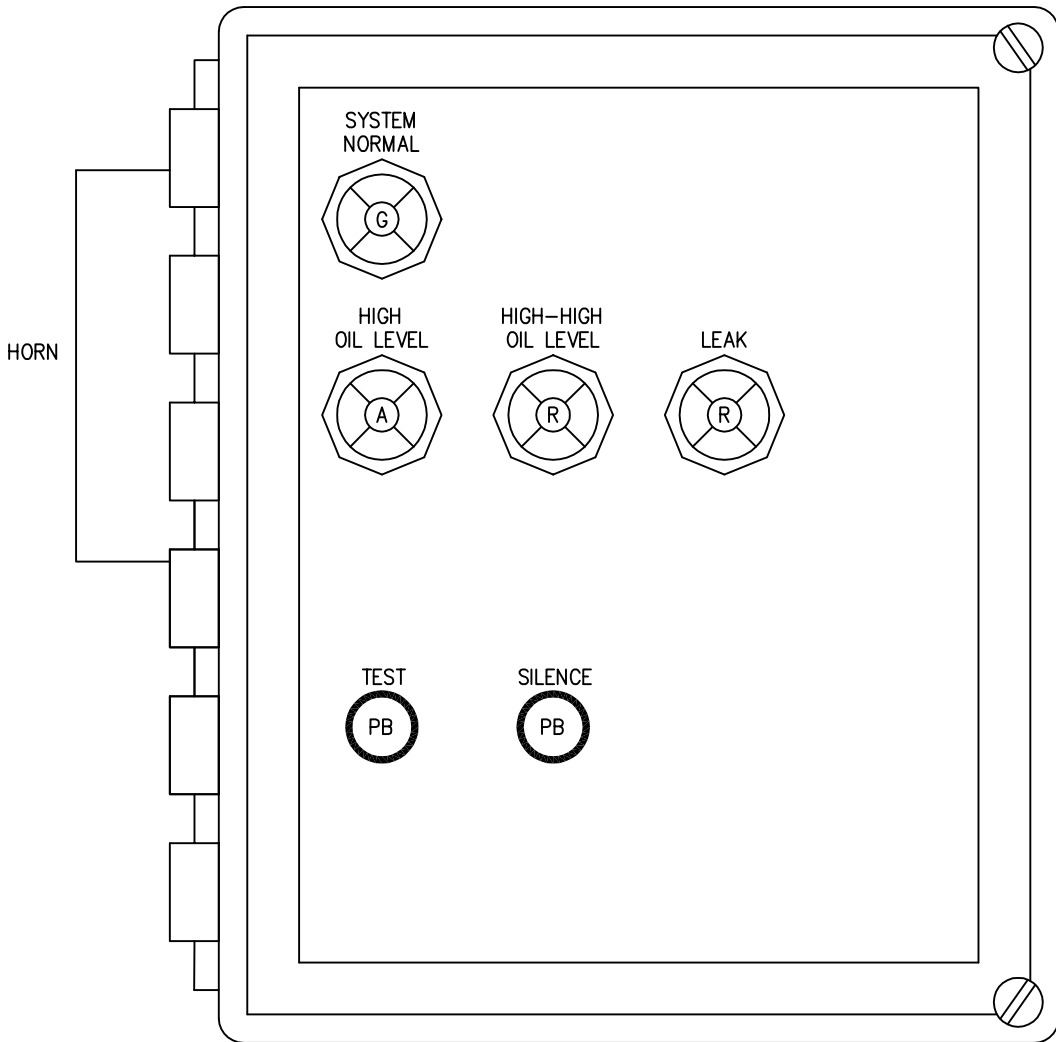


www.modweldco.com

AGGRESSIVE Systems, Inc.
24361 Indoplex Circle
Farmington Hills, MI 48335
Phone: (248) 477-5300
Fax: (248) 477-5626

File: Klerwater
AMS Controls
8/2004

Klerwater



NEMA 4X FIBERGLASS ENCLOSURE

10"H X 8"W X 6"D

WARNING
 SUBSTITUTION OF COMPONENTS
 MAY IMPAIR INTRINSIC SAFETY

1.5" X 4" NAMETAG
 W/ RED LETTERS
 LOCATED ON INSIDE DOOR



AGGRESSIVE SYSTEMS, INC.
 Farmington Hills, MI 48335

ALARM PANEL
 HIGH OIL & HIGH HIGH OIL LEVEL
 WITH LEAK DETECT

SYM	DATE	REVISIONS	BY

CUSTOMER		W.O. NO.	
DRAWN ER	SCALE	SHEET NO. 1 OF 2	DWG NO. AMS-2-LD
CHECKED ER/WL	DATE 8/4/04		

S-AOE Selection Guide

FEATURES:

- Designed for Deep Burial Tanks
- Accurate and Reliable Level Control
- Custom Sensor Configuration for Unique Applications
- Fitting, Stem and Float available in Stainless Steel
- Rugged Cast Iron NEMA 4 Fitting Housing
- 50 Watt Switch Contacts at 120/240 VAC
- Field Adjustable Burial Depth
- Easy Installation Even When Elevations Change in the Field.

APPLICATIONS:

S-AOE's are designed to be installed in 2" Riser Pipe. They can be ordered with standard floats with a specific gravity of 0.6 and Interface floats with a specific gravity of 0.95. The standard float will float on most all liquids, The Interface float, however, with a specific gravity of 0.95 will float on water but sink in oil.

When used in a potentially explosive application, the S-AOE must be interfaced with an intrinsically safe level control. The float stem and 2" NPT fitting can be ordered in a brass or stainless steel. The floats on the S-AOE are stainless steel as standard.

OPERATION:

The Float switch contains small magnets, as the float rises and falls in the liquid, the magnets cause SPST dry reed switch potted in the stem assembly to open or close depending on the orientation of the float switch. Float activation can be ordered in a normally open or a normally closed configuration.

INSTALLATION INSTRUCTIONS:

The S-AOE conduit head has a 3/4" NPT connection with a 1/2" NPT conduit adapter, for ease of electrical connection. When wiring to the Float switch wires, AWG 14 -16 Type MTW or THHN wire. Intrinsically safe wire must be used in "Hazardous Locations" applications and connected to intrinsically safe level controls. Consult NEC article 500 through 516 for additional guidance on Hazardous Locations. All splices, conduit and wiring conduit runs to the S-AOE, should be connected in such a way as to prevent moisture from entering the S-AOE conduit head. Water inside the conduit head could result in system failure. Liquid tight conduit is recommended.



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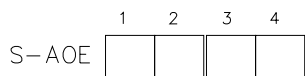


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Klerwater Form
S-AOE-Selection
8/2004

Klerwater



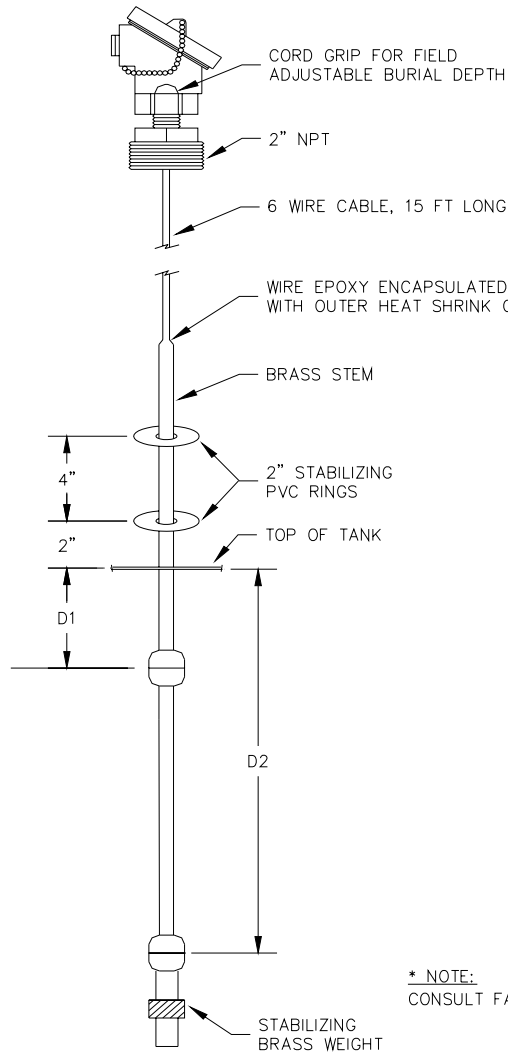
MODERN WELDING COMPANY
KLEERWATER S-AOE STANDARD PROBE

OVERALL LENGTH OF PROBE STEM
D2 DIMENSION ROUNDED TO NEXT HIGHEST FOOT

D2 DIMENSION (INCHES)

D1 DIMENSION (INCHES)...ONLY REQUIRED FOR DUAL SENSOR PROBES

NUMBER OF SENSORS (NORMALLY CLOSED INTERFACE)



PROBE AND JUNCTION HEAD
WILL BE BRASS WITH STAINLESS
STEEL INTERFACE FLOATS UNLESS
OTHERWISE SPECIFIED.

SPECIFICATIONS:

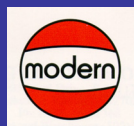
- HOUSING: CAST IRON NEMA 4
- FITTING: BRASS OR STAINLESS STEEL
- THREAD SIZE*: 2" - 1 1/2 NPT
- FLOAT SIZE: 1" WIDE, 1/2" HIGH
- CONTACT RATING: 50 WATT 120/240 VAC
- STEM SIZE: 1/2"
- SPECIFIC GRAVITY: 0.60 STANDARD
0.93 INTERFACE
- WIRE COLOR CODE FOR 1 OR 2 FLOATS:
TOP LEVEL = GREEN & WHITE
BOTTOM LEVEL = BLACK & RED
- WIRE COLOR CODE FOR 3 OR MORE FLOATS:
COMMON = WHITE
L1 = RED
L2 = GREEN
L3 = BLUE
L4 = BROWN
L5 = BLACK

* NOTE:
CONSULT FACTORY FOR OPTIONAL MOUNTING APPLICATIONS

- NOTES:
- 1) CONTACT FACTORY FOR SHIPPING AND CRATE ADDER.
 - 2) ACTIVATION LEVEL TOLERANCE +/- .125"
 - 3) OVERALL LENGTH OF STEM IS L1 ACTIVATION POINT + 3"

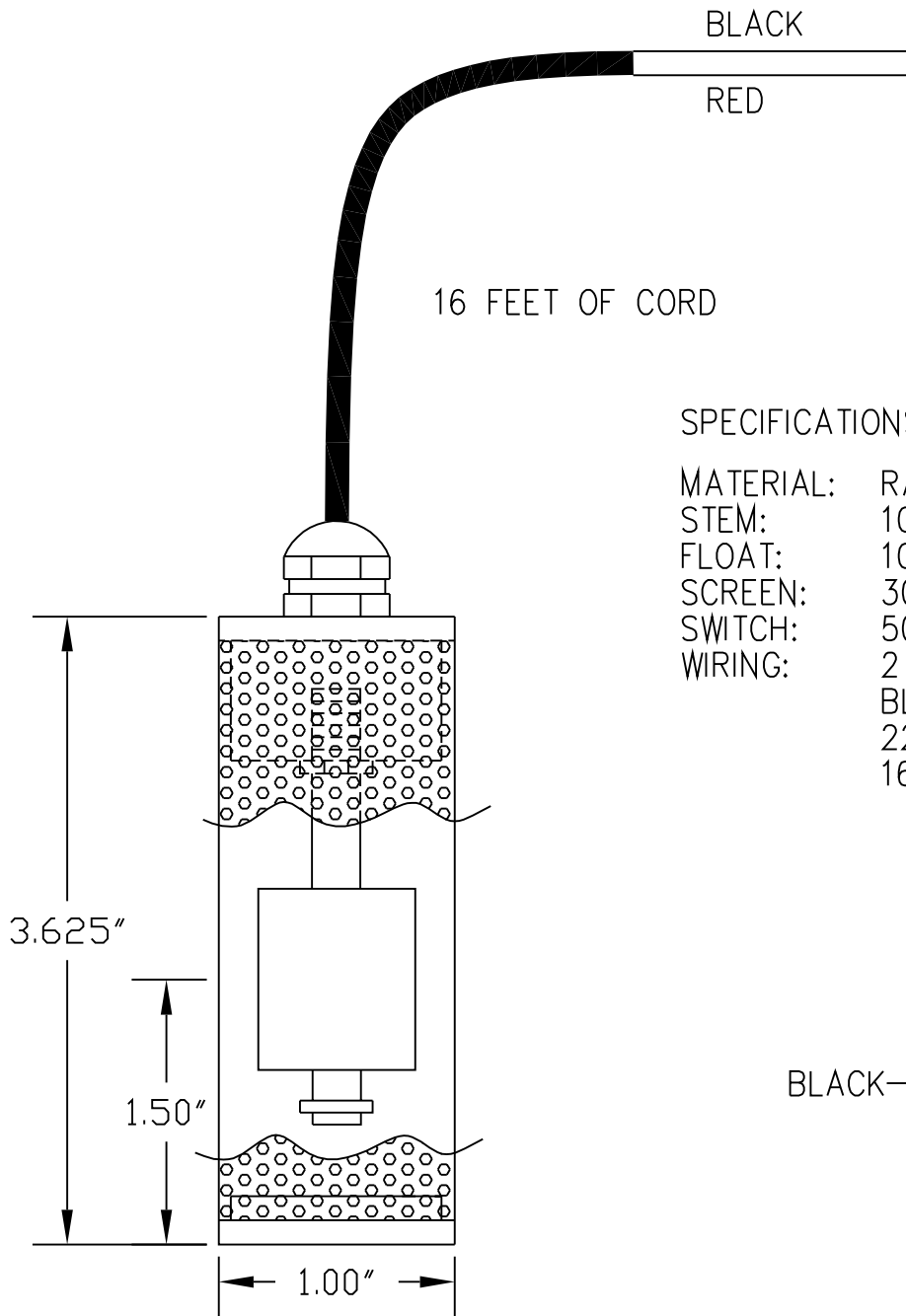
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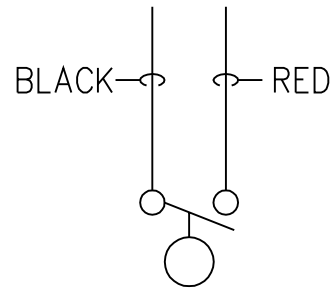
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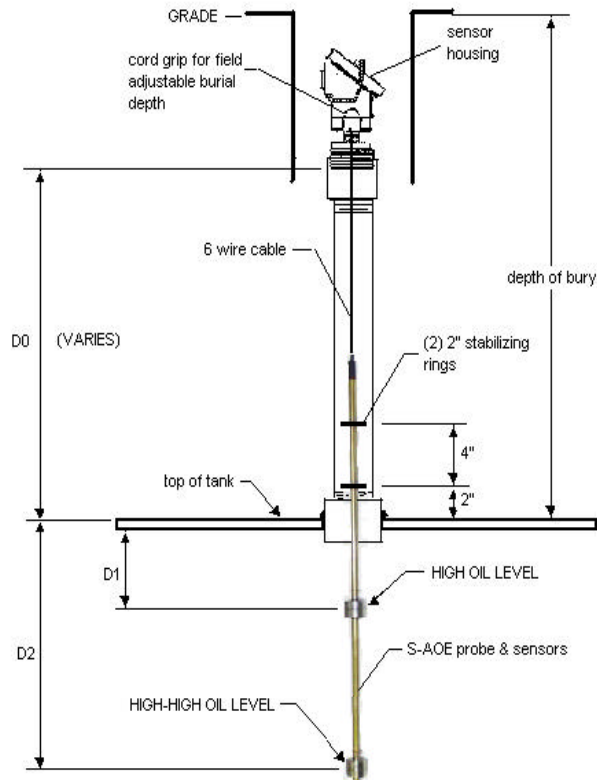
SPECIFICATIONS:

- MATERIAL: RAYTON/SS
- STEM: 1000 RAYTON
- FLOAT: 1000 BUNA N.O.
- SCREEN: 304 SS PERFORATED
- SWITCH: 50 WATT SPST N.O.
- WIRING: 2 COND CABLE WITH BLACK AND RED 22GA WIRE PVC 16 FEET



DATE	REVISIONS	BY	

LIQUID LEAK SENSOR			
CUSTOMER			P.O. NO.
DRAWN ER	SCALE	SHEET NO. 1 OF 1	DWG NO. KWLP-1
CHECKED ER/WL	DATE 11/5/02		



PROBE INSTALLATION DETAILS
WITH HIGH & HIGH-HIGH LEVEL SENSORS

Separator Nominal Size (gallons)	Total Separator Capacity (gallons)	Tank Diameter (inches)	Tank Total Length (inches)	from tank top	from tank top
				at 20% full of oil (high level) (D1, inches)	at 40% full of oil (high-high level) (D2, inches)
150	199	30	65	5.5	12.0
285	354	38	72	8.0	14.0
550	691	42	115	9.0	15.0
700	902	48	115	11.0	18.0
1000	1208	48	154	11.0	18.0
2000	2412	64	173	14.5	23.5
3000	3612	64	259	14.5	23.5
4000	4825	64	346	14.5	23.5
5000	6106	72	346	16.0	25.5
6000	7236	72	410	16.0	25.5
8000	9681	84	403	18.5	31.0
9000	10856	96	346	21.0	35.0
10000	12205	96	389	21.0	35.0
12000	14464	96	461	21.0	35.0
15000	18072	96	576	21.0	35.0
20000	24022	120	490	27.0	46.0
25000	30376	126	562	28.0	46.0
30000	36591	126	677	28.0	46.0



**PROBE INSTALLATION DETAILS
HIGH & HIGH-HIGH LEVEL SENSORS**



DRAWING NO:

3.4.3

May 10, 2004