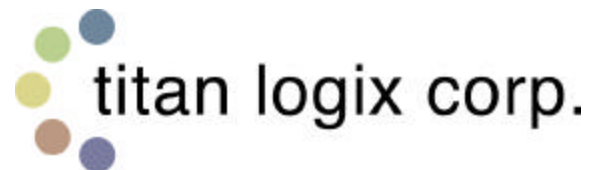


# VISI 1322

## Installation Manual

**1322 VA (Analog Output) Included**



**Head Office**  
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Edmonton, AB T6E 5P5

**Saskatchewan Branch**  
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Manufactured in Canada

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**E-Mail** [sales@titanlogix.com](mailto:sales@titanlogix.com)

## **VISI Manual**

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**WARRANTY:** Titan Logix Corp. warrants all equipment of its own manufacture to be free of defects in material and workmanship for a period of twelve (12) months from date of shipment. Titan Logix Corp.'s sole obligation hereunder shall be expressly limited to repair or exchange free of charge, F.O.B. Edmonton, Alberta, Canada, of such defective equipment (alternatively, Titan Logix Corp. will, at its option, refund the purchase price). Titan Logix Corp.'s obligation under this warranty is limited to the above and does not apply to exchange or repairs, which are required as a result of improper installation, misuse, maladjustment, abnormal operating conditions, or lack of routine maintenance. Nor does the warranty include the furnishing of service for maintenance or problems arising from the foregoing causes. No claims for labour, installation, removal, transportation, or other expenses will be recognized. Notwithstanding any stipulation of the purchaser to the contrary, all other obligations, representations, warranties and conditions, express or implied, statutory or otherwise, including any implied warranties or conditions of merchantability, quality or fitness are hereby excluded and, Titan Logix Corp. shall not be liable for any loss, cost or damages, of any kind whatsoever, whether consequential, indirect, special or otherwise, arising out of or in connection with the equipment or any defect therein, even if caused by the negligence of, Titan Logix Corp., its employees or agents. The provisions hereof relating to the warranty and limitations hereon and limitation of liability shall continue to be enforceable between the parties notwithstanding termination of the within agreement for any reason including fundamental breach. Equipment not of, Titan Logix Corp. manufacture will carry the vendor's or manufacturer's standard warranty.

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## VISI 1322 INSTALLATION GUIDE

### 1. Preparation:

Ensure that a stillwell with the proper internal diameter and other specified parameters is installed in the tank before the installation is attempted.

Using a metric Tape Gauge, measure the distance from the bottom of the vessel to the top of its riser. Also, measure the fluid level currently in the vessel. These values, along with the specific gravity of the fluid to be gauged, should be written down for future reference.

Remove the sight glass from the gauge board assembly. This is done by removing the 1" cap from the top of the gauge assembly and backing off the 1 ½" nut at the bottom of the sight glass. Be careful not to lose the Teflon ferrules. Regular steel ferrules cannot be substituted

### 2. Installation

Cut the fiberglass rod equal to the length of the total height of the tank and riser, and attach the float with the supplied compression fitting. Lower the float down the riser until it either floats in the fluid or makes contact with the bottom of the vessel. Assuming the tank is empty of fluid, there should be approximately 36 cm of fiberglass rod sticking out of the riser. If the tank is not empty, gently push the float to the bottom of the vessel to perform this check.

Attach an appropriate flange cover that will accept the 1 ½" NPT fitting on the bottom of the gauge assembly. Lower the gauge board over the fiberglass rod and securely tighten the unit to the flange. The gauge may now be turned to ensure good visibility of the level.

### 3. Calibration

To accurately calibrate the system, you must know the specific gravity of the fluid to be gauged. This value will determine the minimum level the gauge will indicate. Use the chart below to calculate this level.

<u>Specific Gravity</u>	<u>Min. Level</u>	
	0.5	14"
	0.6	11.5"
	0.8	8.75"
	1.0	7.0"

With the float on the bottom of the vessel, use the gauge board scale to mark the minimum level on the fiberglass rod. Cut the rod at this point and slide the indicator on to the end.

**NOTE:** *If there is fluid in the tank, gently push down on the rod until the float contacts the bottom of the vessel. Maintain contact and follow the above instructions to calibrate.*

#### **4. Final Assembly:**

Reinstall the sight glass tube by sliding it through the top of the gauge board, ensuring that the indicator moves freely inside the tube. Tighten the bottom 1 ½" nut 1 ½ turns and secure the top cap using the hardware provided. If any proximity switches were purchased with you **VISI 1322 Gauge**, install them now.

## **ANALOG OUTPUT – 1322 A**

#### **1. Preparation:**

Be sure to order the correct 1322A analog output electronics for your specific tank diameter (or vertical height) They are available in 4, 6, 8, and 10 foot lengths.

#### **2. Specifications:**

This is a 2-wire loop powered device with a passive analog output. Use 18 AWG twisted pair, shielded instrument cable only.

**Input Ratings:** Volts: 9 – 26 VDC

**Amps:** 22 mA

**Hertz:** DC

**Ambient Temperature Range:** -40 °C to 60 °C

**Approvals:** Class 1, Div 1 (EX), Groups C and D

#### **3. Installation:**

Mount the 1322VA to your 1322 gauge board using the supplied hardware. It should be mounted with the ¾" stainless steel pipe running parallel to the clear plastic tube except on the opposite side of the aluminum gauge board. The electronics housing will be at the bottom of the board with the lid opening on the same side as the visual side of the board.

For use in a potentially hazardous location, an explosion proof sealing fitting must be installed as close as practicable to and in no case more

than 450mm from the electronics enclosure. Any other openings must be appropriately plugged with explosion proof plugs.

You may now wire the electronics according to the diagram. The current meter could be substituted with a PLC having an analog input card or a separate display, which will take in the provided analog signal from the 1322A.

**CAUTION: *Be sure that the atmosphere is safe with no explosive gases prior to supplying power and calibrating the 1322A.***

#### **4. Calibration and Additional Programming:**

Two push buttons and two jumpers are located on the 1322A electronics. These are used for calibrating the 4-20 mA output as well as setting the fail alarm output.

Place the magnetic indicator at the maximum tank level location. This will be where you set the 20 mA output. Press and hold the HIGH push button for at least 5 seconds. This saves the position of the magnet as the High Set Point. Next, place the magnetic indicator at the minimum tank level location. This will be where the 4mA output is set. Press and hold the LOW push button for 5 seconds. All points between these two will be appropriately scaled from 4-20 mA.

Setting the Fail Alarm: Place a digital current meter in series with the output signal. Remove the magnet from close proximity switch to the pipe. An output will now be present. Place jumper J2 to position A and adjust the ZERO potentiometer for 3.6 mA output. Next, place the jumper J2 to position B and adjust the SPAN potentiometer for 22 mA output. Place the fail jumper J1 in the desired position. The unit is now fully programmed.

**NOTE:** *J1 is a miscellaneous jumper to be used in future applications.*

#### **5. Final Assembly:**

Reinstall the magnetic indicator and close up the electronics enclosure ensuring that the 1322A as well as all fittings are ready for safe use. Installation is now completed. The end device must be properly set up to receive the analog output signal. The system is now ready for normal operation.

# Level & Flow Proximity Switch



## MLS - 3 EX Latching Proximity Switch

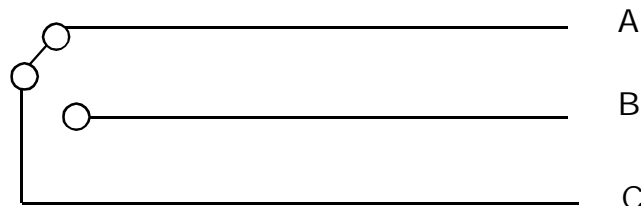
The MS - 30 is a hermetically sealed bi-stable latching reed switch with SPDT form C contacts. The switch is actuated by the float and latches, this maintaining the contact after the float continues to rise or fall with level. The MLS-3 EX comes with an explosion proof enclosure with an internal terminal block and is ideally suited for low power alarm signals.

### Specifications

Deadband	0.50 inch
Max. Temp.	650° F (343° C) HT version 350° F (177° C) STD version
Min. Temp.	- 40° F (- 40° C)
Contacts	Form C SPDT
Volts AC	150 AC/DC
AC Current	1.0A AC/DC
Watts	25 W DC/VA

**Note:** Because of the low current of the switch rating a higher rated interposing relay should be used between the MLS-3EX and the device being switched.

### Schematic



### Switch Operation / Mounting

To mount the MLS - 3EX Level Switch simply clamp it directly to the side of the level gauge sight glass using the adjustable hose clamps provided. Alarm set points may be changed by simply loosening the clamps and sliding the switch to the desired alarm level. To set up starting point follow the steps below:

#### Rising Level Alarm -

Terminal Block Letter:  
A (NC) C (Common) B (NO)

#### Falling Level Alarm -

Terminal Block Letter:  
B (NC) C (Common) A (NO)

After the switches are mounted and wired, they need to be set to the desired state for rising and falling level as noted previously. This is easily accomplished by either manually pushing the indicator or a magnet past the highest switch, or by carefully monitoring the gauge / switch operation while filling the tank.

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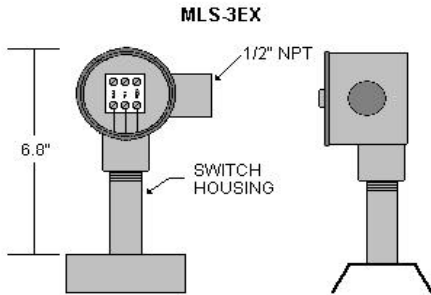
**Head Office** 4130 - 93 Street, Edmonton, Alberta T6E 5P5 P: (780) 462-4085  
**Saskatchewan Branch** Box 460, 103 Cenaiko Street, Lampman, Saskatchewan S0C 1N0 P: (306) 487-2883  
**Calgary Sales Office** Box 306, #440 10816 Macleod Trail S., Calgary, Alberta T2J 5N8 P: (403) 251-5797



[www.titanlogix.com](http://www.titanlogix.com)

# Level & Flow Proximity Switch

## Mounting



The simplicity of mounting the MS-30 switch housing is such that a small screwdriver is the only necessary tool. The MS-30 is mounted using two stainless steel clamps that pass through the mounting slots attached to the housing and around the chamber. Other switches can be added at any position at anytime without concern for additional process piping or valves. Two switches can be mounted so that they can trip at the same point or at two different points separated by less than the length of a switch.

## Specifications:

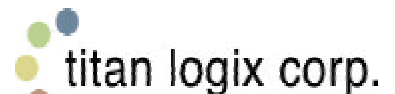
Switch	Magnetically activated, hermetically sealed, magnetically biased bistable reed switch. Single pole double throw-form C.
Switch Action	Break before make
Contact Material	Rhodium
Max Deadband	Approx. +/- 0.075" float travel
Max. Switch Voltage	250 VAC (250 VDC)
Max. Switch Current	1 amp (AC/DC)
Max. Switch VA	250 VA (250 watts resistive)

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# VISI 1322: SOUR SERVICE LEVEL GAUGE FOR UG TANKS

## GAUGE BOARD

- \* ALUMINUM
- PROXIMITY SWITCH (OPTIONAL)
- \* FOR HIGH, LOW, PUMP ALARMS
- \* ADJUSTABLE POSITION ON BOARD
- \* FORM C: SPDT
- \* 250 VAC / VA @ 1 AMP

## INDICATOR

- \* OPTIONAL MAGNETIC FOR PROXIMITY SWITCHES

## CLEAR LEXAN TUBE

## DECAL: 3M REFLECTIVE

- \* STANDARD: LINEAL (m)
- \* OPTIONAL: VOLUMETRIC

## (\*) GASKET

## ROD

- \* ALUMINUM OR FIBERGLASS

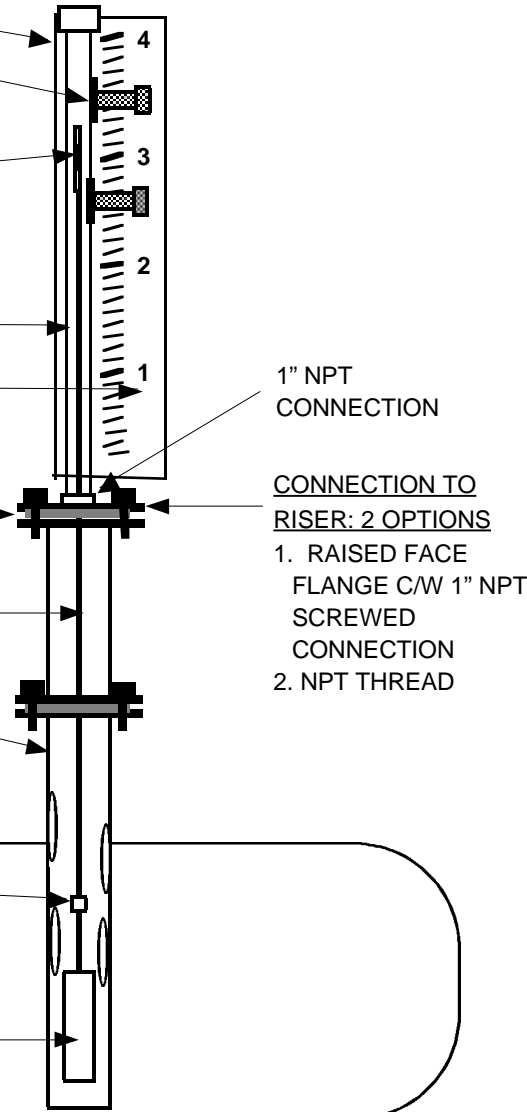
## (\*) RISER / EXTENSION (SLOTTED):

- \* REQUIRED FOR ALL ORDERS.
- MINIMUM DIAMETER: 3 INCHES

## CONNECTION BETWEEN FLOAT AND ROD

## FLOAT

- \* ROD ATTACHED VIA CONNECTOR
- \* FLOAT DIAMETER: 2.4" MINIMUM
- \* FIBERGLASS



## INCLUDED IN GAUGE KIT

- \* GAUGE BOARD WITH SEALED LEXAN TUBE, INDICATOR, FLOAT, FLOAT ROD, FLANGE WITH GAUGE BOARD SECURED IN 1" NPT

## INFORMATION REQUIRED WHEN ORDERING

[ ] TANK DIAMETER \_\_\_\_\_

[ ] RISER HEIGHT \_\_\_\_\_

[ ] RISER DIAMETER \_\_\_\_\_

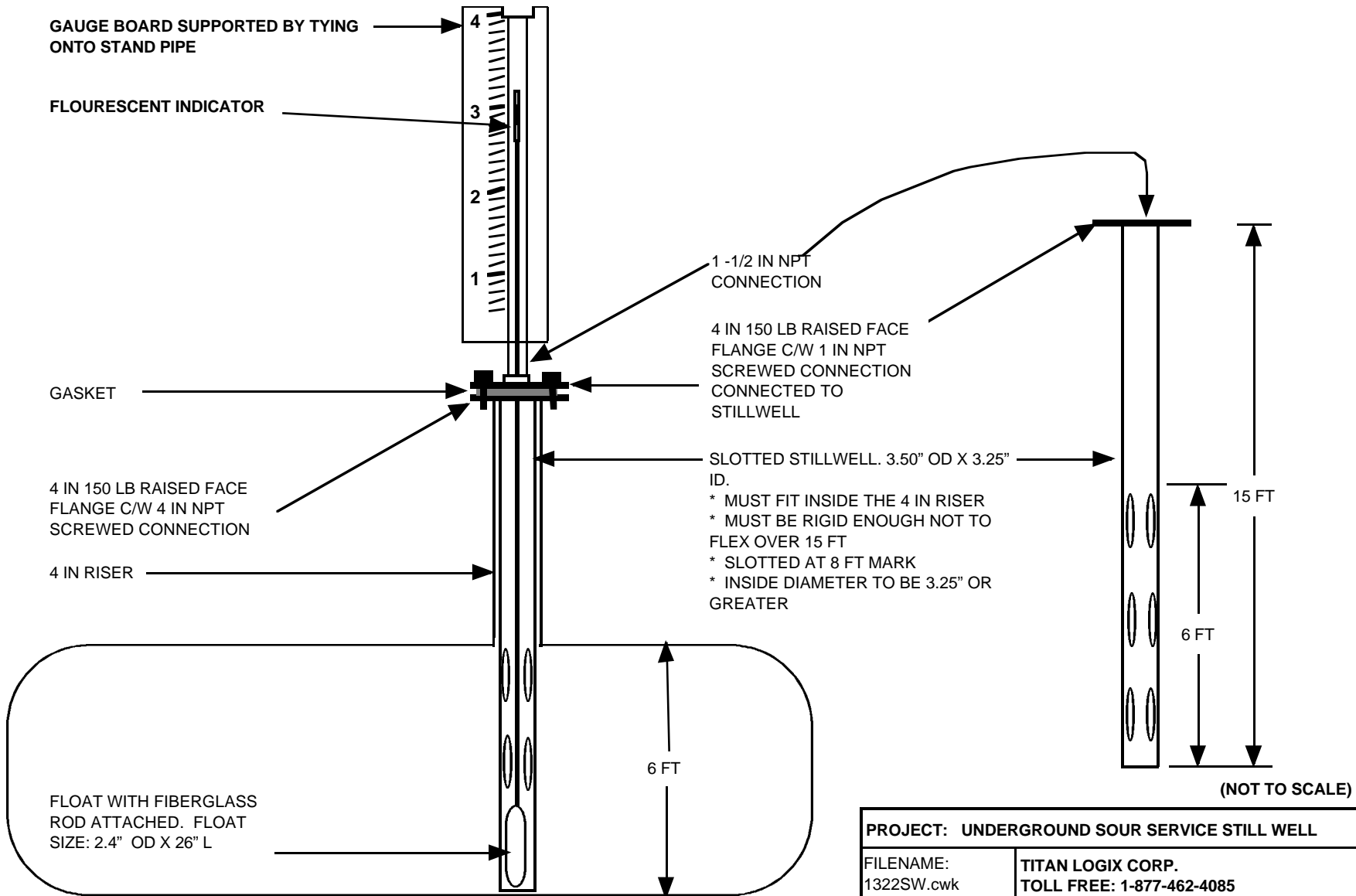
## REQUIRED TO COMPLETE THE INSTALLATION -- NOT INCLUDED IN GAUGE KIT: (\*)

- \* PERFORATED STILLING WELL
- \* FLANGE OR SCREWED CONNECTION ON TOP OF RISER
- \* GASKET

## INITIAL FLOATING LEVEL VS SPECIFIC GRAVITY

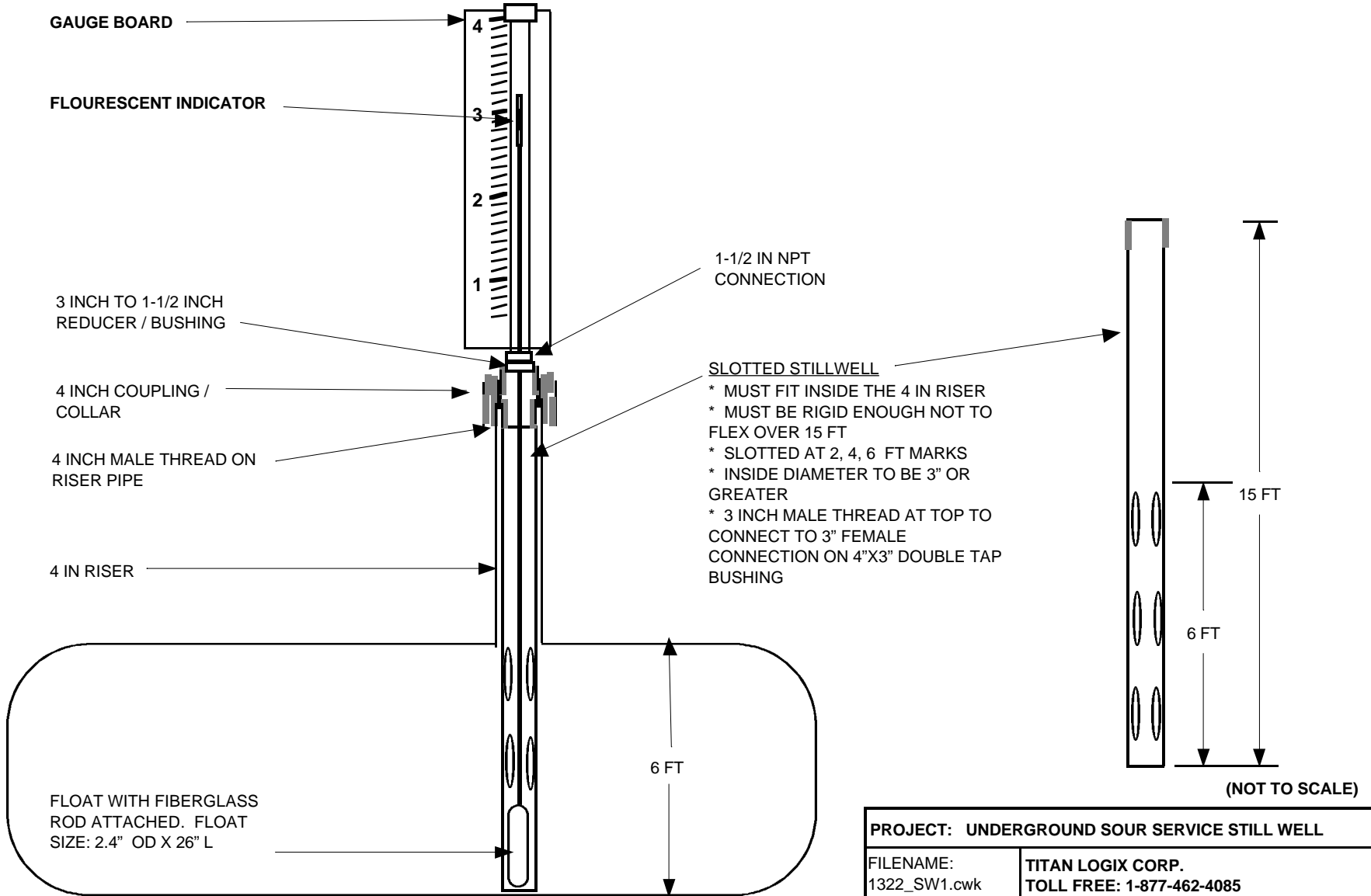
<u>SG</u>	<u>INITIAL FLOAT LEVEL</u>
0.5	15 INCHES = 0.38 m
0.6	12.5 INCHES = 0.32 m
0.8	9.5 INCHES = 0.24 m
1.0	7.5 INCHES = 0.19 m

# STILL WELL FOR 1322 UNDERGROUND MECHANICAL GAUGE, SOUR SERVICE: FLANGE MOUNT



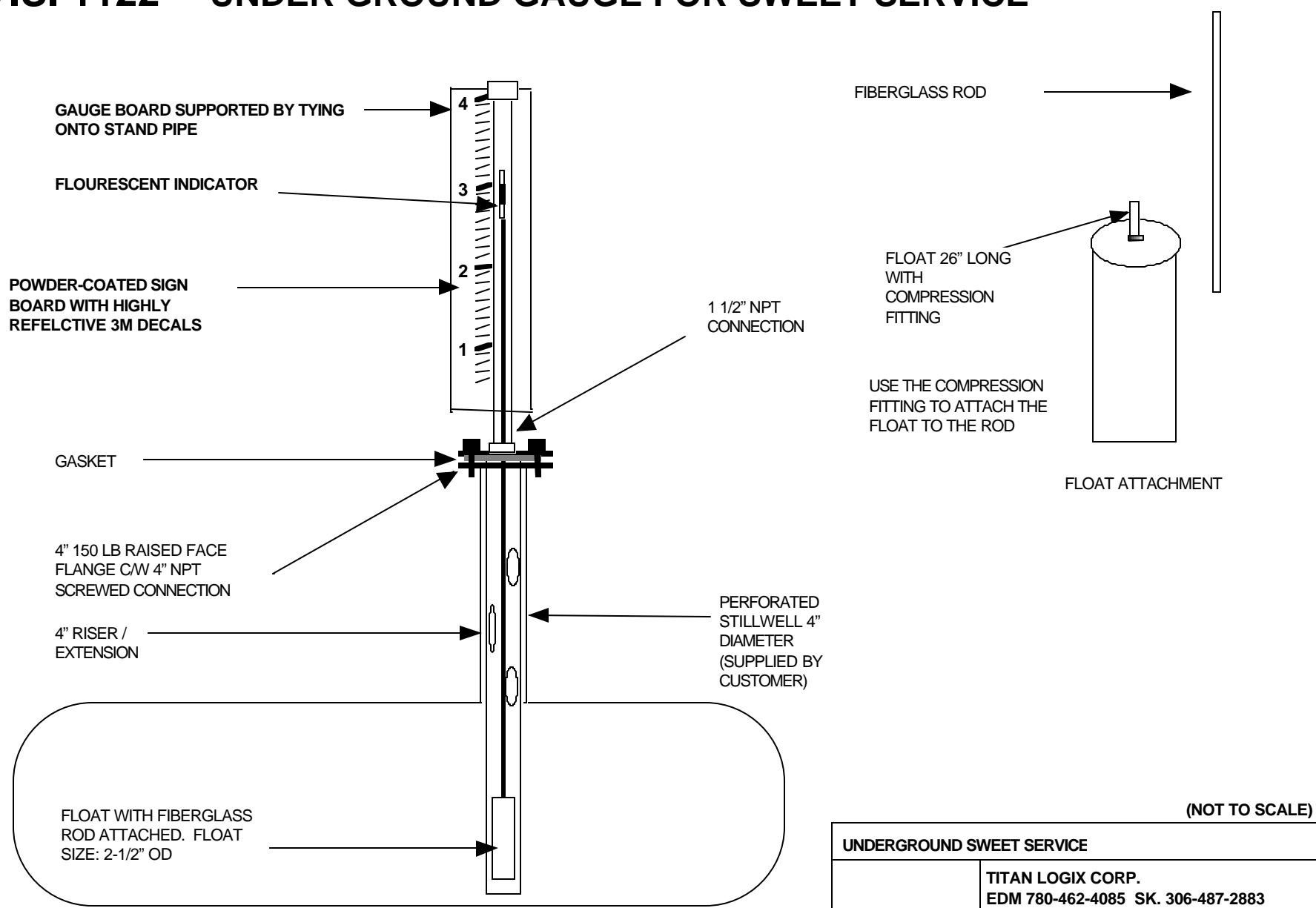
<b>PROJECT: UNDERGROUND SOUR SERVICE STILL WELL</b>		
FILENAME: 1322SW.cwk	TITAN LOGIX CORP. TOLL FREE: 1-877-462-4085	
DATE: 13 JUN '95	DESIGNER: GJM	PAGE: 1 OF 1

# STILL WELL FOR 1322 UNDERGROUND MECHANICAL GAUGE, SOUR SERVICE: THREADED PIPE



<b>PROJECT: UNDERGROUND SOUR SERVICE STILL WELL</b>		
FILENAME: 1322_SW1.cwk	TITAN LOGIX CORP. TOLL FREE: 1-877-462-4085	
DATE: 6/5/02	DESIGNER: GJM	PAGE: 1 OF 1

# VISI 1122 - UNDER GROUND GAUGE FOR SWEET SERVICE



FIBERGLASS ROD

FLOAT 26" LONG WITH COMPRESSION FITTING

USE THE COMPRESSION FITTING TO ATTACH THE FLOAT TO THE ROD

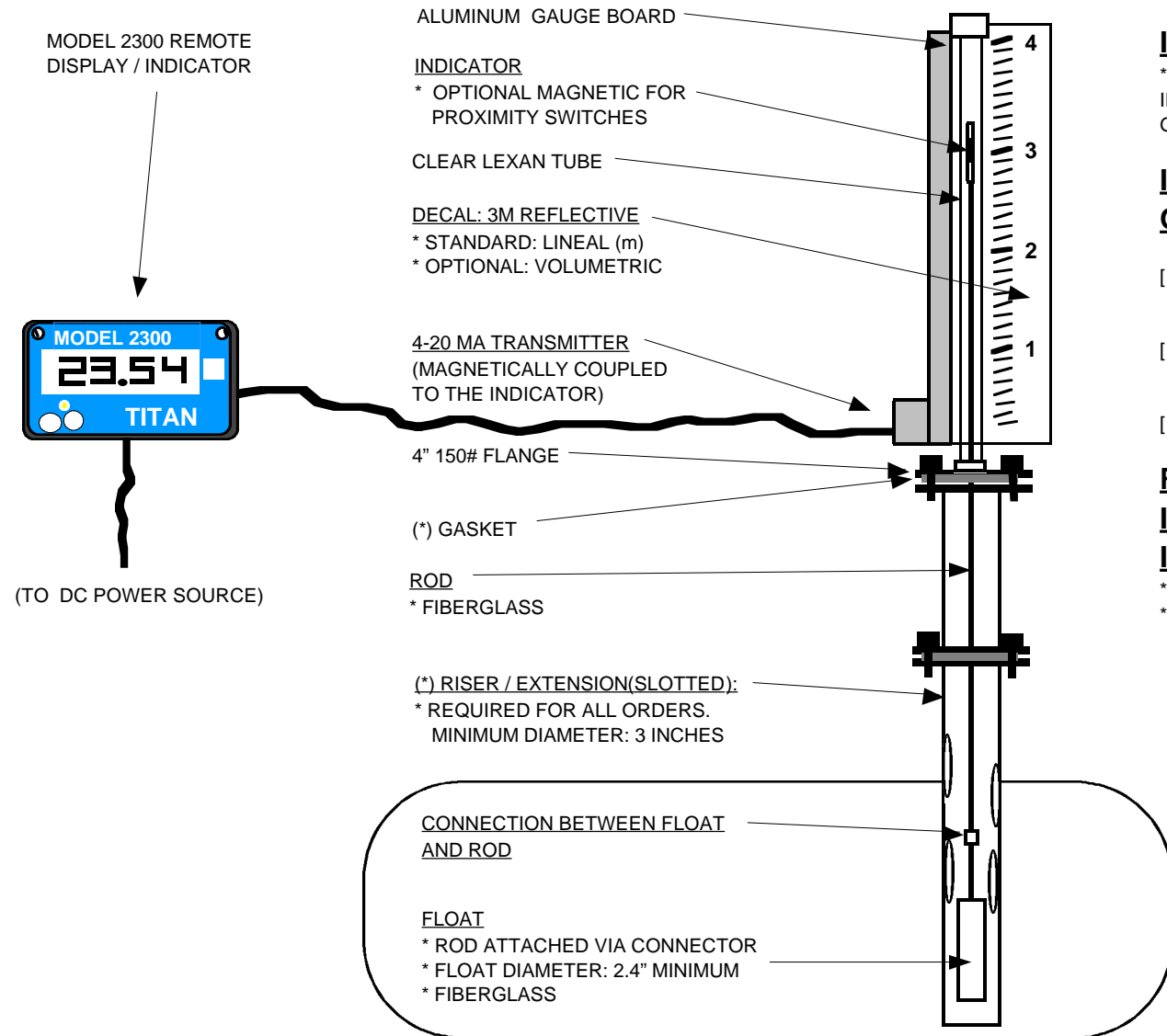
FLOAT ATTACHMENT

(NOT TO SCALE)

**UNDERGROUND SWEET SERVICE**

TITAN LOGIX CORP.  
EDM 780-462-4085 SK. 306-487-2883

# VISI 1322VA: Gauge Board + 4-20 mA Level Transmitter for Underground Tanks



## INCLUDED IN GAUGE KIT

\* GAUGE BOARD WITH SEALED LEXAN TUBE, INDICATOR, FLOAT, FLOAT ROD, FLANGE WITH GAUGE BOARD SECURED IN 1" NPT

## INFORMATION REQUIRED WHEN ORDERING

[ ] TANK DIAMETER \_\_\_\_\_

[ ] RISER HEIGHT \_\_\_\_\_

[ ] RISER DIAMETER \_\_\_\_\_

## REQUIRED TO COMPLETE THE INSTALLATION -- NOT INCLUDED IN GAUGE KIT: (\*)

\* PERFORATED STILLING WELL  
\* GASKET

Edmonton, AB:

P: 780-462-4085

TF: 877-462-4085

F: 780-450-8369

Lampman, SK:

P: 306-487-2883

F: 306-487-2889

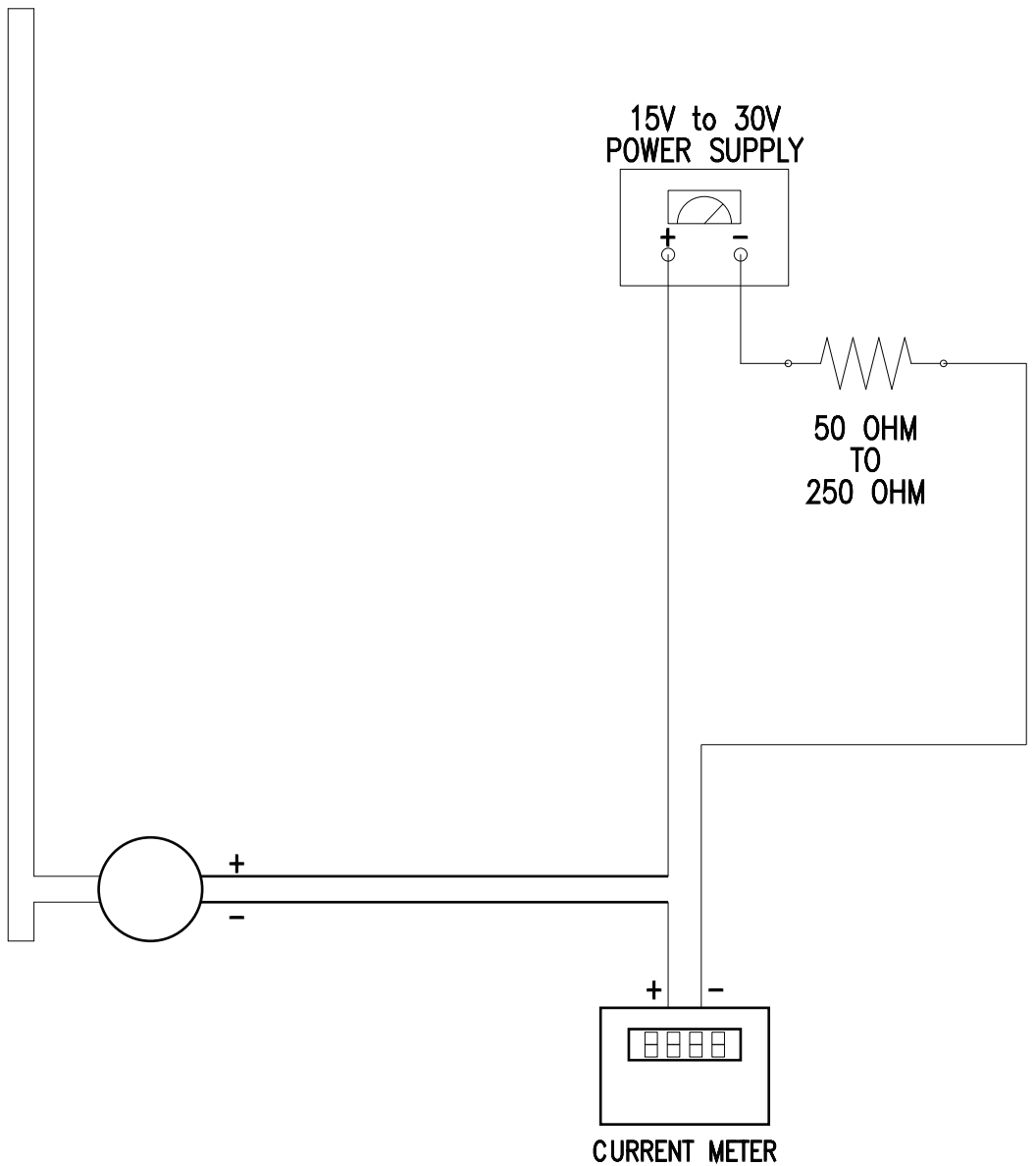


FIGURE #1

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DWG. TITLE VISI 1322A TEST ANSD CALIBRATION SETUP

CLIENT

PART NO.

FILE NAME (LAYER)  
VISITEST.DWG

REV.

DESIGN JIM JANKE

DRAWN JIM JANKE

DATE AUG 8 1999

SCALE NTS

**TITAN  
LOGIX  
CORP.**