Department of Environmental Protection

2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form: 62-762.901(9)
Form Title: Storage Tank Equipment Registration Form
Effective Date: July 2019
Incorporated in Rule 62-762.851, F.A.C.

Storage Tank System Equipment Registration Form

Fill out completely

General Information

Company Name: Morrison Bros. Co.
Contact Name: Jerry Schollmeyer
Company Address: 570 East 7th Street
City, State: Dubuque, IA. Zip: 52001
E-mail: jschollmeyer@morbros.com
Contact Number: 1.800.553.4840
Product Name: Mechanical Tank Top Liquid Level Gauge; Mechanical Tank Top Liquid Level Gauge with Overfill Alarm Relay Output
Model Number(s): 1518 Series and 1519 Series
Product Type: Mechanical Tank Gauge
Rule(s) citation that registration is being requested within Chapter 62-761 (UST), and/or 62-762 (AST), F.A.C.: 62-762 (AST)

Write a brief description of equipment registration request including product limitations:

The 1518 is a mechanical liquid level gauge designed to measure the liquid level in horizontal or verticlal aboveground storage tanks up to a maximum of 25 feet in height. The liquid level reading is displayed in feet and inches (metric display available) visable directly above the tank top opening it is installlled in. The 1519 Series incorporates the same features as the 1518 but it includes a relay output with a simple switch. When triggered it sends a signal to a Morrison alarm (sold separately)

Information Checklist (Choose Yes, No, or N/A - Not Applicable):

		Yes	No	N/A
1.	Third-party Certification by a Nationally Recognized Testing Laboratory? (Required)	✔	✔	
2.	Documentation of third-party evaluation that the equipment meets DEP Rules?	✔		
3.	Documents included about the qualifications of the Nationally Recognized Testing Laboratory?	✔		
4.	Technical information and drawings included?	✔		
5.	Installation instructions included?	✔		
6.	Annual Operability Testing Requirements (Rules 62-761.500, 62-762.501, & 62-762.502 F.A.C.)?	✔		
7.	Integrity Testing Requirements (Rules 62-761.700, 62-762.701, & 62-762.702, F.A.C.)?	✔		
8.	Compatible with fuel blends containing >10% ethanol or >20% biodiesel?	✔		
9.	Has the product been approved or registered in other countries or states? (If so provide list)		✔	
10.	Any requirements for company-certified installers or trainers?		✔	
11.	Was this product(s) previously approved or registered by the Department? If yes, EQ-_____		✔	
12.	Any changes or modifications to the equipment since the last submittal to DEP?			✔

Document Information: Provide supporting documents indicated as "Yes" above including this form via email to Tanknotify@floridadep.gov, or documents can be sent to FDEP, Division of Waste Management, 2600 Blair Stone Road, MS 4560, Tallahassee, FL 32399.

Write a brief description of equipment installation and performance in the U.S.:

The 1518 & 1519 Series of gauges install directly into a 2 inch tank top opening. The float is connceted to the gague and adjusts the level reading as it moves with the liquid. High level set points are integrated into the gauge head to activate a simple switch powered by a lithium battery. When the switch is activated the alarm is activated

Equipment Registration Certification:

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

Jerry Schollmeyer, Sales Manager
Printed Name and Title

Signature (right click to sign)

07/13/2020
Date

For Department Use Only:

Date Application Received: 7/13/2020
Application complete: Yes: [X] No: [ ]

EQ- 942
Date of complete or incomplete letter sent: 7/14/2020
Date Equipment Requires Renewal: 7/14/2025

Storage tank system equipment requires renewal every 5 years in accordance with subsection 62-762.851(2), F.A.C.

1518/1519 Mechanical Gauge
Installation, Operation, and Maintenance Instructions

The 1518/1519 Mechanical Gauge is designed to be used to measure liquid level in an aboveground storage tank. The gauge mounts on top of the tank and is activated by a float connected to a cable.

Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

NOTE: The most accurate method to calibrate the tank is with fluid in it. This will take into account variables associated with the float position, the mechanism, and the fluid density.

Installation

WARNINGS

- **Fire Hazard –** Death or serious injury could result from spilled liquids.
- Any modification to this gauge other than those stated in these installation instructions will void the product warranty.
- This device is intended to be used as a liquid level indicator to the operator and should not be the only system in place to prevent a tank from overfilling. It is the sole responsibility of the operator to continuously prevent any spillage regardless of the situation or status of the gauge.
- Install in accordance with all applicable local, state and federal laws.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing installation. Vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on gauge.
- Use a dampened cloth when cleaning the clear front cover of the gauge to prevent static buildup and discharge.
- In the event of malfunction, contact Morrison Bros. Customer Service.

Steps

1. Verify contents of box. You should have received the gauge, float, and a small tube of adhesive (See Figure 1). Inspect the items for shipping damage. **DO NOT** use if damage is found.
2. Remove the front cover of gauge and remove foam under cover. **NOTE:** The Philips screws in the front cover are captive fasteners that aren't meant to be removed. The gauge should be reading approximately 11'1". If not, the gauge could be damaged or dysfunctional. Inspect the internals for any damage. **DO NOT** use if damage is found. Find the cable sticking out of the end of the gauge connection pipe. Slowly pull on cable to ensure gauge is functioning properly. **DO NOT** pull and release cable uncontrollably. This can cause damage to the internal mechanism and render the gauge inoperable. **ALWAYS** hold onto cable and allow it to move in a slow steady motion.
3. If installing a 1519 gauge, refer to page 3 for calibrating alarm set point.
4. Locate the opening on the top of the tank where the gauge is to be installed (minimum opening size is 2" schedule 40 pipe). If possible, select a location away from the fill port to avoid excessive turbulence that could affect the float. Also make certain that there are no objects inside the tank, near the selected opening, upon which the float and cable could get tangled and that the gauge location will not interfere with normal operation of the tank.

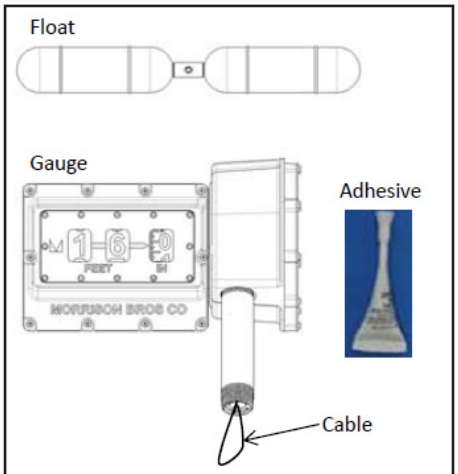


Figure 1

5. **NOTE:** Once an opening is selected, use a tank stick or gauging tape to determine the current liquid level height in the tank. Record this liquid level as you need it to set the gauge once it is installed.
6. Carefully lay the gauge on the top of the tank, near your selected tank opening.
7. Attach the necessary pipe bushing to adapt the 1" gauge connection pipe to the connection on the tank opening. Apply PTFE tape to the male threads on the gauge connection pipe and thread into your pipe bushing. **DO NOT use any pipe dope as this may get on the gauge cable and cause a malfunction.**

Figure 2

8. Next you need to attach the float to the cable screw on the end of the gauge cable. Unscrew the cable bullet exposing the cable screw threads. The cable bullet is now no longer needed and can be discarded. Using the small tube of adhesive provided, place a drop or two of the adhesive onto the male threads, of the cable screw. Thread the float onto the cable screw and, while using pliers to carefully hold the float connector, snug the float onto the cable screw (See Figure 2). **NOTE: Make sure to do not damage the cable with the pliers.**
9. **SLOWLY** lower the float into the tank. Guide the cable through your fingers letting the cable slide through slowly. **DO NOT** allow the float to free fall into the tank as this will cause the cable to come off of the pulley mechanism and render the gauge inoperable. **NOTE: make certain that when lowering the float, that the cable DOES NOT rub on the edge of the tank opening.**
10. Once the float is resting on the liquid level (or tank bottom if the tank is empty) apply PTFE tape to the pipe bushing on the bottom of the gauge connection pipe. **DO NOT use pipe dope as this may get on the gauge cable and cause a malfunction.**
11. Lift the gauge to the vertical position and thread the pipe bushing into your tank opening. **Make certain that you do not allow any excess slack in the cable or kink the cable in any way.** Once you have threaded the gauge into the tank opening hand tight, use a pipe wrench or strap wrench, on the 1" gauge connection pipe, to complete tightening. Torque threads to 75-85 ft-lbs.
12. Now the gauge can be calibrated to the liquid level you found in step 4. Calibration is done one indicator wheel at a time (See Figure 3). Start with the inch indicator wheel. Grab the indicator wheel and push it to the left to clear the drive gear. The inch indicator wheel must be fully disengaged from the drive gear. The indicator wheel should now freely rotate. Rotate the wheel UPWARDS so that the numbers are counting up. Once at the correct setting, slowly let indicator wheel seat back into the drive gear. Failure to follow this procedure can cause damage to the internal mechanism and render the gauge inoperable. **Note: desired level reading needs to be in the center of the viewing window.** (See Figure 4 (next page)
13. Calibration for the foot readings is done in a similar manner pushing the indicator wheels to the left so they clear the gears that are offset below the indicator wheels (See Figure 3.) Calibrate the ones' foot indicator wheel and then the tens' foot indicator wheel. **Note: desired level readings need to be in the center of the viewing window.**
14. Reinstall the front cover, the correct settings should be clearly centered in viewing windows, as shown in Figure 4 (next page). If needed, adjust the indicator wheels.

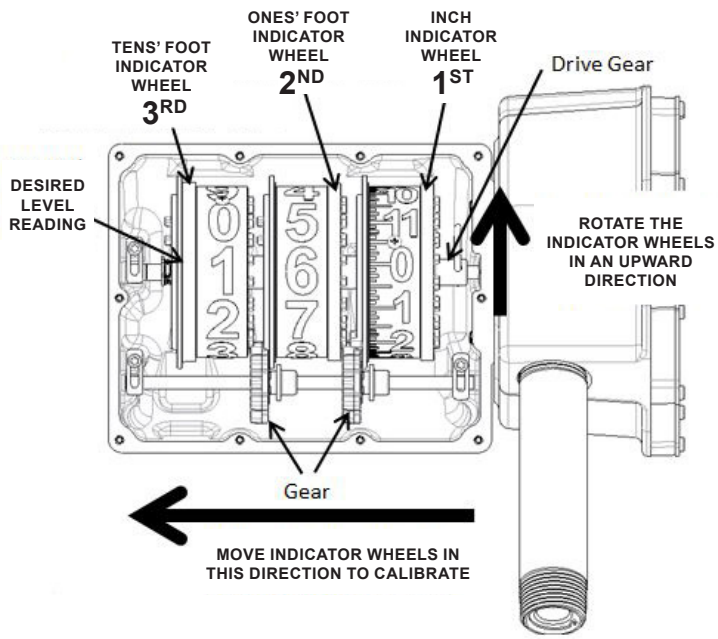


Figure 3

15. The tank manufacturer's chart will be required to translate fluid height into fluid volume.

Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

1519 Calibrating the Alarm Set Point

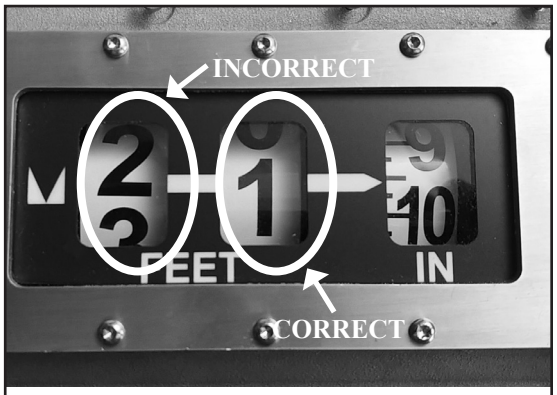


Figure 4

1. Each gauge's alarm set point will be factory defaulted to at 11' 1.
2. The alarm set point uses a magnet that is attached to the indicator wheel using a magnet positioner. The alarm set points are activated when the magnet is above the circuit board that is located behind the indicator wheels.
3. The magnet positioner has two unique ends, see Figure 5. The first end is the target end that will point to the desired set point level, and the second end has a pocket for the magnet to set into.
4. Start with the inch indicator wheel first. While holding the indicator wheel, remove the target end screw and place aside.
5. Push the wheel indicator wheel to the left so that it disengages the drive gear and rotate the wheel upwards until you reach the magnet see Figure 6. Now let the indicator wheel seat back into the drive gear. While holding the indicator wheel, remove the magnet, screw and positioner and set these items aside.
6. Now push the indicator wheel to the left again to disengage from the drive gear. Rotate the indicator wheel upwards to the desired set point and allow the indicator wheel to seat into the drive gear.
7. Place the magnet positioner onto the indicator wheel with the target end aligned with the desired alarm set point, as shown in Figure 7. While holding the indicator wheel, thread the screw through the target end hole and into the matching hole in the indicator wheel. **DO NOT OVER TIGHTEN**, only snug up the screw.
8. Push the indicator wheel to the left again, disengaging the wheel from the drive gear. Rotate the wheel upwards to the magnet end. Place a screw through the magnet into the positioner and while holding the indicator wheel, thread into the indicator wheel. **DO NOT OVER TIGHTEN**, only snug up the screw.
9. Magnet positioners must be evenly placed on the wheels as in Figure 6 and Figure 7.
10. These steps are repeated for the one's foot wheel and the ten's foot wheel, see Figure 6.
11. Setting of the alarm point is now complete, return to page 1 and proceed with step 4 of Installation.

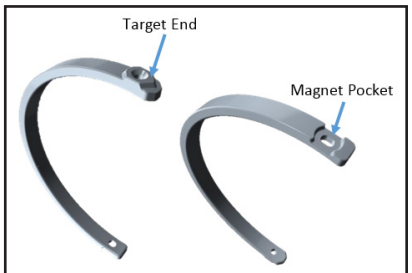


Figure 5—Magnet Positioner

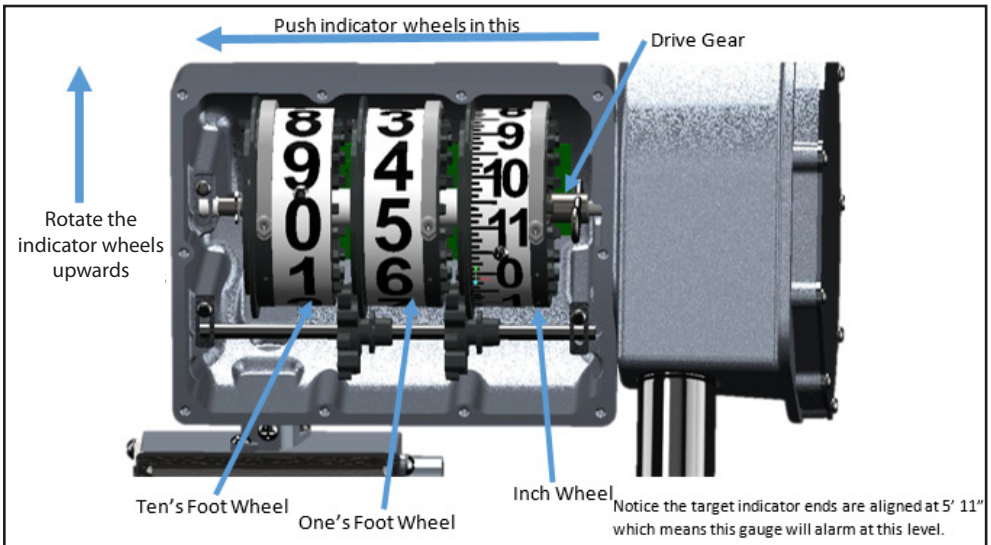


Figure 6—Setting the Wheels to the Desired Alarm Points

Figure 7—Target End Aligned to the Alarm Set Point

1519 Mounting the Power Module

IMPORTANT: The maximum wiring distance between the Gauge Head and the Power Module is 200 feet. Do not exceed this distance.

We recommend that the Power Module be mounted in close proximity to the associated Tank Alarm for the convenience of the operator to verify the operation of both before performing a fill operation.

NOTE: The Power Module MUST be mounted with the conduit opening on the bottom to prevent water ingress.

NOTE: The enclosure appears to be square, but it is not symmetrical in how the cover mounts to the base. Do NOT turn the enclosure 90 degrees and attempt to install the cover; it will not seal properly.

Mount the Power Module on a suitable surface with the wiring opening on the bottom using the holes provided in the mounting flanges of the enclosure.

1519 Wiring the Gauge Head

IMPORTANT: Do NOT wire the Gauge Head to the Power module with the battery connected to the Power Module Board.

The junction supplied with the Gauge Head has configurable conduit egress capability. It is shipped with the egress to the right as one faces the front of the Gauge Head. It has four (4) other options for your conduit connection:

- Left
- Back
- Bottom Left
- Bottom Right

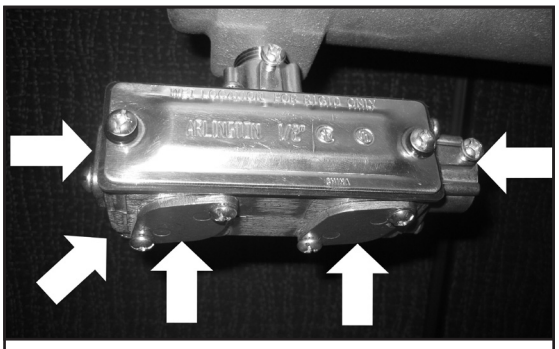


Figure 8—Junction Egress Points

To change the point of conduit connection,

1. Remove the two screws holding the conduit egress flange in place, being careful not to lose or damage the screws or the associated seal.

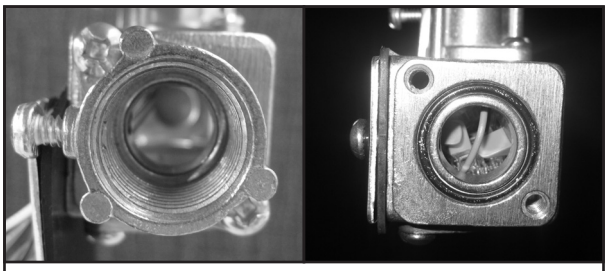


Figure 9—Remove Conduit Egress Flange

2. Remove the cover for the desired new egress point from the junction being careful not to lose or damage the screws or the associated seal.
3. Install the egress flange in the new location using the original screws and seal. Snug the mounting screws in place making sure the egress flange is properly seated.
4. Install the cover removed above into the original location using the original screws and seal. Snug the mounting screws in place making sure the cover is properly seated.

1519 Complete Wiring

1. Loosen the four corner screws holding the front cover of the Power Module in place.

NOTE: These are captive screws and are not intended to be removed.

2. Separate the Power Module's front cover from the base.
3. **Verify that the battery is NOT connected** to the Power Module Board. If it is connected, disconnect it before proceeding.
4. Install conduit between the Gauge Head and the Power Module.
5. Pull the recommended cable between the Gauge Head and the Power Module not to exceed 200 wiring feet.
6. Connect the cable wires at the Gauge Head as laid out in Table 1.
    a. Remove approximately 6 inches of the outer jacket of the System Cable.
    b. Entirely remove the foil shield and the associated drain wire.
    c. Using the strip length guide on the side of the supplied WAGO 221, lever activated connectors, strip the conductors at the ends of the system cable to expose the conductor.
    d. Verify that the Gauge Head pigtail wires are also stripped using the strip length guide on the side of the supplied WAGO 221 connectors.
    e. Flip the levers up to the open position on the supplied WAGO 221 connectors.
    f. Follow the wiring chart in Table 1.
        i. Fully insert the wires into the WAGO connector and flip the lever down.
        ii. Visually inspect each connector. No bare copper should be visible.
        iii. Gently tug on each wire to verify that they have been captured by the connector.

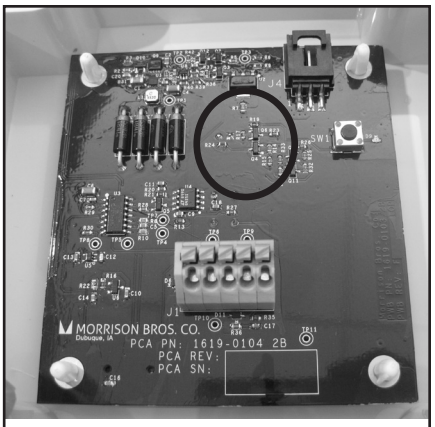


Figure 10—Ensure Battery is NOT Connected

Figure 11—WAGO Connector Showing Strip Length Guide (11mm/0.43") Levers in the OPEN Position

Figure 12—Completed WAGO Connection

6. Connect wires at power module as laid out...
   a. Remove approximately eight (8) inches of the outer jacket of the system cable (supplied)
   b. Remove the exposed foil shield. Do NOT cut the drain wire.
   c. Strip the ends of the five conductors to expose 9mm (0.35 inches) of bare copper.
   d. Wrap the drain wire with the black wire all the way to the end and twist the conductors together.
   e. Follow the wiring chart in Table 1
      i. Using a small screwdriver placed in the indentation of the contact release button, fully depress the contact release button while inserting the stripped wire all the way into the connector.
      ii. Release the contact release button.
      iii. Gently tug on the inserted wire to be sure the wire is properly captured in the connector.
      iv. Visually inspect the connections; no exposed copper should be visible.

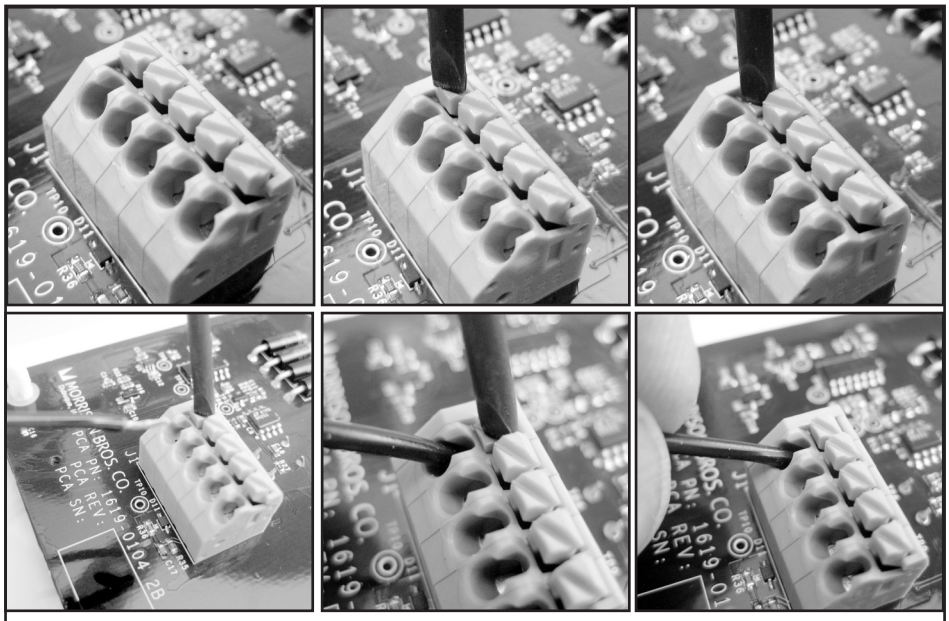


Figure 13—Connecting the System Cable to the Power Module

8. Run wires between the Dry Contact output of the Gauge Head and the associated Tank Alarm (see Table 1). Choose the contact type as is appropriate for the Tank Alarm to be used.

NOTE: There are eight (8) wires available in the junction box attached to the bottom of the gauge head.
Five (5) of these are wired to the Power Module.
Three (3) are the dry contact outputs that may be wired to your alarm system. One is Common, one is Normally Closed contacts and the other is Normally Open contacts. These are a bit longer than the ones that are wired to the Power Module.

Gauge Head Wire	Cable Conductor Colors	Power Module
RED	RED	J1.1
YELLOW	YELLOW	J1.2
ORANGE	ORANGE	J1.3
BROWN	BROWN	J1.4
BLACK	BLACK + Drain Wire	J1.5
----------	**TANK ALARM WARNING**	
BLUE	Normally OPEN Contacts CLOSE on alarm	To Tank Alarm using oil resistant wires
PINK	COMMON	
VIOLET	Normally CLOSED Contacts OPEN on alarm	

Table 1—Wiring Gauge Head to Power Module

1519 Initial Setup of Power Module

IMPORTANT: In order to accomplish the initial setup of the gauge head, the float level must be at least 1 inch below the indicated set point.

EXAMPLE: If the alarm level was set at 11 feet 1 inch, then the float level must be below the 11 foot mark prior to completing this step.

1. Ensure the float level is below the set alarm level.
2. Loosen the four corner screw holding the front cover of the Power Module in place.

NOTE: These are captive screws and are not intended to be removed.

3. Separate the Power Module's front cover from the base.

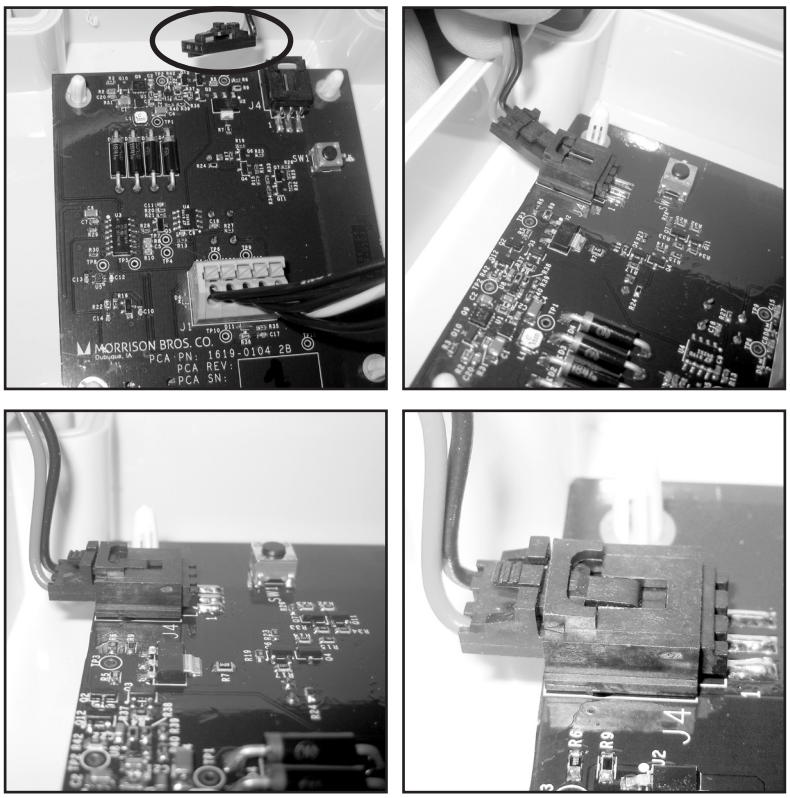


Figure 14—Connecting the Battery

4. Connect the Battery Cable to the Power Module Board's J4 connector in the upper right hand corner of the board. The front panel LED should flash momentarily if the system is alive. If this does not happen, disconnect the battery and check all wiring connections in the system before proceeding.
5. Press and hold the Test button for more than three (3) seconds. The Low Battery indicator on the front panel should flash momentarily and then extinguish. If this does not happen, disconnect the battery and check all wiring connections in the system before proceeding.
6. Locate the small pushbutton, SW1. Right next to the pushbutton is a small, green LED.
7. Press and hold the pushbutton until the LED flashes twice.
8. Release the pushbutton.
9. Replace the front cover back on the base being careful to establish the right registration of cover to base.
10. Secure the cover in place with the four corner screws.

1519 Verify Installation

For a 1519 gauge, the system needs to be tested before installation is completed.

1. Remove the pipe plug and grab onto the cable (See Figure 15.)
2. To test a high-level alarm, slowly begin pulling upwards on the cable causing the float to rise in the tank, this whole time the gauge should be taking up the slack in the cable. To test a low-level alarm begin pulling the cable downwards causing the cable to fall into the tank.
3. Observe the reading on the gauge, if the alarm device alarms at the desired set point the test is completed; now slowly allow the float to drop and the cable back into the gauge. If the alarm device does not alarm, recheck the wiring, the calibration, and the alarm set point.

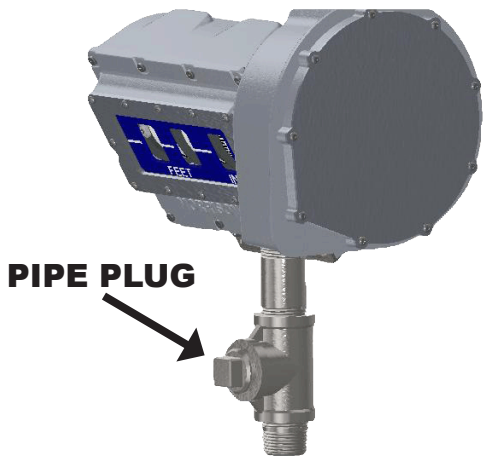


Figure 15

Operation

IMPORTANT: Prior to each use, it is imperative that the operation of BOTH the Gauge Head and the Tank Alarm be verified.

1519 Test the Operation of the Gauge Head

To verify the operation of the Gauge Head electronics and health of the battery, press and hold the "Test" button on the Power Module for at least 3 seconds.

If all is well, the "Battery Low" indicator will flash momentarily.

If the "Battery Low" indicator either does not flash at all or remains illuminated, then do not use the system or fill the tank until this is corrected. After this is corrected, the electronics must be reinitialized as described above in the "Initial Setup" section.

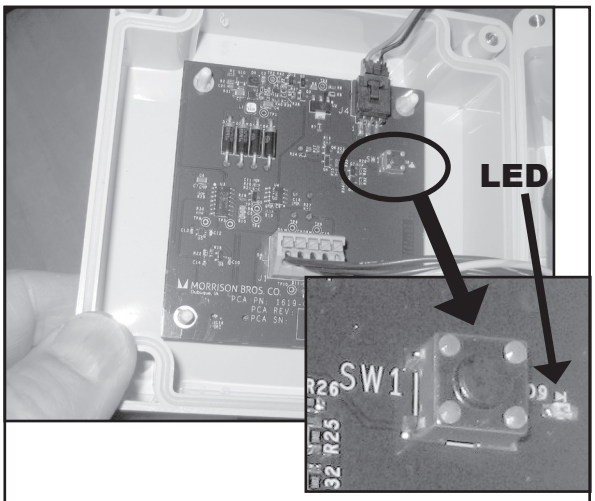


Figure 16—SW1 System Reset and its LED

1519 Test the Operation of the Associated Tank Alarm

In addition to checking the operation of the gauge head, the attached alarm system would also have to be verified as functional. Follow the manufacturer's instructions for verification of the attached alarm system prior to any fill operation.

If the Tank Alarm does not respond appropriately per its manufacturer's instructions, do not use the system or fill the tank until this is corrected.

WARNINGS

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- You must be trained to maintain this gauge. Stop now if you have not been trained.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing maintenance. Vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on gauge.
- Use a dampened cloth when cleaning the clear front cover to prevent static buildup and discharge.
- In the event of malfunction, contact Morrison Bros. Customer Service.

This gauge should be maintained per applicable codes or at least once each year.

Steps

1. Visually inspect the gauge for damage or excessive wear. If either is found replace the gauge.
2. If necessary, clean the clear front lens with a damp cloth.
3. Measure the fluid height and verify the gauge reading. If readings do not match adjust the gauge setting according to the installation instructions.

Check the Enclosure for water ingress no less than once per year.

Additional steps for 1519

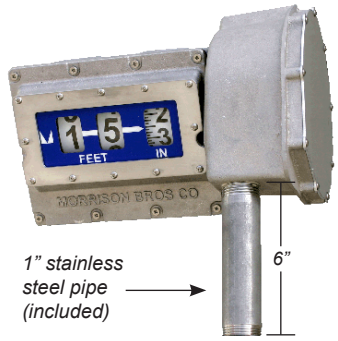
1. Carefully open the Power Module enclosure cover by loosening the Phillips head fasteners at the four corners of the cover.
2. Inspect the interior of enclosure to determine if any water has infiltrated the enclosure. If water has infiltrated the enclosure, take corrective action to seal the points of ingress.
3. Inspect the electronics for corrosion. If there is corrosion present on the electronic assembly(ies)
   Take corrective action to seal the enclosure from further water ingress.
   Contact Morrison Bros. Co. for further action.
4. Reattach the front cover of the Alarm using the Phillips head fasteners at the four corners of the cover. DO NOT OVERTIGHTEN. “Snug” the fasteners in place and verify that the cover is fully seated to the enclosure base.

1518 Mechanical Tank Top Gauges

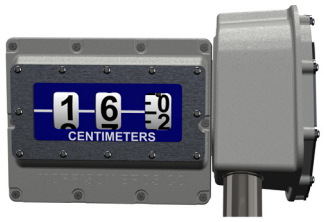
SPECIFICATION SHEET

Application

The 1518 mechanical tank gauge is designed to mount on top of horizontal and vertical tanks up to 25’ in height and provides a readout in feet and inches.



1518



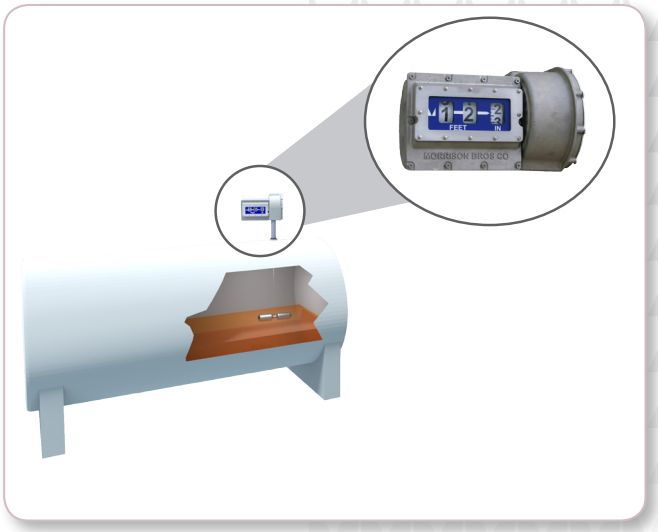
1518M

Features and Details

- Viewable up to 25’ in tank height
- Easy to read from wide viewing angle
- Easy to install and calibrate
- Installs through 2” schedule 40 pipe or 2” tank bung (drop tube float models require a 4” tank opening)
- Vapor tight to allow for standard tank pressure testing and sealing up to 5 PSI
- Vapor is contained from viewing area to prevent lens fogging
- **1518M**...metric versions available to mount on top of horizontal and vertical tanks up to 7 meters (23’) in height, providing readouts in centimeters

Materials of Construction

- Body... Cast aluminum
- Gears and gear cogs... Acetal
- Hardware (including captive screws on front cover)... Stainless steel
- Float... Stainless steel
- Cable... Stainless steel
- Spring... 301 stainless steel
- Shaft bushing... Stainless steel
- O-ring... FKM
- Lens cover... Acrylic



Item Number	Description	Float	Length
1518--2500 AG	Mechanical tank top gauge, angled face	Standard	0-25’
1518--2550 AG	Mechanical tank top gauge, vertical face	Standard	0-25’
1518--2510 AG	Mechanical tank top gauge, angled face	Drop Tube	0-25’
1518--2515 AG	Mechanical tank top gauge, vertical face	Drop Tube	0-25’
1518M-7000 AG	Metric mechanical tank gauge, angled face	Standard	7M (700 CM)
1518M-7050 AG	Metric mechanical tank gauge, vertical face	Standard	7M (700 CM)
1518M-7010 AG	Metric mechanical tank gauge, angled face	Drop Tube	7M (700 CM)
1518M-7015 AG	Metric mechanical tank gauge, vertical face	Drop Tube	7M (700 CM)

MORRISON BROS. CO.

570 E. 7th Street, P.O. Box 238 | Dubuque, IA 52004-0238
t. 563.583.5701 | 800.553.4840 | f. 563.583.5028
www.morbros.com

1519 Mechanical Tank Top Gauge with Level Alarm Relay Output

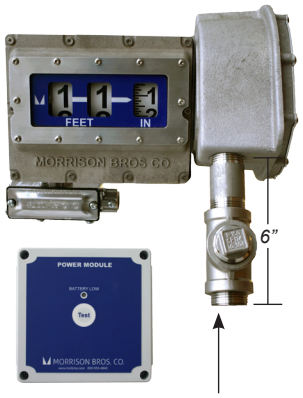
SPECIFICATION SHEET

Application

Designed for installation on top of horizontal and vertical tanks up to 25' in height, the 1519 mechanical tank gauge provides a readout in feet and inches and includes a single liquid level set point to activate an external alarm box.

Features and Details

- Viewable up to 25' in tank height
- Readout in feet and inches
- Easy to read from wide viewing angle
- Easy to install and calibrate
- Installs through 2" schedule 40 pipe or 2" tank bung (drop tube float models require a 4" tank opening)
- Vapor tight to allow for standard tank pressure testing and sealing up to 5 PSI
- Vapor is contained from viewing area to prevent lens fogging
- **1519M**...metric versions available to mount on top of horizontal and vertical tanks up to 7 meters (23') in height, providing readouts in centimeters



Battery Power Module

1" stainless steel piping (included)

1519

Alpha Wire 77112
(required and sold separately)

Gauge with Relay Output

- Desired alarm level is set within gauge head
- Alarm level setting can be verified
- The level alarm relay output wiring from the gauge has to be connected to an external alarm box *(sold separately)*. Options include the 918 series and 918AC series alarm boxes.

Battery Power Module

- Can be installed in any convenient location
- One 3.6 volt lithium AA replaceable battery
- Anticipated battery life is 4 years
- Low battery light indicator

Alpha Wire 77112 (required cable for connecting gauge to Battery Power Module)*

- 5 Conductors
- 22 AWG (7/30 Stranded) tinned copper
- Foil shield with drain wire
- Temperature range: -50 to 150C

**Wire needs to be purchased to connect a 1519 gauge to the Battery Power Module.*

Separate wire is required from the gauge to external alarm. See external alarm specifications for wire requirements.

Alarm Options

(sold separately)

918 Series Alarm Boxes

AND

918AC Series Alarm Boxes

Materials of Construction, Code Compliance, and part numbers on next page.

Materials of Construction

- Body... Cast aluminum
- Gears and gear cogs... Acetal
- Hardware (including captive screws on front cover)... Stainless steel
- Float... Stainless steel
- Cable... Stainless steel
- Spring... 301 stainless steel
- Shaft bushing... Stainless steel
- O-ring... FKM
- Lens cover... Acrylic
- Power module enclosure... Polyester fiberglass

Code Compliance

UL/cUL 913

Item Number	Description	Float	Length
1519--2500 AG	Mechanical tank top gauge with alarm relay, angled face	Standard	0-25’
1519--2550 AG	Mechanical tank top gauge with alarm relay, vertical face	Standard	0-25’
1519--2510 AG	Mechanical tank top gauge with alarm relay, angled face	Drop Tube	0-25’
1519--2515 AG	Mechanical tank top gauge with alarm relay output, vertical face	Drop Tube	0-25’
1519M-7000 AG	Metric mechanical tank top gauge with alarm relay, angled face	Standard	0-700 CM
1519M-7050 AG	Metric mechanical tank top gauge with alarm relay, vertical face	Standard	0-700 CM
1519M-7010 AG	Metric mechanical tank top gauge with alarm relay, angled face	Drop Tube	0-700 CM
1519M-7015 AG	Metric mechanical tank top gauge with alarm relay, vertical face	Drop Tube	0-700 CM

Alpha Wire 77112 (required cable)

Item Number	Description	Length
1519--0015 CC	Five-conductor shielded cable	15’
1519--0025 CC	Five-conductor shielded cable	25’
1519--0050 CC	Five-conductor shielded cable	50’ (spool)
1519--0100 CC	Five-conductor shielded cable	100’ (spool)
1519--0200 CC	Five-conductor shielded cable	200’ (spool)

MORRISON BROS. CO.

570 E. 7th Street, P.O. Box 238 | Dubuque, IA 52004-0238
t. 563.583.5701 | 800.553.4840 | f. 563.583.5028
www.morbros.com

CERTIFICATE OF COMPLIANCE

Certificate Number	E314627
Report Reference	E314627-20191210
Issue Date	2019-DECEMBER-16

Issued to: MORRISON BROTHERS CO
570 E 7Th St
Dubuque IA 52001-2378

This certificate confirms that representative samples of TANK-MONITORING EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS

USL, CNL - Class I, Division 1, Group D Hazardous Locations

Tank Gauge, Models 1519 and 1619 Series, intrinsically safe when powered by battery pack Part No. 918SB-0128 2B and installed in accordance with control drawing B-7861-23_UL.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: Refer to Addendum Page for Standard(s).

Additional Information: See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

CERTIFICATE OF COMPLIANCE

Certificate Number E314627
Report Reference E314627-20191210
Issue Date 2019-DECEMBER-16

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Standard(s) for Safety:

Standard No. UL 913, 5th Ed., Rev. February 21, 1997, Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations
Standard No. CAN/CSA-C22.2 No. 157, 3rd Ed., Issued 2006-01-01, Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
Standard No. UL 508 STANDARD FOR INDUSTRIAL CONTROL EQUIPMENT- Edition 17 - Revision Date 2013/10/16
Standard No. CSA C22.2 NO. 14-13 INDUSTRIAL CONTROL EQUIPMENT- Edition 12 - Issue Date 2013/03/01

Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

Created by UL Document Assembler 2020-02-06 07:11:19 -06:00

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

TANK-MONITORING EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS
(WWQS,WWQS7)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

Applicant: (537837-003)
618577 (Party Site)
MORRISON BROTHERS CO
570 E 7Th St
Dubuque IA 52001-2378

Listee: (537837-003)
618577 (Party Site)
SAME AS APPLICANT

Use of the Mark

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party. The UL Contracting Party for Follow-Up Services is listed in the addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

It is the responsibility of the Applicant, Manufacturer(s), and Listee/Classified Co. to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

Created by UL Document Assembler 2020-02-06 14:56:49 -06:00