



Installation & Operation Manual

SoliTrak

Electro-Mechanical On Demand Level Measurement (Plumb Bob Device)



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1.0 INTRODUCTION

The SoliTrak™ is an electro-mechanical on-demand level measuring instrument for the measurement of level heights or level volumes in hoppers, silos or tanks. It is used for monitoring the level in applications like:

- Powders
- Small grain bulk solids
- Coarse grain bulk solids
- Solids in liquid interface

1.1 FEATURES

- Appropriate for nearly all kinds of bulk solid materials
- Insensitive to:
 - dielectric and conductivity of the material
 - dust in the silo
 - products that are inclined to stick
 - changes in moisture of the material
- No mechanical forces on the silo roof, the bob weight touches the material only at the surface
- Simple installation and commissioning
- Easy to understand measurement
- Very accurate measurement (1% of full span)
- Output: 4-20mA or Pulsed
- Range of measurement:
 - Rope version 98 ft. (30m) [on request up to 230 ft. (70m) possible]
 - Tape version 75 ft. (23m), over-all-height of the silo 82 ft. (25m)
- Approval for use in hazardous areas category ½ D (zone 20/21) ATEX
- Micro processor controlled measurement
- Internal tape cleaner for extreme difficult products (tape version)
- Variety of bob weights, suitable to every application
 - Limited to approved weights for ATEX units
 - Weight 4.0 lbs (1.8 kg) for tape; 2.2 lbs (1 kg) for rope

1.2 APPLICATIONS

The SoliTrak™ level measurement systems have stood the test in hundreds of applications such as:

- Chemical industry
- Food industry
- Building material industry
- Plastics industry

1.3 OPTIONS

- Available in Rope or Tape
- Spool Piece Mounting Adapters

2.0 DESCRIPTION OF OPERATION

The SoliTrak™ is an electro-mechanical on demand level control for the measuring of level in hoppers, silos or tanks. This top mounted system is used for monitoring the level in applications such as powders, small grain bulk materials or coarse grain bulk materials. A bob weight is mounted at the end of a measuring rope or tape, which is wrapped on a motor driven rope roller. Upon contact with the bulk material, the bob weight returns and is drawn back to its upper stop position.

The housing is divided into two independent chambers (the rope tape chamber and the electronic chamber, seen below), which are sealed to each other to isolate electronics from the process. Only the rope tape chamber is in contact to the inside of the silo during the measurement. If the bob weight is in the upper stop position, it seals the opening between the unit and the silo.



Electronic Chamber:
Control system and processing of the measurement.



Rope / Tape Chamber:
Simple mechanical principle of function.

4-20mA or Pulsed Output

The pulses are internally converted into an analog current signal. The current signal can be adjusted specifically, so it is possible to get a volume-specific signal, fitting to the geometry of the silo. The current signal is updated when the sensor weight touches the bulk material. The measurement starts with an external start—signal (remote—control) with an external “make” contact or an external 24V DC signal.

To start automatically at a predetermined period, a programmable internal timer is standard. The measurement is controlled by a microprocessor and starts automatically and is controlled by the internal timer. A comparison between the distance the weight moves downwards, and the distance the weight moves upwards, is done. In case of a deviation, a signal output is activated. This guarantees, that the bob weight is in the upper start position.

In addition to the 4-20mA output, pulses are generated during downward movement and the number of pulses can be processed directly in a PLC (programmable logic controller) or a counter.

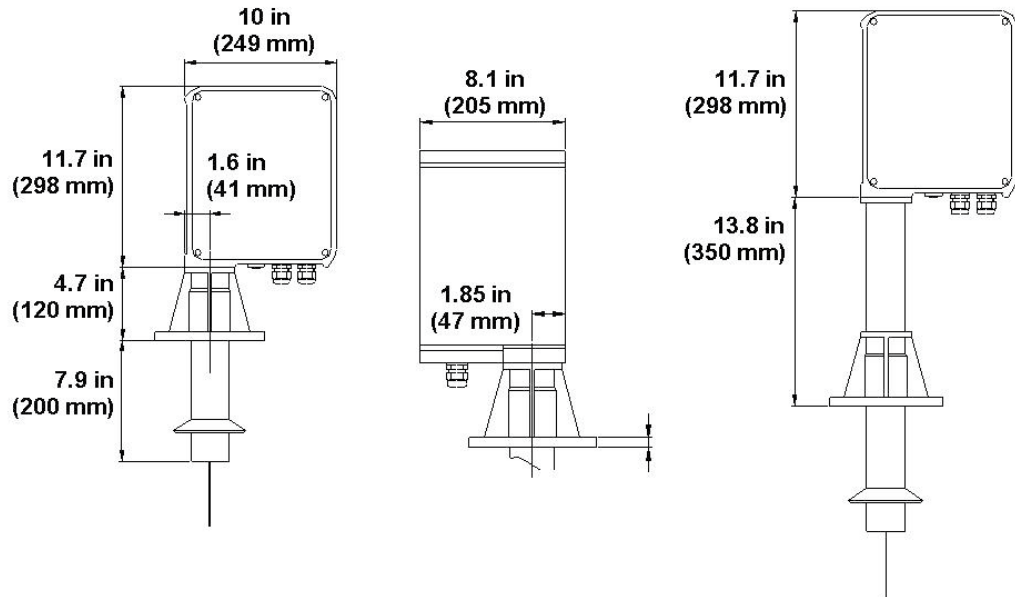
3.0 APPROVALS

For the SoliTrak™, the approvals for the hazardous areas (dust explosion) category ½ D (zone 20/21) according directive 94/9/EG are available.

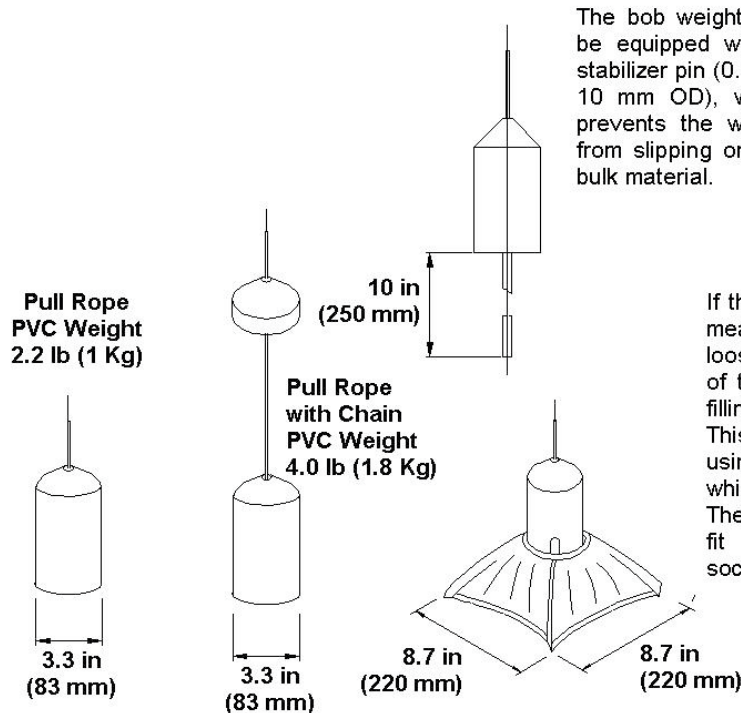
CE EMV EN 61326 / A1
 Security EN 61010 – 1

4.0 TECHNICAL DATA

4.1 GENERAL DIMENSIONS



4.2 BOB WEIGHT DIMENSIONS / OPTIONS

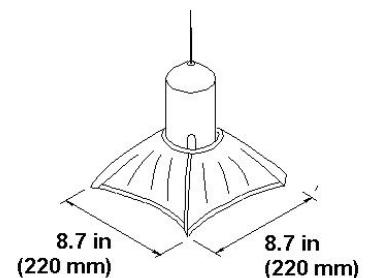


The bob weight can be equipped with a stabilizer pin (0.4 in / 10 mm OD), which prevents the weight from slipping on the bulk material.

If the bob weight is used for measuring very light and loose bulk material, the risk of the weight sinking in the filling material is increased. This can be avoided by using the folding cover, which has a large surface. The cover can be folded to fit through the mounting socket.

Bob Weight Folding Cover

If the bob weight is used for measuring of very light and loose bulk material, then risk that it sinks in the filling material is given. Using the folding cover, which has a large surface, can prevent this. The folding cover can be folded, so that it fits through the mounting socket DN100.

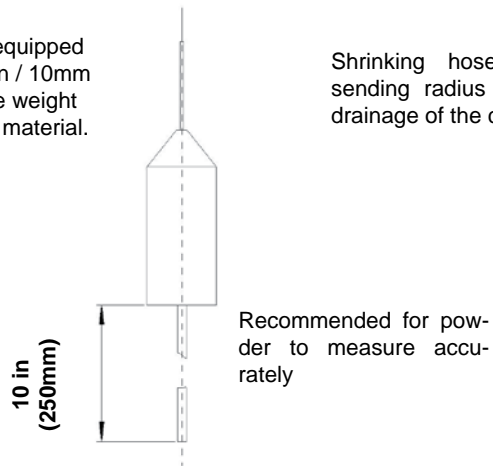


Pin for Bob

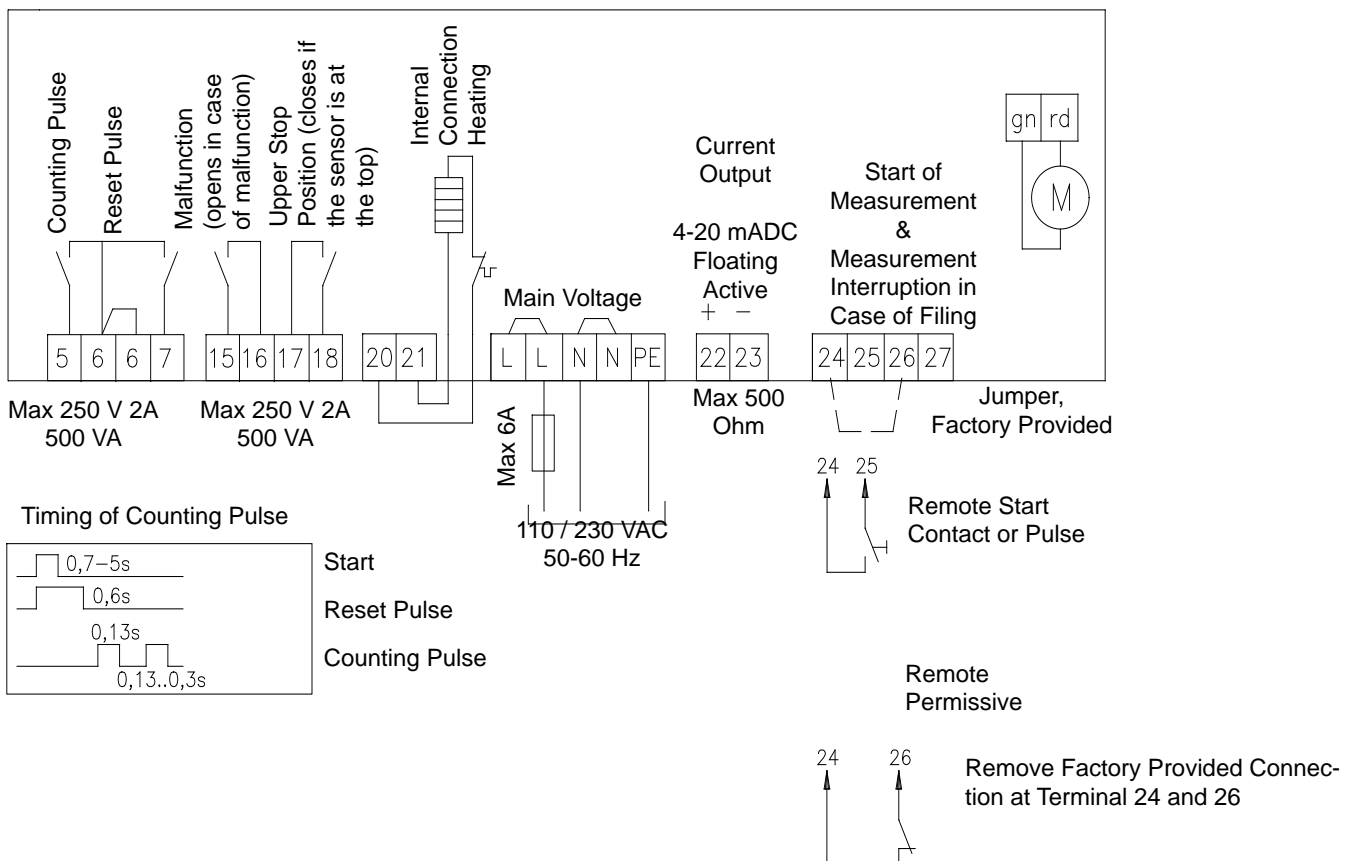
The sensor weight can be equipped with a stabilizer pin 0.4 in. (10mm), which prevents the bob weight from slipping on the bulk material.

The bob weight can be equipped with a stabilizer pin (0.4 in / 10mm OD), which prevents the weight from slipping on the bulk material.

Shrinking hose to improve sending radius and eliminate drainage of the caden

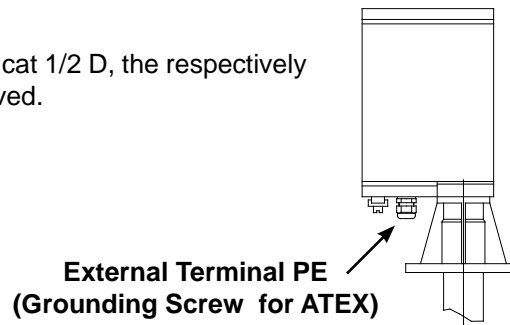


5.0 TERMINAL CONNECTIONS



ELECTRICAL CONNECTIONS

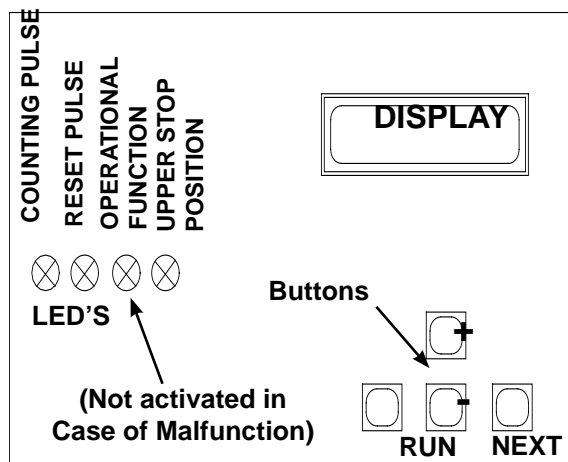
For devices to use in hazardous areas (dust explosion), cat 1/2 D, the respectively valid installation regulations (VDE 0165) must be observed.



6.0 SIGNAL DESCRIPTION

Start Measuring:	Terminal 24 and 25 via floating make contact or Terminal 25 and 27 via 24V DC voltage (current consumption approx. 25mA, observe the polarity) Duration of starting signal: 0.7 to 5s
Measurement Interruption in case of filling:	Terminal 24 and 26 via floating opening contact. In case of opening the terminals 24 and 26, the sensor weight moves upwards immediately. Connect here the contact to the filling coupling of the silo. This prevents the sensor weight to be buried during the filling process.
Counting Pulse:	Terminal 5 and 6. The counting pulse communicates the measured value to the evaluation device that is connected. During the downward movement of the sensor weight, this pulse will be generated every 10cm (option 1cm).
Reset Pulse:	Terminal 6 and 7. After start of measurement, a reset pulse will be given for about 0.6s. It resets the connected evaluation device (counter/PLC,...).
Current Signal Output:	Terminal 22 (+) and 23 (-). The current signal is a measure for the level (specified adjustable). The current signal is renewed when the sensor weight touches the bulk well. It is always actuated.
Upper Stop Position:	Terminal 17 and 18. This signal allows the user to determine whether the measurement has come to its end. In this case, the sensor weight is in its upper stop position; terminals 17 and 18 are linked.
Malfunction:	Terminal 15 and 16. In case of a recognized failure (or missing mains voltage) the contact will be opened. Description of the error reports see page 19. By evaluation of the signal 'malfunction' a sensor weight that might have been torn off can be prevented from getting into the unloader of the silo. When the signal 'malfunction' is given, the device must always be checked at the spot.

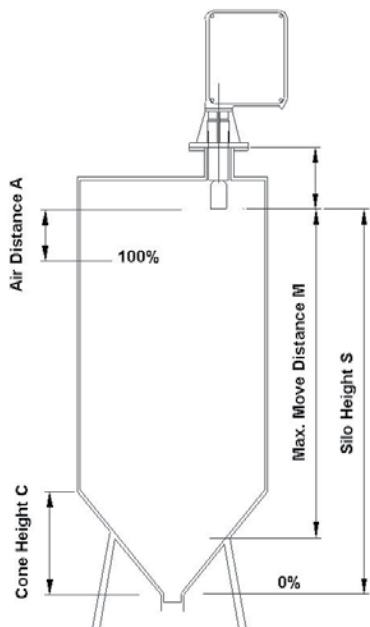
7.0 PARAMETER DEFINITIONS



NEXT button jumps to the next adjustment item.

RUN button

- Jumps to measurement display during parameter adjustment.
- Starts measurement
- Cancels an error code at the display
- **+ BUTTON** increases the value to be adjusted.
- **- BUTTON** decreases the value to be adjusted.



Sensor Weight	Measure in Inches	
	Version	
	Rope	Tape
PVC	13	25.5
PVC ATEX 1/2 D	27.5	27.5
PA	14.5	28
PA ATEX 1/2 D	27.5	27.5
Folding Cover	15.7	29.1
Folding Cover ATEX 1/2 D	28.7	28.7
Stainless Steel	9.8	17.7
Spider Stainless Steel	11	18.1

Take care, that the sensor weight can move down at least 7.8 in.

The max. move distance M prevents the downward movement of the sensor weight in case of empty silo.



RUN Measurement starts; display shows actual move distance

NOTE

If the maximum move distance M is adjusted smaller than the silo height S, the measure value is always more than 0%.

In case of use of the digital pulse output (terminal 5/6/7, see page 10) the parameters silo height S, air distance A and cone height C have no influence of the measuring value.

Adjustment of the conical height C:

C = 0 current signal output refer to the material level

C > 0 current signal output refer to the material volume

* factory provided

** values at tape version

8.0 CALIBRATION

The following parameters can be adjusted in case of need:

TIMER (D)

Automatic start of measurement with timer function.

Timing interval between two measurements can be adjusted. The timer will be started:

- if the sensor weight is in the upper stop position after measurement.
- After external measurement start at terminal 24/25/27.
- After linking of the terminals 24/26 (measurement interrupt in case of filling).

Position “off” causes no automatic measurement start.

To get automatic measurement starts at a predetermined time of day, an external start unit at the terminals 24/25/27 is necessary. To avoid needless wear, the unit should not be started more than necessary.

RUNNING MODE (E)

Adjustment “normal”: The sensor weight moves back to the upper stop position after every measurement.

Adjustment “short” - Generally not recommended (only possible in case of use of the 0/4-20mA output): The sensor weight stops after it has touched the material one-foot over the material level. This reduces the wear and the measurement time. Every 20 measurements, the sensor weight moves back to the upper stop position to adjust the measurement value. Then it moves back to the position it was before.

ATTENTION at Running mode “short”: To avoid the burying of the sensor weight during the filling of the silo, the function “measurement interrupt in case of filling” (terminals 24/26, see page 11) must be used. Before the filling starts, the sensor weight must be in the upper stop position.

MANUAL CONTROL (F)

Push “+” button: The motor moves the sensor weight upwards as long as the button is pushed.

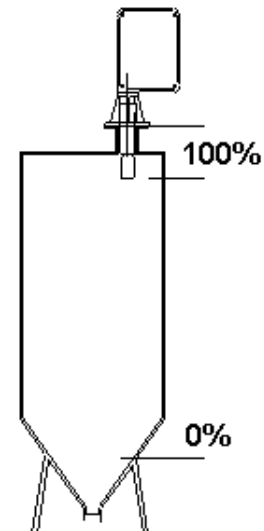
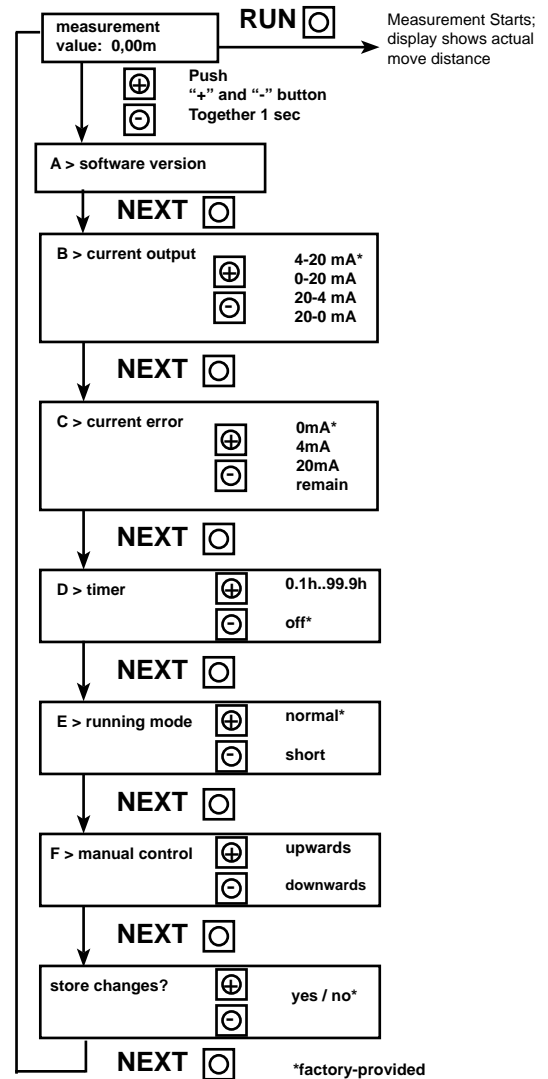
Push “-” button: The motor moves the sensor weight downwards as long as the button is pushed.

Caution: Avoid that the sensor weight reaches the outlet position of the silo.

Adjustment	CURRENT OUTPUT AT LEVEL	
	0%	100%
4-20 mA	4mA	20mA
0-20 mA	0mA	20mA
20-4 mA	20mA	4mA
20-0 mA	20mA	0mA

CURRENT ERROR (C)

In case of malfunction, the current jumps to the adjusted value.



9.0 SAFETY INSTRUCTIONS

- Only qualified technical personnel may accomplish installation, maintenance and commissioning.
- The respectively valid installation instructions must be observed.
- Use a fuse for the mains voltage (max. 6A).
- Provide protection for relay contact and output transistors to protect the device against spikes with inductive loads.
- Compare the mains voltage applied with the specifications given on the name plate before switching the device on.
- Make sure that max. 8mm of the pigtails are bared (danger of contact with live parts).
- Make sure that the screwed cable gland safely seals the cable and that it is tight (danger of water intrusion).
- A voltage-disconnecting switch must be provided near the device.
- In the case of a defect, the distribution voltage must automatically be cut off by a FI protective switch so as to protect the user of the device from indirect contact with dangerous electric tensions.
- In the case of handling malpractice, the electric safety of the device cannot be guaranteed.
- Switch off the supply voltage before opening the device.
- Before opening the lid, take care that no dust deposits or whirling are present.
- Special safety instructions for the use in hazardous areas (dust explosion) at ½ D (zone 20/21) see page 26.

10.0 COMMISSIONING

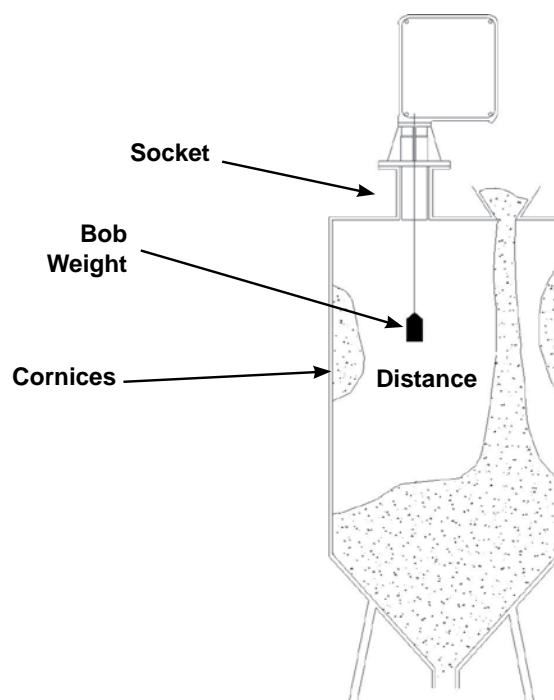
Warning: In the case of inexpert handling or handling malpractice, the safety of the device cannot be guaranteed.

- Connect the unit with mains voltage, evaluation units and starting units (see page 10).
- Cable conduit fittings, which are not used, must be locked with a closing element.
- Compare mains voltage and frequency with the specifications on the type plate.
- Connect the unit to the mains voltage. The sensor weight must now move in the position 'upper stop position' (if not already happened).
- Adjust the parameters (see pages 13, 14 and 15).
- The unit is now ready for work. Measurements can be started.

11.0 MOUNTING

The unit is mounted vertically with the flange on the silo. Avoid the sensor weight to graze the socket (this causes wear of the rope). The mounting position must be chosen carefully:

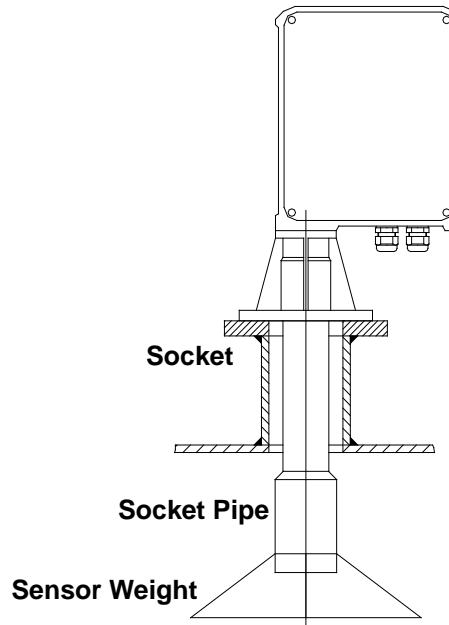
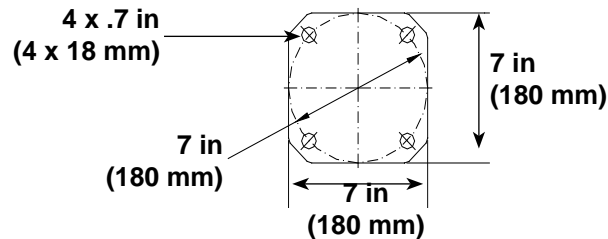
- Bridging that might fall down may damage the sensor weight or the rope. Observe proper distance from silo wall.
- Filling of the silo might cover the sensor weight with material (prevent measuring during filling or observe proper distance to infeed).
- Upward and downward movement of the sensor weight must not be obstructed, even if the weight oscillates. Observe proper distance to stanchions and built-in fittings.
- The electrical connections are made in accordance with the connection diagram. Make sure that the cable in the screwed cable gland is seated tightly without fail.
- Close both lids of the housing to prevent entrance of water into the housing.
- When the unit is used in the open, we recommend using the weather-protection-cover. It protects the unit against moisture, heat and cold.
- There must be at least 8 in. space for the bob weight to move down in case of a full silo. Pay attention to the lower cutting edge of the bob weight in case of 'upper stop position' (for measurement see page 13).



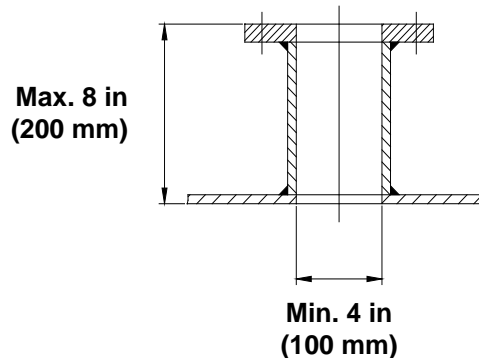
MOUNTING CONFIGURATION DETAILS

Prevent the bob weight to move into the socket! The socket-pipe avoids a collision during the upward movement between the sensor weight and the socket-edge. Lifetime of the rope is longer if strong short time-loads of the rope are avoided.

FLANGE DIMENSIONS



SILO FLANGE DIMENSIONS



- Critical to have the socket pipe sticking about 1" below silo stop
- May require for dome shape top

12.0 TROUBLESHOOTING

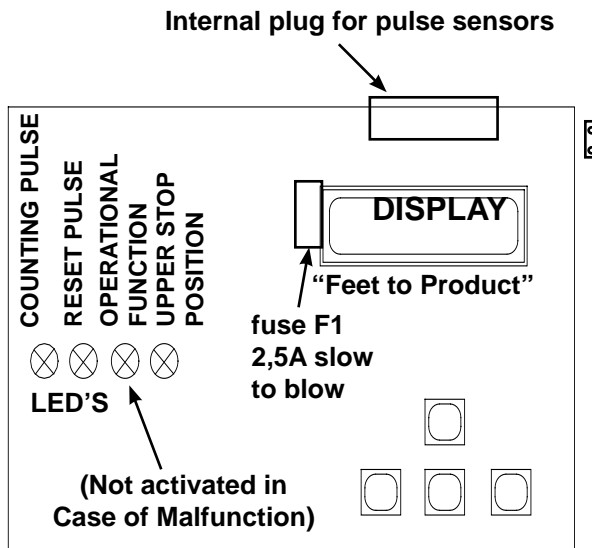
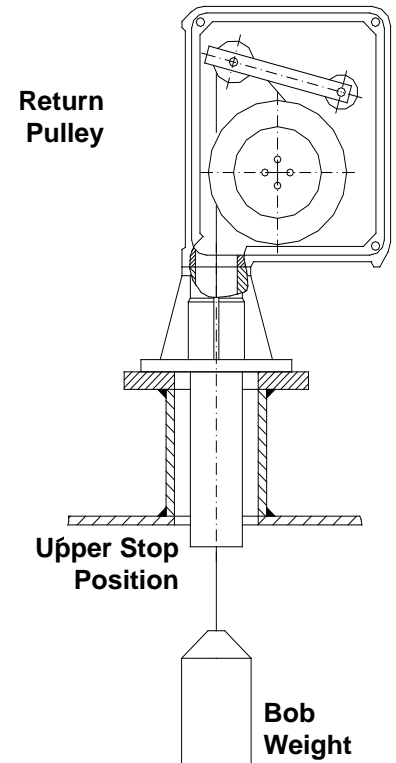
Error Code	Possible Reason	Behavior of the Device	Remedy
Error code 2	Internal pulse sensors are not identified from the software	The motor stops. When the pulse sensors can be identified again, the sensor weight moves to the upper stop position.	Connect the internal plug for the pulse sensors.
Error code 3	Rope/tape breaks. Motor blocked or defect.	The motor stops. This code is displayed in the following case: error 4 happens; the motor tries to move the sensor weight upwards; after 4 minutes the upper stop position is reached.	Repair the rope/tape break (see pages 23 and 25). Look for the reason of motor blocking.
Error code 4	No pulses come from the return pulley. Return pulley moves too heavy.	The motor moves the sensor weight upwards, until it reaches the upper position.	Repair the heavy movement of the return pulley.
Error code 6	Sensor weight buried or jammed.	The motor moves 2 seconds upwards, and then it waits for 10 seconds. After that the motor moves shortly downwards and then upwards again. If the sensor weight is still jammed, this cycle repeats 5 times. After that, the delay time will be increased to one hour.	Release the sensor weight. Take care that the sensor weight might move without obstacle.
Error code 7	Mains voltage too low.		Take care for the right mains voltage.
Error code 8	Sensor weight blocked in 'upper stop position' or move distance sensor weight < 20 cm.	The unit tries 5 times to start. If the sensor weight is not able to release, the error code is set.	Release sensor weight. Increase the min. move distance to > 20 cm.
Error code 9	Service interval.	See 'Service Interval' on page 21.	

Note: By pushing the "RUN" button, an error code shown on the display can be canceled.

Control of the Measurement (error)

The device compares the distance of the downwards movement of the sensor weight (until it reaches the surface of the bulk solid) with the distance of upwards movement, until it reaches the upper stop position. In case that the values are different, this is an indication for a buried or jammed sensor weight.

Furthermore, the pulses generated from the return pulley during the measurement are supervised. In case of missing or too irregular pulses, this indicates that the return pulley moves too heavy, or that the motor is blocked.



13.0 RECOMMENDED MAINTENANCE

13.1 ROUTINE SERVICE

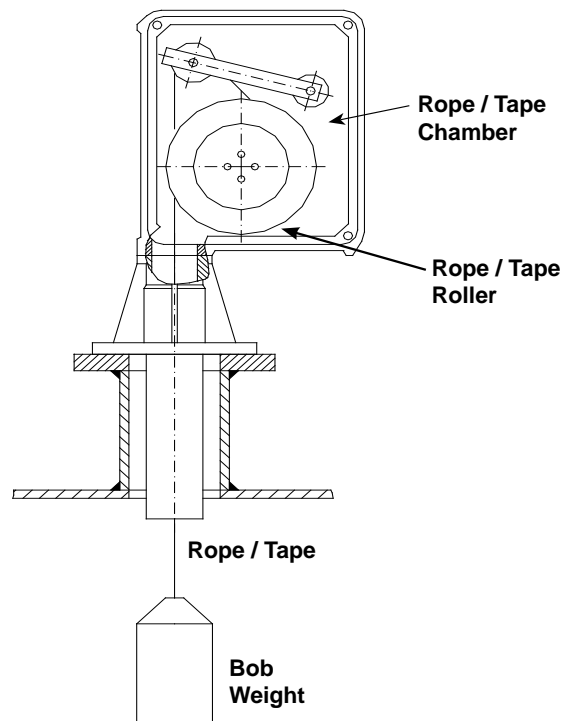
The SoliTrak™ measuring device features a high degree of functional reliability and it requires virtually no maintenance during normal operation.

For continuous functionality, the following is recommended at 18 months intervals:

- Open the lid to the rope/tape chamber.
- Remove any excess material in the rope/tape chamber.
- Visual inspection of the rope/tape as to rubbed off parts or damage.
- Close the lid to the rope/tape chamber tight.
- If the rope/tape is rubbed off or damaged, it must be changed (perhaps shortened).

Available spare parts are:

- Single rope
- Complete rope/tape (98.4 ft. rope or 75.5 ft. tape)
- Mounting set for sensor weight
- Bob weights



13.2 ROPE / TAPE REPLACEMENT INTERVALS (ERROR CODE 9)

Error code 9 is created automatically after the following number of measurements:

- Rope version: 30,000
- Tape version: 40,000

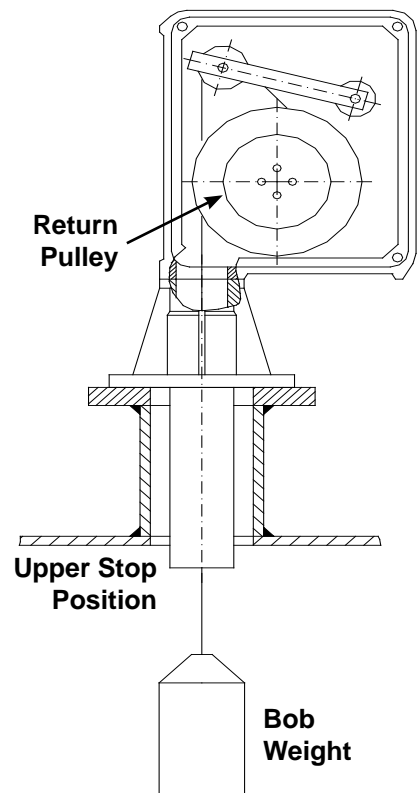
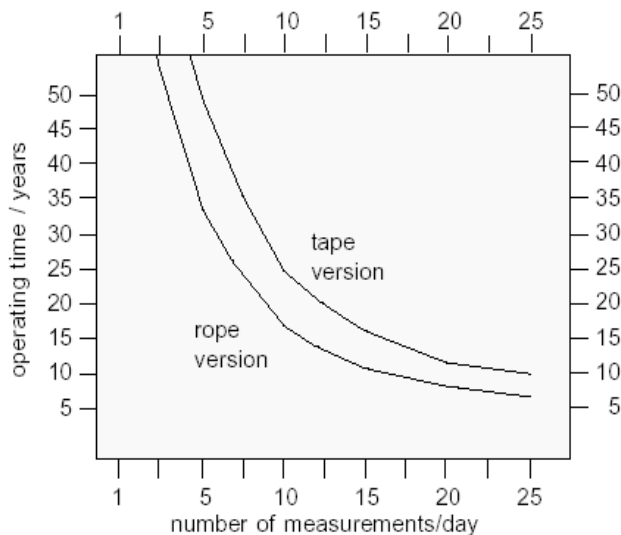
To guarantee continuous unit operability, it is strongly recommended to change the rope/tape (see pages 23 or 25). The error message may be cancelled by pushing the 'RUN' button (this will reset the measurement counter).

13.3 ROPE/TAPE OPERATING TIME

Number of Measurements

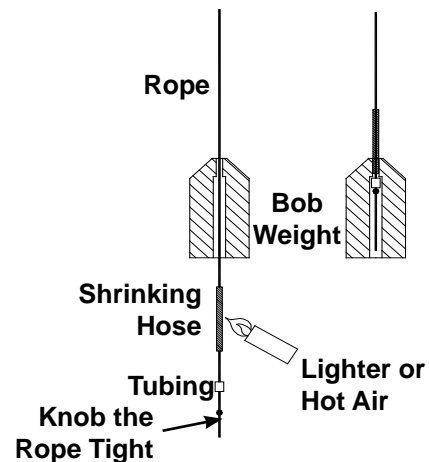
- Rope version: approx. 60,000
- Tape version: approx. 90,000

These values refer to longtime tests without influence of material. The Bob weight meets an incline surface, so that an oscillating movement of the sensor weight is caused. Due to these values, the following operating times are caused:



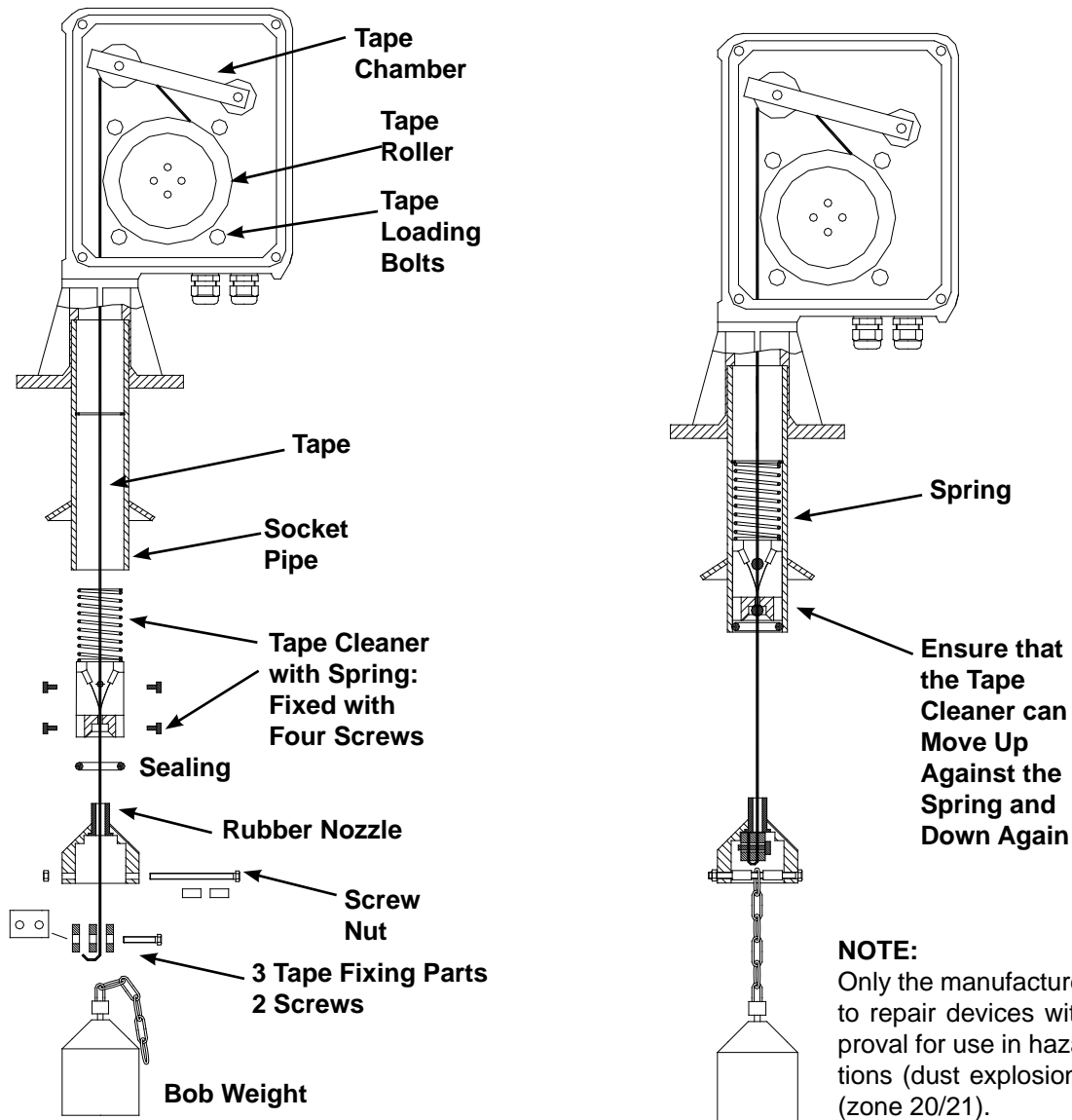
13.4 ROPE CHANGE

- Switch off the power supply. Make sure that the power cannot be accidentally restored or switched back on.
- Remove the unit from the silo.
- Open the lid to the rope chamber.
- Remove the rope roller (4 screws).
- Wind up a new rope or mount a new cable roller (observe the direction of winding). Leave about 4.9 ft. (1.5 m) of rope unwound.
- Pass the rope over return pulley and through the socket pipe and an additional meter of rope sticking through the socket pipe.
- Mount the sensor weight in accordance to the drawing.
- Lead bob weight into the socket. Mount the device at the flange again.
- Check the leading of the rope inside the rope chamber. Close the lid to the rope chamber tight.
- Switch on the power supply. The bob weight moves automatically in the "upper stop position".
- The SoliTrak™ is now ready for work. Measurements can be started.
- A new software adjustment is not necessary.



13.5 TAPE CHANGE

- Be careful when working with the tape. It may cause injuries due to its sharp edges.
- Do not bend the tape.
- Switch off the power supply and make sure that the power cannot be accidentally restored or switched back on.
- Screw the device off the mounting socket and remove the unit.
- Open the lid to the tape chamber.
- Remove the tape roller (4 screws).
- Remove the tape ...
- Mount a new tape roller (observe the direction of winding). Leave about 5 feet (1.5 m) of tape unwound. Ensure that the tape moves inside the tape leading bolts.
- “Start” the tape.
- Remove tape cleaner (including sealing) to lead the tape through the socket pipe.
- Mount the bob weight in accordance to the drawing.
- Lead the bob weight into the socket. Mount the device at the flange again.
- Check the leading of the tape inside the tape chamber. Close the lid to the tape tight.
- Switch on power supply. The bob weight moves automatically in the “upper stop position”.
- The SoliTrak™ is now ready for work. Measurements can be started.
- A new software adjustment is not necessary.



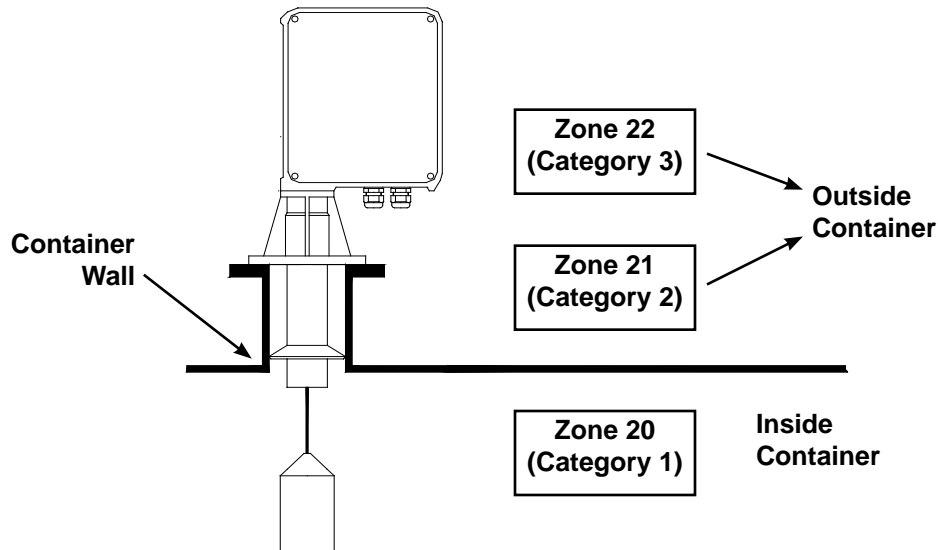
14.0 REMARKS FOR USE IN HAZARDOUS AREAS (DUST EXPLOSIONS) ACCORDING TO ATEX 100A CERTIFICATION

ZONE CLASSIFICATION

The approval according to ATEX 100A (directive 94/9/EG) for the hazardous areas (dust explosion) category ½ D (zone 20/21) determines the following classification:

Device Category to 94/9/EG	Usable in Zone
1 D	20, 21, 22
2 D	21, 22
3 D*	22

- In case of conductive dust, additional demands for the installation are possible.



MARKING

Devices with ATEX approval are specially marked on the type plate (see example below).




	18321 Swamp Rd. Prairieville LA 70769	
Type: SLS3000-rope	II 1/2 DIP66T:230°F	
Ser.nr: 123456-001/07.01	DMT01ATEXE100	
Supply: 230V 50/60Hz 150VA	T(Zone21): -68°F..+140°F	
P: -4.35..+4.35 psi	T(Zone20): 95°F +176°F	
L: 98 ft.		

ELECTRICAL CONNECTION

Power supply:

“Take note of the voltage information on the type plate!” (see example below).

Cable glands that are not used have to be locked with a closing element. Due to protection against explosion, it is necessary to use the original parts from the manufacturer.

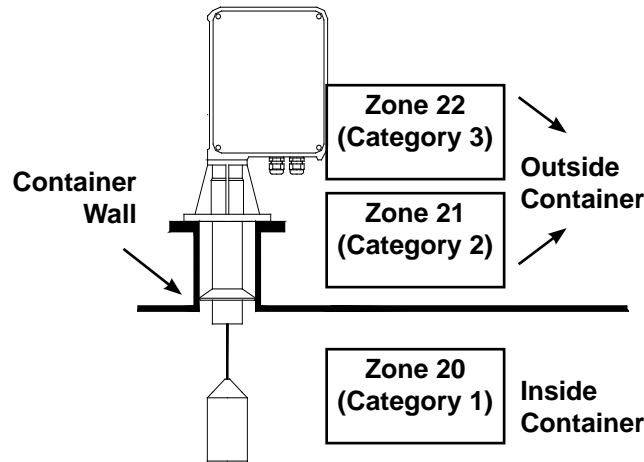
 18321 Swamp Rd. Prairieville, LA 70769	
Type: SLS3000-rope Ser.nr. 123456-001/07.01	 II 1/2 D IP66T:230°F DMT01ATEXE103
Supply: 230V 50/60Hz 150VA	T(Zone21): -68°F..+140°F T(Zone20): 95°F +176°F
P: 4.35 +4.25 psi L: 98 ft.	

OPERATING CONDITIONS

Pressure information:

The device construction allows overpressure up to 4.35 psi. These pressures are allowed for test purposes. The definition of the ATEX is only valid for a container over-pressured between -2.9..+1.45 psi. For higher or lower pressures, the approval is not valid.

18321 Swamp Rd. Prairieville, LA 70769		
Type: SLS3000-rope Ser.n: 123456-001/07.01	II 1/2 D IP66T:230°F DMT01ATEXE103	
Supply: 230V 50/60Hz 150VA	T(Zone21):-68°F.+140°F T(Zone20):95°F+178°F	Maximum Operating Temperature
P: -4.35 .+4.35 psi L: 98 ft.		



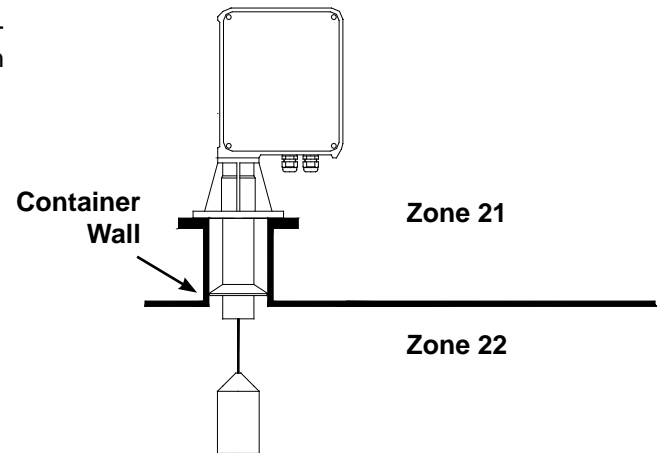
Pressure information:

The device construction allows over pressure up to 4.35. These pressures are allowed for test purposes. The definition of the ATEX is only valid for a container-over-pressure between -2.9..+ 2.9 psi. For higher or lower pressures, the approval is not valid.

MAXIMUM SURFACE TEMPERATURE

The following information shows the maximum surface temperature at the warmest part of the unit, which can happen in failure cases (according to ATEX definition).

maximum Surface temperature in zone 21 in °F	ambient temperature in zone 21 in °F	medium temperature in zone 20 in °F
230	140	176
212	122	158
194	104	140



SAFETY INSTRUCTIONS FOR HAZARDOUS AREAS

For devices used in hazardous areas (dust explosions), such as zone 20/21, the respectively valid installation regulations must be observed.

- Only the manufacturer is allowed to repair devices with ATEX approval.
- The requirements of the EN 50281-1-2 (e.g. regarding dust deposits and temperatures) must be observed.
- Commissioning only with closed lid.
- Switch off the supply voltage before opening the device.
- Before opening the lid, take care that no dust deposits or whirlings are present.

15.0 CUSTOMER SUPPORT

K-TEK Solids Level (USA, Canada, International)

6100 West by Northwest #140
Houston, TX 77040 USA
Tel: (1) 713.462.7665
Toll Free 800.245.7056
Fax: (1) 713.462.7684
Email: service@kteksolidslevel.com
Website: kteksolidslevel.com

K-TEK Corp. (USA, Canada, International)

18321 Swamp Road
Prairieville, LA 70769 USA
Tel: (1) 225.673.6100
Fax: (1) 225.673.2525
Email: service@ktekcorp.com
Website: ktekcorp.com



15.1 K-TEK RMA Form



K-TEK
 18321 Swamp Road
 Prairieville, LA 70769
 Phone: +1 (225) 673-6100
 Fax: +1 (225) 673-2525
 Email: service@ktekcorp.com
 Toll Free: (800) 735-5835

***** IMPORTANT CUSTOMER NOTICE: PLEASE READ PRIOR TO RETURNING PRODUCTS TO K-TEK*****

Be sure to include the Return Authorization (RA) number on the shipping label or package to the attention: Customer Service. A copy of this document should also be included with the packing list. K-TEK wants to maintain a safe work environment for its employees. In the event, the returned product or material has been in contact with a potentially hazardous chemical, per federal regulations, the customer must provide evidence of decontamination and the related chemical composition and characteristics. In order to expedite your return, please include the applicable Material Safety Data Sheets (MSDS) and decontamination tags by affixing these documents in close proximity to the shipment label for identification purposes. (January 18, 2006)

Return Authorization Form	
Customer:	Date:
Contact Name:	Product:
Contact Email:	Serial No:
Contact Phone:	Job No:
Contact Fax:	Service Rep:

Completed by Customer	
Reason:	
Problem Found: None	
Action Requested: None	
Is expedited return shipping requested? <input checked="" type="checkbox"/>	
<i>If yes, please provide a purchase order or your shipper's account number (ex FedEx or UPS). K-TEK pays return transport via standard ground shipments only.</i>	
Account #:	
If purchase order is issued, a copy of purchase order must be included with return authorization documentation.	
Is K-TEK authorized to repair items determined to be non-warranty? <input checked="" type="checkbox"/>	
<i>If yes, a copy of purchase order must be included with return authorization documentation.</i>	
Customer PO#:	Date:
Has product been in contact with any potentially hazardous chemical? <input checked="" type="checkbox"/>	
<i>If yes, documentation product and forward MSDS to K-TEK. "ATTN: Customer Service"</i>	

Return Repaired Product to Address	
Shipping Address:	Billing Address:
Ship Via:	

15.2 K-TEK Solids Level RMA Form



K-TEK Solids Level
 6100 West by Northwest #140
 Houston, TX 77040 USA
 Phone: (1) 713.462.7665
 Fax: (1) 713.462.7684
 Email: service@kteksolidslevel.com

***** IMPORTANT CUSTOMER NOTICE: PLEASE READ PRIOR TO RETURNING PRODUCTS TO K-TEK*****

Be sure to include the Return Authorization (RA) number on the shipping label or package to the attention: Customer Service. A copy of this document should also be included with the packing list. K-TEK Solids Level wants to maintain a safe work environment for its employees. In the event, the returned product or material has been in contact with a potentially hazardous chemical, per federal regulations, the customer must provide evidence of decantamination and the related chemical composition and characteristics. In order to expedite your return, please include the applicable Material Safety Data Sheets (MSDS) and decantamination tags by affixing these documents in close proximity to the shipment label for identification purposes.

Return Authorization Form

Customer:	Contact Name:
Contact Phone:	Contact Email:
Contact Fax:	
Date:	Service Rep:

Completed by Customer

Product	Serial Number	Job Number

Reason:

Is expedited return shipping requested? Yes

If yes, please provide a purchase order or your shipper's account number (ex FedEx or UPS).

K-TEK Solids Level pays return transport via standard ground shipments only.

If purchase order is issued, a copy of purchase order must be included with return authorization documentation.

Account #:

Is K-TEK Solids Level authorized to repair items determined to be non-warranty? Yes

If yes, a copy of purchase order must be included with return authorization documentation.

Customer PO#:	Date:
---------------	-------

Has product been in contact with any potentially hazardous chemical? Yes

If yes, documentation product and forward MSDS to K-TEK Solids Level. "ATTN: Customer Service"

Return Repaired Product to Address

Shipping Address:	Billing Address:
	Ship Via: <input type="text"/>

16.0 WARRANTY

5 YEAR WARRANTY FOR:

KM26 Magnetic Liquid Level Gauges; MagWave Dual Chamber System; LS Series Mechanical Level Switches (LS500, LS550, LS600, LS700, LS800 & LS900); EC External Chambers, STW Stilling Wells and ST95 Seal Pots.

3 YEAR WARRANTY FOR:

KCAP300 & KCAP400 capacitance switches. BETA Pressure and Temperature Switches have a limited factory guarantee, excluding wetted parts & consumables.

2 YEAR WARRANTY FOR:

AT100, AT100S and AT200 series transmitters; RS80 and RS85 liquid vibrating fork switches; RLT100 and RLT200 reed switch level transmitters; TX, TS, TQ, IX and IM thermal dispersion switches; IR10 and PP10 External Relays; MT2000, MT5000, MT5100 and MT5200 radar level transmitters; RI100 Repeat Indicators; KP paddle switches; A02, A75 & A77 RF capacitance level switches and A38 RF capacitance level transmitters; Buoyancy Level Switches (MS50, MS10, MS8D & MS8F); Magnetic Level Switches (MS30, MS40, MS41, PS35 & PS45).

1 YEAR WARRANTY FOR:

KM50 gauging device; AT500 and AT600 series transmitters; LaserMeter and SureShot series laser transmitters; LPM200 digital indicator; DPM100 digital indicators; APM100 analog indicators; KVIEW series digital indicators and controllers; SF50 and SF60 vibrating fork switches, ST Electro-Mechanical Continuous Measuring Devices, KSONIK ultrasonic level switches, transmitters & transducers, ChuteMaster Microwave Transmitter / Receiver and TiltMaster Switches.

SPECIAL WARRANTY CONSIDERATIONS:

K-TEK does not honor OEM warranties for items not manufactured by K-TEK (i.e. Palm Pilots). These claims should be handled directly with the OEM.

K-TEK will repair or replace, at K-TEK's election, defective items which are returned to K-TEK by the original purchaser within the period specified above from the shipment date of the item and which is found, upon examination by K-TEK, to its satisfaction, to contain defects in materials or workmanship which arose only under normal use and service and which were not the result of either alterations, misuse, abuse, improper or inadequate adjustments, applications or servicing of the product. K-TEK's warranty does not include onsite repair or services. Field service rates can be supplied on request.

If a product is believed to be defective, the original purchaser shall notify K-TEK and request a Returned Material Authorization before returning the material to K-TEK, with transportation prepaid by the purchaser. (To expedite all returns/repairs from outside of the United States, consult K-TEK's customer service team (service@ktekcorp.com) to determine an optimal solution for shipping method and turnaround time.) The product, with repaired or replaced parts, shall be returned to the purchaser at any point in the world with transportation prepaid by K-TEK for best-way transportation only. K-TEK is not responsible for expedited shipping charges. If the product is shipped to K-TEK freight collect, then it will be returned to the customer freight collect.

If inspection by K-TEK does not disclose any defects in material or workmanship, K-TEK's normal charges for repair and shipment shall apply (minimum 250.00 USD).

The materials of construction for all K-TEK products are clearly specified and it is the responsibility of the purchaser to determine the compatibility of the materials for the application.

THE FOREGOING WARRANTY IS K-TEK'S SOLE WARRANTY AND ALL OTHER WARRANTIES EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED AND NEGATED TO THE MAXIMUM EXTENT PERMITTED BY LAW. NO PERSON OR REPRESENTATIVE IS AUTHORIZED TO EXTEND ANY OTHER WARRANTY OR CREATE FOR K-TEK ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF K-TEK'S PRODUCTS. THE REMEDIES SET FORTH IN THIS WARRANTY ARE EXCLUSIVE OF ALL OTHER REMEDIES AGAINST K-TEK. K-TEK SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES OF ANY KIND. K-TEK'S SOLE OBLIGATION SHALL BE TO REPAIR OR REPLACE PARTS (FOUND TO BE DEFECTIVE IN MATERIALS OR WORKMANSHIP) WHICH ARE RETURNED BY THE PURCHASER TO K-TEK.



For the latest version of this manual, visit ktekcorp.com or kteksolidslevel.com.

K-TEK
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Prairieville, LA 70769 USA
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