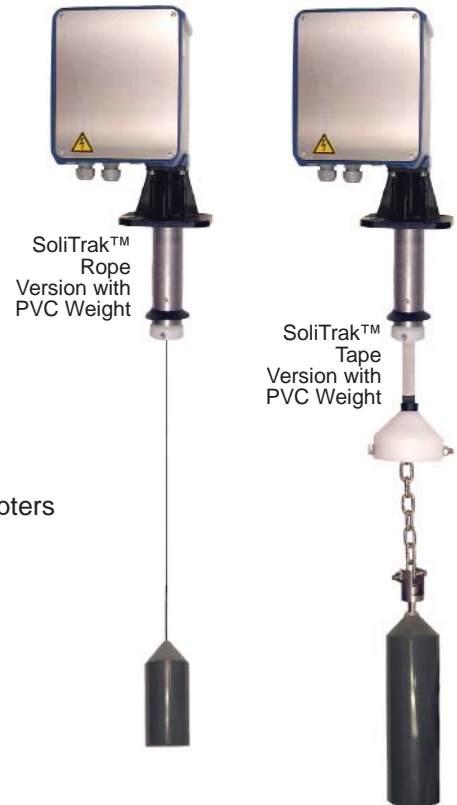


ELECTROMECHANICAL CONTINUOUS LEVEL MEASUREMENT FOR SOLIDS

The SoliTrak™ is an electro-mechanic level measuring instrument for the continuous 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 chamber and the electronic chamber, seen below), which are sealed to each other to isolate electronics from the process. Only the rope 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. Pulses are generated during downward movement and the number of pulses can be processed directly in a PLC (programmable logic controller) or a counter.



FEATURES

- Appropriate for Nearly All Kinds Of Bulk Solids
- Insensitive to:
 - Changes in Product Density
 - Dust in the Silo
 - Changes in Moisture of the Material
 - Products that are Inclined to Stick
- Very Simple Installation & Start Up
- Very Accurate Measurement
- Internal Tape Cleaner (Tape Version)
- Variety of Sensor Weights
- Robust Die Cast Housing

OPTIONS

- Available in Rope or Tape
- Spool Piece Mounting Adapters

APPLICATIONS

- The SoliTrak™ is used for “On Demand” level measurement in silos and vessels. Even precise volumetric measurements and long measuring distances are no problem for the SoliTrak™.

Electronic Chamber:



- Control system and processing of the measurement

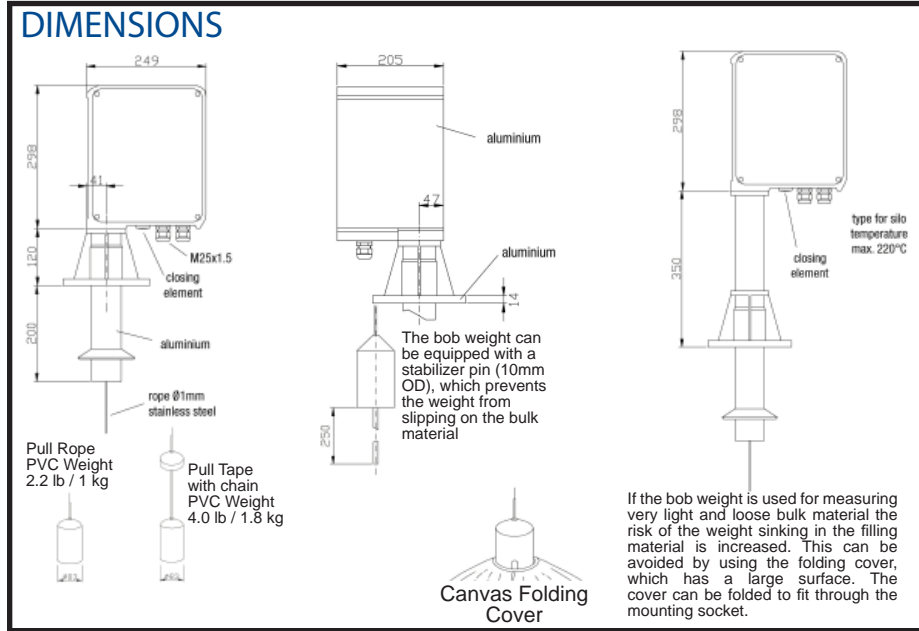
Rope / Tape Chamber:



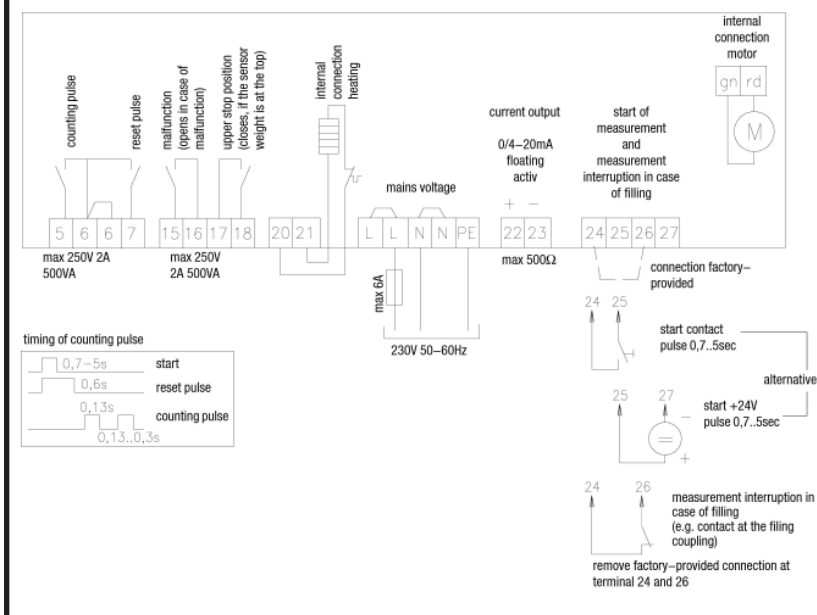
- Simple mechanical function

OPERATION

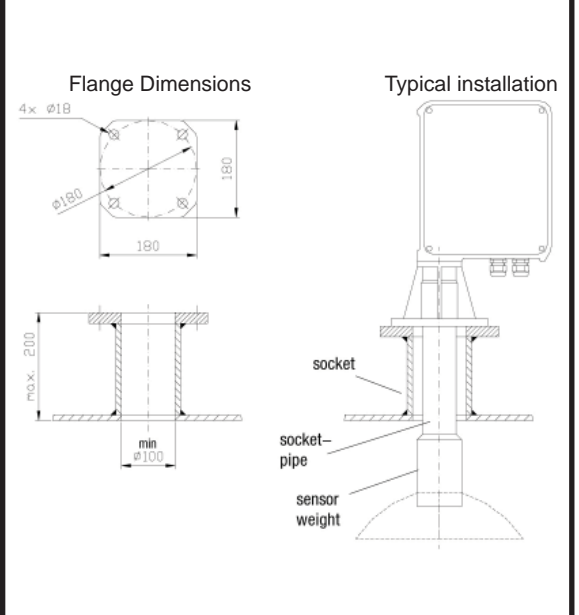
4-20mA Output: The pulses are internally converted into an analog current signal. The current signal can be adjusted specifically, so it is possible to get a volume-specific signal, fitting to the geometry of the silo. The current signal is updated when the sensor weight touches the bulk material. The 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.



WIRING CONNECTIONS



MOUNTING CONFIGURATION



SPECIFICATIONS

Mechanical	
Housing Type	Cast Aluminum, Powder Coated Blue
Enclosure	IP66 to EN 60529
Process Connection	DN 100 PN16 Flange; DIN 2633 Aluminum
Overall Weight	37.5 lbs (17 kg)
Measuring Rope	Stainless Steel, 0.0394 in. / 1 mm diameter
Measuring Tape	Stainless Steel, 0.5 in / 12 mm x 0.0079 in. / 0.2 mm
Measuring Range	Max 98.4 ft. (30 m) rope version; Max 75.5 ft. (23 m) tape version; For max overall height of silo 82.0 ft. (25m)
Measuring Speed	45 ft. / minute upward and downward movement average
Measuring Interval	4 in / 10 cm per pulse
Measurement Accuracy	Counting Pulse: 1 Pulse; Current Output: 1%
Bob Weight	2.2 lbs (1 kg) rope version; 4.0 lbs (1.8 kg) tape version
Bob Material	PVC, Canvas Folding Cover, or Custom
Deviation of Vertical Mounting	Max 2° out of vertical mounting
Air Purge	1/4" NPT port with plug
Electrical	
Power	110/120 VAC 50-60 Hz or 220/240 VAC 50-60 Hz
Screwed Cable Gland	2 x M25 x (3/4)" MNPT / 1/2" FNPT) or 2 x M25 x 1.5"
Signal Output	"counting pulse" and "reset pulse" floating relay contact max 250 VAC, 2 A, 500 VA or floating current output; 4—20 mA +/- 0.1 mA; max load 500 ohm
Operating Conditions	
Silo Pressure	±4.5 psig / ±0.3 bar
Temperature in Silo	-31°F (-35°C) to +176°F (80°C) Optional +428°F (220°C)
Ambient Temperature	31°F (-35°C) to +140°F (60°C)
Minimum time between measuring starts	Measuring Height: 16.4 ft. / 5m 3 minutes 32.8 ft. / 10m 6 minutes 65.6 ft. / 20m 12 minutes 98.4 ft. / 30m 18 minutes
Classification	General Purpose EN 50 081 part 1 EN 50 082 part 2

ORDERING INFORMATION

SLT/a/b/c/d/e/f:	
/a	Range of Measurement
R	Rope (max measure 98 ft. / 30 meters) standard
T	Tape (max measure 75 ft. / 23 meters)
/b	Power Supply
2	120 VAC standard
3	220 VAC
/c	Silo Temperature
A	Max 176°F (80°C) standard
T	Max 428°F (220°C) requires SS bob weight and type (T) configuration
/d	Bob Weight
1	PVC (Materials > 20 pcf) standard
2	Canvas (Very light & loose materials < 20 pcf)
3	Stainless Steel (high temperature applications) [can only be used with type (T) configuration]
4	Custom - Consult Factory
Note:	Add a "P" to the bob weight prefix (i.e. /1P) if a stabilizer pin is required for the application
/e	Air Purge
X	No Air Purge standard
P	Air Purge
/f	Approvals
X	None standard
/g	Accessories (Order Separately)
SP4	4 in., 150# spool piece mounting adapter
SP6	6 in., 150# spool piece mounting adapter
SPC	Custom spool piece mounting adapter Consult factory