LEVEL MONITORING

Continuous Level Measurement

ILS







WAMGROUP

TOREX®

Continuous Level Measurement ILS

RELIABLE CONTINUOUS LEVEL MEASUREMENT DEVICES FOR ANY KIND OF BULK SOLIDS STORED IN SILOS AND CONTAINERS

A sensor weight, attached to either a metal tape or rope, moves down into the container. Upon impact on the bulk material it is pulled back to its upper stop position. By capturing the distance that the sensor weight has moved the material level is measured.

Microprocessors convert the measured distance together with the programmed silo geometry into a volumetric output signal. This signal is updated each time the sensor weight moves down.

Features

- Silo Pressure:

ILSC-ILSD: *- 0.3 / + 0.3 bar standard*
- 0.5 / + 1.5 bar as option
ILSE - ILSF: *- 0.2 / + 0.2 bar*

- Temperature in silo:

ILSC-ILSD: *-40°C + 80°C (-40°F +176°F) standard*
+150°C / +250°C (+302°F / +482°F) as option
ILSE - ILSF: *40°C + 80°C (-40°F +176°F)*

- Ambient temperature:

ILSC - ILSD: *-20°C/ +60°C (- 4°F +140°F) standard*
-40°C / +60°C (-40°F +140°F) ATEX II 1/2 D on request
-40°C / +60°C (-40°F + 140°F) with internal heater
ILSE-ILSF: *-20°C/ +60°C (- 4°F +140°F)*

- Output:

ILSC-ILSD: *0/4-20 mA*
MODBUS
5/10 cm Relay Pulse
1/2.5 cm opto pulse
ILSE - ILSF: *4-20 mA*

- Approval for dust explosive environments (ATEX, FM);
- Microprocessor-controlled measurement with intelligent supervision;
- Integrated tape cleaner for extreme difficult products (tape version);
- Different sensor weights, suitable for every application;
- Robust double chamber aluminium die cast housing IP66, NEMA 4.

Benefits

- ✓ **Appropriate for nearly all kinds of bulk solids;**
- ✓ **Absolutely insensitive to:**
  - *Dielectricity and conductivity of the bulk material;*
  - *Dust in the silo;*
  - *Changes in moisture of the bulk material;*
  - *Products that tend to stick;*
- ✓ **No mechanical forces on the silo roof, the sensor touches the bulk material only on its surface;**
- ✓ **Simple installation and commissioning;**
- ✓ **High-tech measurement, easy to understand;**
- ✓ **Highly accurate measurement.**

ILSC - ILSD



ILSC ROPE VERSION



ILSD TAPE VERSION

1 CONTROL HEAD

The unit is divided into two independent chambers, one for the electronics and the other for the mechanical part, sealed from one another.

The mechanical part chamber in which the rope or tape slides is the only part in contact with the inside of the silo during the measurement.

If the sensor weight is in the upper stop position, it seals the opening between the unit and the silo.

ILSC - ILSD



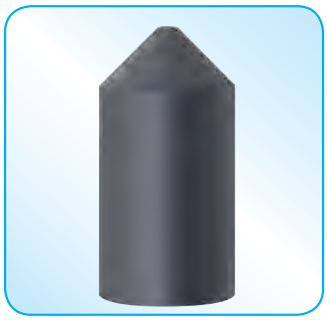
ILSC - ILSD Mechanical Side View

ILSE - ILSF



ILSE – ILSF Mechanical side view

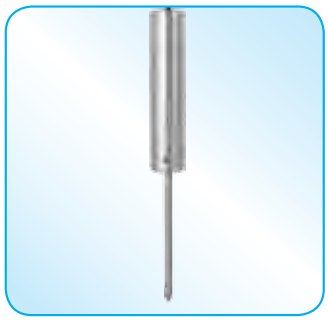
2 ILSC - ILSD SENSOR WEIGHTS



PVC (Standard)
Material: PVC



PVC with Pin
Material: PVC (Pin: POM)



304 Stainless Steel (with Pin as Option)
Material: 304 SS



FOLDING COVER
Material: Canvas PA
Weight: 301 SS

Accessories

MULTIPLE REMOTE CONTROL (ILSC – ILSD ONLY)



- Connection of up to 10 units with MODBUS RTU network
- Programming of ILS level indicator
- Touchscreen Level Display LCD, 2 lines x 16 digits
- Start measurements
- Display diagnostics information

The remote control may be installed in the panel present on the plant or mounted separately on a wall.

ILSE - ILSF



ILSC - ILSD Electronic Side View



ILSC - ILSD Electronic Inside View



ILSE – ILSF Electronic side view

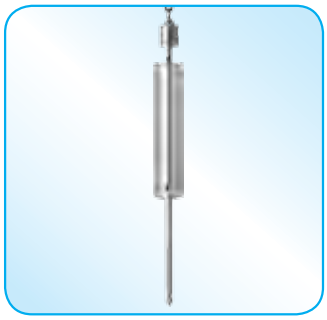


ILSE ROPE VERSION

2 ILSE - ILSF SENSOR WEIGHTS



PVC (with Pin as Option)
Material: Weight PVC (Pin: POM)

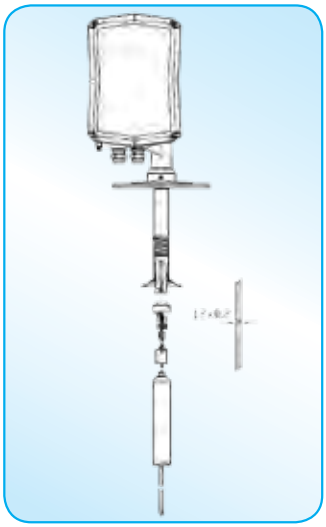


304 Stainless Steel (with Pin as Option)
Material: 304 SS



ILSF TAPE VERSION

3 ILSD - ILSF TAPE VERSION - Tape Cleaning System



Internal tape cleaner for extreme difficult products

SINGLE REMOTE CONTROL (ILSC-ILSD – ILSE – ILSF)



The instrument visualize a number proportional to the level of material present inside the silo.
It could be used to visualize the percentage of material inside the silo, hopper…etc…
As option has a provision for two relay digital outputs that make it possible to have signals at two intermediate levels between the maximum and minimum threshold.

Applications









Technical Features	ILSE / ILSF	ILSC / ILSD
Measurement of	Solids	Solids - Interface
Version	Rope - Tape	Rope - Tape
Remote Box	NO	Max. 10 Units
Measuring Range	Rope: 15/30 m Tape 15/30 m	Rope 30 m Tape 40 m
Process Temperature	- 40°C / + 80°C	- 40°C / + 250°C MAX
Process Pressure	+ 0.2 bar	+ 0.3 / 1.5 bar
Ex- Approval	ATEX II 1/2 D	ATEX II 1/2 D
Power	230 V AC 115 V AC 20..28 V DC	98…253 V AC 20…28 V DC
Process Connection	1 1/2" Thread Flange DN100	Flange DN 100
Diagnose	4-20 mA	Relais, 4-20 mA Remote Box Diagnose History SD Card
Measurment Start	Internal Timer External Signal	Remote Box Internal Timer External Signal
Ouput	4-20 mA	0/4-20 mA MODBUS 5/10 cm Relay Pulse 1/2,5 cm opto pulse
Housing	Aluminium, Painted	Aluminium, optional Painted
IP Rating	IP 66	IP 66
Rope/Tape Cleaner	Tape Integrated	Tape Integrated
Motor	Standard	Standard Industrial
No. Of Pulleys	1	2

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