

Litronic[®]-WMS Reliable Water Content Measuring System.



LIEBHERR

Litronic-WMS designed as Shaft Sensor or Planar Sensor.

An autonomous stand-alone-system for the exact determination of the water content during process. Highest quality and best results are guaranteed by the system during production, processing and refinement of most emulsions, powder and bulks. The Litronic-WMS will meet your requirements in every case. An easy-to-use PC software enables a fast and exact calibration.

Features:

- ✓ Adjustable measuring range
- ✓ Material curve change over
- ✓ Sensor replacement without recalibration
- ✓ Temperature compensation
- ✓ Limiting value analysis
- ✓ Connection for optional measured value display and parameterisation module
- ✓ Usable as interface detector

Technical Data:

Physical principle:
Capacity calculation with high-frequency stray field
Frequency: 0.02 GHz
Measuring range: 0-1 %..100 %
Resolution display: 0.01 %
Number of stray field condensers: 1 - 3
Capacity resolution: 10×10^{-15} F
Actualisation cycle: 100 ms
Possible measuring precision: ± 0.05 % moisture
Power supply: 24 V, 150 mA DC
Temperature measuring: -10° C – 90° C
Analogous output: 4 – 20 mA, active
Error report: 3.6 mA / 22 mA
Remote parameterisation: HART®-modem
On-site parameterisation: MINICOM
On-site measured value display: LCD-Display
Working temperature: 5° C – 80° C (100° C)
Material housing: 1.4571
Protection class: IP 65.

Ex-Protection Gas: II 1 / 2 G EEx d[ia] II C T6
(zone 0/zone 1 in accordance with CENELEC, ATEX 95/100)

Ex-Protection Dust: II 1/2 D T 80° C IP6X Eex ia IIC
(zone 20/zone 21 in accordance with CENELEC, ATEX 95/100)



Shaft Sensor:

Sensor locations: Pipeline, tank
Pressure resistance: 110 bar
Process connection: 2" ANSI 600
Material measurement field: PEEK

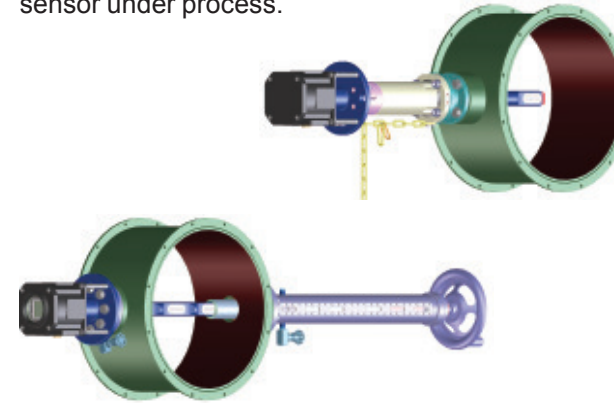


Planar Sensor:

Sensor locations: material chute, conveyor belt, silo, screws, pipe, tank
Process connection: \varnothing 78 mm
Adjustable range flange: 0..10 mm
Material measurement field: $ZrO_2 + Al_2O_3$

Quick Change- / Retractable Fitting

For pipeline diameters from 8" to 30" and for tank installations optional exchange devices are available. These fittings allow to change the sensor under process.



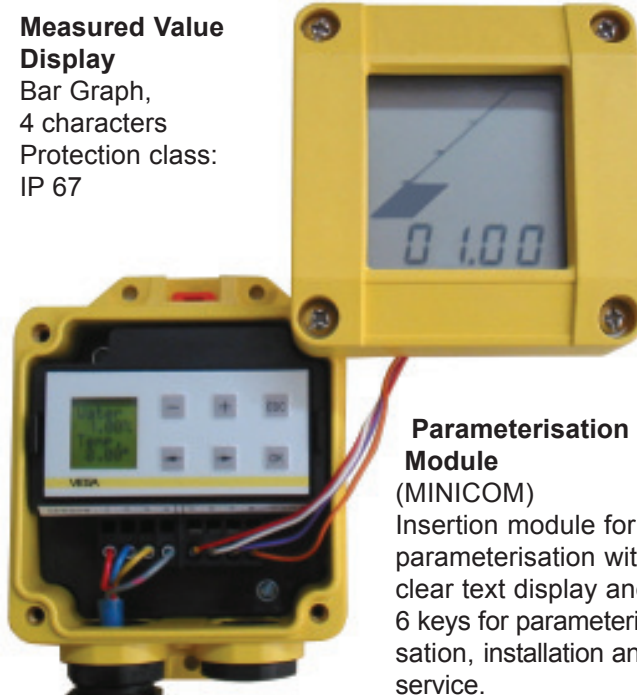
Pipe Adaption

For pipeline diameters from 1" to 6" (DN 25 to DN 150) a special housing, made of stainless steel, is available. This housing will be installed directly inside the pipe or is used for bigger pipes than 30" as a bypass.



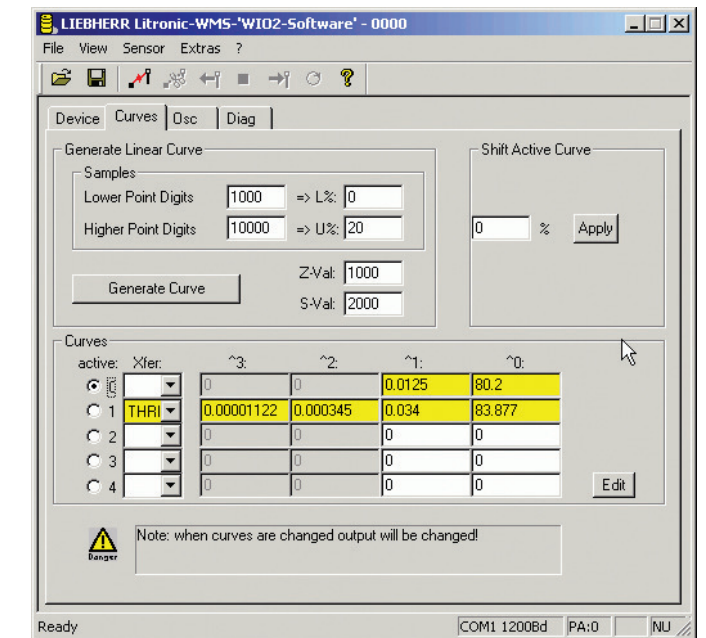
Measured Value Display

Bar Graph,
4 characters
Protection class:
IP 67



Parameterisation Module (MINICOM)

Insertion module for parameterisation with clear text display and 6 keys for parameterisation, installation and service.



PC-Software „WIO“

For initiation, parameterisation and service of Litronic-WMS Planar and Shaft sensors. Used with standard-HART-modem and PC calibration of up to 5 medium specific curves.



Pipeline installation with quick change fitting



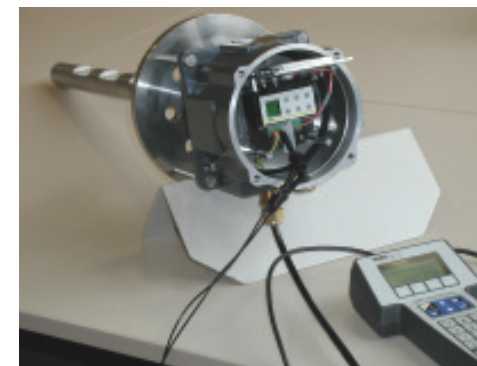
Pipeline installation in an oil refinery



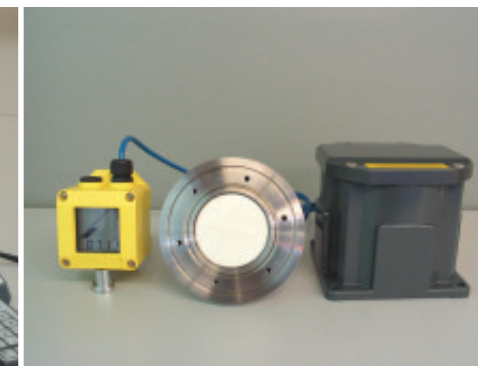
Insulated carrying out



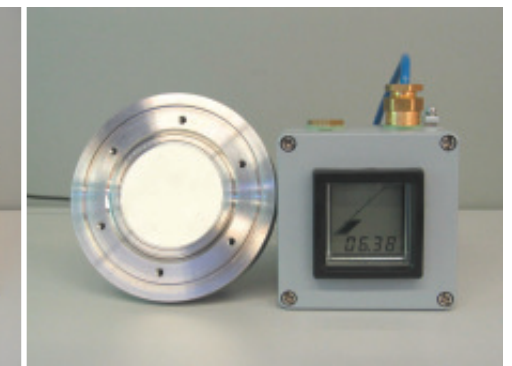
Tank installation



Remote parameterisation via HART®



Planar sensor Litronic-WMS with gas Ex-protection



Planar sensor Litronic-WMS with dust Ex-protection

Applications / Material List.

- Oil, Crude Oil
- Diesel
- Bio Diesel
- Hardness Oil
- Coolant
- Colour (Off-Set Print)
- Paint
- Solvent
- Lubrication Oil
- Sludge
- Margarine
- Wax / resin
- Ceramic slick
- Other emulsions and suspensions
- Water – product – separation
- and more

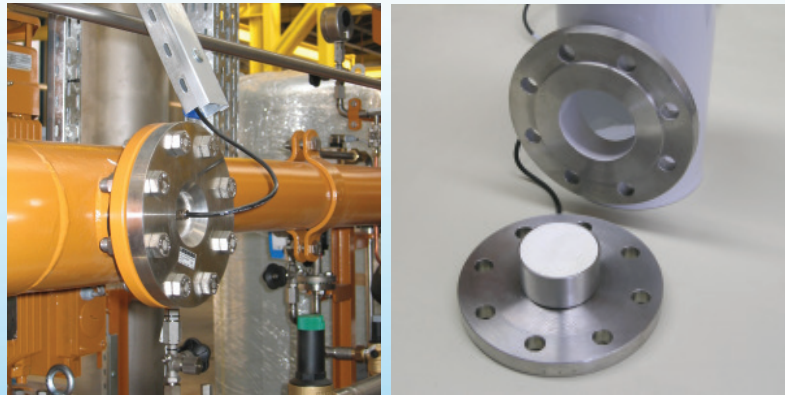
Further applications by using of Litronic-FMS II:

Litronic-FMS II, without Ex-protection:

Flange adaption DN 80 for pipes DN 150 and bigger
as well as for tanks.

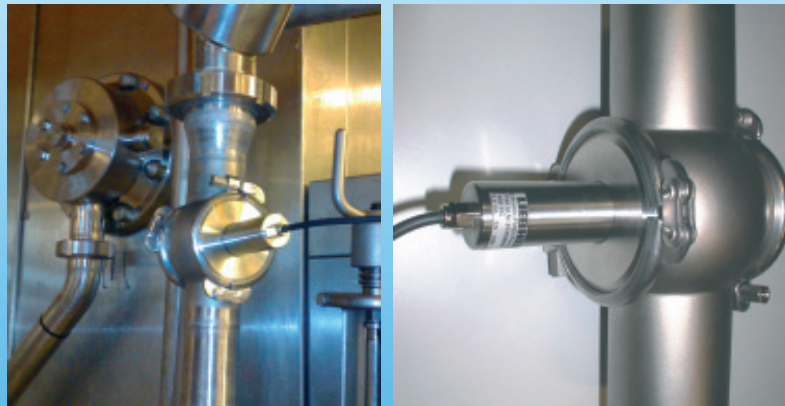
Pressure PN 16, Material: 1.4404/1.4435, 316 L

The sensor housing will be welded on the flange
adaption and will be mounted in the customer
provided pipe/tank.



Sensor P30 with Varivent Adaption:

- For pipes DN 40 – DN 125
- Pressure PN 16, Material 1.4404
- Measurement through sapphire window
- Application for food and drugs industry
- All used materials with FDA certification



For the moisture measurement in powder and bulks, granulate, dust ... there is the separate brochure
„Litronic-FMS II Reliable Moisture Measuring System“ is available.

50 years of worldwide experience.

The range of measuring systems has been developed
based on the experience of the mixing technology.
To guarantee a constant high quality and best results
of produced concrete a reliable moisture
measurement is most essential. This perfected and
advanced system is used today world-wide in
innumerable different materials.

Liebherr-Mischtechnik GmbH is one of more than 110
companies of the international Liebherr group.



Liebherr-Mischtechnik GmbH

Postfach 145, D-88423 Bad Schussenried (Germany)

Tel. +49 (0)7583 / 949-0, Fax +49 (0)7583 / 949-399

E-Mail: info.lmt@liebherr.com Internet: www.water-content-measurement.com

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Subject to technical modifications.