

More process reliability in phase separation through inline conductivity measurement

Inductive Conductivity Meter ILM-4

Benefits in production and CIP / SIP processes

ILM-4 with IO-Link and 4...20 mA enables an active, automated and temperature compensated phase separation. This applies both to different media in production processes and to the CIP / SIP return flow of acid / caustic / water.

These media can be drained or returned to the storage tanks in the highest possible grade by means of precise inline conductivity measurement. The multiple use of the cleaning media ensures in addition maximum cost efficiency and environmental protection.

Benefits in cleaning agents control

For an optimal and reproducible cleaning result, each cleaning agent must be concentrated to the specified value by re-dosing with concentrate and fresh water. This is ensured by the highly precise measurement of conductivity with the ILM-4.

Advantages of the ILM-4 conductivity sensor

- **Extremely short response time (1.2 s)** for maximum efficiency
- Ready for industry 4.0: **digital IO-Link interface and analog 4...20 mA** data transmission in parallel
- **Precise phase separation** of different media means **less product loss** and cost minimization
- **Optimum multiple use** of the cleaning chemicals due to correct return to the respective tanks
- **Minimization of cleaning time and water consumption:** inline conductivity analysis for active switching after reaching the desired value and not after a passive, fixed time
- **Precise concentration control of the cleaning agents**
- **Reliable product monitoring / quality assurance**
- **Very favourable price-performance ratio**

Practical experience / customer applications

- **CIP cleaning for milk trucks (Röck):** Minimum losses in cleaning agents and **maximum recyclability** thanks to active, precise switching
- **CIP process in the Viöl dairy:** In combination with the ITM-51 turbidity sensor, almost **all media** in the **production and CIP/SIP processes** can be precisely distinguished and separated.
- **Breweries and beverage producers:** **Maximum product yield** through precise phase separation



Technical data at a glance

- **Extremely compact & robust** conductivity sensor
- **Hybrid technology** with **digital + analog** interface (IO-Link + 4...20 mA): from simple data transfer to intelligent communication
- **Fast sensor response time: approx. 1.2 s**
- **Modular design:** configurable from the **low-priced basic version** to the **high-end model**
- Product-contacting sensor head made of **100 % PEEK** prevents **thermal stress cracking**
- **Measuring range freely selectable:** 1...999 mS/cm
- **High reproducibility** of $\leq 1\%$ of measured value
- Fully compensated measurement **up to 130 °C**, CIP/SIP cleaning up to **150 °C / 60 min.**
- **Remote version with Smart Replace Design:** Easy replacement of each component just by plugging it in

Modulare Sensorplattform mit IO-Link und 4...20 mA

The **Flex-Hybrid Technology** with **IO-Link and 4...20 mA** combines the best of both worlds: Data from the sensor can be transmitted digitally, analogously or in parallel. The bidirectional communication enables status control and preventive maintenance at any time to avoid production downtimes. Installation and commissioning are time- and cost-saving thanks to plug-and-play technology, and sensor replacement is easier than ever before thanks to "Smart Replace Design" with automatic detection, configuration and parameterization.

Order code

ILM-4 (inductive conductivity sensor)

Submersion length of toroid

L20 (20 mm)
L50 (50 mm)

Process connection (3-A compliant)

S01 (CLEANadapt G1" hygienic)
TC1 (Tri-Clamp 1½")
TC2 (Tri-Clamp 2")
T25 (Tri-Clamp 2½")
TC3 (Tri-Clamp 3")
V25 (Varivent type F, DN 25)
V40 (Varivent type N, DN 40/50)

Head orientation

H (horizontal head orientation)
V (vertical head orientation)

Signal module

A42 (1x 4...20 mA conductivity value only)
A62 (2x 4...20 mA conductivity/temperature selectable, no external range switching)
A63 (2x 4...20 mA conductivity/temperature selectable, external range switching)
I63 (IO-Link and 2x 4...20 mA conductivity/temperature selectable, external range switching)

Electrical connection

P (1x cable gland M16x1.5)
D (2x cable gland M16x1.5)
M (1x M12 connector, 4-pin for output A42, 5-pin for output A6x)
N (2x M12 connector, standard)
A (2x M12 connector, 4-pin for power supply, 5-pin for output/input)
R (2x M12 connector, 4-pin for analog output, 3-pin for IO-Link and input)

Display

X (without)
S (Simple User Interface with small display)
L (Large User Interface with big display)

Enclosure

X (plastic cap without sight glass)
P (plastic cap with sight glass)
M (stainless steel cap without sight glass)
W (stainless steel cap with sight glass)

Configuration

X (default factory settings)
S (special customer settings)

Note:

Order code for the remote version ILM-4R and the remote cable see product information

ILM-4 L20 / S01 / V / A63 / D / S / P / X