

More process reliability in phase separation through inline conductivity measurement

## ILM-4 Inductive Conductivity Meter

### Benefits in production and CIP / SIP processes

The 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 IoT: 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 favorable price-performance ratio

### Practical experience / customer applications

- **CIP cleaning for milk trucks:** Minimum losses in cleaning agents and maximum recyclability thanks to active, precise switching
- **CIP process in a fully automated 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



Remote version  
ILM-4R



### Technical Specifications 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
- Compensated measurement up to 130 °C (266 °F), CIP / SIP cleaning up to 150 °C (302 °F) / 60 min.
- Smart Replace Design with Remote version for hassle free replacement of all components



## Modular Sensor Platform with IO-Link and 4...20mA

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 output

**A42** 1x 4...20 mA (conductivity value only)'

**I42** IO-Link and 1x 4...20 mA conductivity

**I62** IO-Link and 2x 4...20 mA conductivity/temperature selectable, no 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 for A42 Analog Output

**D\*** 2x Cable gland M16x1.5 for I62 or I63 Analog Output

**M** 1x M12 connector, 4-pin for output A42

**N** 2x M12 connector, 4-pin for output/input, 5-pin for power supply

**A** 2x M12 connector, 4-pin for power supply, 5-pin for output/input

**C** 1x M12 connector, 5-pin analog output and IO-Link

**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 order

ILM-4 L20 / S01 / V / I63 / D / S / P / X

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