

CONTINUOUS MEASUREMENT OF THE CONDUCTIVITY AND TEMPERATURE IN LIGHT MINERAL OILS

The MLA 1000 measures the electrical conductivity and temperature of light mineral oils such as kerosene, for example. Measurement of the electrical conductivity is a prerequisite for the high safety requirements. Only through accurate knowledge of the electrical conductivity can decisions be made regarding whether the medium can be pumped safely. If the electrical conductivity is too low, then this will result in electrostatic charging followed by discharging, which often becomes a dangerous ignition source because of sparking. In addition to the electrical conductivity, the MLA 1000 also measures the temperature.

Measurements are taken in the pipeline continuously and sent to the PLC control unit in the control room. With the determined average values, the additives can be controlled optimally in order to obtain the stipulated conductivity value.



TECHNICAL DATA



Measurement values

Electrical conductivity: 5 ... 2.000 pS/m 5 ... 10.000 pS/m 5 ... 15.000 pS/m
Temperature: -20°C ... +60°C

Measurement accuracy/tolerances

Electrical conductivity: 5 ... 100 pS/m ±5 pS/m above 100 pS/m ±2 % of the measured value
Temperature: ±0.5°C of the measured value

Certifications for use in potentially explosive areas

Display unit MLA1000-A: gas exzone 1 
Measuring probe
MLA1000-S: gas exzone 0 

Measured value outputs

Display on the unit: electrical conductivity, temperature and unit status
Signal outputs: electrical conductivity: 4 ... 20 mA / Temperature: 4 ... 20 mA
24 mA: Measured value exceeded / 0 mA: fault
Operating voltage
Voltage input: 24 V DC (±10%) / Capacity: 5 W

Conductivity Measuring Device

MLA1000

Product properties

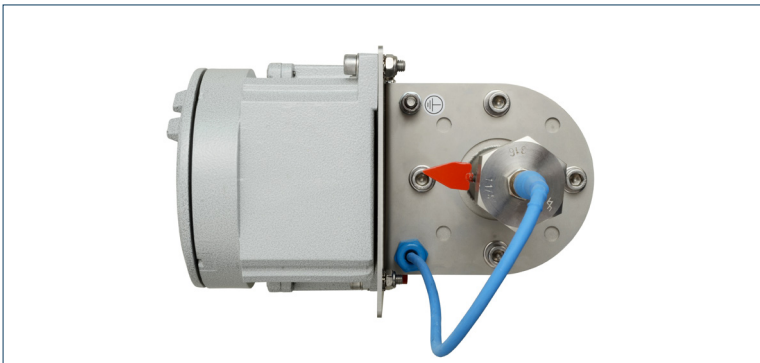
Probe:	Nickle-plated surface
Process connection:	loose flange connection (min. DN50 / 2")
Probe tube material:	Stainless steel
Cable length display/probe:	max. 24 m
Housing protection of display unit:	IP65

Operating requirements

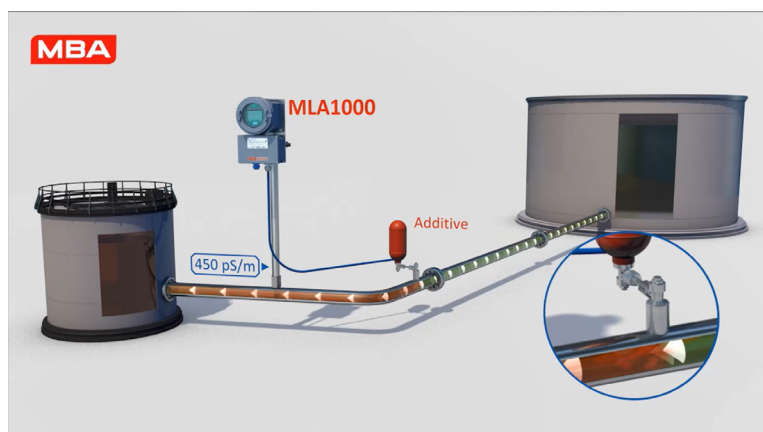
Operating pressure:	max. 16 bar
Flow rate:	0,5 ... 7 m/s
Viscosity:	less than 2 m Pa·s
Ambient temperature:	-20°C ... +60°C

APPLICATION AREA

- Light mineral oils such as, for example, Kerosene (JET A-1)
- Rolling oil
- Hydraulic oil
- Release agents...



Optional fastening of the display unit on the probe tube



INFORMATION

The MLA1000 is manufactured by MBA Instruments GmbH.
