Uni-Probe LB 490
A universal field device for various applications

A versatile compact device
- Versatile detector for various applications
- Compact field device with integrated evaluation unit
- Communication via HART, Foundation Fieldbus or Profibus PA
- Communication can be switched from Bus to HART at any time
- High operational safety, FMEDA with SFF 96 %
- Inexpensive and solid system for standard applications.

Robust compact device for high demands
The level measurement system LB 490 Uni-Probe is a proven compact device provided with a robust stainless steel housing. It comes at a reasonable price, is reliable and precise and only requires very little source activity. It features all common communication capabilities such as HART, Profibus PA and Foundation Fieldbus. A FMEDA study revealed a SFF (Safe Failure Fraction) of 96 %. This is an excellent result and an impressive testimony of the high reliability and operational safety provided by these systems.
**Monitored current output**

By monitoring the current output, it is ensured that the correct measurement values are displayed. The device constantly compares the actual flowing current with the target value. In the event of deviations, a failure current is generated. A Watch Dog Timer monitors the functioning of the CPU simultaneously.

**Communication**

The following user interfaces are available for communication and parameter settings:

**HART**
- HART communicator
- DTM for FDT
- Siemens Simatic PDM

**Profi Bus PA**
- Siemens Simatic PDM
- Alternatively also via HART

**Foundation Fieldbus (FF)**
- HART communicator
- Process control system
- Alternatively also via HART

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**LB 490**

**Detector operating data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>100 ... 240 VAC, ±10 %, 50 ... 60 Hz, 15 VA</td>
</tr>
<tr>
<td></td>
<td>24 VDC (18 ... 32 VDC), 15 W; 24 VAC +10 %/-15 %, 50 ... 60 Hz, 15 VA</td>
</tr>
<tr>
<td>Cable connections</td>
<td>4 cable entries, 3/4 inch, NPT, closed with blind plug</td>
</tr>
<tr>
<td>Option: metric adapters and cable glands upon request</td>
<td></td>
</tr>
<tr>
<td>maximum cable length</td>
<td>3300 m (120 ft), 1600 m (250 ft), 800 m (500 ft)</td>
</tr>
<tr>
<td>Wire cross-section</td>
<td>0.5 ... 1.5 mm²</td>
</tr>
<tr>
<td>Housing material</td>
<td>Stainless steel ISO 1.4301 / AISI 304</td>
</tr>
<tr>
<td>Water cooling</td>
<td>Options, max. 6 bar</td>
</tr>
<tr>
<td>Cascading</td>
<td>up to 8 detectors</td>
</tr>
</tbody>
</table>

**Signal inputs and outputs**

**Signal output**
- HART 4 ... 20 mA potential-free, active or passive
- max. impedance: 500 Ω (active)
- Voltage supply: 12 V ... 24 V (passive)
- max. impedance at 12 V: 250 Ω and/or 24 V: 500 Ω (passive)
- Option: intrinsically safe HART current output 4 ... 20 mA, potential-free, passive
- Voltage supply: 12 ... 30 V, voltage drop <3.5 V, 20 m signal cable (blue), pre-assembled
- Exi IIB: L≤14.78 mH; Con≤79 nF / Exi IIC: L≤2.18 mH; Con≤84 nF

**Bus output - Option**
- Bus interface: Profibus PA or Foundation Fieldbus
- Bus powered, typical 13 mA with 2xAI function blocks
- Option: intrinsically safe Bus interface, 20 m signal cable (blue), pre-assembled
- Approval according to ATEX and FISCO

**Digital inputs**
- Digi In: 1 Hold input, 1 Digi In 2: Empty adjustment

**Digital outputs**
- 1 relay (SPDT) for collective fault message
- 3 relays (SPDT) alternatively for: Hold signal, min. / max. alarm, detector temperature, radiation interference detection
- Permissible load at ohmic load: max. 5 A at 250 VAC or 30 VDC

**Interfaces**
- RS 232 for software update

**Data backup**
- in non-volatile memory