Conducell UPW Arc Sensors
Fully Compliant Ultra-pure Water (UPW) Quality Measurement Sensors

In-line measurement of conductivity is most important to ensure compliance. Conducell UPW Arc sensors are designed for the measurement of conductivity in pure and ultra-pure water according to the USP 645, to EP and JP. Two versions of the sensor are available to fit into different process connections: PG13,5 and TC 1.5”. Both versions offer fully compensated measurement signals with integrated diagnostics, history, calibration data and monitoring of ultra-pure water according to USP 645 in the Arc module.

The Arc module can be separated from the conductivity cell to verify the meter while the conductivity cell remains in the UPW pipe or tank. A UPW simulator (optional) with a traceable (to PTB, resp. NIST) high precision resistor can then be connected to the Arc module. The value of the certified resistor can be monitored on the process control system and/or on the optional Arc View Mobile. Both, the Arc module and the conductivity cell, form one sensor with identical serial numbers.

With ARC sensors, all the Important information is stored in the Sensor head

Benefits
- Fully compliant with USP, EP and JP
- Monitoring of ultra-pure water acc. to USP 645
- Various temperature compensations
- Ultra-pure water simulator to verify the meter onsite
- Sanitary design: all wetted parts are FDA approved
- Direct output: analog (4-20 mA) and digital (Modbus) interface
- Wireless communication option

Applications
- Ultra pure water
- Pure water
- Water for injection (WFI)
All Arc sensors offer fully compensated intelligent measurement signals with 4-20 mA and digital output and wireless transmission using the optional Arc Wi adapter.

The first 4–20 mA analog interface is a two-wire interface and can be powered directly from 4–20 mA. The first 4–20 mA and the digital RS485 are three-wire interfaces and require a separate power supply.

USP warning and alarm outputs are connected to NPN transistors inside the sensor which can be used according to open collectors scheme.

### Example of connection for 4-20 mA sensor output in two-wire mode

- **VP pin**
- **Function**
- **VP Cable**
- **A**
  - 4-20 mA #2
  - Core black transparent
- **B**
  - 4-20 mA #1
  - Shield black
- **C**
  - Power supply
  - Core red transparent
- **D**
  - Ground
  - Shield red
- **E**
  - USP warning
  - White
- **F**
  - USP alarm
  - Green
- **G**
  - RS485(A)
  - Yellow
- **H**
  - RS485(B)
  - Brown

**Power supply**
- 7 to 30 V DC
- 150 mW

**Process connection:** Tri Clamp 1.5", G 1¼", PG 13.5, NPT ¾"

### Ordering Information

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Process connection</th>
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<tbody>
<tr>
<td>HT243579</td>
<td>Conducell UPW Arc 13.5</td>
<td>PG 13.5</td>
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<tr>
<td>HT243578</td>
<td>Conducell UPW Arc TC 1.5&quot;</td>
<td>Triclamp 1.5</td>
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</tbody>
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### Accessories

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
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<tbody>
<tr>
<td>HT243690</td>
<td>ARC view mobile</td>
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<tr>
<td>HT243460</td>
<td>ARC Wi 1G adaptor BT</td>
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<tr>
<td>HT243470</td>
<td>ARC Wi 2G adaptor BT</td>
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<td>HT243499</td>
<td>ARC wireless convertor BT</td>
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<tr>
<td>HT243580</td>
<td>UPW simulator</td>
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<tr>
<td>HT355263</td>
<td>Sensor data cable VP 8, 1 m</td>
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<tr>
<td>HT355264</td>
<td>Sensor data cable VP 8, 3 m</td>
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<td>HT355265</td>
<td>Sensor data cable VP 8, 5 m</td>
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<td>HT355266</td>
<td>Sensor data cable VP 8, 10 m</td>
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<td>HT355219</td>
<td>Sensor cable VP8 – 5 m</td>
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<tr>
<td>HT355220</td>
<td>Sensor cable VP8 – 10 m</td>
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