

## IN-LINE MULTI-PARAMETER WATER SENSOR

Chlorine, Conductivity, Pressure, Temperature

### Applications: Drinking Water Security

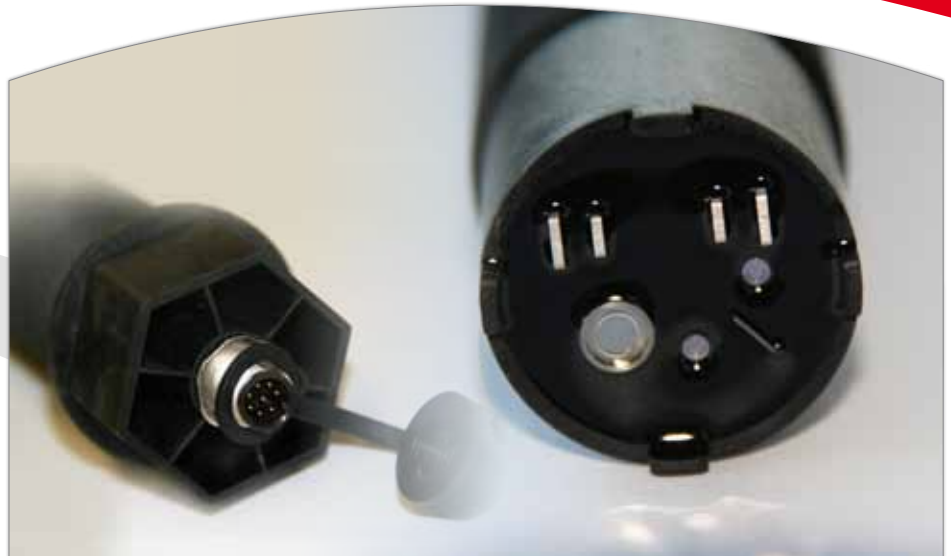
- > Real-time, in-line monitoring of key parameters in the water distribution system
- > Detection of any changes in your water quality commonly caused by leaks, pipe corrosion and biofouling effects, etc.
- > Disinfection process optimization

### Benefits

- > Real time water network monitoring
- > In-line water contaminant identification
- > Efficient control of water distribution

### Main features

- > Measurement of the main disinfection species
- > No interference with chloramines
- > Chemical free operation
- > Annual maintenance and calibration
- > Easy field installation with direct insertion in pipe, under pressure, using standard collar and valve
- > Battery operated
- > Real time telemetry data transmission to a central server



### General Description

The KAPTA™ 3000-AC4 probe has been specifically developed to enhance the management and control of the drinking water distribution network. The KAPTA™ 3000-AC4 monitors the important water parameters chlorine, conductivity, pressure and temperature using innovative, integrated technologies. The chlorine is measured using a three electrode amperometric sensor designed to monitor the active chlorine (HOCl). The pressure sensor uses a silicium piezoresistive cell and the conductivity is a measurement using four electrodes. These integrated sensors require no maintenance or recalibration and allow for the online monitoring of the drinking water distribution network systems.

The KAPTA™ 3000-AC4 continuously measures and stores the 24 last measurements based on the chosen data acquisition mode. The communication module (IP68) queries the probe to allow real time telemetry data transmission to a central server. All the data measured by the probe is organized into an easy to use interface for the operator.

The design of the KAPTA™ 3000-AC4 probe and its use and mode of communication have been designed to facilitate its implementation and application on site. This innovative, modern and reliable monitoring solution provides real-time control of the distributed water quality.

*KAPTA™ new generation probe is the answer from ENDETEC™ to in-line water sensing needs. With a complete line of amperometric probes, KAPTA™ product range offers unique environmental detection solutions for water quality distribution networks.*

**YOUR WATER QUALITY UNDER CONTROL!**

# KAPTA 3000-AC4

## IN-LINE MULTI-PARAMETER WATER SENSOR

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### Sensor Specifications

|                                     |   |   |   |
|-------------------------------------|---|---|---|
| General specifications              | <ul style="list-style-type: none"> <li>Detection of active chlorine (HOCl)</li> <li>Measurement of conductivity, pressure and temperature</li> <li>Reagent free multi-parameter probe</li> <li>Real in-situ, online active chlorine measurement</li> <li>Miniaturized low power consumption sensor probe</li> </ul>   |   |   |
| Operating range                     | 1. Chlorine HOCl (2X)   | pH range                                      | <ul style="list-style-type: none"> <li>5 – 9</li> <li>Lower pH than 5 can damage the sensor head irreversibly</li> </ul>  |
|                                     | <ul style="list-style-type: none"> <li>HOCl: 0.01mg/l – 2.0 mg/l</li> <li>Measurement accuracy: ± 0.03 ppm; ± 5%</li> <li>Sensor output resolution: 0.01 ppm</li> <li>Output communication resolution: 0.01 ppm</li> <li>Response time : &lt; 30s</li> </ul>  | Operating temperature range                   | 0 – 40 °C   |
|                                     | 2. Conductivity   | Pressure                                      | 0-10 bar,<br>Over pressure: 30 bar (435 psi)  |
|                                     | <ul style="list-style-type: none"> <li>Range: 50 – 1000 µScm-1</li> <li>Measurement accuracy: ± 5 µScm-1; ± 5%</li> <li>Sensor output resolution: 1 µScm-1</li> <li>Output communication resolution: 5 µScm-1</li> </ul>  | Long term stability                           | 1 year  |
|                                     | 3. Pressure   | Flowrate                                      | Minimum 0.03 m/s<br>Maximum 1.5 m/s (Tested over one year)  |
|                                     | <ul style="list-style-type: none"> <li>Range: 0 – 10 bar (145 psi)</li> <li>Measurement accuracy at 25°C : ± 50mbar</li> <li>Measurement accuracy over temperature (0-40°C) : ± 100mbar</li> <li>Sensor output resolution : 2 mbar</li> <li>Output communication resolution: 50 mbar</li> </ul>   | Data logging                                  | <p><b>1. Data acquisition mode</b><br/>Data send using RS232 under MODBUS™ protocol<br/>NORMAL: 1 averaged measure every hour<br/>TURBO: 1 averaged measure every 5 min</p> <p><b>2. Probe Data storage</b><br/>24 last measurements with maximum, average and minimum measures sent in only one SMS and the last measure</p> <p><b>3. GSM Data transmission</b><br/>Request to the probe: One time the 24 data<br/>NORMAL: Typically 1 time every 24 hours*<br/>TURBO: Typically 1 time every 2 hours*<br/>*(or every 15 min to 24 hours by step of 15 min)</p> <p><b>4. Radio Data transmission</b><br/>Request to the probe: 6 time the last measure<br/>Transmission of 12 data (6 data read from the probe every t/6 and the 6 previous data read)<br/>TURBO : Typically 1 time every t=30 min.<br/>(or every t=30 min to t=6 hrs by step of 30 min)</p> |
| Probe Power Supply                  | 3.2 – 5 V DC; Battery operated: Replaceable Battery Pack included   |   |   |
| Probe cable length                  | 3 m   |   |   |
| Probe weight                        | 410 g   |   |   |
| Probe dimensions                    | <ul style="list-style-type: none"> <li>The sensor has been designed to fit directly in a pipe of external diameter D &gt; 60 mm or 2" with a threaded fitting</li> <li>Maximum pipe diameter: DN 300 for iron pipe and DN 250 for PVC/HDPE</li> <li>Length of the KAPTA™ probe : 300mm</li> <li>Diameter of KAPTA™ probe head 35 mm Thread 1"1/8 Gaz BSP Cylindrical</li> </ul> |   |   |
| GSM Communication Module Dimensions | L= 110 x H= 240 x D=54 mm   | Radio 868 MHz Communication Module Dimensions | L= 80 x H= 160 x D=70 mm  |

### Ordering Information

**KAPTA™ 3000-AC4**

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