# ULTRA.sens® H2S-AK100



H<sub>2</sub>S



#### **Applications**

- > OEM gas module
- > Biogas monitoring
- > Industrial gas analyzer
- > Environmental monitoring
- > Process control
- > Instrumentation

#### Description

### Features & Benefits

- > High dynamic range
- > Gas tight O-ring sealing
- > Different Interfaces (RS232, CANbus)
- For the detection of hydrogen sulphide an EDL (electrodeless gas discharge lamp) is used. In the EDL,  $N_2$  and  $O_2$  are converted to NO and produce selective UV radiation. This method is called UV resonance spectroscopy (UVRAS).

In the spectral range from 214nm to 228nm,  $H_2S$  can be reliably detected in concentrations between 5000ppm and 100ppm with this module.

#### Options

- > O2.sens (Oxygen sensor)
- > P.sens (Pressure sensor)
- > Thermobox
- > Analog voltage board

#### Accessoires

> MARS Tool (Control and data logging)

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For more and most recent information please have a look on our website at www.witec-sensorik.de/en/

# ULTRA.sens® H2S-AK100

 $H_2S$ 

|                             | gas channel 1 | gas channel 2 | gas channel 3    | gas channel 4 | Opt | ion* |
|-----------------------------|---------------|---------------|------------------|---------------|-----|------|
| <i>Single</i><br>Gas Module |               |               | H <sub>2</sub> S |               | 02  | Ρ    |

\* P = pressure sensor

#### List of measurement ranges

| Measuring range* | H <sub>2</sub> S |
|------------------|------------------|
| 100Vol.%         |                  |
| 50Vol.%          |                  |
| 30Vol.%          |                  |
| 20Vol.%          |                  |
| 10Vol.%          |                  |
| 5Vol.%           |                  |
| 1Vol.%           |                  |
| 5000ppm          | ~                |
| 2000ppm          | ~                |
| 1000ppm          | ✓                |
| 500ppm           | ✓                |
| 300ppm           |                  |
| 100ppm           | ✓                |
| 50ppm            |                  |
| 10ppm            |                  |

\* Full scale value (F.S.)



## ULTRA.sens® H2S-AK100

 $H_2S$ 

| General features                |  |
|---------------------------------|--|
| Measurement principle           | NDUV                                   |
| Measurement range               | see list of measurement ranges         |
| Gas flow                        | 0.1 – 1.5 l/min                        |
| Dimensions                      | 300mm x 98mm x 80mm                    |
| Weight                          | Approx. 1670g                          |
| Tube connector                  | 4/6mm tube                             |
| Lifetime of UV radiation source | > 8 000h <sup>1</sup>                  |
| Measuring response <sup>2</sup> |  |
| Warm-up time                    | 1 min (initial), <60 min <sup>3</sup>  |
| Response time(t <sub>90</sub> ) | 1.5s – 15s <sup>4</sup>                |
| Detection limit (3· $\sigma$ )  | < 1ppm <sup>5</sup>                    |
| Linearity error                 | < ± 1% F.S.                            |
| Repeatibility                   | ± 0.5% F.S.                            |
| Long term stability (zero)      | < ± 1% F.S./24h                        |
| Long term stability (span)      | < ± 1% F.S./month                      |
| Temp. Influence zero            | < 1% F.S./10K                          |
| Temp. Influence span            | < 2% F.S./10K                          |
| Pressure influence              | < 1.5% /10 hPa of reading <sup>6</sup> |
| Electrical inputs and outputs   |  |
| Supply voltage                  | 24 (15 – 30) VDC                       |
| Supply current (peak)           | < 0.4A                                 |
| Average power consumption       | < 7.5W                                 |
| Digital output signal           | RS 232 (ASCII) or CAN bus              |
| Climatic conditions             |  |
| Operating temperature           | 25 – 45 °C                             |
| Storage temperature             | -20 – 60 °C                            |
| Air pressure                    | 800 – 1200 hPa (mbar)                  |
| Ambient humidity                | 0 – 95% rel. humidity (not condensing) |

F.S. full scale

<sup>1</sup>EDL: 50% intensity drop

<sup>2</sup> related to  $P_a = 1020hPa$ ;  $T_a = 25^{\circ}C$  // flow = 11/min

<sup>3</sup> full specification

<sup>4</sup> depends on digital filter

<sup>5</sup> at zero point

<sup>6</sup> without pressure compensation



THE GAS MEASUREMENT COMPANY