

# KHD10T Series Hydrogen Gas Detectors

The [KHD10T](#) Series is a family of 10 fixed hydrogen detectors and hydrogen monitors that can be used as complete stand-alone hydrogen gas detectors for monitoring hydrogen gas levels and hydrogen gas leaks in industrial and commercial facilities.

The [KHD10T](#) Series detect hydrogen gas in the linear range of 0 to 100% LEL (0 to 40,000 PPM or 0 to 4% hydrogen by volume in air). These hydrogen monitors allow early warning detection of highly flammable hydrogen gas, and prevention of hazardous and unsafe conditions from potential hydrogen gas buildup.

The [KHD10T](#) Series integrate a proprietary [KHS-200](#) MEMS micropellistor hydrogen gas sensor, based on Kebaili Corp. (1x1) mm MEMS chip micro-hotplate platform technology.

## KHD10T Series Hydrogen Detectors & Hydrogen Monitors Selector Guide

KHD10T Series	Internal H2 Sensor	Remote H2 Sensor	12 to 35 VDC	100 to 240 VAC	AC Adapter	4-20 mA	Dual Alarm Relays
<a href="#">KHD10TL1</a>	<a href="#">KHS150</a>		•			•	•
<a href="#">KHD10TL1a</a>	<a href="#">KHS150</a>		•				•
<a href="#">KHD10TL1b</a>	<a href="#">KHS150</a>		•			•	
<a href="#">KHD10TL2</a>	<a href="#">KHS150</a>			•		•	•
<a href="#">KHD10TL3</a>	<a href="#">KHS150</a>				•	•	•
<a href="#">KHD10TR1</a>		<a href="#">KHS151</a> & <a href="#">KHS152</a>	•			•	•
<a href="#">KHD10TR1a</a>		<a href="#">KHS151</a> & <a href="#">KHS152</a>	•				•
<a href="#">KHD10TR1b</a>		<a href="#">KHS151</a> & <a href="#">KHS152</a>	•			•	
<a href="#">KHD10TR2</a>		<a href="#">KHS151</a> & <a href="#">KHS152</a>		•		•	•
<a href="#">KHD10TR3</a>		<a href="#">KHS151</a> & <a href="#">KHS152</a>			•	•	•



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## Hydrogen Gas Sensors

The [KHS-200](#) MEMS hydrogen gas sensor detection principle is microcatalytic oxidation reaction of hydrogen gas. It is highly sensitive and selective to hydrogen gas with no cross-sensitivity to methane gas.

The [KHS150](#) hydrogen gas sensor is a MEMS-based micropellistor sensor, it is user replaceable, and it is internally mounted inside the [KHD10TL1](#), [KHD10TL1a](#), [KHD10TL1b](#), [KHD10TL2](#) and [KHD10TL3](#) hydrogen gas detectors.

The [KHS151](#) hydrogen gas sensor is a MEMS-based micropellistor sensor, it is user replaceable, and it is remotely installed up to 7.6 m (25 feet) away from the [KHD10TR1](#), [KHD10TR1a](#), [KHD10TR1b](#), [KHD10TR2](#) and [KHD10TR3](#) hydrogen gas detectors.

The [KHS152](#) hydrogen gas sensor is a [KHS151](#) connected to a foil shielded three conductors 25 feet cable.

## FEATURES

- Intelligent microprocessor-based design, with continuous self-testing operation.
- Automatic digital calibration with no trim pots or potentiometers user adjustment.
- Dual audible and visual low and high alarms at 25% & 50% LEL.
- Audible and visual fault alarm.
- Dual low and high alarm relays (10 A @ 250 VAC & 10 A @ 30 VDC)
- User selectable NO or NC low and high alarm relays.
- Factory preset low and high alarms at 25% & 50% LEL (1% & 2% H<sub>2</sub>).
- 4-20 mA analog output, linear from 0 to 100% LEL with 1% LEL resolution.

## SPECIFICATIONS

- Sensor Type: [KHS-200](#) hydrogen gas specific MEMS micropellistor sensor.
- Sensor Life: Typical 5+ years.
- Detection Range: 0-100% LEL
- Detection Accuracy: +/- 0.5% LEL
- Zero Drift: < +/- 0.1 mV/month
- Linearity: Linear from 0 to 100% LEL
- Response Time: T<sub>50</sub> = 1 sec & T<sub>90</sub> = 3 sec
- Recovery Time: 2 sec
- Input Power: 100 mA @ 12 VDC
- Relay Ratings: 10 A @ 250 VAC or 10 A @ 30 VDC, Dry Contact Relays.
- Analog Output: 0-20 mA (200 Ohms)
- Analog Output: 0-2.0 mA => Fault
- Analog Output: 3.0 mA => Calibration Request
- Analog Output: 3.5 mA => Calibration in Progress
- Analog Output: 4-20 mA => 0-100% LEL, with 1% LEL resolution.
- Analog Output: > 20 mA => Over-range
- Temperature Range: -20°C to 55°C (-4°F to 131°F)
- Humidity Range: 0% to 100% RH (non-condensing) during continuous operation.
- Enclosure: Polycarbonate, gray color.
- Dimensions: (130 x 70 x 50) mm, (5.125 x 2.75 x 1.968)".
- Weight: 200 g (7 oz)

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- Warranty: 36 months on the electronics & 12 months on the sensor.
- Made in USA

The high quality injection molded polycarbonate enclosure offers excellent chemical corrosion protection and high impact resistance.

## APPLICATIONS

- Battery rooms
- Laboratory monitoring
- Process gas leak detection
- Uninterruptible power supplies (UPS)
- Battery charging systems
- Hydrogen powered fuel-cell applications
- Industrial and commercial applications

## ACCESSORIES

- [KHS150](#) hydrogen gas sensor
- [KHS151](#) hydrogen gas sensor
- [KHS152](#) hydrogen gas sensor
- [KCC10](#) calibration cup
- [KAC10](#) universal AC adapter (12 VDC)
- [KAC15](#) universal AC adapter (12 VDC)

Like any other catalytic bead sensors, the MEMS micropellistor hydrogen gas sensor is susceptible to a variety of poisoning compounds including silicone, lead, chloro-fluoro carbons (CFC's) and high concentrations of hydrogen sulfide (H<sub>2</sub>S).

## WARRANTY INFORMATION

Kebaili Corp. warrants its products to be free of defects in materials or workmanship and will repair or replace without charge any hydrogen gas detector that is found to be defective for three years for the electronics and one year for the hydrogen gas sensor after the date of purchase. Hydrogen gas sensors that are damaged by exposure to poisoning contaminants such as silicones, chlorine, halogenated compounds, hydrogen sulfide (H<sub>2</sub>S), or any polymerizing gas are not covered by this warranty. Further, hydrogen gas sensors that have failed due to incorrect hookup are not covered by this warranty.

Kebaili Corp. reserves the right to make the final determination of the nature of and responsibility for defective or damaged equipment. Equipment that has been repaired or modified by the user, damaged as the result of an accident, incorrectly installed, or used in an application or environment for which it was not intended is not covered by this warranty. Kebaili Corp. responsibility under this warranty shall be limited to the repair or replacement of the defective equipment at its option when it is returned to the factory transportation prepaid. The defective unit will be repaired or replaced free of charge to the customer and returned transportation prepaid. In all cases, this warranty is limited to the cost of the equipment.