

# H<sub>2</sub> DETECTOR (12V/PWM) FH2-HY04-GS2

for HYDROGEN LEAK DETECTION

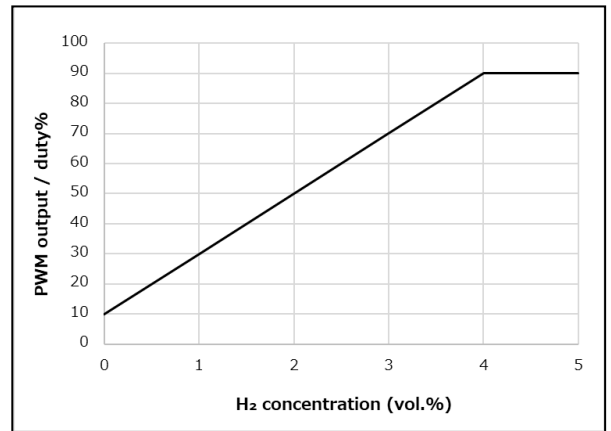
FH2-HY04-GS2 is a hydrogen detector, specifically designed for detecting leaks in hydrogen-powered mobility solutions, such as fuel-cell vehicles (FCVs).

Equipped with a proprietary catalytic combustion-type gas sensor element developed by Nissha FIS specifically for FCV applications, this product offers rapid startup and response performance, along with long-term durability.

In combination with sophisticated electronics and software design, we offer the following features in hydrogen leak detection.

**Features**

- Quick Start-Up Time
- Rapid Response Speed
- Long Life
- High Selectivity



**Figure 1: Output characteristics**

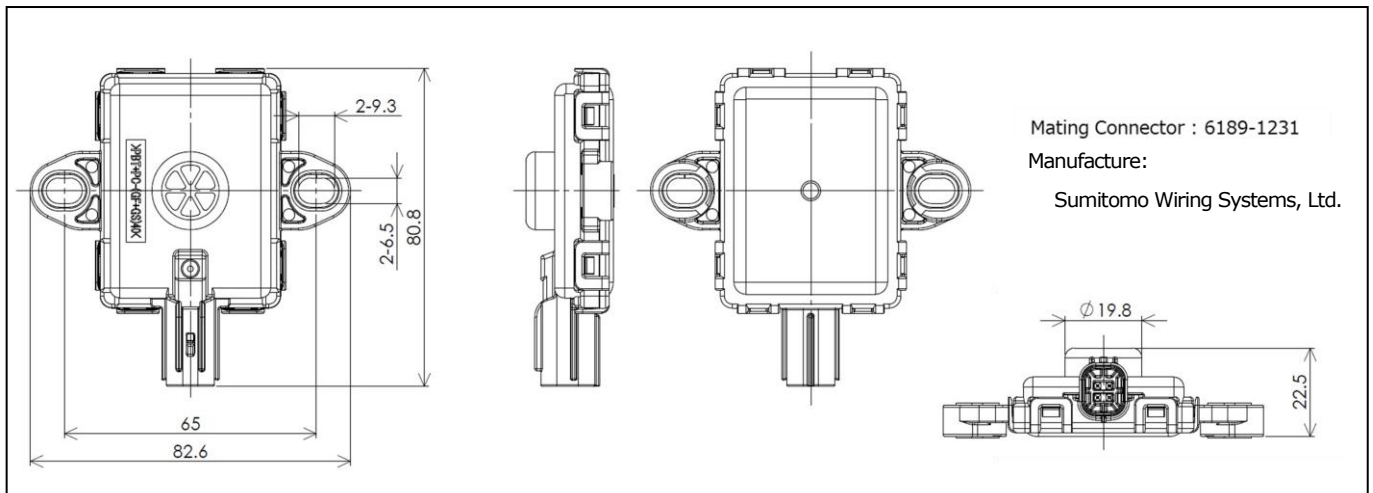
**Basic Operation**

When a supply voltage (12VDC) is applied, hydrogen gas measurement begins within 1 second, and a PWM signal corresponding to the hydrogen concentration is output. (Figure 1)

## Specifications: FH2-HY04-GS2

Item	Specification
Sensing Principle	Catalytic combustion type
Detection Gas	Hydrogen
Concentration Range	0 ~ 4 vol.% in air
Initial Accuracy	± 10 % (above 1 vol.%)
Start-Up Time	≤ 1 second
Speed of Response (T90)	≤ 3 seconds
Supply Voltage	12 V (9 V ~ 16 V) DC
Power Consumption	≤ 1.0 W (stable)
Output Signal	PWM (250 Hz, 10 ~ 90 % duty); negative logic
Operating Temperature & Humidity	-35 °C ~ 85 °C / < 100 %RH (no condensation)
Storage Temperature & Humidity	-40 °C ~ 105 °C / < 100 %RH (no condensation)
IP Class	IP6K7
Dimensions	82.6 (W) × 80.8 (D) × 22.5 (H) mm
Weight	58 g

### DIMENSIONS / CONFIGURATIONS



In the interest of continued product improvement, we reserve the right to change design features without prior notice.

#### Contact :

**Nissha Co., Ltd. Devices Business Unit**  
 3 Mibu Hanai-cho, Nakagyo-ku, Kyoto 604-8551, Japan

URL : <https://connect.nissha.com/gassensor/en/product/hydrogendetector/>  
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# H<sub>2</sub> DETECTOR (12V/CAN)

## FH2-HY05-GS2

### for HYDROGEN LEAK DETECTION

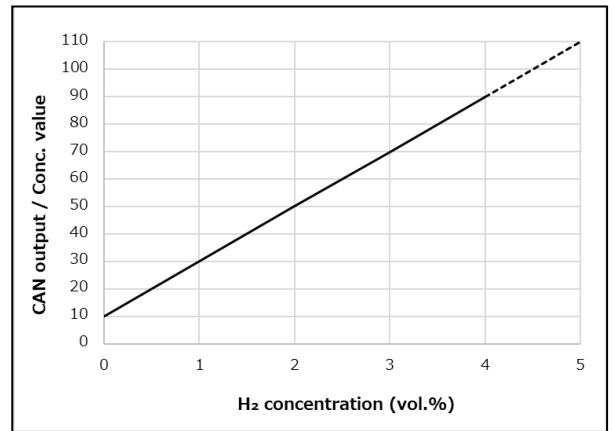
FH2-HY05-GS2 is a hydrogen detector, specifically designed for detecting leaks in hydrogen-powered mobility solutions, such as fuel-cell vehicles (FCVs).

Equipped with a proprietary catalytic combustion-type gas sensor element developed by Nissha FIS specifically for FCV applications, this product offers rapid startup and response performance, along with long-term durability.

In combination with sophisticated electronics and software design, we offer the following features in hydrogen leak detection.

**Features**

- **Quick Start-Up Time**
- **Rapid Response Speed**
- **Long Life**
- **High Selectivity**



**Figure 1: Output characteristics**

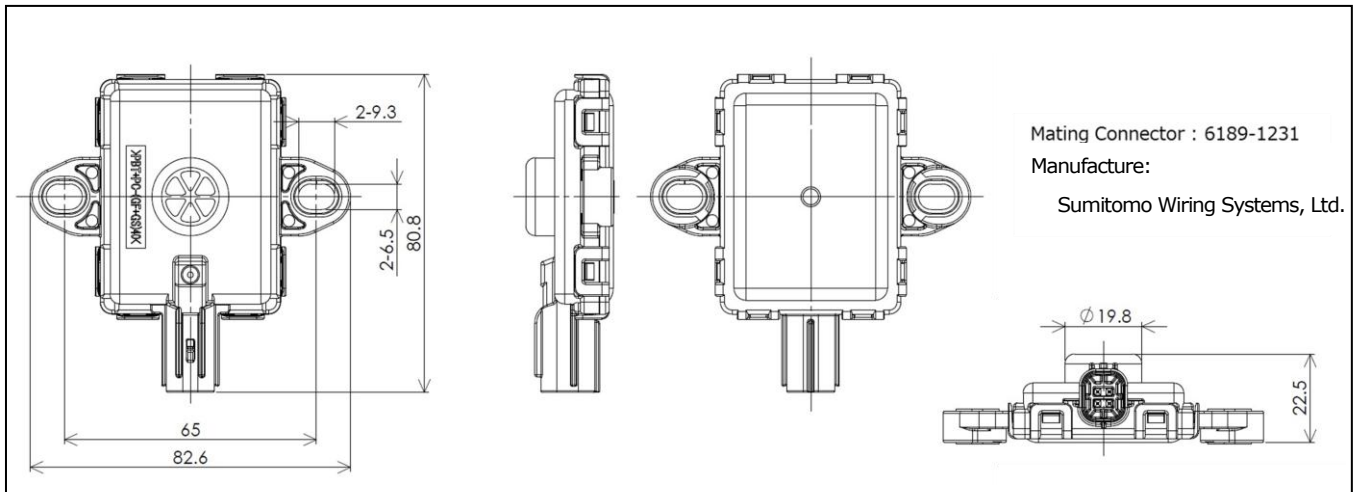
**Basic Operation**

When a supply voltage (12VDC) is applied, hydrogen gas measurement begins within 1 second, and a PWM signal corresponding to the hydrogen concentration is output. (Figure 1)

## Specifications: FH2-HY05-GS2

Item	Specification
Sensing Principle	Catalytic combustion type
Detection Gas	Hydrogen
Concentration Range	0 ~ 4 vol.% in air
Initial Accuracy	± 10 % (above 1 vol.%)
Start-Up Time	≤ 1 second *Concentration output starts after 3 sec.
Speed of Response(T90)	≤ 3 seconds
Supply voltage	12 V (8 V ~ 16 V) DC
Power Consumption	≤ 0.5 W (stable)
Output Signal	CAN (standard format) 、 Baud rate: 500 kbps
Output Interval	100 msec
Operating Temperature & Humidity	-40 °C ~ 105 °C / < 100 %RH (no condensation)
Storage Temperature & Humidity	-40 °C ~ 105 °C / < 100 %RH (no condensation)
IP Class	IP6K7
Dimensions	82.6 (W) × 80.8 (D) × 22.5 (H) mm
Weight	60 g

## DIMENSIONS / CONFIGURATIONS



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# H<sub>2</sub> DETECTOR (24V/CAN)

## FH2-HY06-GS2, FH2-HY06-SI2

### for HYDROGEN LEAK DETECTION

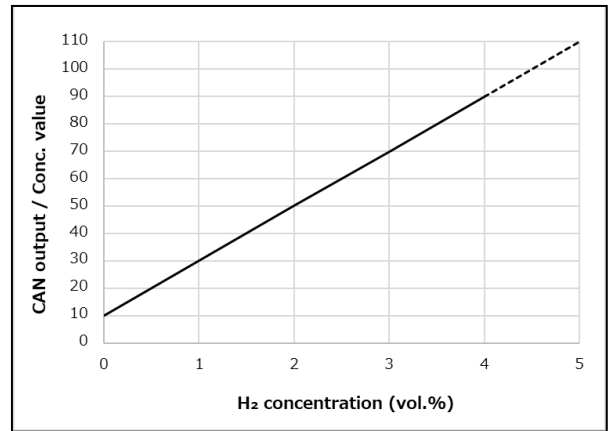
FH2-HY06-GS2,SI2 is a hydrogen detector, specifically designed for detecting leaks in hydrogen-powered mobility solutions, such as fuel-cell vehicles (FCVs).

Equipped with a proprietary catalytic combustion-type gas sensor element developed by Nissha FIS specifically for FCV applications, this product offers rapid startup and response performance, along with long-term durability.

In combination with sophisticated electronics and software design, we offer the following features in hydrogen leak detection.

**Features**

- Quick Start-Up Time
- Rapid Response Speed
- Long Life
- High Selectivity



**Figure 1: Output characteristics**

**Basic Operation**

When a supply voltage (12VDC) is applied, hydrogen gas measurement begins within 1 second, and a PWM signal corresponding to the hydrogen concentration is output. (Figure 1)

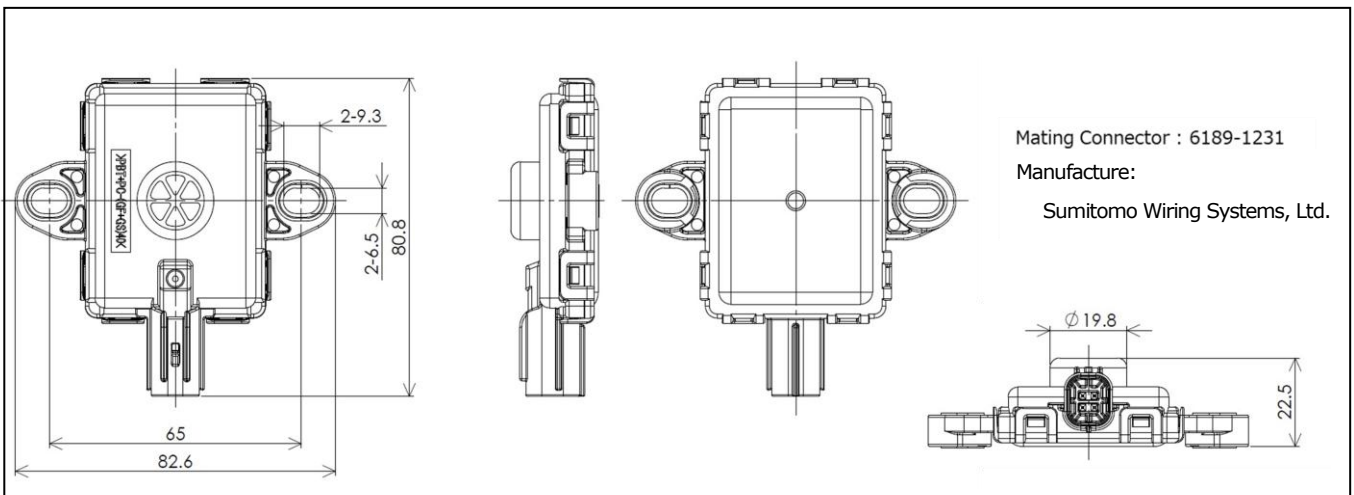
FH2-HY06-GS2  
FH2-HY06-SI2

**SPECIFICATIONS**

## Specifications: FH2-HY06-GS2, FH2-HY06-SI2

Item	Specification
Sensing Principle	Catalytic combustion type
Detection Gas	Hydrogen
Concentration Range	0 ~ 4 vol.% in air
Initial Accuracy	± 10 % (above 1 vol.%)
Start-Up Time	≤ 1 second
Speed of Response(T90)	≤ 3 seconds
Supply Voltage	24 V (16 V ~ 32 V) DC
Power Consumption	≤ 0.5 W (stable)
Output Signal	CAN (expanded format) 、 [ HY06-GS2 ] Baud rate: 250 kbps [ HY06-SI2 ] Baud rate: 500 kbps
Output Interval	100 msec
Operating Temperature & Humidity	-40 °C ~ 85 °C / < 100 %RH (no condensation)
Storage Temperature & Humidity	-40 °C ~ 105 °C / < 100 %RH (no condensation)
IP Class	IP6K7
Dimensions	82.6 (W) × 80.8 (D) × 22.5 (H) mm
Weight	60 g

### DIMENSIONS / CONFIGURATIONS



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# H<sub>2</sub> DETECTOR (5V/ANALOG)

## FH2-HY11, FH2-HY11-HC

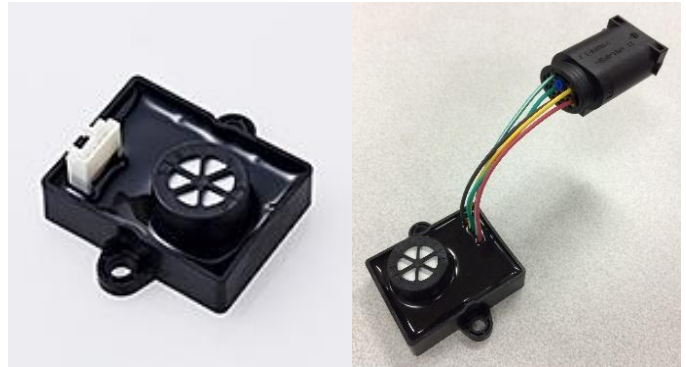
for HYDROGEN LEAK DETECTION

FH2-HY11,HC is a hydrogen detector, specifically designed for detecting hydrogen leaks in stationary fuel cell systems, including residential, commercial, and industrial applications. Equipped with a proprietary catalytic combustion-type gas sensor element developed by Nissha FIS specifically for FCV applications, this product offers rapid startup and response performance, along with long-term durability.

In combination with sophisticated electronics and software design, we offer the following features in hydrogen leak detection.

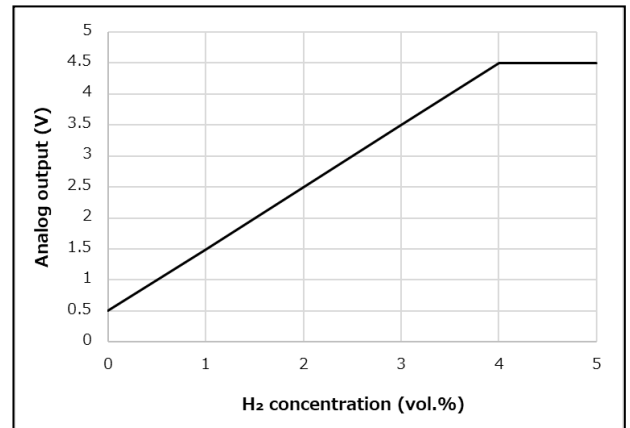
**Features**

- Quick Start-Up Time
- Rapid Response Speed
- Long Life
- High Selectivity



**FH2-HY11**

**FH2-HY11-HC**



**Figure 1: Output characteristics**

**Basic Operation**

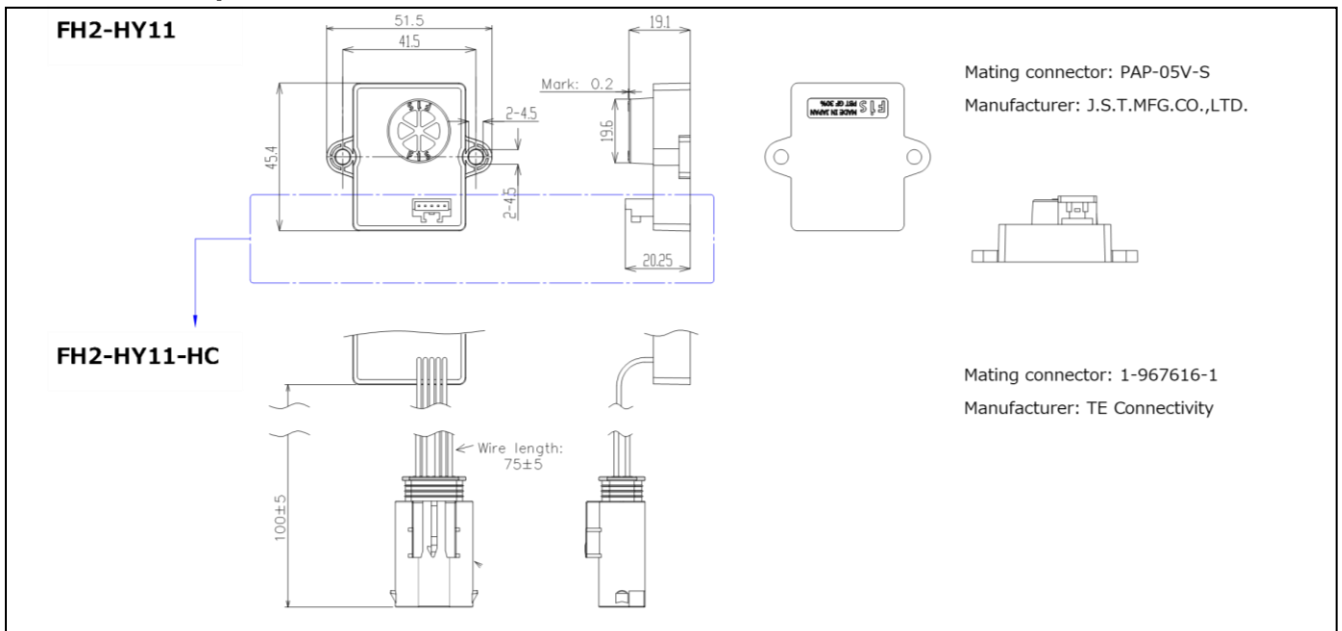
When a supply voltage (5VDC) is applied, hydrogen gas measurement begins within 1 second. An analog signal (voltage output: 0.5-4.5V) is generated according to the hydrogen concentration.

**SPECIFICATIONS**

## Specifications: FH2-HY11, FH2-HY11-HC

Item	Specification
Sensing Principle	Catalytic combustion type
Detection Gas	Hydrogen
Concentration Range	0 ~ 4 vol.% in air
Initial Accuracy	± 10 % (above 1 vol.%)
Start-Up Time	≦ 1 second
Speed of Response(T90)	≦ 3 seconds
Supply Voltage	5 V ( 4.75 V ~ 5.25 V ) DC
Power Consumption	≦ 0.25 W (stable)
Output Signal	Analog 0.5 V ~ 4.5 V DC
Output Interval	100 msec
Operating Temperature & Humidity	-35 °C ~ 85 °C / < 100 %RH (no condensation)
Storage Temperature & Humidity	-40 °C ~ 85 °C / < 100 %RH (no condensation)
IP Class	—
Dimensions	{ HY11 } 51.5 (W) × 45.4 (D) × 20.25 (H) mm { HY11-HC } 51.5 (W) × 45.4 (D) × 19.3 (H) mm *w/o Connector Cable
Weight	{ HY11 } 25 g / { HY11-HC } 36 g

## DIMENSIONS / CONFIGURATIONS



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