



# HYDROGEN Applications

PRESSURE SWITCHES & TRANSDUCERS



# HYDROGEN

being the lightest and most abundant element in the universe, is used extensively in various sectors such as petrochemistry, energy, mobility, and production. Despite its potential, safety precautions are necessary due to its explosive nature. In recent years, hydrogen technology has developed significantly, playing a crucial role in climate-neutral energy generation and storage. With the ability to be used as a colorless gas or liquid, hydrogen is a versatile and promising element for a sustainable future.



# SUCO ESI NORTH AMERICA

- Over 70 years of experience in pressure monitoring
- Our products are 100% function tested and approved for hydrogen before they leave our production facility
- Protection against overload, overvoltage or short circuit
- Compliance with numerous national and international standards and certifications, such as ISO 9001: 2015

Trust us to provide you with top-quality pressure sensors that meet your needs.



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# Hydrogen Mechanical Pressure Switches

SUCO ESI North America offers a wide range of pressure switches that are specifically designed for hydrogen applications. Our pressure switches, which are available in NO, NC, and CO configurations, are not only compact and robust but also H2-compliant. Made of SAE 316L stainless steel, they can withstand variable pressure ranges from 0.1 bar to 400 bar, ensuring reliable and accurate performance in even the harshest environments.

We also offer various threads and pre-wired versions, which can be customized to meet your specific requirements.

## Series 0H86, 0H87, 0H83

| Rated operating voltage $U_e$              | Rated operational current $I_e$ | Usage category |
|--|---------------------------------|----------------|
| 250 VAC 50 / 60 Hz                         | 4 A                             | AC12           |
| 250 VAC 50 / 60 Hz                         | 1 A                             | AC14           |
| 24 VDC                                     | 4 / 2 A                         | DC12 / DC13    |
| 50 VDC                                     | 2 / 1 A                         | DC12 / DC13    |
| 75 VDC                                     | 1 / 0,5 A                       | DC12 / DC13    |
| 125 VDC                                    | 0,3 / 0,2 A                     | DC12 / DC13    |
| 250 VDC                                    | 0,25 / 0,2 A                    | DC12 / DC13    |
| Rated insulation voltage $U_i$             | 300 V                           |                |
| Rated impulse withstand voltage $U_{imp}$  | 2,5 kV                          |                |
| Conventional thermal electricity $I_{the}$ | 5 A                             |                |
| Switching overvoltage                      | < 2,5 kV                        |                |
| Rated frequency                            | DC and 50 / 60 Hz               |                |
| Rated current of the short-circuit device  | up to 5 A                       |                |
| Conditional short circuit current          | < 350 A                         |                |

# Hydrogen Mechanical Pressure Switches

## Series 0H64, 0H69, 0H86, 0H87, 0H96, 0H97, 0H83

|   |  |
|---|--|
| Temperature range                           | EPDM -22 °F ... +248 °F (EPDM -30 °C ...+120 °C)   |
| Burst pressure 0H64, 0H69                   | 10,152 psi (700 bar)   |
| Burst pressure 0H86, 0H96                   | 10,152 psi (700 bar)   |
| Burst pressure 0H87, 0H97, 0H83             | 14,503 psi (1,000 bar)   |
| Switching frequency                         | 200 / min  |
| Mechanical lifetime                         | 1.000.000 switching cycles (for diaphragm pressure switches, the service life applies only to switching pressures up to max. 50 bar) |
| Rate of pressure rise                       | ≤ 1.000 bar/s  |
| Hysteresis 0H64, 0H69                       | Not adjustable   |
| Hysteresis (only adjustable in the factory) | Adjustable average value 10 ... 30% depending on type  |
| Vibration resistance                        | 10 g; 5 ... 200 Hz Sinus; DIN EN 60068-2-6   |
| Shock resistance                            | 294 m/s <sup>2</sup> ; 14 ms Semi-sinus; DIN EN 60068-2-27, DIN EN 60068-2-27  |
| Protection class                            | IIP65 with attached cable plug, terminals IP00   |
| Weight 0H64, 0H69                           | appr. 90 g   |
| Weight 0H86 / 0H87, 0H96 / 0H97, 0H83       | appr.100 g   |

## Overview switching capacity and materials

| Type                               | 0H64 | 0H69 | 0H86 / 0H87 | 0H96 / 0H97 | 0H83 |
|------------------------------------|------|------|-------------|-------------|------|
| 5 ... 24 VDC                       |      |      |             | •           |      |
| 10 ... 42 VAC/DC                   | •    | •    |             |             |      |
| 10 ... 250 VAC/DC                  |      |      | •           |             | •    |
| 3 ... 50 mA                        |      |      |             | •           |      |
| 10 mA ... 4 A                      | •    | •    | •           |             | •    |
| Gold contacts                      |      |      |             | •           |      |
| Silver contacts                    | •    | •    | •           |             | •    |
| Adjustable hysteresis              |      |      | •           | •           | •    |
| Stainless steel 1.4404 (AISI 316L) | •    | •    | •           | •           | •    |

# Hydrogen Mechanical Pressure Switches

## OH64 hex 24

Diaphragm pressure switch up to max. 42 V with stainless steel housing for hydrogen applications

- Setting range: 1.4 - 725 psi (0.1 - 50 bar)
- Overpressure-proof up to 8,700 psi (600 bar)
- Normally closed (NC), normally open (NO)
- Housing made of stainless steel 1.4404 (AISI 316L)
- With push-in connection



| Setting range<br>(Tolerance for<br>room temperature) | External thread | Part number<br>NO contact →  : | Part number<br>NC contact → : |
|--|-----------------|--------------------------------|-------------------------------|
|--|-----------------|--------------------------------|-------------------------------|

### OH64 Diaphragm pressure switch with stainless steel housing

|  |                    |                         |                         |
|--|--------------------|-------------------------|-------------------------|
| 1.4– 14.5 (±2.9) psi<br>0.1 – 1 (±0,2) bar   | G 1/4-E ISO 1179-2 | OH64 - 403 41 - 2 - 080 | OH64 - 404 41 - 2 - 080 |
| 7.2 – 43.5 (±4.3) psi<br>0.5 – 3 (±0.3) bar  | G 1/4-E ISO 1179-2 | OH64 - 423 41 - 2 - 080 | OH64 - 424 41 - 2 - 080 |
| 14.5 – 145 (± 7.25) psi<br>1 – 10 (±0,5) bar | G 1/4-E ISO 1179-2 | OH64 - 407 41 - 2 - 080 | OH64 - 408 41 - 2 - 080 |
| 145 – 290 (±14.5) psi<br>10 – 20 (±1) bar    | G 1/4-E ISO 1179-2 | OH64 - 411 41 - 2 - 080 | OH64 - 412 41 - 2 - 080 |
| 290 – 725 (±29) psi<br>20 – 50 (±2) bar      | G 1/4-E ISO 1179-2 | OH64 - 415 41 - 2 - 080 | OH64 - 416 41 - 2 - 080 |

### Sealing materials - areas of application

|      |   |   |
|------|---|---|
| EPDM | Hydrogen, oxygen, water, forming gases,<br>all inert and non-toxic gaseous or liquid media ** | 2 |
|------|---|---|

\* Static value. Dynamic value 30 to 50 % lower.

\*\* We offer other seal and material combinations for numerous media.

# Hydrogen Mechanical Pressure Switches

**OH69**

hex 24

Piston pressure switch up to max. 42 V with stainless steel housing for hydrogen applications

- Setting range: 725 - 2,175 psi (50 - 150 bar)
- Overpressure-proof up to 8,700 psi (600 bar)
- Normally closed (NC), normally open (NO)
- Housing made of stainless steel 1.4404 (AISI 316L)
- With push-in connection or screw connection M3



| Setting range<br>(Tolerance for<br>room temperature) | External thread | Part number<br>NO contact →  : | Part number<br>NC contact → : |
|--|-----------------|--------------------------------|-------------------------------|
|--|-----------------|--------------------------------|-------------------------------|

**OH69** Piston pressure switch with stainless steel housing

|  |                   |                         |                         |
|--|-------------------|-------------------------|-------------------------|
| 725 – 2,175 (± 72.5) psi<br>50 – 150 (± 5) bar | G1/4-E ISO 1179-2 | OH69 - 419 41 - 2 - 080 | OH69 - 420 41 - 2 - 080 |
|--|-------------------|-------------------------|-------------------------|

Sealing materials - areas of application

|      |   |   |
|------|---|---|
| EPDM | Hydrogen, oxygen, water, forming gases,<br>all inert and non-toxic gaseous or liquid media ** | 2 |
|------|---|---|

\* Static value. Dynamic value 30 to 50 % lower.

\*\* We offer other seal and material combinations for numerous media.



# Hydrogen Mechanical Pressure Switches

## OH86 / OH87

hex 27

Diaphragm or piston pressure switch up to max. 250 V with plug-in connection for hydrogen applications

- Series OH86 setting range: 7.2 - 1,450 psi (0.5 - 100 bar)  
Series OH87 setting range: 725 - 2,900 psi (50 - 200 bar)
- Overpressure-proof up to 5,800 / 10,152 psi (400 / 700 bar)
- Changeover contact with silver contacts
- Housing made of stainless steel 1.4404 (AISI 316L)
- Hysteresis adjustable at the factory



| P <sub>max</sub> | Setting range | Tolerance at room temperature | External thread | Article number |
|------------------|---------------|-------------------------------|-----------------|----------------|
|------------------|---------------|-------------------------------|-----------------|----------------|

### OH86 Diaphragm pressure switch with plug-in connection

|                      |                                |                                  |                    |                      |
|----------------------|--------------------------------|----------------------------------|--------------------|----------------------|
| 5,801 psi (400 bar*) | 7.2- 72.5 psi (0.5 – 5 bar)    | ± 4.4 psi (±0.3 bar)             | G 1/4-E ISO 1179-2 | OH86- 457 41- 2- 080 |
|                      | 14.5- 145 psi (1 – 10 bar)     | ±72.5 psi (±0.5 bar)             |                    | OH86- 458 41- 2- 080 |
|                      | 145 - 725 psi (10 – 50 bar)    | ±43.5 psi (±3.0 bar)             |                    | OH86- 459 41- 2- 080 |
|                      | 145 - 1,450 psi (10 – 100 bar) | ±43.5- 72.5 psi (±3.0 – 5.0 bar) |                    | OH86- 461 41- 2- 080 |

### OH87 Piston pressure switch with plug-in connection

|                       |                                |                      |                    |                      |
|-----------------------|--------------------------------|----------------------|--------------------|----------------------|
| 10,152 psi (700 bar*) | 725 - 2,900 psi (50 – 200 bar) | ±72.5 psi (±0.5 bar) | G 1/4-E ISO 1179-2 | OH87- 460 41- 2- 080 |
|-----------------------|--------------------------------|----------------------|--------------------|----------------------|



### Sealing materials - areas of application

|      |  |   |
|------|--|---|
| EPDM | Hydrogen, oxygen, water, forming gases, all inert and non-toxic gaseous or liquid media ** | 2 |
|------|--|---|

\* Static value. Dynamic value 30 to 50 % lower.

\*\* We offer other seal and material combinations for numerous media.

# Hydrogen Mechanical Pressure Switches

## 0H96 / 0H97 hex 27

Diaphragm or piston pressure switch up to max. 24 V with plug-in connection for hydrogen applications

- Series 0H96 setting range: 7.2 - 1,450 psi (0.5 - 100 bar)  
Series 0H97 setting range: 725 - 2,900 psi (50 - 200 bar)
- Changeover contacts (CO)
- With gold contacts overpressure safe up to 5,800 / 10,152 psi (400 / 700 bar\*)
- Housing made of stainless steel 1.4404 (AISI 316L)
- Hysteresis adjustable at the factory



| P <sub>max</sub> | Setting range | Tolerance at room temperature | External thread | Article number |
|------------------|---------------|-------------------------------|-----------------|----------------|
|------------------|---------------|-------------------------------|-----------------|----------------|

### 0H96 Diaphragm pressure switch with plug-in connection

|                      |                                |                                   |                    |                         |
|----------------------|--------------------------------|-----------------------------------|--------------------|-------------------------|
| 5,800 psi (400 bar*) | 7.2 - 72.5 psi (0.5 - 5 bar)   | ±4.3 psi (±0.3 bar)               | G 1/4-E ISO 1179-2 | 0H96 - 457 41 - 2 - 080 |
|                      | 14.5 - 145 psi (1 - 10 bar)    | ±72.5 psi (±0.5 bar)              |                    | 0H96 - 458 41 - 2 - 080 |
|                      | 145 - 725 psi (10 - 50 bar)    | ±43.5 psi (±3.0 bar)              |                    | 0H96 - 459 41 - 2 - 080 |
|                      | 145 - 1,450 psi (10 - 100 bar) | ±43.5 - 72.5 psi (±3.0 - 5.0 bar) |                    | 0H96 - 461 41 - 2 - 080 |

### 0H97 Piston pressure switch with plug-in connection

|                       |                                |                      |                    |                         |
|-----------------------|--------------------------------|----------------------|--------------------|-------------------------|
| 10,152 psi (700 bar*) | 725 - 2,900 psi (50 - 200 bar) | ±72.5 psi (±5.0 bar) | G 1/4-E ISO 1179-2 | 0H97 - 460 41 - 2 - 080 |
|-----------------------|--------------------------------|----------------------|--------------------|-------------------------|



### Sealing materials - areas of application

|      |  |   |
|------|--|---|
| EPDM | Hydrogen, oxygen, water, forming gases, all inert and non-toxic gaseous or liquid media ** | 2 |
|------|--|---|

\* Static value. Dynamic value 30 to 50 % lower.

\*\* We offer other seal and material combinations for numerous media.

# Hydrogen Mechanical Pressure Switches

## OH83

hex 27

Piston pressure switch up to max. 250 V  
with plug-in connection for hydrogen applications

- Setting range: 1,450 - 5,800 psi (100 - 400 bar\*)
- Changeover with silver contacts
- Overpressure safe up to 8,700 psi (600 bar), hysteresis adjustable at the factory
- Housing made of stainless steel 1.4404 (AISI 316L)
- Overall height only 51 mm



| P <sub>max</sub> | Setting range | Tolerance at room temperature | External thread | Article number |
|------------------|---------------|-------------------------------|-----------------|----------------|
|------------------|---------------|-------------------------------|-----------------|----------------|

### OH83 Piston pressure switch with plug-in connection

|                         |                                      |                        |                          |                         |
|-------------------------|--------------------------------------|------------------------|--------------------------|-------------------------|
| 8,702 psi<br>(600 bar*) | 1,450 - 4,350 psi<br>(100 - 300 bar) | ± 145 psi<br>(±10 bar) | M 14 x 1,5<br>DIN 6149-3 | OH83 - 462 45 - 2 - 080 |
|                         | 2,900 - 5,800 psi<br>(200 - 400 bar) |                        |                          | OH83 - 463 45 - 2 - 080 |

### Sealing materials - areas of application

|      |   |   |
|------|---|---|
| EPDM | Hydrogen, oxygen, water, forming gases,<br>all inert and non-toxic gaseous or liquid media ** | 2 |
|------|---|---|

\* Static value. Dynamic value 30 to 50 % lower.

\*\* We offer other seal and material combinations for numerous media.



# Explosion Proof Pressure Switches for Hydrogen Applications

## OH44 / OH45 ATEX Certified

|                      |  |         |                     |
|----------------------|--|---------|---------------------|
| ATEX protection zone | 1 + 2  | 21 + 22 | Mining              |
| Substance group      | Gases / Vapors   | Dusts   | Methane / Coal dust |
| Temperature range    | EPDM -4 °F ... +176 °F<br>(-20 °C ... +80 °C)  |         |                     |
| Switching frequency  | 200 / min  |         |                     |
| Mechanical lifetime  | 1.000.000 switching cycles   |         |                     |
| Pressure rise rate   | ≤ 1.000 bar/s  |         |                     |
| Hysteresis           | 10 ... 30 % (type-dependent, not adjustable)   |         |                     |
| Vibration resistance | 10 g; 5 ... 200 Hz sinus; DIN EN 60068-2-6   |         |                     |
| Shock resistance     | 294 m/s <sup>2</sup> ; 14 ms semi-sinus; DIN EN 60068-2-27   |         |                     |
| Cable length         | Standard length ~2 m with ferrule,<br>also available in ~5 m length as well as special length on request |         |                     |
| Protection class     | IP65   |         |                     |
| Cable cross section  | 3 x 0,5 mm <sup>2</sup>  |         |                     |
| Housing material     | Stainless steel 1.4404 (AISI 316L)   |         |                     |
| Weight in gram       | appr. 230 g  |         |                     |

### Electrical values

| Rated operating voltage $U_e$              | Rated operational current $I_e$ |
|--|---------------------------------|
| 250 VAC 50 / 60 Hz, AC 12                  | 2 A                             |
| 250 VAC 50 / 60 Hz, AC 14                  | 1 A                             |
| 24 VDC, DC 12 / DC 13                      | 2 / 1 A                         |
| 50 VDC, DC 12 / DC 13                      | 1 / 0,5 A                       |
| 75 VDC, DC 12 / DC 13                      | 0,5 / 0,25 A                    |
| 125 VDC, DC 12 / DC 13                     | 0,2 / 0,1 A                     |
| 250 VDC, DC 12 / DC 13                     | 0,15 / 0,1 A                    |
| Rated insulation voltage $U_i$             | 300 V                           |
| Rated impulse withstand voltage $U_{imp}$  | 4 kV                            |
| Conventional thermal electricity $I_{the}$ | 5 A                             |
| Switching overvoltage                      | < 2,5 kV                        |
| Rated frequency                            | DC and 50 / 60 Hz               |
| Rated current of the short-circuit device  | up to 3,5 A                     |
| Conditional short circuit current          | < 350 A                         |



# Explosion Proof Pressure Switches for Hydrogen Applications

## OH44 / OH45 ATEX Certified

### Technical Explanations

The classification of explosion-proof pressure switches is made according to the respective flammable substances. The subdivision is made into:

|                |       |                     |
|----------------|-------|---------------------|
| Gases / Vapors | Dusts | Methane / Coal dust |
|----------------|-------|---------------------|

### ATEX / IECEx marking for pressure switches

Our pressure switches are designed for gases and vapors (G), dusts (D) and methane / coal dust (M) in mining.

The following table shows an overview of the Ex-protection zones, device groups and categories. The applications covered by our pressure switches (according to Ex-area) are highlighted.

Conditions in the hazardous area.

| Combustible fabrics | Temporary behavior of the flammable substances in the hazardous area                | Division potentially explosive areas | Required marking of the usable equipment |                 |
|---------------------|---|--------------------------------------|--|-----------------|
|                     |   |                                      | Device group                             | Device category |
| Dusts / Vapors      | are present constantly, for a long time or frequently                               | Zone 0                               | II                                       | 1G              |
|                     | occasionally occur  | Zone 1                               | II                                       | 2G              |
|                     | are unlikely to occur, if they do, only rarely or briefly                           | Zone 2                               | II                                       | 2G              |
| Dusts               | are present constantly, for a long time or frequently                               | Zone 20                              | III                                      | 1D              |
|                     | occasionally occur  | Zone 21                              | III                                      | 2D              |
|                     | robably do not occur due to whirled up dust, if so, only rarely or for a short time | Zone 22                              | III                                      | 3D or 2D        |
| Methane / Coal dust | Operation with explosion hazard   | –                                    | I  | M1              |
|                     | Shutdown in case of explosion hazard  | –                                    | I  | M2 or M1        |



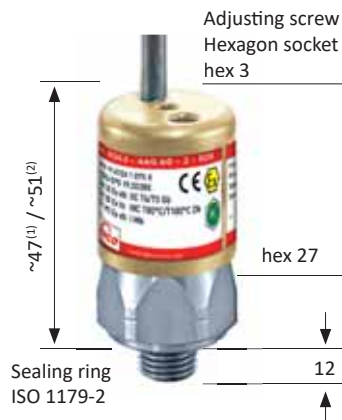
# Explosion Proof Pressure Switches for Hydrogen Applications

## OH44 / OH45 hex 27

### Diaphragm or piston pressure switch up to max. 250 V with ATEX for hydrogen applications

ATEX CE II 2G Ex db IIC T6/T5 Gb (gases and vapors, zones 1 + 2)  
ATEX CE II 2D Ex tb IIIC T80°C/T100°C Db (dusts, zones 21 + 22)  
ATEX CE I M2 db I Mb (mining)  
Approval according to IECEx system

- Series OH44 setting range: 7.3 - 50 psi (0.3 - bar)  
Series OH45 setting range: 725 - 2,175 psi (50 - 150 bar)
- Housing made of stainless steel 1.4404 (AISI 316L)
- Max. voltage 250 V, IP65, protection class 2, protective insulation
- Overpressure proof up to 4,350 / 8,700 psi (300 / 600 bar\*)
- Custom cable length upon request
- Changeover contacts (CO)



| P <sub>max</sub> | Setting range | Tolerance at room temperature | External thread | Article number |
|------------------|---------------|-------------------------------|-----------------|----------------|
|------------------|---------------|-------------------------------|-----------------|----------------|

#### OH44 Diaphragm pressure switch

|                      |                                |                          |                   |                         |
|----------------------|--------------------------------|--------------------------|-------------------|-------------------------|
| 4,350 psi (300 bar*) | 4.3 - 21.7 psi (0.3 - 1.5 bar) | ± 2.9 psi (±0.2 bar)     | G1/4-E ISO 1179-2 | OH44 - 457 41 - 2 - 020 |
|                      | 14.5 - 145 psi (1 - 10 bar)    | ± 7.5 psi (±0.5 - 1 bar) |                   | OH44 - 458 41 - 2 - 020 |
|                      | 145 - 290 psi (10 - 20 bar)    | ± 14.5 psi (±1 bar)      |                   | OH44 - 459 41 - 2 - 020 |
|                      | 20 - 50 psi (1.4 - 3.4 bar)    | ± 29 psi (±2 bar)        |                   | OH44 - 461 41 - 2 - 020 |

#### OH45 Piston pressure switch

|                      |                                |                   |                   |                         |
|----------------------|--------------------------------|-------------------|-------------------|-------------------------|
| 8,702 psi (600 bar*) | 725 - 2,175 psi (50 - 150 bar) | ± 72 psi (±5 bar) | G1/4-E ISO 1179-2 | OH45 - 460 41 - 2 - 020 |
|----------------------|--------------------------------|-------------------|-------------------|-------------------------|

#### Sealing materials - areas of application

|      |  |   |
|------|--|---|
| EPDM | Hydrogen, oxygen, water, forming gases, all inert and non-toxic gaseous or liquid media ** | 2 |
|------|--|---|

\* Static value. Dynamic value 30 to 50 % lower.

\*\* We offer other seal and material combinations for numerous media.

<sup>(1)</sup> Piston pressure switch

<sup>(2)</sup> Diaphragm pressure switch



# Pressure Transducers for Hydrogen Applications

## HP1000H

### Hydrogen Compatible High Pressure Transducer

- Pressure ranges to 72,500 psi (5,000 bar)
- High resistance to overpressure and pressure transients
- Compatible for use within Hydrogen based environments
- Tested to ISO 11114-2:2017 according to EC79/2009 and EU406/2010
- ATEX/IECEx option available (includes M1 for mining applications) for 4-20 Ma versions



| Output  | Sensor Range                          | Wires | Type    |
|---------|---------------------------------------|-------|---------|
| 10 mV/V | Model to 2,000 bar (incl. 30,000 psi) | 4     | HP1000H |
|         | Model above 2,000 bar                 | 4     | HP1100H |
| 0-5 V   | Model to 2,000 bar (incl. 30,000 psi) | 4     | HP1001H |
|         | Model above 2,000 bar                 | 4     | HP1001H |
|         | Model to 2,000 bar (incl. 30,000 psi) | 3     | HP1011H |
|         | Model above 2,000 bar                 | 3     | HP1111H |
| 0-10 V  | Model to 2,000 bar (incl. 30,000 psi) | 4     | HP1002H |
|         | Model above 2,000 bar                 | 4     | HP1102H |
|         | Model to 2,000 bar (incl. 30,000 psi) | 3     | HP1012H |
|         | Model above 2,000 bar                 | 3     | HP1112H |
| 4-20 mA | Model to 2,000 bar (incl. 30,000 psi) | 2     | HP1003H |
|         | Model above 2,000 bar                 | 2     | HP1103H |

#### Electrical Connection / Options

|  |     |
|--|-----|
| DIN EN175301 plug and socket                           | -   |
| Cable outlet 1m screened                               | HA  |
| M12 connector  | HB  |
| Cable outlet 1m screened IP67 protection               | HC  |
| ATEX/IECEx certified with DIN EN175301 plus and socket | EXH |
| DNV GL approval  | MH  |
| DNV GL approval plus ATEX/IECEx certified              | EXG |

#### Pressure Range

|                            |      |
|----------------------------|------|
| 0-1000 bar (0-15,000 psi)  | 1000 |
| 0-1,500 bar (0-20,000 psi) | 1500 |
| 0-2,000 bar (0-30,000 psi) | 2000 |
| 0-3,000 bar (0-43,000 psi) | 3000 |
| 0-4,000 bar (0-60,000 psi) | 4000 |
| 0-5,000 bar (0-72,500 psi) | 5000 |

#### Process Connection

|                            |    |
|----------------------------|----|
| Autoclave F-250-C female   | DE |
| M16 x 1.5 female cone seal | FK |

# Pressure Transducers for Hydrogen Applications

## HI2000H

### Hydrogen Compatible High Precision Pressure Transducer

- Pressure ranges to 20,000 psi (1,500 bar)
- High accuracy and performance
- Specialist titanium alloy sensor for excellent chemical compatibility
- High thermal stability over wide operating temperature
- TEDS Version available



| Output  | Sensor Range              | Wires | Type    |
|---------|---------------------------|-------|---------|
| 10 mV/V | Cable outlet 1m PTFE      | 4     | HI2000H |
|         | MIL-C-26482 6 pin bayonet | 4     | HI2010H |
| 0-5 V   | Cable outlet 1m PTFE      | 4     | HI2001H |
|         |                           | 3     | HI2004H |
|         | MIL-C-26482 6 pin bayonet | 4     | HI2011H |
|         |                           | 3     | HI2014H |
| 0-10 V  | Cable outlet 1m PTFE      | 4     | HI2002H |
|         |                           | 3     | HI2005H |
|         | MIL-C-26482 6 pin bayonet | 4     | HI2012H |
|         |                           | 3     | HI2015H |

#### Electrical Connection / Options

|   |                              |
|---|------------------------------|
| No special option required                    | -                            |
| ATEX / IECEx certified (HI2000 & HI2010 only) | EXH (HI2000 and HI2010 only) |

#### Pressure Range

|                            |      |
|----------------------------|------|
| 0-1 barVac                 | V001 |
| 0-1 bar (0-15 psi)         | 0001 |
| 0-10 bar (0-150 psi)       | 0010 |
| 0-25 bar (0-300 psi)       | 0025 |
| 0-100 bar (0-1,500 psi)    | 0100 |
| 0-250 bar (0-3,000 psi)    | 0250 |
| 0-400 bar (0-5,800 psi)    | 0400 |
| 0-600 bar (0-8,700 psi)    | 0600 |
| 0-1,000 bar (0-14,500 psi) | 1000 |
| 0-1,500 bar (0-20,000 psi) | 1500 |

#### Process Connection

|                      |    |
|----------------------|----|
| 1/4" BSP male (G1/4) | AB |
| 1/4" NPT male        | AM |

# Pressure Transducers for Hydrogen Applications

## GS4200H

### General Purpose Hydrogen Pressure Transducer

- Pressure ranges to 20,000 psi (1,500 bar)
- High resistance to overpressure and pressure transients
- Compatible for use within Hydrogen based environments
- Tested to ISO 11114-2:2017 according to EC79/2009 and EU406/2010
- Excellent corrosion resistance



| Output  | Wires | Type    |
|---------|-------|---------|
| 4-20 mA | 2     | GS4200H |
| 10 mV/V | 4     | GS4201H |
| 0-5 V   | 4     | GS4202H |
|         | 3     | GS4212H |
| 0-10 V  | 4     | GS4203H |
|         | 3     | GS4213H |

#### Electrical Connection / Options

|  |     |
|--|-----|
| DIN EN175301 plug and socket                           | -   |
| Cable outlet 1m screened                               | HA  |
| M12 connector  | HB  |
| Cable outlet 1m screened IP67 protection               | HC  |
| ATEX/IECEx certified with DIN EN175301 plus and socket | EXH |
| DNV GL approval  | MH  |
| DNV GL approval plus ATEX/IECEx certified              | EXG |

#### Pressure Range

|                            |      |
|----------------------------|------|
| 0-1 barVac                 | V001 |
| 0-0.5 bar (0-7.25 psi)     | 00.5 |
| 0-1 bar (0-15 psi)         | 0001 |
| 0- 2.5 bar (0-36 psi)      | 02.5 |
| 0-6 bar (0-87 psi)         | 0006 |
| 0-10 bar (0-150 psi)       | 0010 |
| 0- 16 bar (0-232 psi)      | 0016 |
| 0-25 bar (0-300 psi)       | 0025 |
| 0-100 bar (0-1,500 psi)    | 0100 |
| 0-250 bar (0-3,000 psi)    | 0250 |
| 0-400 bar (0-5,800 psi)    | 0400 |
| 0-600 bar (0-8,700 psi)    | 0600 |
| 0-1,000 bar (0-14,500 psi) | 1000 |
| 0-1,500 bar (0-20,000 psi) | 1500 |

#### Process Connection

|                      |    |
|----------------------|----|
| 1/4" BSP male (G1/4) | AB |
| 1/4" NPT male        | AM |

# Pressure Transducers for Hydrogen Applications

## GD4200HUSB Hydrogen Compatible USB Pressure Transducer

- Pressure ranges from vacuum to 72,500 psi (5,000 bar)
- Sample rate software selection up to 1,000 Hz
- Accuracy (NLHR)  $\pm 0.15\%$  of span BFSL
- Measure & record up to 16 pressure inputs together
- Automatic temperature compensation



| Output             | Type       |
|--------------------|------------|
| Dynamic (1,000 Hz) | GD4200HUSB |

### Electrical Connection

Mating to USB mini B socket

### Pressure Range

|                               |      |
|-------------------------------|------|
| -1 to 2.5 bar (-14 to 36 psi) | 02.5 |
| 0-16 bar (0 - 232 psi)        | 0016 |
| 0-100 bar (0 - 1,450 psi)     | 0100 |
| 0-400 bar (0 - 5,800 psi)     | 0400 |
| 0-1,000 bar (0 - 14,500 psi)  | 1000 |
| 0-1,500 bar (0 - 21,755 psi)  | 1500 |
| 0-2,000 bar (0 - 29,000 psi)  | 2000 |
| 0-4,000 bar (0 - 58,015 psi)  | 4000 |
| 0-5,000 bar (0 - 72,518 psi)  | 5000 |

### Process Connection

|   |    |
|---|----|
| 1/4" BSP male (G1/4)                                    | AB |
| 1/4" NPT male   | AM |
| Autoclave F-250-C female (for pressures above 1,500bar) | DE |

# SUCO ESI North America

THE WORLDWIDE SPECIALIST FOR CUSTOMIZED PRESSURE SWITCHES & TRANSDUCERS



SUCO ESI North America has become one of the leading suppliers for specialized pressure sensors by offering bespoke solutions for specific applications.

Our pressure switches and transducers ensure accurate and dependable monitoring and control of liquid and gaseous hydrogen pressure in a wide range of industrial applications.

From climate-neutral energy generation and storage in fuel cells and tanks to H2 transportation in ships, trains and vehicles, our products are designed to offer unparalleled performance and durability.

Trust us to provide you with the best solutions for all your hydrogen pressure monitoring needs.

**Contact us today to experience our unmatched quality and service!**



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