

Pressure Monitoring &
Transmission Technology



Hydrogen solutions from SUCO and ESI

Pressure switches and pressure transmitter for hydrogen applications.

SUCO Hydrogen Pressure Switches and Pressure Transmitter

Hydrogen is one of the most important alternative energy sources of the future and will continue to grow in importance. A versatile energy source that can be used for the generation of electricity, heat and fuels.

SUCO pressure switches and pressure transmitters reliably and safely monitor the pressure e.g. in hydrogen electrolysis, in compressors, in high pressure storage tanks and gas cylinders, in pipelines, in vehicle technology, on fuel cells or hydrogen engines, in valve technology and in the equipment of H₂ filling stations and H₂ tanker vehicles, ... and many more.

Pressure switches and pressure transmitters of the SUCO group of companies with the brands SUCO and ESI have been used for

many years for pressure monitoring of hydrogen and oxygen. We have used the experience gained and the requirements of our customers to develop new pressure transmitters and mechanical pressure switches especially for hydrogen. High pressure ranges up to 5000 bar, explosion protection according to ATEX, hydrogen compatible sensors made of titanium and housings made of 316L are some innovations that have been incorporated in these series.

Mechanical Pressure Switches



SUCO has been manufacturing mechanical pressure switches for liquids and gaseous media for many decades. Also the use with hydrogen has a long tradition with us. Mechanical pressure switches are always used when reliable and robust, but cost-effective monitoring of pressures is required, whether to monitor the minimum pressure in lines or gas cylinders, or to close safety valves or shut down compressors if maximum pressures are exceeded. Our modular pressure switch system allows an enormous variety of variants. Especially when used in series

products, this allows us to adapt our pressure switches to your requirements.

Optionally available ATEX / IECEx certifications, IP6K9K, a high overpressure safety and an extremely robust design, which can also be used under strong vibrations or unfavorable environmental conditions, enable a long service life and safe monitoring of your limit pressures.



OH64/OH69

- Normally closed (NC)
- Normally opened (NO)
- 0,1 bar bis 150 bar
- Up to 600 bar overpressure safety
- EPDM diaphragm or sealing ring SAE 316L grade stainless steel housing



OH86/OH87

- Changeover (CO)
- 0,5 bar to 200 bar
- Up to 700 bar overpressure safety
- EPDM diaphragm or sealing ring SAE 316L grade stainless steel housing



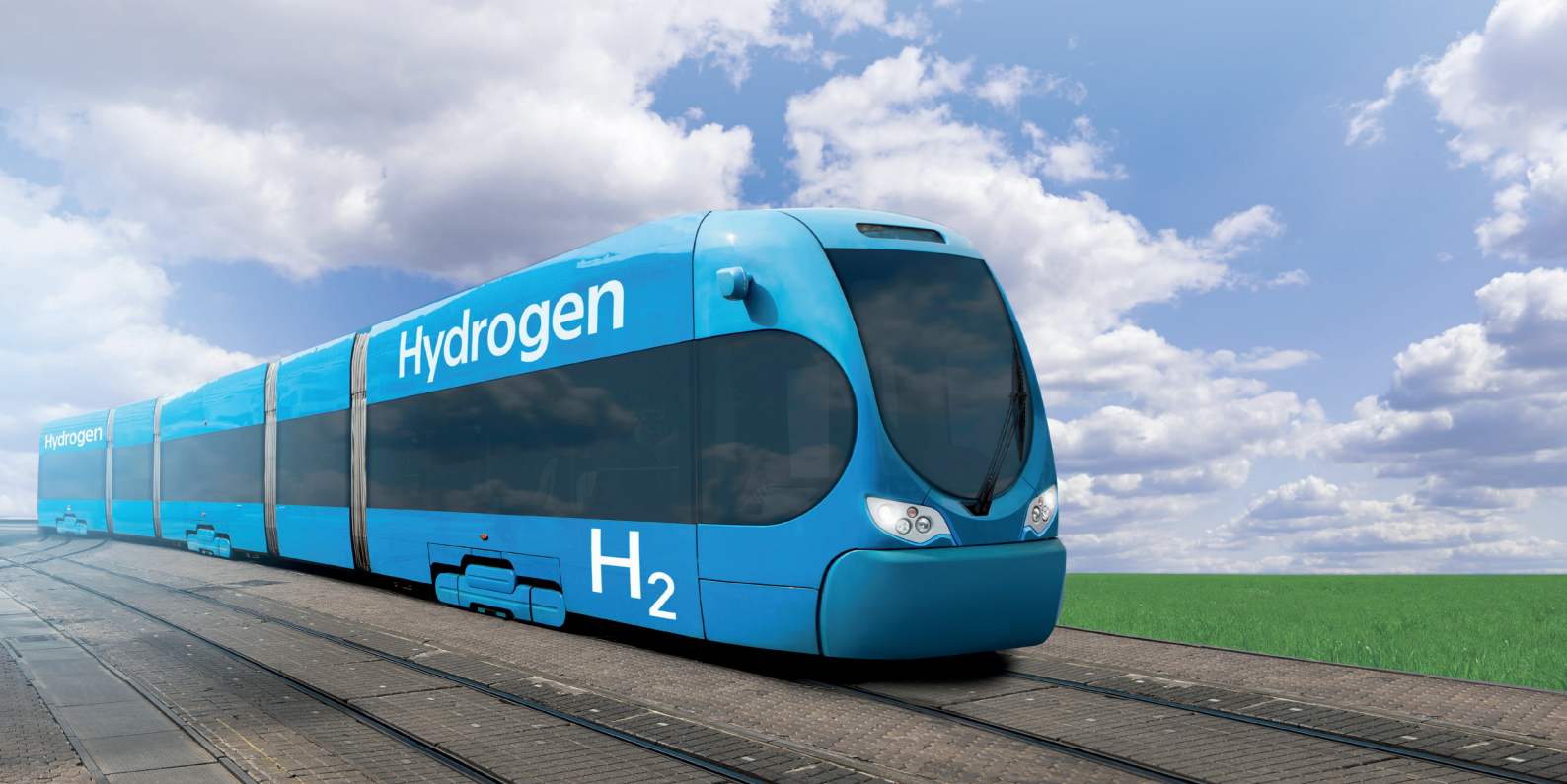
OH83

- Changeover (CO)
- 100 bar to 400 bar
- Up to 600 bar overpressure safety
- EPDM sealing ring SAE 316L grade stainless steel housing



OH44/OH45

- Changeover (CO)
- 0,3 bar to 150 bar
- Up to 300/600 bar overpressure safety
- EPDM diaphragm or sealing ring SAE 316L grade stainless steel housing
- ATEX / IECEx certification



Pressure Transducer and Sensors



The ESI hydrogen pressure transmitters are turned from a special titanium alloy for the measuring cell and the wetted parts from a titanium block. Thus the sensor is manufactured without seals, high pressure cells from 1000 bar we even manufacture without welding seams, which helps to avoid any weak points especially for the use with hydrogen. This material has successfully passed the hydrogen compatibility test according to ISO1114-2:2017 in accordance with the European regulations EC 79/2009 and EU 406/2010.

The combination of titanium sensing elements with SoS sensors has a long tradition at ESI, this material choice allows the construction of a long term stable sensor that has a high accuracy.

Our measurement ranges up to 5000 bar make this transmitter the preferred choice for use on hydrogen storage tanks and pipelines. But we also offer the same technology for low pressures and also in vacuum measurement applications. We are convinced that ESI pressure transmitters are the right choice for use with hydrogen.

With optional Atex approvals, marine approvals and a wide range of different analog and digital signals – up to USB connection – ESI offers a broad portfolio that is unique in the field of hydrogen pressure measurement technology.



GS4200H

- 0 bar to 1.500 bar
- Up to 4 x overpressure safety
- Titanium alloy SoS pressure sensor
- Optional certification acc. to ATEX & DNV-GL
- Very high corrosion resistance



GD4200HUSB

- -1 bar to 5.000 bar
- Up to 2 x overpressure safety
- titanium alloy SoS pressure sensor
- ESI-USB software with 1,000 Hz sampling rate
- Highest precision and accuracy $\pm 0.15\%$ BFSL



HP1000H

- 0 bar to 5.000 bar
- Up to 1,5 x overpressure safety
- Titanium alloy SoS pressure sensor
- Optional certification acc. to ATEX & DNV-GL
- High resistance to pressure peaks



HI2000H

- 0 bar to 1.500 bar
- Up to 4 x overpressure safety
- Titanium alloy SoS pressure sensor
- Optional certification acc. to ATEX / IECEx (M1)
- Very high temperature resistance



The SUCO Group

We are a reliable and innovative partner worldwide at your side. In addition to our standard products, we offer customised solutions and tailored components for almost any application in which pressure or temperature needs to be reliably and safely monitored, measured or controlled.

- Over 70 years of experience in pressure monitoring
- 100% EOL test of all products
- Compliance with numerous national and international standards and certifications, such as ISO 9001: 2015
- Large selection of connectors and threads
- Protection against overload, overvoltage or short circuit
- IP protection classes up to IP6K9K and high temperature tolerance (-40°C ... +125°C) against extreme cold / heat
- Ready-wired and moulded pressure switches
- PLUS pressure switch with safety function against cable break and short circuit

SUCO Robert Scheuffele GmbH & Co. KG

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Keplerstraße 12 – 14
74321 Bietigheim-Bissingen
Germany
Phone +49 7142 597 0
info@suco.de, www.suco.de

A SUCO Group company

