4400 Series

Druck Motorsport/ Automotive Pressure Transducers

Success in motorsport depends on hundreds of components working together under extreme conditions, and Baker Hughes continues to develop Druck pressure transducers that give the ultimate performance. Druck motorsport sensors have become a world leading product line used in Formula 1, World Rally Championship and the Indy Racing League, amongst others.

The 4400 Series is the latest in the range of products that for many years has been “fine tuned” in design to suit all chassis and engine pressure measurement requirements.

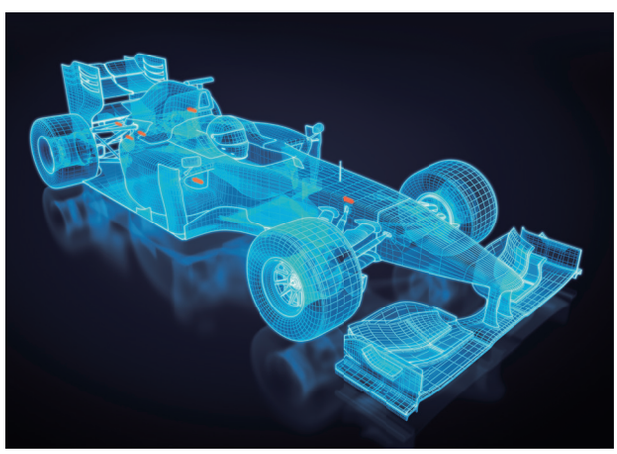
Features

- Race proven technology
- High temperature capability to 175°C
- 12.5 mm diameter
- Amplified output
- Stainless steel construction
- Fully EMC protected
- Flexible mechanical/electrical interface options

Race Proven Technology

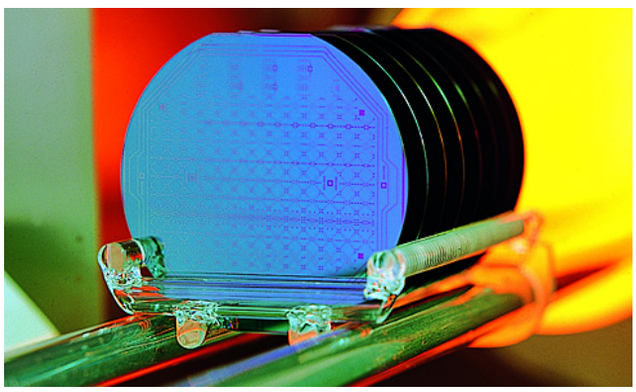
Since 1990 Druck products have been successfully applied to motorsport, and the 4400 Series is a high performance pressure sensor for this harsh environment application.

Reliability remains at the forefront of Baker Hughes's design and build philosophy. The combination of high technology sensing elements and advanced signal conditioning and packaging techniques provides reliable and accurate pressure measurements.



Flexible Design

The pressure sensing module and the electronics form a completely flexible core. Various configurations of electrical terminations and pressure connectors are available in stainless steel. Baker Hughes has considerable experience in solving specific application problems by developing standard designs to suit customer-specific applications.

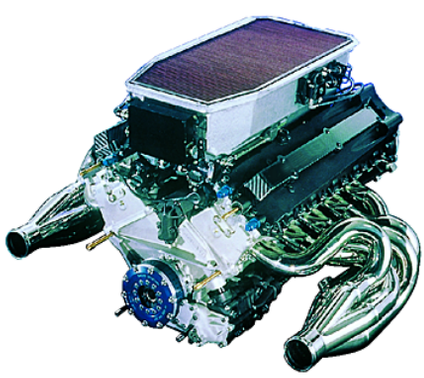


High Performance

Baker Hughes has a new advanced and comprehensive silicon processing facility and is one of a few companies turning raw silicon into finished pressure sensing products.

Each pressure module is fully temperature cycled to enhance long-term measurement stability. All metalwork is welded to form a rugged housing. Upon completion of the electrical connections the units are again thermally cycled to eliminate any possible defects in application.

This rugged construction enables the 4400 Series to operate under extreme temperature and vibration conditions.



4400 Series Specifications

Pressure Measurement

Pressure Ranges

1.6, 10, 50, 350 bar absolute

Note: All ranges are 0 based.

Overpressure

- 2 × rated pressure for ranges to 50 bar
- 1.5 × rated pressure for 350 bar range

Pressure Containment

- 4 × rated pressure for ranges to 50 bar
- 1.5 × rated pressure for 350 bar range

Media Compatibility

Fluids compatible with Stainless steel 316L
Stainless steel 17-4 PH and Inconel X-750/625

Performance Specifications

Excitation

12 Vdc ±4 Vdc, unregulated
Supply Current: <5 mA

Output Voltage

0.2 to 4.7 Vdc

Zero Offset

±50 mV

Span Setting

±50 mV

Accuracy

The combined effects of non-linearity and hysteresys
±0.25% FS BSL

Long Term Stability

<0.1% FS/year

Operating Temperature Range

-20° to 175°C

Compensated Temperature Range

0° to 170°C

Thermal Performance

- Thermal zero shift (ref 20°C) : ±1.0% FS/100°C
- Thermal span shift (ref 20°C) : ±1.0% FS/100°C

Insulation Resistance

>100 MΩ at 50 Vdc

Physical Specifications

Pressure Connection

Select from the standard fittings listed in the ordering information.

Electrical Connection

0.5 m (1.64 ft) of 3 core Raychem cable spec (Ø4.3) EPD

121168A

Weight

<25 grams (Not including cable)

Installation Torque

10 Nm will produce negligible zero offset

Vibration

50 to 2500 Hz @ 40g, 8 hours per axis, logarithmic sweep at a rate of 0.32 octaves/minute with no effect on calibration

Shock

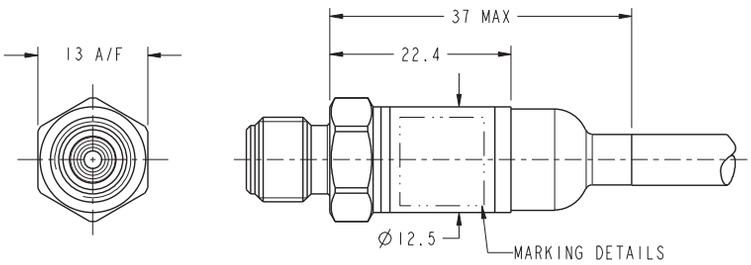
1000 g, 1 mS half sine pulse in all three axes with no effect on calibration

EMC

CE mark statement “CE marked for electromagnetic compatibility”

Drawings and Dimensions

PMP4411



Wiring Connection Details	
Colour	**Function**
Red	+ve Supply
Black	0V/Common
White	+ve Output
Screen	Connected to case

Calibration Standards

Transducers manufactured by Baker Hughes are calibrated against precision pressure calibration equipment, which is traceable to International Standards

4400 Series Ordering Information

1) Specify the model number

Output Type

PMP Amplified Voltage output

Model Code

44 12.5 mm Motorsport sensor

Electrical Connector

1 Raychem cable

Material of Construction

1 Stainless steel

Output Voltage

V2 0.2 to 4.7 Vdc

Pressure Connections

P14 M8 × 1 Male

Screen Connected to Case

S1 Required

2) State the pressure range and units

Example: PMP4411-V2-P14-S1 0 to 50 bar

Per avere più informazioni
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