



# IQAN-SP Sensors

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

### Application

The IQAN-SP pressure transducers belong to the family of IQAN accessories developed to complement IQAN control systems. IQAN-SP is a range of 0-5V pressure transducers for mobile hydraulic applications. These transducers are available in two pressure ranges; 35 bar (507 psi) and 500 bar (7250 psi). To make the sensors suitable for mobile equipment, we have focused upon properties such as reliability, electromagnetic immunity and ease of installation.

### Properties

#### Reliability

The IQAN-SP has stainless steel construction for strength. The sensor cells use thin film technology with no internal o-rings or fluid. The high pressure capability makes the sensor very robust and able to withstand vibration.

#### Electromagnetic immunity

The design of the IQAN-SP has an EMI cap that separates the sensor electronics from the connector. This ensures a high level of EMI protection.

#### Installation

The two interface types of the IQAN-SP are well designed for the mobile hydraulics industry.

The first type, -B, has a G1/4 thread. The hex of the transducer has an integrated face seal to eliminate sealing washers. The integral 3 pin connector is a sealed Bosch Jetronic/AMP Timer type designed for automotive use.

The second type, -D, has a SAE 6 (9/16"-18UNF) thread and an o-ring seal. The connector is a 4 pin Deutsch DT type and is attached via a short cable.

Both connector types give the sensor IP65 protection for exposed outdoor applications. These features provide for easy installation and removal, even in field conditions.

#### EN 13849-1

MTTFd and failure mode distribution available on request.

### General

Weight	0.06 kg
Operating temperature	-40 °C to 125 °C
Storage temperature	-40 °C to 140 °C
Pressure range	
SP035	0 - 35 bar
SP500	0 - 500 bar
Over pressure	
SP035	Max 100 bar
SP500	Max 1050 bar
Burst pressure	
SP035	Min 150 bar
SP500	Min 1500 bar
Total error (-40°C to 105°C) <sup>1)</sup>	Max 4.0 % FS
Total error ( 40°C to 80°C) <sup>1)</sup>	Max 1.0 % FS
Response time <sup>2)</sup>	5.0 msec

1) Total accuracy includes non-linearity, hysteresis, repeatability and temperature effects.  
 2) Measured from initial value to output at 90%.

### Electrical specifications

Output at FS <sup>3)</sup>	4.5 V
Zero output <sup>3)</sup>	0.5 V
Supply Voltage(Vs)	5.0+/-10% Vdc <sup>4)</sup>
Current supply	Max 12.5 mA
Load resistor	Min 5 kΩ
Load capacitor	Max 0.1 μF

3) The output is ratiometric to supply voltage (Vs)  
 4) The max supply voltage with sensor operating is 6 Volt. (switch off app. 6.2Volt)

### Threaded interface

-B	G1/4 BSP with integral face seal
-D	9/16"-18 UNF, SAE 6 with nitrile o-ring

### Connector

-B	Bosch/AMP Integral to sensor
-D	Deutsch DT04-4P

### Ordering part numbers

IQAN-SP035-B	5020026
IQAN-SP500-B	5020027
IQAN-SP035-D	2820008
IQAN-SP500-D	2820009

### Accessories

Connector kit, -B	5031086
Connector kit, -D	5031113

**Environmental Protection**

**EMI**

- ISO 11452-2 (immunity vs EM field)
- ISO 14982 (radiated emission)
- EN 55022 (conducted emission)
- ISO 11452-4 (immunity vs injected RF)

**ESD**

- EN 61000-4-8 (external)

**Mechanical environment**

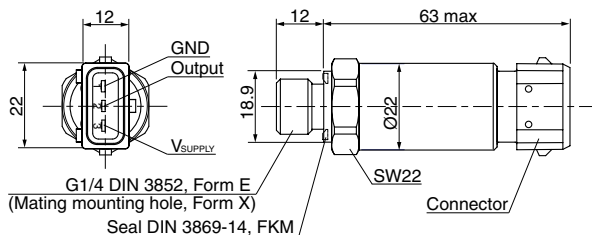
- IEC 60068-2-64 Fh,  
 24-2000 Hz, 31 Grms, 3\*8 h (vibration)
- IEC 60068-2-27 Es (shock)
- IEC 60068-2-29 Eb (bump)

**Climate environment**

- IEC 60068-2-18 Rb3 (water)
- IEC 60068-2-30 Db (var1, damp, cyclic)
- IEC 60068-2-3 Ca (damp, heat steady state)
- IEC 60068-2-2 Bb (heat)
- IEC 60068-2-1 Ab (cold)
- IEC 60068-2-14 Nb (change of temperature)

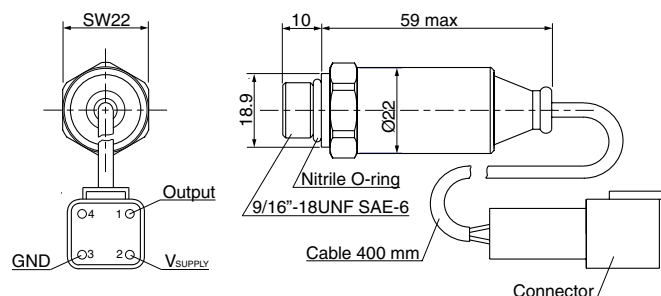
**Chemical environment**

- IEC 60068-2-52 Kb (salt mist, cyclic)



IQAN-SPxxx-B

unit = mm



IQAN-SPxxx-D

unit = mm

**! WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

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