



# HIRSCHMANN

A Belden Company

Controls

Consoles

SLIs

Sensors

Service

## pSENS DAVS MULTIPLE-PRESSURE TRANSDUCERS

with CANopen Interface



The Hirschmann pressure transducers measure high static and dynamic pressure values of liquids or gases in rough operating environments. Measuring precision is maintained even during continuous operation at extremely dynamic pressure. The CANopen interface makes a simple integration of the pressure transducers into CANopen networks possible and supports an easy installation of the entire system.

These pressure transducers are preferably used as part of a Hirschmann load moment indicator system or Hirschmann control system in hydraulic systems for cranes. Since the pressure transducers are suitable for rough environments, they also offer an ideal solution for control and automatic control applications in hydraulic systems of construction equipment, and conveyor and lifting equipment.

- ▶ High accuracy
- ▶ High overload capacity and endurance limit
- ▶ Temperature compensation
- ▶ Very rugged design
- ▶ Great operating reliability under extreme conditions
- ▶ Cost effective solution

J2 electronics  
Ndr. Fovrefeldvej 44  
DK 6710 Esbjerg V.  
Phone: +45 70221955  
www.j2.dk



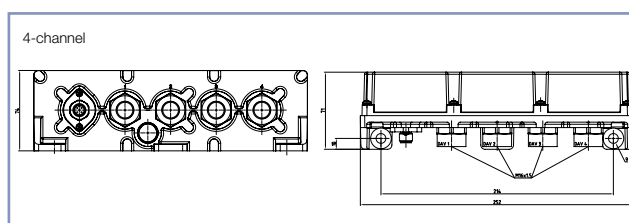
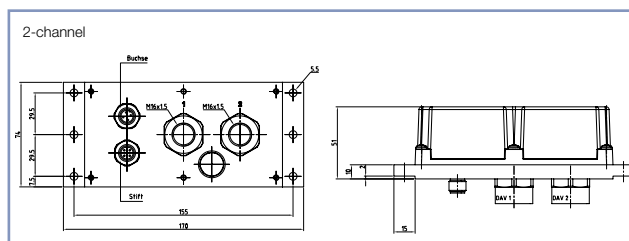


## TECHNICAL DATA

### Design and Functioning

The pressure transducers consist of a multiple sensor with 2 or 4 sensors optional made of corrosion resistant steel. The signal is acquired through extension restraining strips in full bridge connection with each located on a diaphragm shaped connector. The amplification, the digitalization of the measuring signal, and the transfer of the measuring information are carried out through an integrated sensor module with CAN connection and CANopen protocol according to CiA DS 301 communication profile and DS401 device profile. The pressure transducers come with a pressure connector with standardized internal thread. A water-proof M12 plug provides the electrical connection.

### Dimensions



| Description           |  | pSENS DAVS  |
|-----------------------|--|---|
| Input variables       | Nominal pressure   | 300 bar   |
|                       | Permissible excessive pressure                             | 1200 bar  |
|                       | Bursting pressure  | 2400 bar  |
|                       | Mechanical connection                                      | 2x (4x) internal thread M16 x 1.5   |
|                       | Starting moment  | max. 80 Nm  |
|                       | Parts touching measuring material                          | stainless steel 1.4542 and 1.4571   |
| Output Variables      | Linearity  | ±0.5% FS  |
|                       | TC zero point  | ±0.03% FS / K   |
|                       | TC span  | ±0.03% FS / K   |
|                       | Hysteresis   | ±0.2% FS  |
|                       | Long term stability  | ±0.2% FS / year   |
| Output Signal         | Output signal  | CANopen interface   |
|                       | CAN Bus protocol   | CAN 2.0 B, standard identifier (11 bit)   |
|                       | CANopen protocol   | CiA DS 301, device profil acc. to DS 401  |
|                       | Physical transfer  | 2 wire, 5 V level, CAN high speed ISO 11898-2 (24 V short circuit prot.)  |
| Electrical Connection | Operating voltage  | 10 - 30 V DC  |
|                       | Current consumption  | 80 mA   |
|                       | Outputs  | polarity protection / short circuit proof   |
| Pin Configuration     | Plus M12x1 and Soket M12x1 (CiA DR-303-1 7.2 / DeviceNet ) | <ul style="list-style-type: none"> <li>pin 1 shield contact</li> <li>pin 2 + Ub</li> <li>pin 3 common</li> <li>pin 4 CAN high</li> <li>pin 5 CAN low</li> </ul> |

| Description |   | pSENS DAVS                           |
|-------------|---|--------------------------------------|
| Environment | Operating temperature                           | -25 °C to +70 °C                     |
|             | Storage temperature                             | -40 °C to +85 °C                     |
|             | Temperature of the measuring material           | -40 °C to +100 °C                    |
|             | Protection system according to DIN 40050        | IP 65                                |
|             | Interference prot. <sup>1</sup>                 | according to EN 50082-2 <sup>2</sup> |
|             | Interference transmission <sup>1</sup>          | acc. to EN 50081-2 and EN 50081-1    |
|             | Permanent shock (3 axles, 1000 shocks/axle)     | IEC 68-2-29 / 10 g / 6 ms            |
| Other       | Noise (10 ... 150 Hz / 0.05 g <sup>2</sup> /Hz) | EC 68-2-64 / 2.6 g <sub>eff</sub>    |
|             | Dimensions                                      | 170 x 74 x 79 mm ( W x H x D )       |
|             | Positioning                                     | anywhere                             |
|             | Weight  | 0.8 kg                               |

<sup>1</sup> when connected with shielded cable (shield placed on top of connector housing).  
<sup>2</sup> also acc. to EN 61000-6-2, however without transient voltage IEC 61000-4-5

| Versions          | Pressure range | Description | Order-No. |
|-------------------|----------------|-------------|-----------|
| pSENS DAVS 314/14 | 300 bar        | 2-channel*  | 606 286   |
| pSENS DAVS 614/14 | 600 bar        | 2-channel*  | 606 966   |
| pSENS DAVS 314/10 | 300 bar        | 4-channel*  | 605 982   |
| pSENS DAVS 354/10 | 350 bar        | 4-channel** | 607 091   |
| pSENS DAVS 354/11 | 350 bar        | 4-channel*  | 607 318   |

\* without moving load, \*\* with moving load