

CORRSYS

DATRON

Sensorsysteme GmbH



Pedal Force Sensor

for

*Measurement of Force Exerted on the Brake Pedal
During Brake Tests*

USER MANUAL

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General Information

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Safety Instructions

Please read carefully before operating the equipment.

CORRSYS-DATRON is not responsible for damage that may occur when this system is used in any way other than that for which it is intended.

To assure safe and proper operation, all supplied equipment, components and/or accessories must be carefully transported and stored, as well as professionally installed and operated. Careful maintenance and usage in full accordance with operating instructions is imperative.

CORRSYS-DATRON equipment should be installed and operated only by qualified persons who are familiar with devices of this type.

Local regulations may not permit the operation of motor vehicles on public highways while the equipment is mounted on the exterior of the vehicle.

- Use the equipment only for intended applications. Improper application is not advised.
- Do not modify or change the equipment or its accessories in any way.
- Improper use or mounting of the equipment may affect the safety of the vehicle and/or occupants.
- The equipment must not be mounted and/or operated in any way that may compromise vehicle or and/or occupant safety.
- Equipment must be mounted firmly and securely.
- **Use only original equipment, components and/or accessories included in the scope of delivery.**
- Do not use defective or damaged equipment, components and/or accessories .
- Always note correct pin assignments and operating voltages when connecting equipment to power supplies, data acquisition/evaluation systems, and/or any other applicable system or component. Equipment may be damaged if not properly connected and/or operated.
- For additional information, please call the CORRSYS-DATRON Hotline: ++49 (6441) 9282-82 or: hotline@corrsys-datron.com



Disconnect power from the sensor if the vehicle is stationary for extended periods



1. Overview



Pedal Force Sensor

*for
 Measurement of Force
 Exerted on the Brake Pedal
 During Brake Tests*

Art. no.

PFS with digital display unit / 1 st sensing range	11400
PFS with digital display unit / 2 nd sensing range	12018
PFS with integrated electronics	11402

Three versions of the sensor are available:

1. Signal transducer with digital display / 1st sensing range (Art. no. 11400)
2. Signal transducer with digital display / 2nd sensing range (Art. no. 12018)
3. Signal transducer with built-in electronic (Art. no. 11402)

In versions 1 and 2, the signal transducer is connected to the display unit via a spiral cable. A potentiometer enables zero adjustment of the display.

Version 1 and 2 offer two operating modes:

- Display of the current pedal force
- Display and storage of the maximum achieved pedal force

Version 3 displays an analog signal representative of actual pedal force for direct connection to data acquisition.

Features

- Determine force exerted on the brake pedal during brake tests
- Record the pedal force independent of the angle of activation
- Applicable for use with brake test stands and for normal driving

Application

The CORRSYS-DATRON Pedal Force Sensor measures the force exerted on the brake pedal during brake tests. The Pedal Force Transducer mounts quickly and easily using a rubber strap. The sensor can be used with brake-test stands or directly during normal driving. Pedal force measurements are independent of the angle of the activation force.

2. Extent of Delivery



Standard extent of delivery

- | | | |
|---------------|--------------------|--|
| 1.- 3. | (1) Art. no. 11047 | Pedal Force Sensor 1 st sensing range, including display unit and cable
Measurement range: 1500 N
Resolution: 1mV/N |
| 4. | (1) Art. no. 13729 | Rubber strap for mounting |
| 5. | (1) Art. no. 11459 | Signal cable 6 pin lemo / 6 pin lemo |
| 6. | (1) Art. no. 11705 | Suction stand |
| | (8) Art. no. 11670 | Batteries - Mignon 1,5 Type AA |

Optiones / Accessories

- Art. no. 12018 Pedal Force Sensor 2nd sensing range
Measurement range: 250 N
Resolution: 6mV/N
- Art. no. 11218 Pintle force for pedal force sensor
- Art. no. 13729 Rubber strap (red) for pedal force sensor

3. Technical Data

3.1 Specifications

1. Sensor

Measurement range:	0 – 1500 N
Measurement accuracy:	3% average, 7% maximum
Linearity:	0.1%, 0.7% with integrated signal option
Analog output:	1 mV/N
Dimensions sensor:	50 x 65 x 35 mm (without fastening element for the rubber strap)
Dimensions digital display unit:	80 x 160 x 65 mm

2. Sensing ranges for measuring

Sensing range 1 (Art. no. 11400):	0 ... 1500 N / 1mV/N
Sensing range 2 (Art. no. 12018):	0 ... 250 N / 6 mV/N

- clutch-pedal force
- accelerator-pedal force

3. Pintle force Art. no. 11218

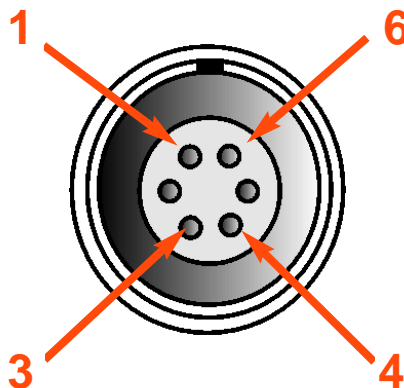
4. Special versions on request

3.2 Pin Assignment

3.2.1 Pin assignment: Signal output

Cable: Signal cable 6 pin lemo / 6 pin lemo (#K010-152-10-5m)

Pin	Signal
Pin 1	n.c.
Pin 2	+12V excitation
Pin 3	Signal GND
Pin 4	n.c.
Pin 5	Positive signal
Pin 6	Excitation GND



4. Set-up and Connection

Unscrew the four screws on the bottom of the device and remove the cover. Open the battery box and insert the batteries included in the scope of delivery (8 x Mignon 1,5V Type AA; Art. no. 11670).



Pay attention to the correct polarity!

Reassemble the unit, then place the transducer - black side (rubber coating) face up - onto the brake pedal and fix it with the included rubber strap.



Push the slide switch to position "1". The display should read "000". If any another value is displayed, turn the adjustment screw until the correct value appears on the display. The adjustment screw is also used to set the analog output to zero.



Measurement

When the transducer is activated, the current pedal pressure will be displayed. If the switch is in the "Measure hold" position, the highest pressure that was obtained during the measurement is retained and displayed. The measurement value is displayed in Newton units.

Maintenance

When the message "LOBAT" is displayed, the batteries must be exchanged.

Measurement Range 1 (Art. no. 11400)

Measurement range: 1500 N
Resolution: 1m V/N

Measurement Range 2 (Art. no. 12018)

Measurement range: 250 N
Resolution: 6m V/N

Analog Output

A shielded cable is required for output of analog signals. This cable is fitted with a 4-pin plug for the brake pedal force sensor.