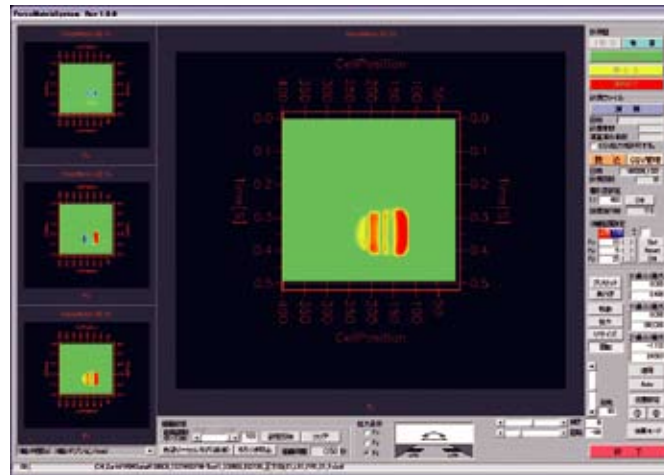
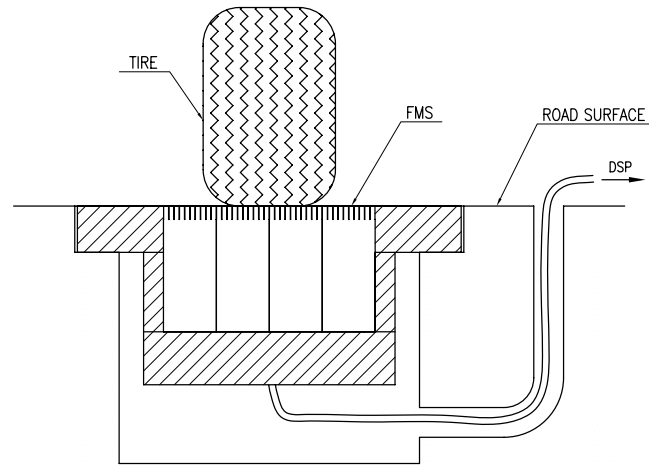


■ Data Viewer (GUI example)



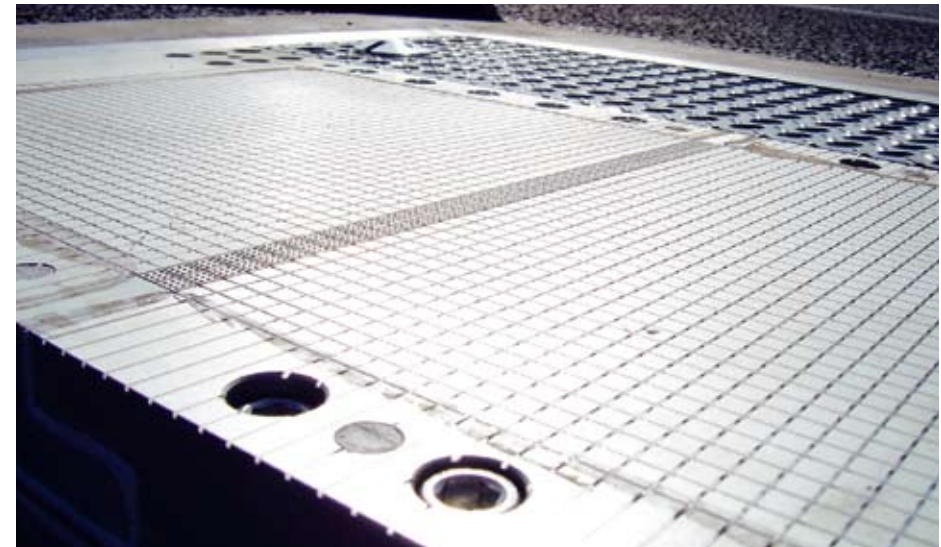
■ Installation Example



Configured sensor units are placed into the embedded unit. The embedded unit is placed underground and sensor surface is aligned to the surface of the road. The measurement system with a DSP unit is placed aboveground.

FMS

Force Matrix Sensor



Calibrations

1. Calibration before shipment:

Done at the factory with a calibration system. Calibrates the shared force composition matrix. All the calibration is done with deadweights.

2. Periodic calibration

Periodic calibration has to be done at the A&D factory using a calibration system. All calibration is done with deadweights and a calibration certificate can be issued.



Safety Warning!

● For proper use, read the instruction manuals carefully before use.

A&D ...Clearly a Better Value

A&D Company, Limited
3-23-14 Higashi Ikebukuro Toshima Ku, Tokyo 170-0013 JAPAN
Telephone:[81](3) 5391-6132 Fax:[81](3) 5391-6148
http://www.aandd.jp

A&D Technology, Inc.
4622 Runway Blvd. Ann Arbor, MI 48108 U.S.A
Telephone:[1](734) 973-1111 Fax:[1](734) 973-1103
http://www.aanddtech.com

A&D Instruments, Ltd.
Unit 24/26 Blacklands Way Abingdon Business Park,
Abingdon, Oxon OX14 1DY UNITED KINGDOM
Telephone:[44](1235) 550420 Fax:[44](1235) 550485

A&D Technology Trading (Shanghai) Co., Ltd.
Room 101, No.1 Fu Hai Business Building, No. 289,
Zhang Jiang Bi Sheng Road, Shanghai 201204, CHINA
Telephone:[86](21) 3393-2340 Fax:[86](21) 3393-2347

A&D Europe GmbH
Im Leuschnerpark 4, D-64347 Griesheim, GERMANY
Telephone:[49](6155) 605 227 Fax:[49](6155) 605 100

A&D Australasia Pty Ltd.
32 Dew Street, Thebarton, South Australia 5031 AUSTRALIA
Telephone:[61](8) 8301-8100 Fax:[61](8) 8352-7409

A&D KOREA Limited
Manhattan Bldg. 8F, 36-2 Yoido-dong, Youngdeungpo-gu, Seoul, KOREA
Telephone:[82](2) 780-4101 Fax:[82](2) 782-4280

● Appearances and/or specifications subject to change for improvement without notice.
● Contents of this catalog last updated April 2011.

*FMS datasheet-ADCC-01-BP1-11401

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http://www.aandd.jp

Sensor Specification

| Item | Specification | Note |
|----------------------------------|------------------------------------|--|
| Sensor size | 7.5 mm x 7.5 mm | There is a 0.5 mm gap between the sensors |
| Input force range | Fz | 100N per sensor 177N/cm ² 177N/cm ² |
| | Fx | 50N per sensor 88N/cm ² |
| | Fy | 50N per sensor 88N/cm ² |
| Total accuracy | ≤ ±1N (Fz: 1%, Fx:2%, Fy:2%) | |
| Overload capacity | 150% per sensor | |
| Measuring speed at vehicle speed | 0-300 km/h | The sensor can detect the tire force signal up to 300 km/h |
| Sensor response time | 5 kHz | This is the eigen frequency of the sensor. |
| Sampling rate | 20 ksps (kilo sampling per second) | All channel simultaneous sampling |
| Sensor unit | Sensor block | 10 sensor array |
| | Protection | No use under wet conditions |
| | Operating temperature | -20 to 80 °C |
| Embedded unit | | Customized for the customer sensor configuration |

Measurement Specification

| Item | Specification | Note |
|--|--|---|
| ● Measurement / calculation | | |
| 3 component force calculation | Digital model calculation | |
| Measurement system response time | 10 kHz | Total response time is limited to eigen frequency of the sensor (5 kHz) |
| Maximum configurable sensor units | 96 units (960 sensors) | |
| Measurement items | X-force Fx (N), Y-force Fy (N), Z-force Fz (N), time stamp | |
| Measurement trigger | Selectable from phototube switch trigger and manual trigger | |
| ● Output signal | | |
| Output signal interface | Fx(N), Fy(N), Fz(N), digitally stored as binary file with time stamp | |
| ● DSP system | | |
| Name | AD7907 | |
| Size | 435 mm(W) x 177 mm(H) x 450 mm(D) | |
| Weight | 20 kg | |
| Power supply | AC 115-230 V | |
| Operational temperature range | 5 to 40 °C | |
| Operation humidity range | 5 to 90% RH | No condensation |
| ● Operation PC | | |
| OS: Windows XP and later (English and Japanese versions) | | |
| Data storage | Operation PC specified holder | |
| Saved data format | Dedicated binary | Possible to convert to CSV using data viewer |
| Measurement command | Start: Software GUI, Stop: Software GUI | Phototube SW trigger can be selected |
| ● Data viewer (PC Software) | | |
| PC Application Software and post processing tool | | |
| Display | Display saved data files as <ul style="list-style-type: none"> ● Specified time-line graph ● Data integrated time-line graph ● Contour figure ● 3D time-line graph | |
| Export | Possible to export as a CSV file | |