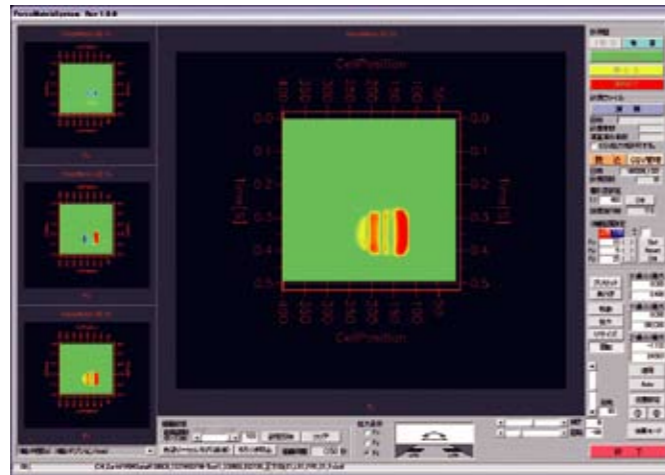
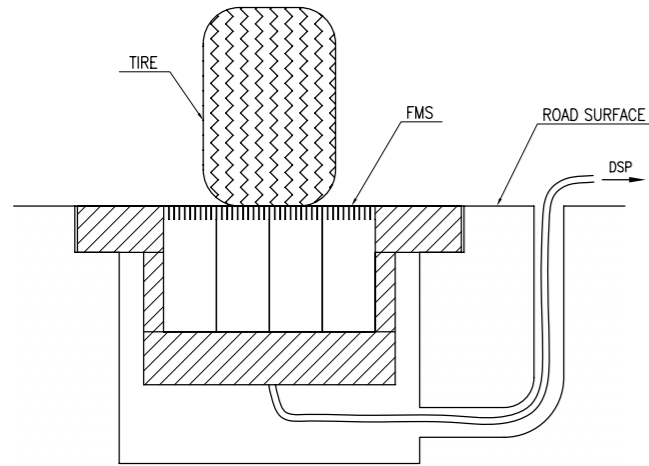


■ Data Viewer (GUI example)



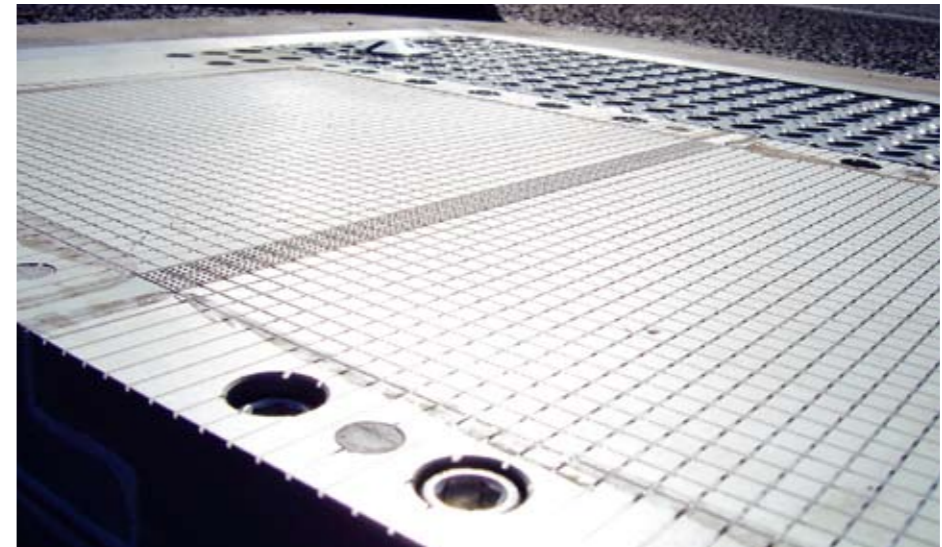
■ Installation Example



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.

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● Appearances and/or specifications subject to change for improvement without notice.
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*FMS datasheet-ADCC-01-BP1-11401

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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	