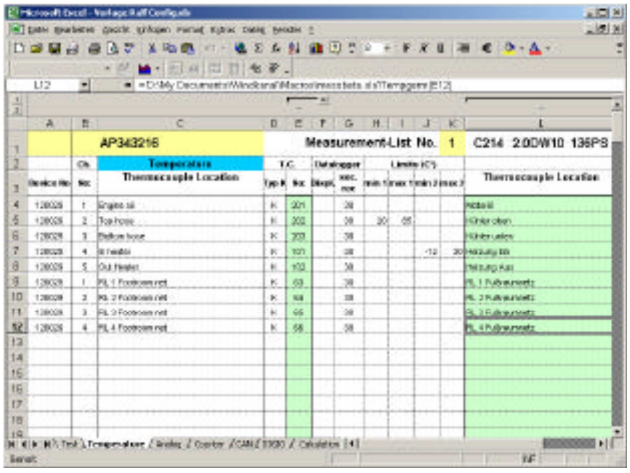
Climatic Test Measurement System

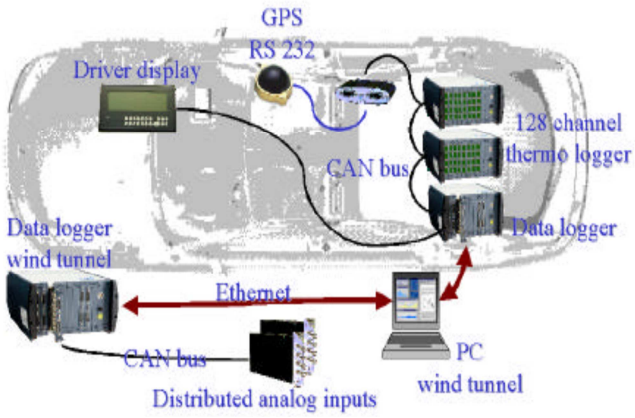
Application Note #28

The sheer amount of new car designs and the time they spend in development are stunning. But to bring new cars to market at ever-shorter intervals, new and innovative test and measurement philosophies are needed.

Climatic car tests are usually differentiated between climate test-cell measurements and road-based measurements—a distinction which often leads to problems—such as incompatible measurement data produced by different systems and long set-up times between road and facility-based measurements. In addition, mastery of different systems is necessary. These problems have to be solved to boost the efficiency of tests.



EXCEL databases are the used for the system configuration



Centralized and decentralized measurement systems can be combined, and a driver display rather than a PC provides the necessary information.

Together with FORD, imc has developed a special climatic measurement concept. It gives due consideration to all requirements of both road-based and climatic wind tunnel measurements. The imc CRONOS-PL measurement system and imc CANSAS serve as its base, together with a turn-key software solution.

CRONOS PL-8 with 128 temperature channels

The compact and durable system provides a practically infinite number of analog signal inputs (temperature, voltages, etc.) and is equipped with a synchronized CAN bus interface. A special hardware design allows operation in an ambient temperature range between -40°C and 70°C. The PC-independent systems store their data in a 4 GByte flash card and a “Personal Analyzer” can be used for statistics, math or analytical online calculations. Therefore, the results are instantly available right after, or even during the measurement. A PC or data server connection uses the built-in Ethernet interface or WLAN technology.

All further analysis and documentation can be performed with the help of imc FAMOS, imc’s offline analysis tool.