

### **Breakthrough infra red sensor provides accurate tyre carcass temperature for F1 applications**

*High accuracy and high resolution IR sensor critical for optimising vehicle set up and tyre performance in the wake of restricted testing.*

For the first time, a sensor that provides accurate tyre temperature and pressure data unaffected by heat soak has been produced by BERU f1systems. A dramatic reduction in testing and new slick tyres set to be introduced in 2009 are also driving demand for trusted tyre data.

“Tyre temperature sensors are normally fitted to the rim as part of the valve,” says managing director John Bailey. “Heat soak from the rim and brakes distorts results leading to incorrect set up. Our system uses IR sensors to measure the inside temperature of the tyre itself, not just the air temperature.”

The system has been tested by F1 teams in the first winter tests as teams get to grips with slick tyres. “With limited testing, proven data will be valuable in 2009,” adds Bailey. An upcoming ban on tyre warmers in 2010 will make this system more relevant as engineers seek trusted data to identify optimum tyre parameters qualifying and race performance.

The system offers excellent resolution (0.25°C) and accuracy (0.5°C) across an extended temperature range (-40 °C to 215°C). The wheel sensor transmits pressure, air and tyre temperature at 1Hz, via antennae to the ECU. Existing BERU f1systems’ customers can simply upgrade their existing TPMS with new wheel electronics and software. The system is also compatible with CAN bus, making it easy to integrate with existing displays.

The sensor also includes a Low Frequency (LF) receiver allowing race engineers to receive data remotely. This also allows tyre temperature and pressure to be monitored when the wheels are not fitted to a vehicle but on dynos or test beds.

BERU f1systems' TPMS systems are used in NASCAR, WTCC, Indy Car, Le Mans Series, Rally Raid and Formula One.

### **About BERU f1systems**

BERU f1systems offers advanced design and manufacturing facilities for vehicle wiring harness systems, tyre pressure monitoring, stress measurement and composites. Supplied to world championship winning cars in every major formula and every Formula 1 team, components from BERU f1systems are now available in military, road car, aerospace and nautical applications.

### **Photographs**

Available from Nick Bailey email (see below)



*For the first time, DigiTyre IR provides accurate temperature and pressure data unaffected by heat soak from the rim and brakes.*



*Limited on track testing and new tyres mean additional trusted data is invaluable.*

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#### BER5863 IR Sensor

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