

Tadiran Batteries – the first choice at harshest environmental conditions

Application example “Tyre Pressure Monitoring in Formula 1 Cars”



Motorsports has always been fascinating people, not only in terms of high speed or drivers battle (competition), but also the high number of technical innovations, which were implemented into everyday cars later. Beside material, power train and chassis technologies, safety elements were in focus during that last decades.

An exciting example is the Tyre pressure monitoring system (TPMS). It enables the sports car pilot and his crew to monitor the individual pressure of each tyre in real time. Here a mismatch can cause higher wear or lower grip. Both leading to instability of the racecar and potentially dangerous situations which must be prevented.

As an electrical connection to the fast spinning and mechanically highly stressed wheels is not possible, only a battery powered solution in each tire can be realized.

Formula 1 can be considered the world’s fastest and most demanding racing series.

For more than 15 years a famous south European team has been using Tadiran batteries in each F1 racing car wheel. The requirements for this life saving element are quite demanding:

- High and constantly changing accelerations
- High pressures inside the tyres
- Extreme shock and vibration
- Constant high temperatures during a race of about 90°C
- Temperature peaks up to 125°C
- No battery leakage acceptable
- No battery deformation acceptable

The chosen Tadiran battery is the high temperature type TLH-2450. Flat and compact in design to withstand these extreme requirements.



The technology of tyre pressure monitoring systems has been transferred into standard cars as well. Since the year 2014 every new car in the European Union is required to be equipped with a TPMS.

Besides indirect system working with a sensor in the braking unit, which is monitoring the tyre’s circumference only, there are also direct systems available on the market comprising batteries.



 **TADIRAN BATTERIES**
The heart of your device

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