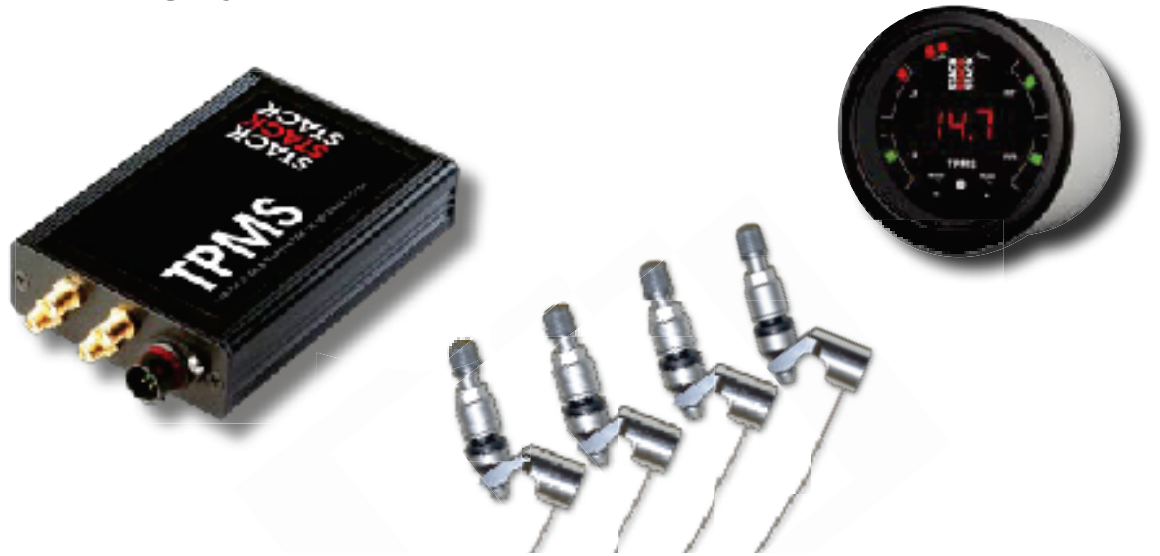


# TPMS

## A new generation of Tyre Pressure & Temperature Monitoring System



Accurate tyre pressures are a proven performance enhancer, delivering consistent performance advantages in all levels of motorsport. Dynamic tyre pressure monitoring while out on the track allows the team to optimise tyre performance over the whole lap and whole run.

Stack's Batteryless Tyre Pressure and Temperature Monitoring System (TPMS) completely re-defines tyre pressure monitoring in motorsport. Based on patented SAW sensor technology, the problems associated with mounting batteries and complicated electronics in sensors on wheels have at last been completely eliminated. Each wheel sensor comprises of a 2mm thick x 12mm diameter SAW pressure/temperature sensor and an antenna, in a 18mm diam. x 14mm cylindrical housing weighing 10g - the smallest and lightest sensor on the market!

### INSTALLATION

Each wheel sensor is mounted internally on the wheel rim or valve. The Interrogator Module is mounted in a convenient location on the vehicle, and 4 antennas are each mounted locally to each wheel (within approx 0.5m of the wheel), and connected to the Interrogator Module by RF cable. The CAN data output can be connected to the 52mm colour LED display gauge or any standard data acquisition or driver display system supporting CAN.

### OPERATION

The interrogator module takes readings of tyre pressure and sensor (air) temperature from each wheel sensor continuously at a pre-defined rate between 1Hz and 10Hz. Pressure and temperature data for each wheel is output on CAN bus, with user configurable CAN-ID messages.

### SYSTEM FEATURES

- No battery or complicated sensor electronics - providing unrivalled reliability
- No user maintenance required during full service life – significantly lower total life operating costs
- Detect slow punctures long before the driver feels them, and long before catastrophic tyre failure
- One module interrogates 1, 2 or 4 wheels – suitable for cars, trucks and bikes
- Models available with 1Hz, 5Hz, or 10Hz sampling
- Specialist high sampling rate modes – up to 20Hz on bikes or 40Hz on one wheel
- Supports virtually unlimited number of wheel sets (PRO model)
- Secure operation – each sensor has a unique serial number to ensure other teams cannot interrogate it remotely
- Compact, lightweight interrogator module – 100mm x 70mm x 24mm; 140g
- Pressure and Temperature data output on user configurable CAN bus
- 52mm gauge provides comprehensive pressure and temperature information and alarm warnings
- Calibration information is held in each sensor – no need to upload calibration tables into each interrogator module.

## FEATURES & SPECIFICATIONS

	Pro	Lite	Units
<b>PRESSURE MEASUREMENT</b>			
Range	0-45 or 0-150	0-45 or 0-150	PSI
Accuracy (45 PSI range at 1Hz)	± 0.125, 0.25 or 0.50	± 0.50	PSI
Resolution (45 PSI range at 1Hz)	± 0.05, 0.10 or 0.25	0.25	PSI
<b>TEMPERATURE MEASUREMENT</b>			
Range	20-100,125 or 150	20-100, 125 or 150	°C
Accuracy (1Hz)	± 1.0	± 1.0	°C
Resolution (1Hz)	0.5	0.5	°C
<b>OUTPUTS</b>			
CAN	✓	✓	
Logger Output	✓	✓	
<b>ANTENNA</b>			
Type	Dual Band	Single Band	
Dimensions (L x W x H)	140 x 60 x 23	100 x 15 x 4	mm
Connector	SMA	SMA	
<b>INTERROGATOR MODULE</b>			
Housing Material	Aluminium	Aluminium	
Finishing, Colour	Hard Anodised, Black	Hard Anodised, Black	
Main Connector	MIL AS 6 Pin	Mini Sureseal	
RF Connectors	Panel SMA	Panel SMA	
Size (L x W x H)	100 x 80 x 24	100 x 80 x 24	mm
Weight	140	140	g
Operating Temp	-20 to +80	0 to +70	°C
IP Rating	IP67	IP67	
Supply Voltage	8-20	8-20	V
Average Current	360	360	mA
Peak Current	1200	500	mA
<b>SYSTEM CONFIGURATION</b>			
PC Link	USB-Serial	USB-Serial	
Maximum Wheelsets	Up to 100 x 4 wheels	Up to 3 x 4 wheels	
Auto-detect Wheel Change	✓		
Config. CAN MSG-Ids	✓	✓	
<b>SENSORS</b>			
Weight	10	10	g
Operating Temp Range	20 - 100, 125 or 150	20 - 100	°C
Antenna	Whip	Whip	
<b>MEASUREMENT RATES</b>			
Data Output Rate	1,5,10, 20, 40	1	Hz
<b>DRIVER DISPLAY</b>			
Display Type	52mm LED Gauge	52mm LED Gauge	
Individual Pressure/Temp. Display	✓	✓	
Low/High Pressure Alarms	✓	✓	
Low/High Temp. Alarms	✓	✓	
Cold Tyres Warning	✓	✓	

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**Tyre Pressure & Temperature Monitoring System**

In the interests of continuous product improvement, we reserve the right to alter without notice the specifications and features described in this leaflet. This leaflet shall not form part of a contract involving Stack unless stated in writing. © STACK LIMITED 2009