



**project**

**tire pressure monitoring system**

CONNECTING INNOVATION FOR  
INTELLIGENT TIRE PRESSURE MONITORING

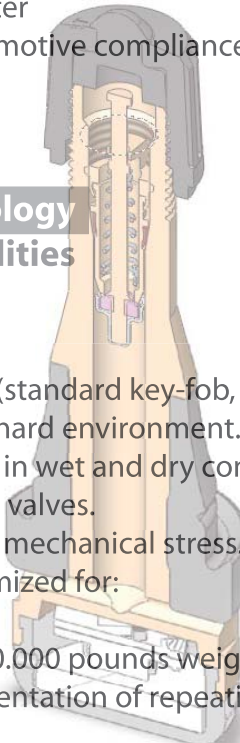
**clamp-in and snap-in versions**  
a breakthrough technology

Type: SRD (ISM) data transmitter  
Design for Power Consumption Optimization: 200 microA  
Battery: 12.5 mm lithium package  
Design for Size Optimization: 5 gr overall weight  
Minimization of External Components: 12.5 mm in diameter  
Temp range: -40° + 125°C (automotive compliance)  
Life time: 7 years



[www.tirepressure.it](http://www.tirepressure.it)

**OEM oriented technology**  
enhanced features and functionalities

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1. Immunity to interferences (standard key-fob, key-less, door opener).
  2. Accuracy of monitoring in hard environment.
  3. 100% absolute monitoring in wet and dry conditions.
  4. No data collisions between valves.
  5. Design for the reduction of mechanical stress.
  6. Multi-sensor network optimized for:
    - vehicles
    - light truck ( under 10.000 pounds weight)
    - heavy truck: implementation of repeating network



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Based on 3 industrial patents  
entirely engineered and owned by STE Telecom  
Engineering division of Telecontrolli Group



## A breakthrough TPMS concept

### RF specifications

|                                |                                 |
|--------------------------------|---------------------------------|
| Reference normative            | EN 300-220                      |
| Emission frequency             | 315 - 434 MHz                   |
| Modulation                     | PPM (Pulse Position Modulation) |
| Rf power (conducted)           | +16 dBm (40 mW) peak            |
| ERP (Effective Radiated Power) | -13 dBm / 10 KHz                |
| Spurious and harmonics         | to EN 300-220                   |

### Sensor specifications

|                      |             |
|----------------------|-------------|
| Pressure range       | 0-6 BAR     |
| Pressure accuracy    | +/- 0.1 BAR |
| Temperature range    | -40 +125 °C |
| Temperature accuracy | +/- 0.5 °C  |
| Battery voltage      | 1-3.6 V     |
| Voltage accuracy     | +/- 0.1 V   |

### Part numbers

PM17-CL1 "clamp-in" version  
PM17-SN1 "snap-in" version

### General specifications

|                          |  |
|--------------------------|--|
| Operating Temp. range    | Full specs: -40 +105°C<br>Operative: -40 + 125°C |
| Mean current consumption | 0.45 µA  |
| Tx mean current (10ms)   | 200 µA   |
| Battery cell             | 3V Lithium CR1225 HR                             |
| Life-time                | 7 years  |
| Total weight:            | 16 g PM17-CL1<br>26 g PM17-SN1                   |

## Enhancing TPMS features and functionalities



- Active radio TPMS tire valve.
- NHTSA specifications compliant.
- Standard wheel mount procedure.
- Low weight (5g including battery cell).
- Universal Operating Protocol (UOP).
- Real time measurement of tire pressure, temperature and battery voltage.
- Transmission timing: selectable between 15 s to 5 min.
- Real-time transmission of tire pressure (0.2 bar resolution) or temperature variation.
- Instant warning on key-on key-off status.
- Stationary "economy mode" operational "low tire pressure warning" on receiver unit.

## OEM oriented technology

Constant monitoring of inflation pressure, tire temperature, tire sensor identification and battery life — Instant warning in stationary mode (Key-on / Key-off ).  
Prevents the consequences of low tire pressure through early detection:  
In a typical temperature profile functionally reliable up to 120°C, temperature-resistant up to 170°C  
Reliable up to 2000 g acceleration (static) .  
Vibration resistant and even suitable for use with snow chains  
ISO-TS qualified mechanical universal Snap-in and Clamp-in version.  
Self-learning system with automatic individual wheel detection, leading to faster and more efficient wheel changes.  
SPX TPMS PM17-CL and PM17SN sensors meet OEM quality and performance standards.  
The sensors detect the tire pressure, temperature and battery voltage wireless interfacing the vehicle's electronic control unit (ECU).  
Far less balancing implications than currently standard technology available on the market.  
Snap-in valve for a less leakage risks.  
Auto or manual valve programming location  
Potential solution for workshop-maintained fleet vehicles.  
Improved parking supervision: Instant warning availability on key-on/ key-off.

