



The “Original” Tyre Pressure Monitoring System

Developed and Manufactured in the U.S.A.
PressurePro – Reliable Under Pressure

Advantage PressurePro

Advantage PressurePro, LLC. is the developer and marketer of PressurePro, the “Original” Tyre Pressure Monitoring System. PressurePro is a leader in the TPMS market worldwide. Involved in the TPMS industry since 1991, Advantage PressurePro is a leader in the development and evolution of TPMS products and technology and remains dedicated to adding greater safety and savings from an environmental friendly product for all types of vehicles, in a wide variety of industries.

Company History Highlights

- **19 years in TPMS**
- **Financially Sound**
- **Millions of Parts Shipped and Placed onto Vehicles**
 - **Solid Reputation in the Industry**
 - **Strong Resources**
 - **Partners have Certified Quality Systems**

Benefits of Real Time TPMS

- Increased Fuel Efficiency
- Extended Tread Life (especially for “Super Singles”)
- Reduced Carbon Emissions
- Decreased Maintenance Cost
- Reduced Roadside Downtime
- Added Safety
- Enhanced Vehicle Handling
- Lessened Damage to Casings
- Lowered Insurance Costs due to fewer accidents and less vehicle damage
- Fewer liability problems
- Enhanced Stability and Braking



Tyre Pressure Research, Under-inflation

Despite the long list of benefits that proper tyre pressure provides, research regarding tires shows a large gap between how tires should be cared for and how they *are* cared for.

Industry Wide

Tractors

- 53% of tires are more than 5psi under target
- 7.4% are at least 20psi under target
- 1.4% are more than 10psi over target

Trailers

- 67.3% of tires are more than 5psi from target
- 8.7% are at least 20psi under target
- 2.4% are more than 10psi over target

Large Fleets (>3000 tractors)

Tractors

- 44% of tires are more than 5psi from target
- 2.1% are at least 20psi under target
- 6% are at least 10psi over target

Trailers

- 55.6% of tires are more than 5psi from target
- 1.6% of all tires are at least 20psi under target
- 16.7% of all tires are at least 10psi over target

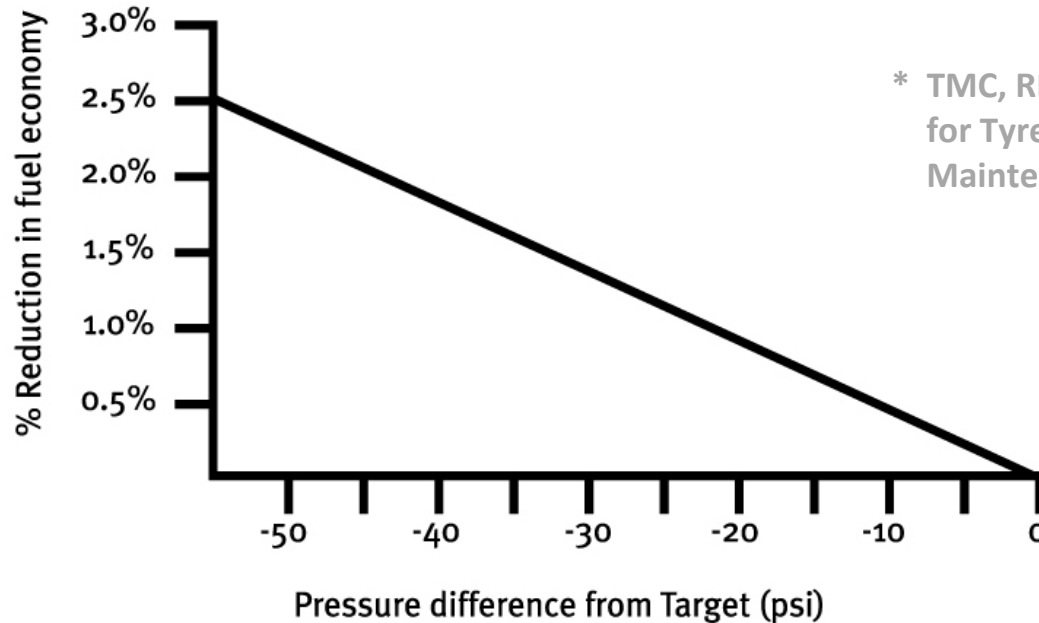
TIRE PRESSURE RESEARCH

Report Summary : U.S. Dept. of Commerce, National Technical Information Service, pub #PB2005100013, "Commercial Vehicle Tyre Condition Sensors". Research performed by Booz Allen Hamilton, Inc., McLean VA

Survey Data Summary: 3,261 tractors, 18,039 tires, 1,300 trailers, 7,501 tires

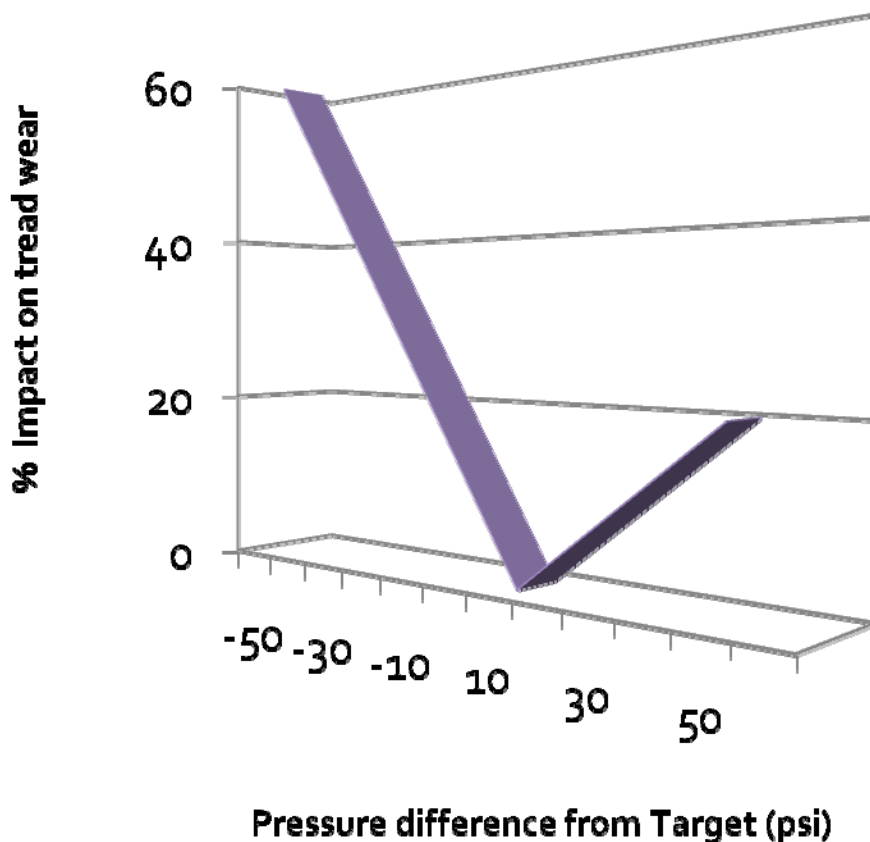
Under-inflation Costs: Fuel Economy

Each 10psi of under inflation (per tyre) causes a fuel economy drop of 0.5%*



* TMC, RP #233 – Guidelines for Tyre Inflation Pressure Maintenance

Under-inflation Costs: Premature Tread Wear



- Rule of thumb: 30% increase in tyre wear when inflation is 20psi under target*
- Rule of thumb: Just 10% under-inflation will reduce tyre life by 11%
- 30% under-inflation will reduce tyre life by 40%*

* TMC, RP #233 – Guidelines for Tyre Inflation Pressure Maintenance

Under-inflation Costs: Mismatched Duals

- 5psi difference in tyre pressures on a set of duals results in a 5/16" diameter difference
- Larger tyre will drag the smaller tyre, both tires suffer increased tread wear and fuel economy decreases
- 5/16" difference causes the smaller tyre to be dragged 13 feet every mile

Assumptions: Tyre diameter: 36"

With the make up of tyre compounds today, spotting a tyre low on pressure is much more difficult. A vehicle with just one tyre under-inflated by 10% can reduce the life of the tyre by thousands of miles and can increase the vehicle's fuel consumption by up to 3%.

Can you identify which tyre is 30% underinflated?



Tough to tell: isn't it? Tyre pressure must be checked with a quality air gauge as the inflation pressure can not be accurately estimated through visual inspection.

PressurePro Features

Tire re-balancing required	NO
Sensor operating distance	300 FT line of sight
Transmit Interval	Checks pressures every 7 seconds and updates monitor every 5 minutes. Low or high pressure alerts override standard signals and alert immediately.
Pressure range	8 TO 250 PSI
Pressure accuracy	1 TO 2 PSI UP TO 120 PSI
Temp range	-40C TO +125C
Temp accuracy	Currently 20C, with development in progress to bring readings to 2.5F, which is SAE standard
Sensor battery life	>5 years
Replaceable battery	NO
Life expectancy	Sensor >5 years, Monitor >10 years
Sensor transferable	YES
Low sensor battery alert	YES
Max number of sensors monitored at once	64
Manual pressure check option	YES
Stationary pressure monitoring	YES
Integrates into OEM Display	YES
Auto config of tire locations	YES
Rapid decrease alert	YES
Configurable pressure alerts	YES
CAN J1939 Interface	YES
Ease of Installation	Quick and easy to install and use
Maintenance	Low maintenance – easy to work with
Drop & Hook Capability	Only fully automated Drop & Hook
Integrate to telematics	Yes - easy integration to any telematics provider
Country of origin	Sensors developed & manufactured in the U.S.
Low Pressure Alerts	2 low pressure alerts – 12.5% and 25%
High Pressure Alert	Variable - User Configured
Temperature	Displays 20C increments – from -40C to +100C (Configurable to C or F)
Sensor Signal Strength Diagnostics	YES
Available without user interface if desired	YES
Configurable to any axle and vehicle configuration	YES

Why PressurePro

- Over 19 years of experience in TPMS from PressurePro.
- Strong commitment to R&D to provide the most state-of-the-art products on the market.
- Product installs quickly and easily cutting install time and need for additional tools.
- PressurePro upholds a solid reputation in the TPMS market for providing products of superior quality and reliability leading to industry honors (from Frost and Sullivan's 'Best Practices' Award) to being chosen as the TPMS integrator for the DOT's "Wireless Roadside Inspection" program).
- PressurePro provides the only fully automated Drop & Hook system for fleets.
- **PressurePro remains a U.S. made TPMS product, allowing superior development and production quality control.**
- PressurePro is the only TPMS in the market that easily interfaces with virtually any GPS/Messaging device in multiple modes.
- RS232, J1708 and J1939 CAN capabilities.
- PressurePro gives pressure readings while vehicle is sitting or moving: no manual system operates 24/7 or while the vehicle is moving!
- Cost effective product with easy installation and use.

Stand-alone Product Highlights



PressurePro Stand-alone systems are comprised of two main components: a Monitor and Sensors.



Large Bore Sensors

Standard Sensors

Monitors

PressurePro's standard Monitors are installed in-cab and provide real time tyre pressure monitoring readings and alerts for drivers. PressurePro manufactures a line of TPMS Monitors for a full range of vehicle types. Shown above are the following.

- Motorcycle (6 wheel) Monitor
- 6 Wheel Monitor
- 16 Wheel Monitor
- 34 Wheel Monitor
- Intelligent Drop and Hook Monitor

Sensors

PressurePro's TPMS Sensors are installed on your valve stem, replacing your dust cap, and report real time tyre pressure monitoring readings to your Monitor through RF signals. PressurePro manufactures Sensors to outfit tires with both regular valve stems and large bore valve stems.

Stand-alone Product Example



Sensors fit on valve stem, replacing dust caps, and send real time tyre pressure readings to the Monitor, in-cab.

Testimonial

Elmore Sand & Gravel

January 8, 2008

Sand and Gravel Company saves \$6,000 per month with a single \$6,500 investment!

When the tires on your vehicle cost approximately \$6,000 each, you become very sensitive to proper tyre care. Still, with good inspection procedures, Elmore Sand and Gravel near Montgomery, Alabama was averaging replacing a tyre per month on a fleet of eight heavy dump trucks – not because of tyre wear but because of improper inflation!



It takes a BIG dump truck to efficiently move sand and gravel. This stuff is heavy! Elmore Sand and Gravel (ES&G) uses the Komatsu HM-350, a rolling behemoth with a 25.9 cubic yard, 35 ton capacity. It's not the fastest thing on six wheels with a top speed of just over 35 mph, so wear and tear because of speed is not a factor. The problem is WEIGHT! With a gross weight of almost 140,000 pounds for off road use, proper tyre maintenance isn't an option. It is an absolute necessity!

Testimonial – Cont.

Elmore Sand & Gravel

January 8, 2008

When a tyre blows, the replacement cost for the R25 Off The Road (OTR) tyre averages around six thousand dollars. If that wasn't bad enough, there is the compound problem of downtime and replacement. When you have a three hundred thousand dollar vehicle sitting idle, downtime gets to be a real profit robber!

In some cases, a replacement tyre may not be immediately available. In the August 24, 2007 issue of the Arizona Republic, a feature article reported a global tyre shortage that was expected to last through 2007 and possibly beyond. It was about that time that Mark Montgomery, ES&G's safety director (See picture above) began looking for ways to reduce tyre replacement cost associated with improper tyre pressure.

Testimonial – Cont.

Elmore Sand & Gravel

January 8, 2008

The PressurePro wireless tyre monitoring system proved to offer benefits that were readily apparent. *PressurePro's Tyre Pressure Monitoring System is easy to install with no tools required. PressurePro provides continuous monitoring of tyre pressures and provides instant alerts to low or high pressure situations.*

The system cost averaged just over eight hundred dollars per vehicle, or sixty five hundred dollars to equip all of ES&G's quarry vehicles. The system was installed in June of 2007. Since installation, not a single tyre has been replaced due to problems associated with low tyre pressure resulting in a savings of \$6,000 per month or a six month return of \$36,000 on an \$8,500 investment. 2008 savings are projected at \$72,000.

Testimonial – Cont.

Best Practice Update

Hanson UK



Business Line: All

Subject: Mobile Plant Tyre Pressure

Location: National

Date: 16/05/2009

Inflation pressure is the No.1 factor influencing tyre life.

- 7% of tyres are replaced because they are worn, others reasons: Cut 45%, impact 29%, separation 11% and others 8%.
 - Over or under inflated tyres reduce the life and effect performance and fuel economy
- Over inflation
 - Reduces grip and traction, increases risk of damage to sidewall
- Under inflation
 - Causes casing fatigue, uneven tread wear, high rolling resistance and tyre / rim slip



- Check tyre pressures weekly against recommendations from tyre suppliers.
- Consider fitting remote monitoring as above right.
- Under / Over inflation by 10% reduces tyre life by 10%, +/- 20% by up to 25%
- Ensure tyres are matched on axles >3% diameter difference can cause transmission winding. Review Tyre suppliers site reports.
- A set of tyres for a 966 size FEL cost £10k - £20k, depending on brand type!

For information on the above or any other Best Practice Update please contact

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PressurePro Sensor on T-Valve



Advanced Monitoring Options

PressurePro is the only TPMS maker that offers many advanced monitoring options including data logging, integration to Telematics products and remote monitoring.

- Data Logging
- Fully Automated Drop & Hook Systems
- RS232/J1708/J1939 capabilities allow tethering to Telematics products
- Remote Monitoring abilities
- Fully integrated PressurePro TPMS Systems alongside leading Telematics providers



PressurePro Data Download

Pressure Data Extract - Monitor ID '194'

Date Range : 20/06/2008 8:29 AM to 20/06/2008 12:59 PM
Extra Status : On
Logging Interval : 5 minutes

Pressure Chart



PressurePro Data Download – Cont.

Final Readings and Statistics

Pos	Pressure	Reference	# Readings	Missed Readings	# Warnings	Avg RF	Messages
Pos 1	29	29	409	0	0	0	Check Sensor: Low RF strength
Pos 2	26	31	409	0	4	0	Check pressure: 10% below Reference Pressure
Pos 3	34	27	409	0	4	0	Check pressure: 10% above Reference Pressure
Pos 4	34	27	409	0	7	0	Check pressure: 10% above Reference Pressure

Pressure Warnings

Pos	Reading Date	Warning	Pressure	Reference Pressure
Pos 2	20/06/2008 16:47	<12.5%	26	31
Pos 3	20/06/2008 16:47	>12.5%	34	27
Pos 2	20/06/2008 16:48	<12.5%	26	31
Pos 3	20/06/2008 16:48	>12.5%	34	27
Pos 2	20/06/2008 16:49	<12.5%	26	31
Pos 3	20/06/2008 16:49	>12.5%	34	27
Pos 2	20/06/2008 16:50	<12.5%	26	31
Pos 3	20/06/2008 16:50	>12.5%	34	27
Pos 4	20/06/2008 16:55	<12.5%	5	27
Pos 4	20/06/2008 17:00	<12.5%	5	27

PressurePro
Tire pressure monitoring systems.



Intelligent Drop-&-Hook Application

PressurePro is the only TPMS maker that offers the market a fully automated TPMS solution for multi-trailer fleets. Requiring no driver interaction, PressurePro's Drop-&-Hook system automatically provides tyre pressure information from any combination of tractors and trailers outfitted with our TPMS technology.



On-trailer: Intelligent Repeaters (installed to weatherpack or power harness)



In-cab: Monitor (for viewing in-cab) or Bridge (for applications without viewable)



On-tire: Sensors install to each tire, replacing dust caps



Remote Monitoring & Integration

PressurePro has joined forces with many leaders in Telematics to provide customers with many options for providing PressurePro tyre pressure readings to a remote location (such as a central maintenance office). These partnerships have also allowed us to integrate PressurePro's technology to that of our partnering Telematics products.



PressurePro's remote monitoring options allow fleets to monitor every tyre in their fleet from one central location



PressurePro's integrated TPMS capabilities can be found in PeopleNet's BLU product line (pictured here)

OEM Application

Alongside strategic partners [RM Michaelides](#), a pioneer in CAN Technologies, PressurePro has developed the first CAN-Bus Telematics system, complete with real time TPMS and market leading Drop-and-Hook capabilities.

Offering a variety of displays ranging from a 2-in. round in-dash display to a 6.5-in. full color display showing complete vehicle functions, RM Michaelides offers a wide variety of top-of-the-line viewables which communicate information compiled by its [PROEMION](#) Telematics platform. Already providing full vehicle information including vehicle tracking, diagnostics, GPS and more, the integration of PressurePro's TPMS Technology now allows the PROEMION platform to present complete tyre Pressure and Temperature information.

CANpress



PressurePro Sensors



Operator Display Options

2 inch round display

6.5 inch full color display

Build in to current dash



Executive Summary

PressurePro is the pioneer in TPMS Technologies, providing the “Original” U.S. made TPMS product since 1991. With experience over a wide array of vehicles, from racing to delivery vehicles, heavy equipment, tractor/trailers, buses, military vehicles and more, PressurePro has been the choice of fleets and providers who understand the need for a reliable, durable accurate system that is easy to install, simple to use and requires little to no maintenance. PressurePro has become the TPMS product of choice to partner with the industry elite – from Telematics providers to distributors such as Pana-Pacific. PressurePro is currently on thousands of vehicles in the U.S. and worldwide and is in discussions with, testing or working with *your* customers – fleets across North America – adding greater efficiency, safety and savings. PressurePro’s presence in the market grows daily as does your customers’ confidence in PressurePro. A strong commitment to R&D and partnerships with some of the giants in the industry such as GE, have earned PressurePro a reputation as a market leader. PressurePro is proud to have been asked to partner on technology leading programs such as the DOT’s “Wireless Roadside Inspection” program and has been the system of choice to participate with University and Government Pressure Monitoring projects.

Contact Information

Contact us today for information on how PressurePro can start adding safety and savings to your vehicle fleet.

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PressurePro = INSURANCE + DIVIDENDS

