

Influence of the system on safety, economy and ecology



- Increased safety of driving a vehicle
- No downtimes due to tyre problems
- Elimination of redundant tyre purchase expenses and costs of service and additional costs due to extended time of load and passenger carriage
- Protection of valuable load due to tyre explosion prevention
- Better management of tyre park
- Fuel consumption savings
- Protection of environment due to limited fuel consumption and lower number of damaged tyres on roadsides and in ditches



multiTPMS PROTECTS TYRES, YOUR TIME AND MONEY

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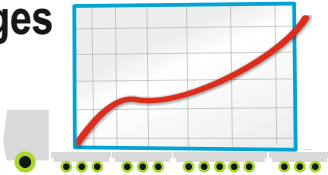
NO MORE PROBLEMS WITH TYRES in oversize transport



multiTPMS

Innovative solution of DRABPOL
in tyre pressure and temperature control
in oversize transport

System advantages



- The driver receives quick and legible notifications about incorrect tyre pressure in wheels and within one minute has the possibility to roughly check the pressure and temperature of even several hundred wheels (when driving) and thoroughly control the pressure and temperature in each wheel – when the vehicle is stationary or by the second driver when driving
- The display equipped with the proprietary software of Drabpol enables constant supervision over all trolleys and their wheels.
- The system properly groups and numbers the trolleys so that data for the driver is clearly displayed.
- For easier receipt of information by the driver, the display shows numeric values and colours:
 - green (pressure and temperature parameters are within the standard)
 - orange (it is necessary to start preventive actions)
 - red – critical failure (it is necessary to stop the vehicle)
 - grey – no connection between the wheel and the sensor
- In case of failure, there is an acoustic signal activated to secure potential oversight of the message on the screen by the driver
- The system enables unlimited combination of semi-trailers and truck tractors. In a single road train it is possible to inspect up to 200 wheels as standard, and even up to 480 wheels upon request.



System elements



Microprocessor - performs pressure and temperature measurements in a tyre and wirelessly sends data to the Central Control Unit (CCU).



Central Control Unit (CCU) - receives signals from sensors in tyres and transmits them to the display



RX – additional receiver – sensor signal amplifier, used when the tyre distance to CCU exceeds 10m



MultiPCB-Box
(Multi Purpose Controller Bard) System – proprietary solution of Drabpol, constituting a universal electronic system. Multi PCB Box is responsible for collecting data from numerous CCUs and presenting them on the display as one composition divided compliant to the real appearance of the unit.



7" multifunction display

7" Continental MVF multifunction display. A touch screen with mechanical touch buttons equipped with proprietary software of Drabpol.

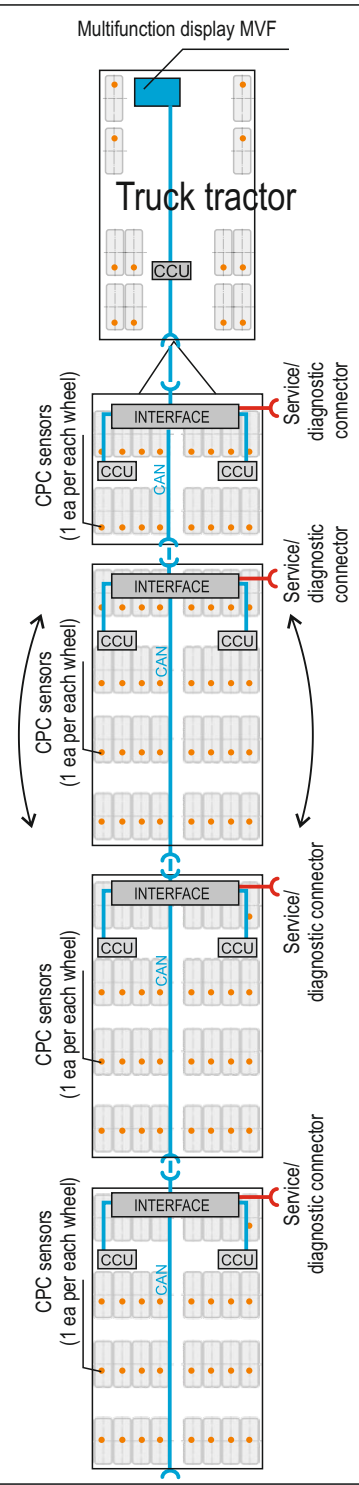
Our solutions *Designed to meet the needs of oversize transport, the tyre temperature and pressure monitoring system has a driver friendly software that conveniently groups and numbers all tyres and trolleys*

and enables to easily find an endangered tyre when driving. It also enables a convenient overview of tyres at stop, so that potential parameters can be improved before driving (in case the risk threshold is approaching).

Multi-segment unit

Assuming that the truck tractor is equipped with the multiTPMS system, there is a multifunction MVF display installed in the cabin to monitor tyres of the entire transport unit. Each segment of the unit is equipped with:

- TPMS sensor (1ea per each wheel)
- CCU computer – 1ea for the left and 1 ea for the right side
- INTERFACE
- service-diagnostic connector for system configuration
- additional receiver - signal amplifier for wheels distanced above 10m from the CCU

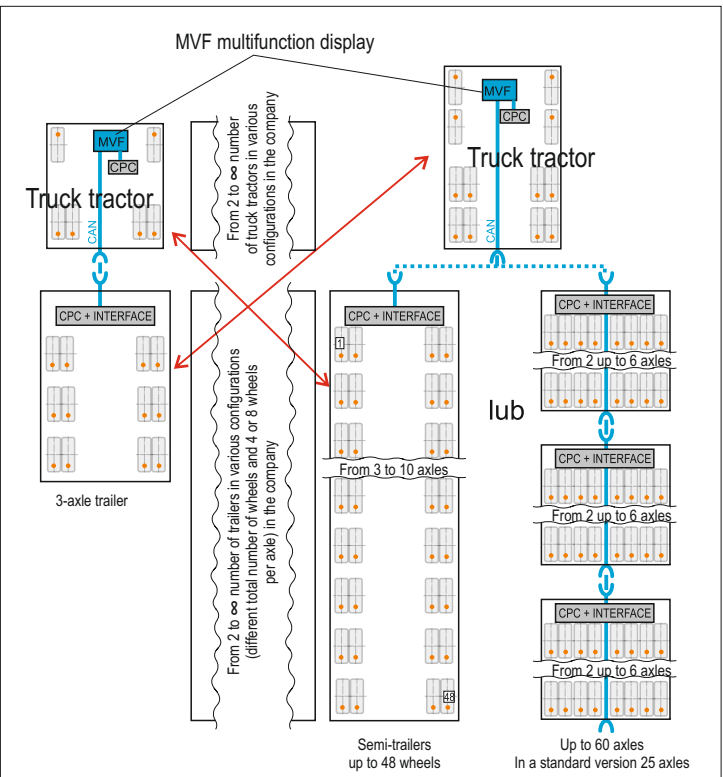


Everything is connected through additional CAN bus common for all modules. Such connection of individual segments of the transport unit guarantees flexibility of configuration of individual segments. Segments can be connected either facing or back to the unit, the system recognizes which side is currently the "right" or "left" one and "forward" driving.

This solution ensures instant time of reaction and location of endangered wheel and the possibility to immediately take actions to prevent tyre explosion. Such action now usually means to inflate a wheel.

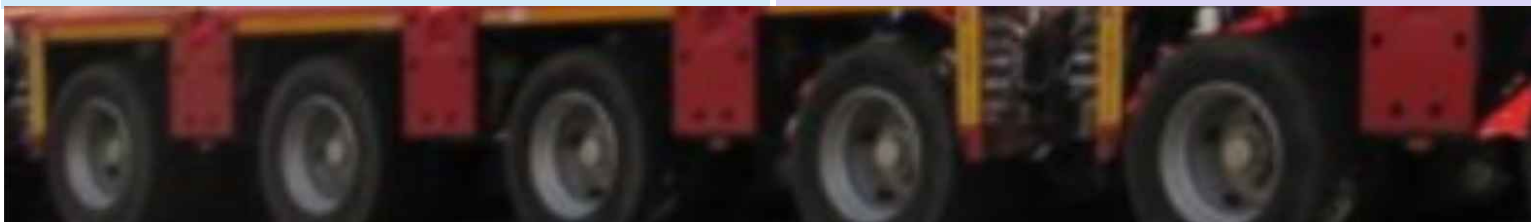
If an orange or red level appears for several wheels and trolleys at a time, the information will be available at once and the primary information about a bad condition will be assigned to the tyre which at a given moment has reached the most critical level.

System versatility:



The differences in the number of axles and wheels have enforced the necessity to implement standardization of the number of CCUs (2 per module), which enables constant switching of trolleys and moving the MVF display from one vehicle to another. The system's task is to properly group and number the trolleys so that data for the driver are clearly presented on the display.

The system enables unlimited combination of semi-trailers and truck tractors. In a single road train it is possible to inspect up to 200 wheels as standard, and even up to 480 wheels upon request.

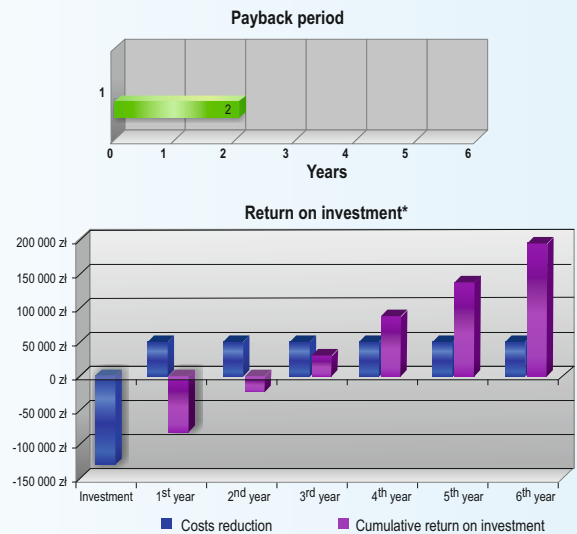


multiTPMS is not a cost, it's the investment

Return on investment: 2 years

Income of PLN 200,000 in 6 years!

Investment in one wheel is just PLN 444 in 6 years!



*) Sample calculation made for the unit equipped with 280 wheels (3 tractors, 30 truck axes).
Yearly expenses on tyres – PLN 115,000, which means PLN 690,000 in 6 years.
Cost of multiTPMS system – PLN 130,000. Income of PLN 200,000 in 6 years.
Total cost of tyres is PLN 1,000,000.

Additional economic benefits:

- Higher vehicle's resale price due to real mileage (when driving with constantly lower pressure, the actual number of kilometres driven is less by 10% than the odometer reading);
- Less time spent on tyre pressure and temperature checks;
- Lower risk of traffic fine due to a halt on a motorway;
- Higher comfort for drivers and co-drivers;
- Elimination of stoppage resulting from tyre failure.