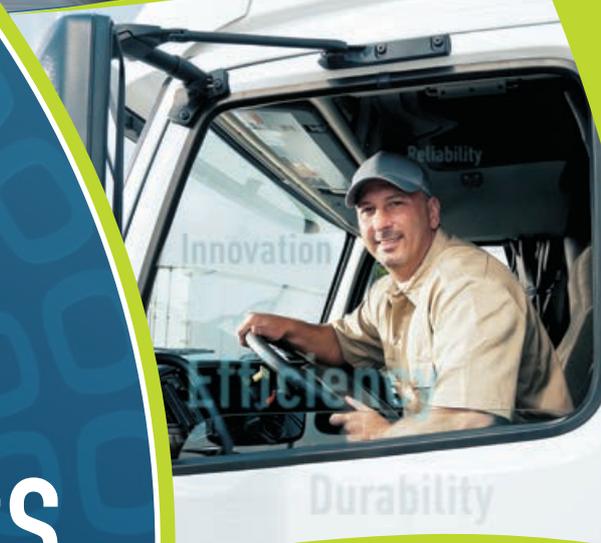


idem ●
telematics

BPW idem TELEMATICS SYSTEMS



QUALITY YOU CAN TRUST

we think transport



NOV2025.v22

BPW IDEM TELEMATICS

give a clearer view of your business

FAST, FLEXIBLE AND ON TIME.

This is what your customers expect from you as their transport and logistics provider. With idem telematics you can do exactly that.

This system enables logistics companies to offer maximum product safety and transport quality. The fully integrated system is designed to fit seamlessly into your operations.

Access to real-time data allows you to precisely control temperatures whilst monitoring vehicle reliability and the security of goods during transport.

The data captured and the reports generated by the system give a valuable overview of your transport operations, allowing management to improve their fleet utilisation and efficiency through considerable fuel savings and lower insurance premiums.

From dispatching and scheduling to monitoring and invoicing, telematics will make your work-flow easier, clearer and more cost-effective. Using telematics systems enhances your levels of customer service and ability to win and maintain contracts: a big advantage for forwarders and haulage companies who operate in highly contested markets.

PRECISE POSITION MONITORING

- Monitoring of loading, unloading and stand time
- Alarm management for critical events
- Immediate proof of the complete reefer chain
- Load checks and monitoring for high security transport
- Monitoring of technical components for preventative maintenance



Each new day on the road shows the potential telematics systems have and precisely what added value they can offer your company. As a complete solution for truck and trailer telematics, the following pages will give you an overview of the many features and benefits that this system offers.



- Fleet Tracking
- Vehicle Control
- Operational Efficiency



TELEMATICS

systems for transport and logistics

CARGOFLEET IS THE GATEWAY TO OPERATIONAL EFFICIENCY, VEHICLE CONTROL AND FLEET TRACKING.

Designed by BPW Group member, idem telematics, Cargofleet telematics systems give transport operators access to a far greater level of data, to monitor and control their trailers like never before.

It's far more than a simple track and trace system. From just one advanced source covering multiple functions, Cargofleet generates a wealth of data allowing transport operators and drivers to keep an eye on the health of their trailers. The system provides many operational benefits covering these key areas.



BENEFITS

VISIBILITY	Overview of your transport operation, allowing improved utilisation and efficiency. - Asset usage data and trailer location for ease of service planning.
COST REDUCTION	Resolution of unscheduled maintenance issues to reduce VOR time. - EBS fault codes to enable repair and parts availability planning.
EFFICIENCY	Comprehensive operational data, such as asset location, status and availability. - GPS location, EBS load, fridge fuel tank level and TPMS status etc. for ease of job planning.
QUALITY	Comprehensive journey, loading and temperature data. - Operational service quality through route tracking, temperature reporting and loading/unloading.
SECURITY	Door sensors and door locks to monitor door opening and unauthorised entry. - High-value load monitoring/unauthorised entry alert.
USABILITY	Comprehensive alarm function to pro-actively alert relevant personnel. - Exception reporting of specific data or occurrence.

FEATURES AND APPLICATIONS

<p>CORE FUNCTION LOCATION TRACKING & GEO-FENCING The system uses GPS to keep you constantly informed about the current location of your trailer, protecting your trailer against theft and giving you complete route supervision to optimise transport costs and energy consumption.</p>	<p>CORE FUNCTION EBS DATA OVERVIEW The system is linked into the EBS module giving live vehicle data showing speed, bogie weight and EBS faults. The system can also flag up harsh braking applications, roll stability interventions and specific fault codes for the trailer EBS.</p>
<p>ELECTRONIC BRAKE PERFORMANCE MONITORING SYSTEM (EBPMS) Sharing EBPMS data demonstrates compliance with the current DVSA requirements (set out in the DVSA Guide to Maintaining Roadworthiness) and can reduce roller brake tests from 4 to 1 per year. Automated error alerts enable proactive repair and maintenance scheduling.</p>	<p>TYRE PRESSURE MONITORING Wireless tyre control monitoring provides not only tyre pressure alerts, but also tyre temperature information, improving safety, extending tyre lifetime and saving fuel.</p>
<p>FRIDGE TEMPERATURE MONITORING & CONTROL For refrigerated trailers, the system can be linked in with the fridge unit to provide live temperature data, fridge running hours and fuel level. It also offers a reliable temperature history for your end customer.</p>	<p>FRIDGE FUEL MONITOR Surveillance of the fridge fuel tanks on the trailer offers the security of preventing fridge failure from compromising costly loads, as well as reducing the risk of fuel theft.</p>
<p>DOOR SENSOR A door sensor enables load security and load status monitoring.</p>	<p>BPW AIRSAVE INTEGRATION BPW airsave can be integrated into the BPW idem telematics system. The Airsave status is displayed on the portal and portal alarms will proactively notify recipients of an alert status.</p>
<p>TRACTOR INFORMATION The continuous overview of the current tractor unit and trailer combination is a particularly effective tool for vehicle fleet management. Also includes Fleet Management System (FMS) data and digital tachograph data.</p>	<p>DRIVER APP Available for smart phones and tablets. Provides visibility of the telematics data in the cab for drivers so they can remedy any issues promptly if necessary.</p>

OVERVIEW OF THE TELEMATICS SYSTEM

PORTAL HOMEPAGE

Overview of each individual trailer's location and status:
Moving or standing, loaded or unloaded etc.

Type	Asset	Status	Date / Time	Location	Speed (GPS)	Temperatures	Set point	Return Air	Supply Air	Total	Load	Actions
	1650		31/07/2019 14:29:15	Crewe, CW1 6, United Kingdom	0 km/h	T1 16.9 °C T2 17.5 °C T3 20.0 °C T4 0.0 °C				7.31	0.41	...
	5531		31/07/2019 14:30:00	MS, Clevedon, BS21 6, United Kingdom	80 km/h	T1 5.5 °C T2 6.5 °C	S1 0.0 °C	RA1 2.9 °C	SA1 -0.0 °C	10.81	3.91	...
	5532		31/07/2019 14:28:00	Geofence Spalding	0 km/h	T1 7.0 °C T2 5.5 °C				9.21	2.31	...
	6967		29/07/2019 20:00:00	CW1 6FB, Crewe, England, United Kingdom	0 km/h	T1 15.0 °C T2 10.0 °C				20.61	10.11	...
	7530		31/07/2019 14:30:09	Motherwell, ML1 4, United Kingdom	0 km/h	T1 3.5 °C T2 0.5 °C	S1 3.0 °C	RA1 2.9 °C	SA1 1.6 °C	14.11	9.11	...
	7531		31/07/2019 14:27:29	Townhead Avenue, Bellshill, ML1 4, United Kingdom	43 km/h	T1 19.5 °C T2 20.6 °C				7.11	2.11	...
	7532		31/07/2019 14:30:37	DG11 1, Scotland, United Kingdom	1 km/h	T1 19.5 °C T2 21.0 °C				6.91	1.91	...
	7550		31/07/2019 14:30:10	DG11 1, Scotland, United Kingdom	0 km/h	T1 21.0 °C T2 21.0 °C				6.91	1.91	...

STATUS ICONS

Independent position report.
Telematics Control Unit internal battery life:
50 days at 3 position updates per day.

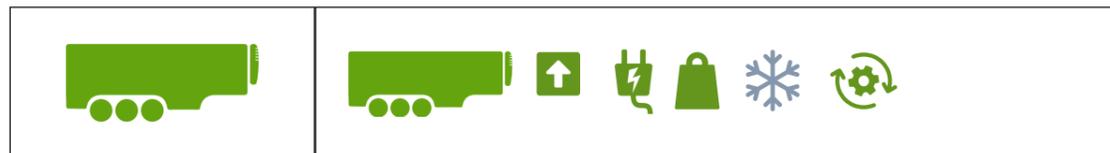
TRAILER NOT MOVING

Trailer stood, EBS not powered, loaded, fridge on, TPMS alert, timed position update, EBS alert, asset not used within last 48 hrs.



TRAILER MOVING

Trailer on trip, EBS powered, loaded, fridge off, asset used within last 24 hrs.



FLEET TRACKING

Location of trailer across Europe.



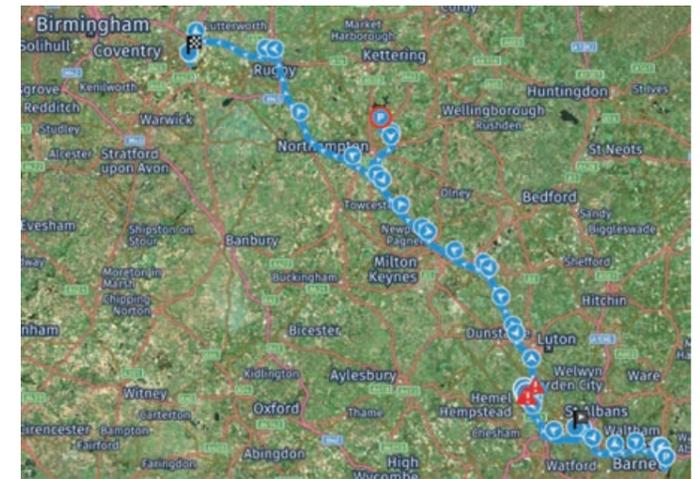
- The portal map groups trailers located in the same area.
- Includes trailer overview status data.
- European coverage and mapping as standard.



- Zoom function to view street level.

TRAILER TRACK & TRACE

- Displays the trailer's historic movements and route.
- Includes:
 - route start point
 - route end point
 - parking locations
 - portal alarm activations
- Records details every 15 mins, or 5 mins for temperature monitoring systems.



Message details Date / Time: 29/9/2020, 11:33:12 Asset: 6967 Status:	Alarm messages 6967 - Geofence Group G 29/9/2020, 11:33:12 The asset exited following geofence Geofence Hemel Edit status	General 6967 GPS Location: M1, St Albans, AL3 7, United Kingdom GPS Height: 109 m Standing / Driving: On Trip [00:00h] Speed: 89 km/h	Asset data 6967 Mileage Counter (GPS): 594,305 km Ignition: on [00:00h] Fridge Fuel Level []: 240 l
--	--	--	--

Technical and operational data at each logging interval, including portal alarm details.

OVERVIEW OF THE TELEMATICS SYSTEM

VEHICLE CONTROL

History data

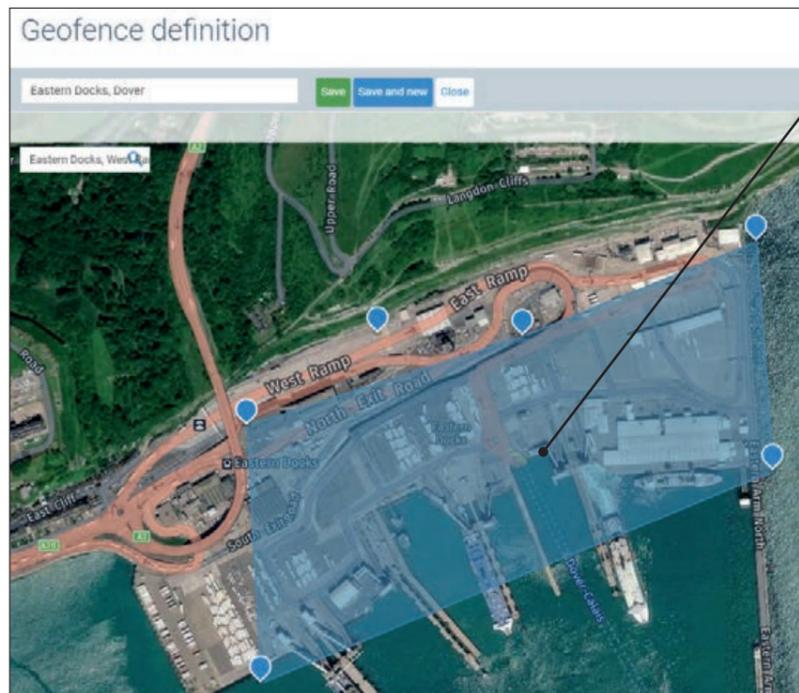
Full history report of trailer's movements.

Data archive duration: Standard data: 6 months, temperature & fridge data: 18 months.

Type	Status	Date / Time	Location	Speed	Temperatures	Set point	Return Air	Total Bogie	Load	Mileage (EBS)
		16/01/2019 08:47:31	25 Royal Avenue, Stranraer, DG9 8ET, United Kingdom	0 km/h	T1 5.0 °C T2 4.0 °C					
		16/01/2019 08:49:47	25 Royal Avenue, Stranraer, DG9 8ET, United Kingdom	0 km/h						
		16/01/2019 08:50:00	25 Royal Avenue, Stranraer, DG9 8ET, United Kingdom	0 km/h	T1 1.5 °C T2 4.0 °C			7.1 t	2.1 t	109,597 km
		16/01/2019 08:50:10	25 Royal Avenue, Stranraer, DG9 8ET, United Kingdom	0 km/h	T1 5.0 °C T2 4.0 °C	S1 2.0 °C	RA1 4.5 °C			
		16/01/2019 08:55:00	Cairnryan Road, Stranraer, DG9 8, United Kingdom	40 km/h	T1 -6.5 °C T2 2.5 °C			7.3 t	2.3 t	109,599 km
		16/01/2019 09:00:00	A77, Stranraer, DG9 8, United Kingdom	70 km/h	T1 -3.5 °C T2 2.0 °C			7.3 t	2.3 t	109,605 km
		16/01/2019 09:00:10	A77, Stranraer, DG9 8, United Kingdom	69 km/h	T1 -5.5 °C T2 2.5 °C	S1 2.0 °C	RA1 1.9 °C	7.3 t	2.3 t	109,605 km
		16/01/2019 09:05:00	Stranraer, DG9 8, United Kingdom	28 km/h	T1 -1.5 °C T2 1.5 °C			7.3 t	2.3 t	109,609 km

FLEET TRACKING

Geofencing



- Set a geofence by postal code or address.
- Arrange the area to a flexible area or diameter in metres.
- Highlights on the map the area covered.
- Polygon or circular geofences can be created.
- Geofences can be combined in portal alarms.

TRAILER TECHNICAL DATA

Overview of the trailer's technical information.

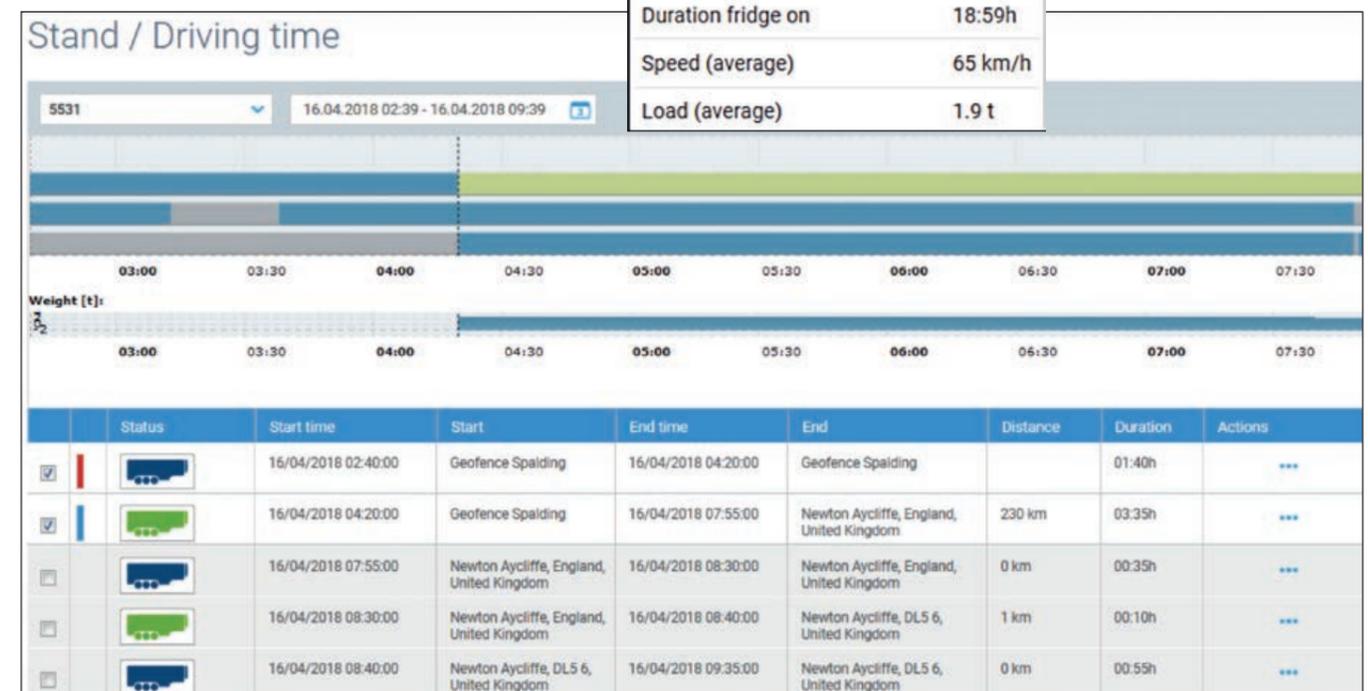
Type	Status	Bogie load	Total Bogie Load
		9.6 t	20.1 t
Asset data 			
Mileage (EBS / FMS)		6,909 km	
Mileage Counter (GPS)		8,747 km	
Ignition		off [00:02h]	
Bogie Load Weight		9.6 t	
Fridge Fuel Level [l]		120 l	
Total Bogie Weight		20.1 t	

Data includes:

- Loading status
- Total bogie weight
- Bogie load weight
- EBS warnings
- Fridge fuel level, if refrigerated trailer with fuel gauge installed.

STAND / DRIVING GANTT CHART

Gantt chart clearly shows trailer utilisation data in a visual format.



- Provides summary data for a selected period.

OVERVIEW OF THE TELEMATICS SYSTEM

VEHICLE CONTROL

Alarms

- The ability to set up EBS alarms & email to key members of staff so they can react to an issue as it occurs.
- Alarms include:** Roll stability, EBS warning lights red and amber with codes and overload of trailer.

Alarm definition

EBS alarm [Save] [Save and new] [Close]

Basic settings | Validity | Temperature | Geofence | **EBS** | TPMS | Misc.

EBS data

EBS Roll Stability	On	⊖ ⊕
EBS Red Warning Signal	On	⊖ ⊕
EBS Amber Warning Signal	On	⊖ ⊕
EBS ABS active	On	⊖ ⊕
EBS Overload	On	⊖ ⊕

DTC

Currently active DTCs

- DTC events (error) ✓
- DTC events (critical) ✓

Latched DTCs

- DTC events (error) ✓
- DTC events (critical) ✓

GEO-FENCE

Alarms

- Set up your geo-fence to manage turn around times and service level agreements (SLAs) with clients.

Filter

Geofence	Entr.	Exit	Stay
Geofence BasingstokeMB	✓	✓	☐
Geofence HemelMB	✓	✓	☐
Geofence Spalding	☐	☐	✓

⚠	24/07/2018 02:55:00	5532	Geofence Group G	
⚠	23/07/2018 17:19:06	1650	Geofence Group G	
⚠	23/07/2018 16:48:42	5532	Geofence Group G	

Time	Action	Comment
24/07/2018 02:55:42	⚠	
24/07/2018 02:55:57	⚠	Auto Closed

- Detailed geo-fence alarm notifications clearly show when the alarm was raised and closed.

OPERATIONAL EFFICIENCY REPORTS

Trailer performance

- Highlights the best and worst performing trailers.

Best Load		Worst Load	
ASSET	LOAD %	ASSET	LOAD %
1650	100.0 %	6968	0.0 %
6967	94.8 %	381	49.6 %
5532	53.1 %	5531	51.2 %
		62193	52.4 %

Best Ton-km		Worst Ton-km	
ASSET	tkm	ASSET	tkm
381	24,686.1	6968	0.0
6967	10,237.8	1650	3,050.8
62193	7,794.8	5531	3,781.7
		5532	5,015.2

TYRE PRESSURE MONITORING SYSTEM (TPMS)

Portal TPMS data

- TPMS data and icon alerts on the portal for rapid status visibility.
- Proactive TPMS issue alarm notification by e-mail.
- Tyre pressure and temperature recorded simultaneously with rim-mounted sensors.
- Valve-mounted sensors are also available, which only report tyre pressure.

TPMS

Measurement time 16/04/2018 11:57:00

Type	Status

Tyre pressure below alarm level - stop driving and check pressure.

10 °C	— temperature
5.7 bar	— pressure

11 °C	— temperature
8.4 bar	— pressure

OVERVIEW OF THE TELEMATICS SYSTEM

TEMPERATURE MONITORING

Connection direct to fridge or data logger.

Type	Vehicle	Status	Date / Time	Position	Speed	Temperatures
	62193					
	62193		29/01/2018 14:59:50	Luton, LU4 0, United Kingdom	0 km/h	T1 -20.0 °C T2 -21.3 °C T3 -12.6 °C T4 -11.0 °C

Subject: Alarm "FROZEN fridge temperature alarm GEOFENCE" regarding "TRAILER 1"

Dear recipient,

on 29.01.2021 07:46:22 Europe/London the following alarm "FROZEN fridge temperature alarm GEOFENCE" occurred at the vehicle "TRAILER 1".

The alarm was triggered on following conditions:
 Temperature deviation: Zone 1, Return Air #1 Temperature=-15.3 °C (greater than -18.0 °C)
 Temperature deviation: Zone 1 Temperature Set Point=-25.0 °C (equals -25.0 °C)

Location: GEOFENCE
[Map: <https://share.here.com/51.77003479003906,-0.4397130012512207,trailer 1?>](https://share.here.com/51.77003479003906,-0.4397130012512207,trailer 1?)

Regards,
 Your Cargofleet System

Temperature alarm e-mail notification.

JOURNEY TICKET

T1 = Fr ARet
 T2 = Front
 T3 = Rr ARet
 T4 = Rear

Example shown: Transcan temperature data.

Temperature Reports and Alarms

Comprehensive temperature reports and temperature alarms functions are also available via the portal.

FRIDGE DATA & FUEL MONITOR

Fridge data

Displays the full range of data output by the fridge.

Fridge Status	
Power Type	diesel
Fridge Operating Type	continuous run
Fuelstatus	ok
Fuel Level [l]	170 l
Operating Hours	6,340h
Standby Hours	336h
Switch On Hours	6,875h
Ambient Temperature	13.4 °C
Zone 1 Temperature Setpoint	2.0 °C
Zone 1 Operating Mode	cooling
Zone 1, Return Air #1 Temperature	3.1 °C
Zone 1 Supply Air #1 Temperature	2.8 °C

Fuel monitor

Fridge fuel monitor shows the fridge fuel status and sends alerts when levels are low.

Fuel reserve	
Fridge Status	
Fuelstatus	in Reserve
Fuel Level [l]	0 l

LED fuel display



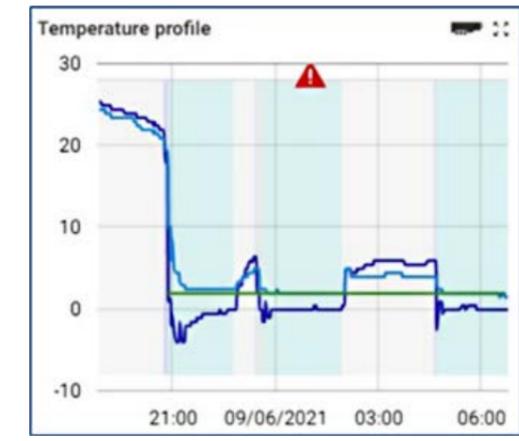
TEMPERATURE RECORDING EN12830-SPECIFICATION

Type	Vehicle	Status	Date / Time	Location	Speed	Temperatures
	5531		16/04/2018 09:47:08	St Andrews Way, Newton Aycliffe, DL5 6, United Kingdom	42 km/h	T1 2.5 °C T2 4.0 °C

Temperature Reports and Alarms

Comprehensive temperature reports and temperature alarms functions are also available via the portal.

- Independent temperature sensors.



Quick view portal temperature sensor profile.

2-WAY TEMPERATURE CONTROL

Remote temperature control options (where compatible with fridge type):

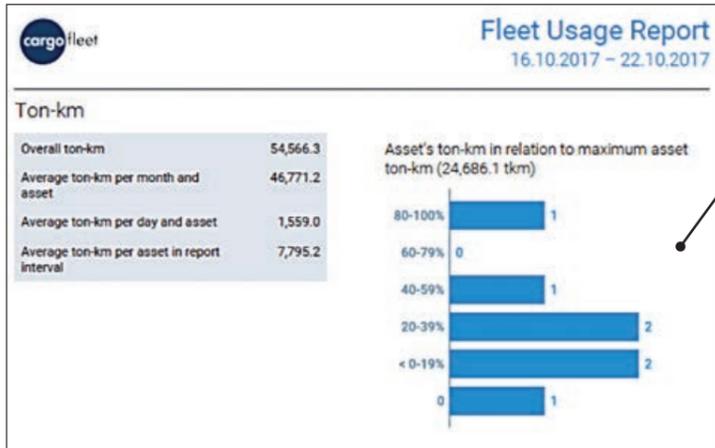
- Change set point.
- Change operating mode: start / stop ↔ continuous run.
- Initiate defrost.
- Clear messages / fridge alarm.



OVERVIEW OF THE TELEMATICS SYSTEM

OPERATIONAL EFFICIENCY REPORTS

Assets usage



Trailer utilisation shown in tonnes per kilometres.



Trailer utilisation shown in days per month (normalised).

EBS REPORTS

A summary of the events on the trailers. Reports include roll stability, ABS events and aggressive braking.

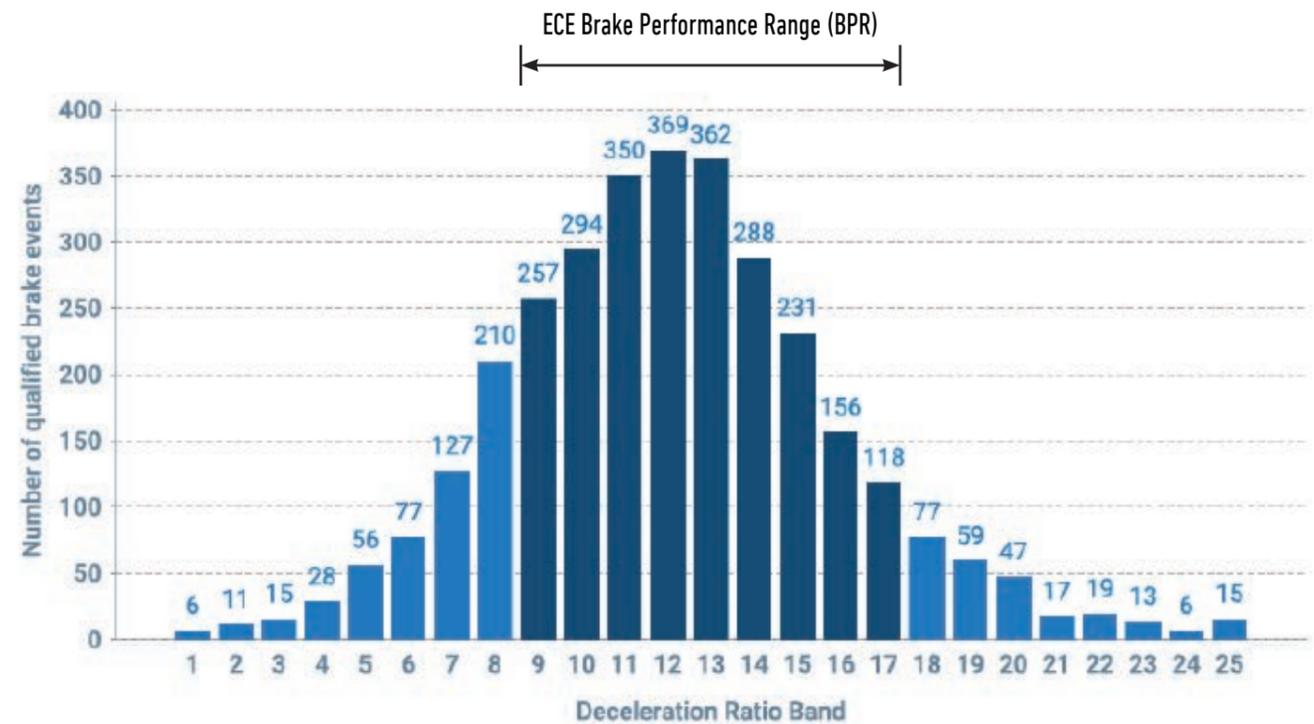
Asset Name	Total EBS Distance [km]	Number of Brake Events	Number of RSS Events	Number of ABS Events	Number of Brake Applications 2 to 3.9 bar	Number of Brake Applications 4 bar and over	Number of Red Light Warning Events	Number of Amber Light Warning Events	Average Brake Pressure [bar]
TRAILER 1	6,810	5,494	3	87	0	9	1	3	1.435
TRAILER 2	5,622	6,297	0	61	11	4	12	45	1.433
TRAILER 3	7,796	7,071	5	100	3	6	1	3	1.187
TRAILER 4	10,442	3,681	0	89	0	0	0	3	1.250
TRAILER 5	12,435	7,131	0	5	4	6	0	4	1.295
TRAILER 6	10,242	13,437	4	199	7	8	11	15	1.125
TRAILER 7	6,407	4,734	0	33	0	4	8	54	1.176
TRAILER 8	7,707	11,537	0	95	8	7	1	1	1.079

Braking demand pressures (approx.)

- Standard braking: 1 to 2 bar
- Harsh braking: 3 to 3.9 bar
- Emergency braking: 4 bar and above

ELECTRONIC BRAKE PERFORMANCE MONITORING SYSTEM (EBPMS)

- Brake performance monitoring will allow operators to substitute brake roller testing between MOTs and annual inspections by continually comparing the performance of the tractor / trailer braking events against the brake demand from the driver.
- Over a period of time the results will provide a picture of braking characteristics of the tractor / trailer combination and this will help to plan preventative maintenance periods and friction material replacement.
- The system can be set so that unusual events, e.g. roll stability events, excessive ABS interventions and excessive service brake demands, can be communicated to the Fleet Manager.
- A proactive approach can be taken to maintenance and repairs to minimise downtime.



Histogram measuring the number of brake applications in relation to the ECE (Economic Commission for Europe) Regulation 13 Brake Performance Range (BPR).

ELECTRONIC BRAKE PERFORMANCE MONITORING SYSTEM (EBPMS)

WHAT IS EBPMS?

- EBPMS is a system to monitor the dynamic performance of the tractor unit / trailer combination braking and to provide a facility to acquire the data in the form of reports.
- The system is able to produce performance figures for the tractor unit / trailer combination by using data from the Electronic Braking System, (EBS), and data acquired from other sources.
- **Note:** Parking brake performance cannot be assessed by EBPMS.

Parking brake performance

"Where EBPMS is unable to assess parking brake performance, but the service brake performance is reported to be performing satisfactorily by an EBPMS, a visual inspection of the parking brake components and a suitable drag or gradient test to check system operation would be accepted as the minimum requirement for a parking brake safety inspection."

Source: DVSA "Guide to Electronic Braking Performance Monitoring System(s)" published 18th April 2023.

HOW DOES EBPMS WORK?

- EBPMS monitors braking events and then compares the result to the demand from the driver and tractor unit.
- The pressure on the service coupling, (or the equivalent electrical signal), indicates how much braking the driver / tractor unit is expecting.
- The level of retardation achieved is calculated from the speed and distance travelled.

WHAT DOES EBPMS REPORT?

- The EBPMS system reports how the tractor unit / trailer combination braking system is performing against demand.
- The EBPMS system reports how the braking system is performing against demand.
- The longer the system is used, the more accurate the data becomes.
- The reports can produce data on a daily, weekly, monthly basis, and also ad hoc last x days to a maximum 90 days.
- A minimum sample of 100 qualified braking events are required for an Asset Report to provide an overall result of "pass" or "low performance" rating, else the report is generated but reports an overall result of "not rated".

ELECTRONIC BRAKE PERFORMANCE MONITORING SYSTEM (EBPMS)

CONTROL OF EBPMS FUNCTIONALITY

There is a document published by DVSA, which the industry must work to and demonstrate it complies with via a "Compliance Document"

- **Electronic Braking Performance Monitoring System Industry Standard Specification**

[Click here to view the document online and scan the QR code using your smart phone.](#)

- There is also an EBPMS section in the **DVSA Guide to Maintaining Roadworthiness**.



ELECTRONIC BRAKE PERFORMANCE MONITORING SYSTEM (EBPMS)

CONSIDERATIONS

EBPMS and a Roller Brake Test, (RBT), cannot be directly compared due to the following **major and significant differences**:

- EBPMS is a measure of the **dynamic braking performance of the tractor/trailer combination**, whereas an RBT is a static laden test of the trailer only.
- Unlike an RBT, EBPMS includes **data filtering** which ensures that reliable data is recorded and used in reporting.
- EBPMS incorporates **external influences**, e.g. allowance for travelling uphill or downhill, which an RBT does not.

EBPMS REPORTING CONSIDERATIONS

- The EBPMS report is for the tractor unit / trailer combination - this should be considered when trouble-shooting.
- EBPMS system relies upon the tractor unit and trailer braking systems being balanced.
- Driving style can affect brake performance.
- EBPMS data will not be produced for trailers coupled with tractor units, which are not of a specification able to send CAN bus data.
- The reported brake performance values for each trailer rely upon the EBS system being programmed with its specific brake calculation settings. As determined by BPW Ltd., this brake calculation may require adjustment and must be programmed into the EBS system to enable valid EBPMS report results.
- The Operator must notify BPW Ltd. if the EBS system settings programming is subsequently altered or upon EBS modulator replacement.

ELECTRONIC BRAKE PERFORMANCE MONITORING SYSTEM (EBPMS)

POTENTIAL CAUSES OF EBPMS “LOW PERFORMANCE” REPORT RESULTS:

- **ISSUE WITH BRAKING SYSTEM**
(ACTION: Complete a calibrated Roller Brake Test with fully laden trailer.)
- **TRACTOR / TRAILER BRAKING IMBALANCE**
(ACTION: Complete a Brake Temperature Test of truck and trailer.)
- **THE TRAILER’S EBS SYSTEM IS NOT PROGRAMMED WITH ITS APPROPRIATE EBPMS-SPECIFIC SETTINGS**
(ACTION: Check actual EBS settings programming against EBPMS-specific brake calculation EBS settings.)
- **POOR OR UNUSUAL DRIVING STYLE**
(ACTION: Determine driving performance from truck telematics / driver trainer. Assess EBS Report from Cargofleet 3 portal.)

BASIC DEFINITION OF EBPMS TERMS

- **What is a braking event?**

This is a period of time during which the service braking system generates a retarding force in response to a driver demand and ends when the driver demand is reduced, or a minimum speed has been reached.

Source: DVSA “Electronic Braking Performance Monitoring System Industry Standard Specification”
Publication Date: 12th May 2023

- **What is a braking “demand pressure”?**

This is the pressure related to the level of service braking required by a driver actuating the braking system. In the case of a pneumatically braked trailer this is the signal transmitted to the coupling head either electronically or pneumatically.

Source: DVSA “Electronic Braking Performance Monitoring System Industry Standard Specification”
Publication Date: 12th May 2023

- **What is a “qualified braking event”?**

A qualified brake event results in a braking performance value, which encompasses the actual braking performance within an acceptable margin or error. This is achieved by filtering the brake events to exclude inappropriate braking event data.

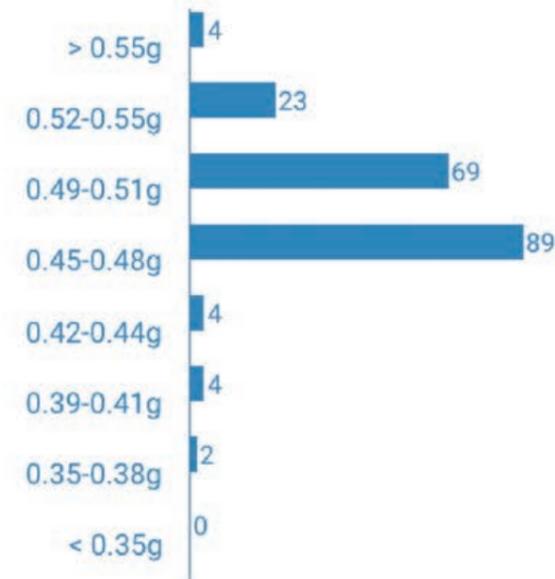
Examples of inappropriate braking event data are:

- Braking events generated during ABS cycling,
- Braking events which include very low / very high demand pressures, and
- Braking events which include very low / very high speeds, or inappropriate changes in speed.

Overview

Days in report interval	70
Average fleet brake performance ¹	0.48 g
Previous Interval - Average fleet brake performance ¹	0.51 g
Brake Performance Lower Limit	0.45 g
Assets in report	195
Assets below lower limit	10
Proportion below lower limit	5 %
Average fleet brake performance below lower limit	0.41 g
Previous Interval - Assets below lower limit	5
Previous Interval - Proportion below lower limit	3 %
Previous Interval - Average fleet brake performance below lower limit	0.42 g
Assets without rating	0
Proportion without rating	0 %

Summary:
No. of assets by brake performance range

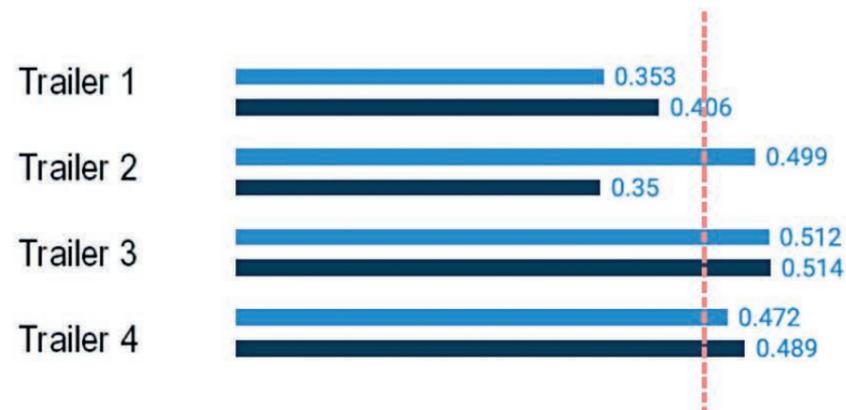


¹projection for brake pressure of 6.5 bar at full bogie load.

Fleet Brake Performance

Key: Previous Interval = equal to report interval duration, directly prior to report period

--- Lower Limit (0.45 g) ■ Current Interval ■ Previous Interval



ELECTRONIC BRAKE PERFORMANCE MONITORING

Over 120 years of braking experience and more than 4 million braking systems on the road, worldwide.

So, when it comes to monitoring your brakes, it makes sense to trust BPW idem telematics.

BPW, THE ORIGINAL BRAKING EXPERTS.





EBPMS Report | Trailer 1

08.06.2023 00:00 - 05.09.2023 23:59

Brake Performance

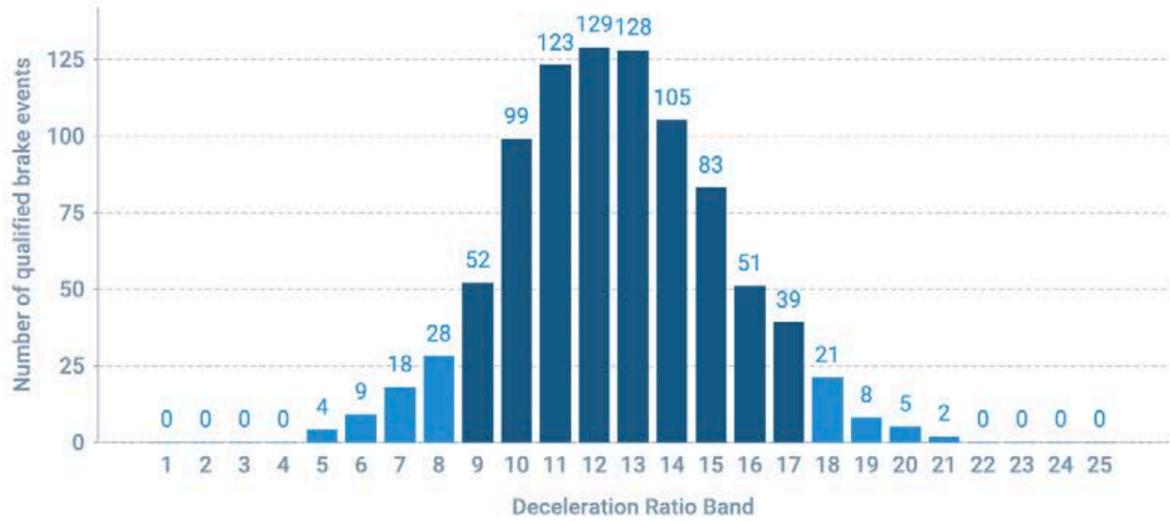
Brake Performance (Average) ¹	0.56 g
Brake Performance Lower Limit	0.45 g

¹projection for brake pressure of 6.5 bar at full bogie load.

Overall result **PASSED**

Brake Measurements (Qualified Brake Events)

Days in report interval	90
Total number of EBPMS data days	49
Total number of brake events (min. 100 for overall result rating)	904
Brake events below acceptance range	59
Proportion of brake events below acceptance range	6.5 %
Brake events above acceptance range	36
Proportion of brake events above acceptance range	4.0 %



■ Values within acceptance range ■ Values outside acceptance range



EBPMS Report | Trailer 1

08.06.2023 00:00 - 05.09.2023 23:59

Brake Performance History



— Lower Limit (0.45 g) ● Measured Brake Performance — Trend Line

EBS Data

Total EBS Distance [km]	10947.74
Number of Roll Stability System Events	0
Number of ABS Events	111
Number of Brake Applications 2 to 3.9 bar	78
Number of Brake Applications 4 bar and over	5
Average Brake Pressure [bar]	1.71

Asset Master Data

Vehicle Type	Trailer semi
VIN	xxxxxx
Licence Plate	BC9586.0_99727 &
Vehicle Operator	xxx
EBS ECU	Haldex

DISCLAIMER: The reported ECE Reg. 13 EBPMS brake performance values for each trailer rely upon the EBS system being programmed with its specific brake calculation settings. As determined by BPW Ltd., this brake calculation may require adjustment and must be programmed into the EBS system to enable valid EBPMS report results.



EBPMS Report | Trailer 2

08.06.2023 00:00 - 05.09.2023 23:59

Brake Performance

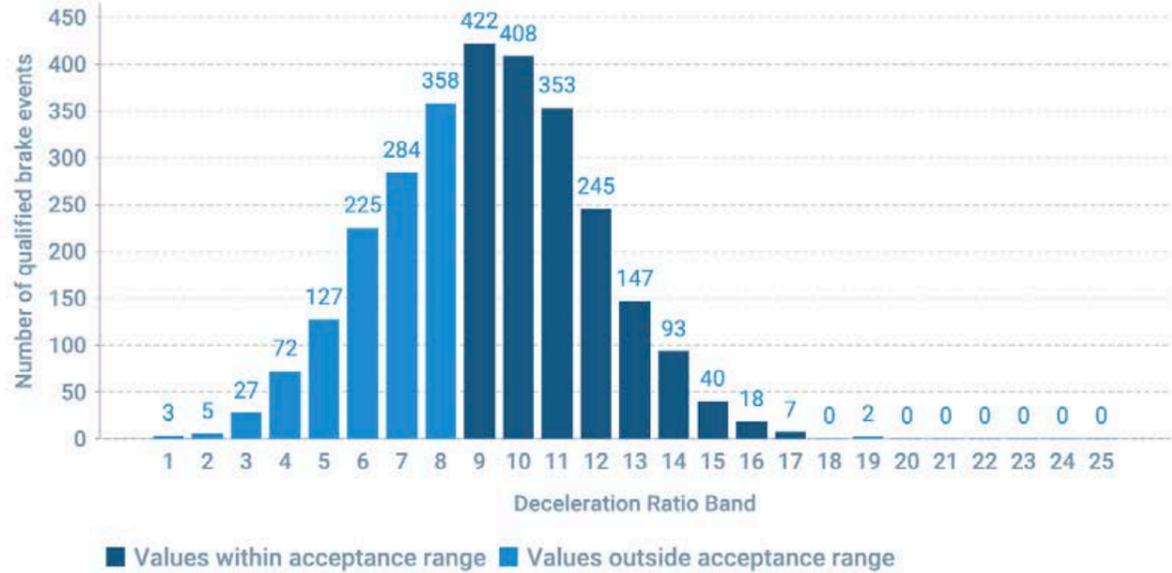
Brake Performance (Average) ¹	0.37 g
Brake Performance Lower Limit	0.45 g

¹projection for brake pressure of 6.5 bar at full bogie load.

Overall result **LOW PERFORMANCE**

Brake Measurements (Qualified Brake Events)

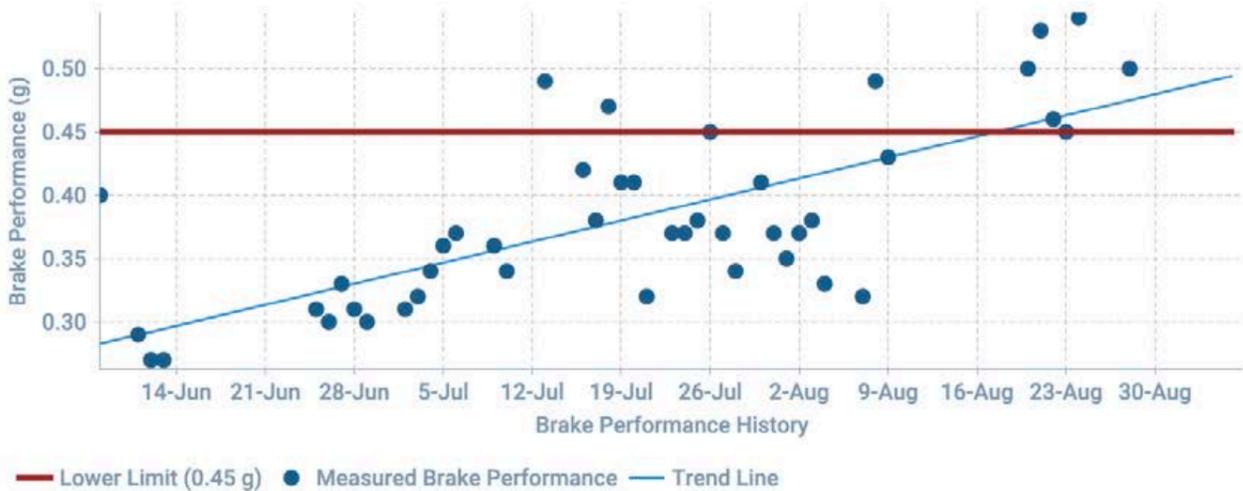
Days in report interval	90
Total number of EBPMS data days	45
Total number of brake events (min. 100 for overall result rating)	2836
Brake events below acceptance range	1101
Proportion of brake events below acceptance range	38.8 %
Brake events above acceptance range	2
Proportion of brake events above acceptance range	0.1 %



EBPMS Report | Trailer 2

08.06.2023 00:00 - 05.09.2023 23:59

Brake Performance History



EBS Data

Total EBS Distance [km]	22345.58
Number of Roll Stability System Events	0
Number of ABS Events	176
Number of Brake Applications 2 to 3.9 bar	124
Number of Brake Applications 4 bar and over	27
Average Brake Pressure [bar]	1.42

Asset Master Data

Vehicle Type	Trailer semi
VIN	xxxxxx
Licence Plate	290611_1_SAF_Axle
Vehicle Operator	xxx
EBS ECU	Haldex

DISCLAIMER: The reported ECE Reg. 13 EBPMS brake performance values for each trailer rely upon the EBS system being programmed with its specific brake calculation settings. As determined by BPW Ltd., this brake calculation may require adjustment and must be programmed into the EBS system to enable valid EBPMS report results.

EBPMS FAQs

1. Question: IS THE BPW IDEM TELEMATICS EBPMS SYSTEM APPROVED BY DVSA?

Answer: DVSA can accredit an EBPMS which has demonstrated it meets the published industry standard specification and the requirements for accreditation. It is not a legal requirement for an EBPMS to be accredited by DVSA, manufacturers may provide other evidence to demonstrate the system meets the EBPMS standards. Although an EBPMS may be accredited this does not guarantee the system will report for all operational circumstances. It is therefore important that operators ensure that any system used to assess braking performance meets their own operational requirements and the undertakings of their operator licence.

Source: DVSA "Guide to Maintaining Road Worthiness"

Publication Date: 18th April 2023.

2. Question: DOES DVSA AUTHORISE EBPMS TO BE USED TO MONITOR AND ASSESS TRAILER BRAKING PERFORMANCE?

Answer: An Electronic Braking Performance Monitoring System (EBPMS) may be used to monitor in-service braking performance and provide a braking performance report for the safety inspection.

Source: DVSA "Guide to Maintaining Road Worthiness"

Publication Date: 18th April 2023.

3. Question: DOES ADDITIONAL HARDWARE NEED TO BE PURCHASED FOR EBPMS?

Answer: No, EBPMS is a functionality of the core telematics system "Gateway" control unit.

4. Question: DOES EBPMS NEGATE THE REQUIREMENT FOR ROLLER BRAKE TESTING AT SAFETY INSPECTION?

Answer: Yes it can, as long as there is sufficient data for a viable EBPMS report for the inspection period to be used in lieu of a roller brake test.

5. Question: CAN EBPMS REPLACE ROLLER BRAKE TESTING ENTIRELY?

Answer: No, the EBPMS system and a roller brake test are two entirely different methods to determine brake performance, (see EBPMS slide "Considerations"), and a roller brake test must be performed at MOT, (see DVSA Guide to maintaining road worthiness).

EBPMS FAQs

6. Question: IS THE BPW IDEM TELEMATICS EBPMS SYSTEM COMPATIBLE TO ALL EBS SYSTEM MAKES AND GENERATIONS?

Answer: The system is compatible with: Haldex G2, G3 & G4
Knorr G2.0, G2.1, G2.2, G2.2 Premium, iTEBS X
Wabco TEBS D Premium, TEBS E Standard, TEBS E Premium, iEBS

7. Question: IF I WANT EBPMS, DOES IT MATTER WHAT AXLE I HAVE FITTED TO MY TRAILERS?

Answer: No, the system can be installed to trailers with any axle type from any manufacturer.

8. Question: CAN THE BPW IDEM TELEMATICS SYSTEM BE INSTALLED BY MY OWN ON-SITE WORKSHOP?

Answer: Yes, either your workshop or a BPW Limited-approved assigned installer can be provided with telematics hardware installation training and support by BPW Limited plus technical installation guide documentation.

Note: OE EBS programming capability is usually also required, e.g. Haldex Diag++, Haldex Diag+, Knorr ECUtalk, Wabco TEBS EBS Programming Software.

9. Question: WHAT PORTAL TRAINING AND SUPPORT WILL BE PROVIDED?

Answer: Initial portal set-up and familiarisation training will be provided by BPW Limited, as well as portal user support throughout your contract, including EBPMS report generation.

10. Question: WHAT IS IMPLEMENTED TO SUPPORT THE BPW IDEM TELEMATICS SYSTEM?

Answer: There are several technical support elements in place, such as:

- **IT Systems Management**, including 24/7 application performance monitoring, network firewall, data back-up and data encryption.
- **Server Data Centre** with ISO 27001 certification for data security etc., Uninterrupted Power Supply (UPS) and diesel generator, high-security access system etc.
- **Technical Support**, in-house 1st Level Technical Support team with incident tracking Ticket System with documentation, in-house 2nd / 3rd Level Technical Support, Product Managers, Special Project Managers, and Development Team.

TELEMATICS APP

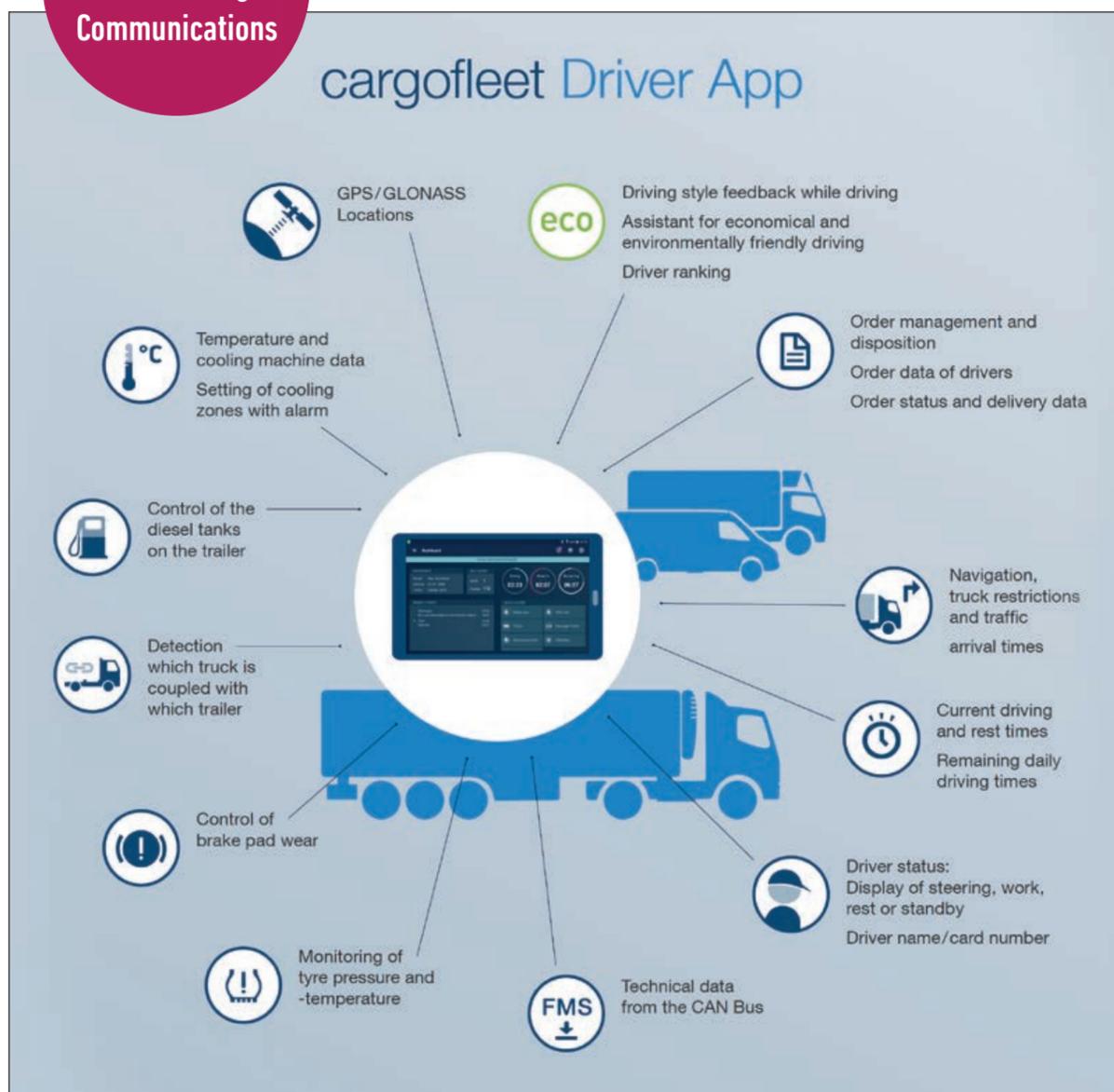
For the driver

idem's Telematics App for the driver displays truck and trailer data on a tablet / smart phone. Daily work-flows are optimised for drivers, supporting them with a variety of information.

App available for Android smartphones and tablets.

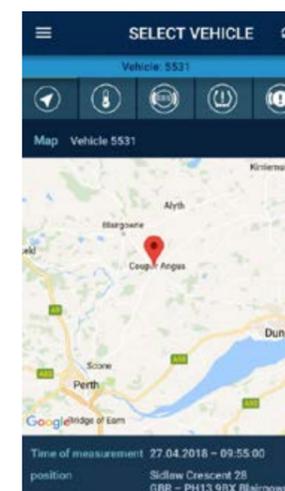


Information
Alarm messages
Communications

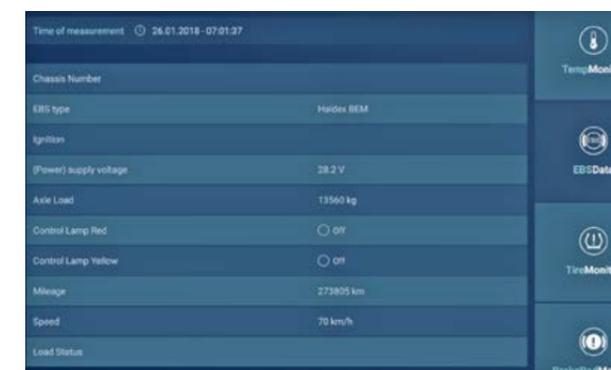


TELEMATICS APP

Location data (Smartphone)



TempMonitor for Datalogger (Smartphone)



EBS data (Tablet)



TyreMonitor (Tablet)



TempRecorder (Tablet)

CUSTOMER TESTIMONIAL



DAVE PARRATT, ENGINEERING MANAGER GIST LIMITED

Gist Limited has been transforming supply chains for over 50 years. Consistently delivering service of the highest quality, Gist are specialists in the movement of perishable and chilled products. Covering a wide range of sectors Gist manage the global supply chains for over 3,000+ customers including Marks and Spencer, Starbucks, Tesco and Morrisons. To expertly support a supply chain of this scale and complexity, Gist has 40+ operational sites throughout the UK and Continental Europe that are operated 24/7.

Gist has been successfully using BPW's idem telematics system since 2015, for their fleet of 2,580+ predominantly temperature controlled trailers. Incorporating BPW's telematics systems into their fleets has greatly improved the management and efficiency of Gist's fleet maintenance, which was previously reliant on visual and manual checks.

WHY CHOOSE BPW?

With high customer demand for a reliable and efficient service, a well-maintained fleet is vital to the success of Gist's operation. Gist's Engineering Manager, Dave Parratt explains why he chose BPW's telematics systems. "To manage the maintenance of such a large fleet of 2,580+ trailers, advanced warnings of potential vehicle failures would be a real asset. It would mean reduced breakdowns and minimising trailer downtime. BPW's trailer telematics offered just such a solution as it allows us to monitor the health of a whole trailer."

PREVENTATIVE MAINTENANCE ALERTS

One of the advantages of BPW's telematics system is that it is easy to operate and with full support from BPW's technical staff, the system can be set up to suit companies' needs, particularly with regards to preventative maintenance. An extremely useful aid for seamless maintenance operations are the geo-validity alarms, which Dave says are used by Gist. "When the trailers are near one of our sites, e-mailed alarms notify Gist Transport and Engineering of potential issues that can be resolved immediately by our on-site maintenance teams."

REPORTS FOR DAILY VEHICLE CHECKS

Further to these features, the system runs daily reports, which Dave states "Are used to identify outstanding issues from the previous day. These reports assist the Gist Vehicle Maintenance Units with checks to ensure we comply with our maintenance and safety requirements, and to avoid any unnecessary breakdowns, which could lead to late deliveries for our valued customers."

DOWNTIME REDUCED & RELIABILITY INCREASED

BPW's telematics system has greatly improved the management and efficiency of Gist's fleet maintenance. "Where we were previously reliant on visual and manual checks" says Dave, "the system gives us access to real-time data for an overview of the fleet's status. Through the notification alerts, we have been able to capture problems both en route and prior to dispatch from the Gist sites, which has saved us breakdowns. The system has helped maintain Gist's reputation as an extremely reliable supply chain operator, delivering goods not only in pristine condition, but in the smallest delivery windows in the industry. It has also reduced vehicle downtime and the risk of DVSA infringements for the business."

As Dave says, "Ultimately, our aim is to exceed the needs of our customers and their delivery schedules, implementing industry-leading technology. By using BPW's idem telematics systems, we achieve this every day".



The brands of the BPW Group:



ERMAX®



HESTAL



idem
telematics

BPW Limited

BPW House

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www.bpw.co.uk/products/telematics



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