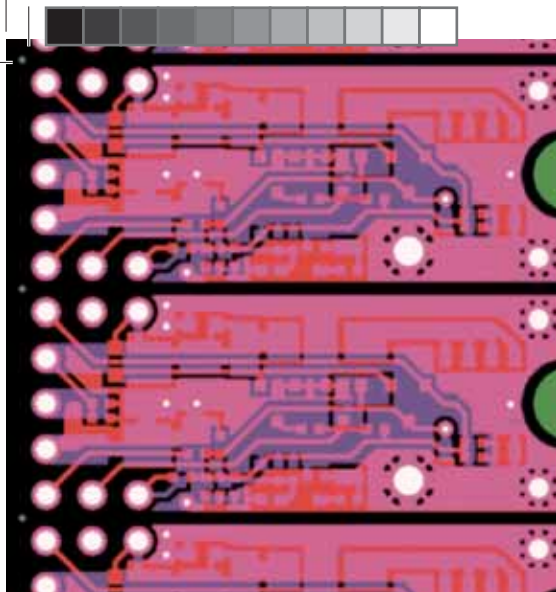




**TOMST**®

# PES™ – Portable Electronic Sensor





## The TOMST® Profile

The company TOMST® has operated on the market since 1995. Its history is closely related to Mr. Tomas Haase, the founder and the Chief Executive of the company. Currently the TOMST® employs 10 permanent employees and cooperates with several external developers and programmers.

Main activities of the company concern research, development and production of electronic equipment based on the iButton® Technology of the company MAXIM/DALLAS. The TOMST® production process concentrates on two principal products:

- > System TLD™ – access control system
- > System PES™ – guard-tour control system

The above-mentioned guard-tour control system PES™ is the TOMST® flagship product. Our company can pride itself especially on its worldwide unique system of detection of attempts to destroy the PES™ sensors – the ANTI-VANDAL® Technology. We also offer our customers development and production of individual control systems adjusted to their individual requirements.

The uniqueness, long-term experience in this branch of industry and the highest quality of our products represent the secret of our success at home as well as abroad. Currently our company has its sole agencies in many countries all over the world, we regularly participate at important international exhibition shows. For its activity and excellent results the TOMST® has also obtained many awards, e.g.:

1999 – Mr. Tomas Haase and his company TOMST® was awarded the ASD certificate (*Authorized Software Developer*), the award dedicated to firms that have successfully developed and brought to the market the products based on the iButton® Technology.

2005 – The TOMST® company received the award "The 2005 Finalist" in the field of the security industry innovations at the IFSEC exhibition show in Birmingham.







## PES™ – Portable Electronic Sensor

The system PES™, system of Portable Electronic Sensors, proves its abilities everywhere, where there is need to control and monitor movement of persons and objects in relation to time and place. Its main domain is the guard-tour control and employee patrol evidence, but the system PES™ comes in use also in many other areas.

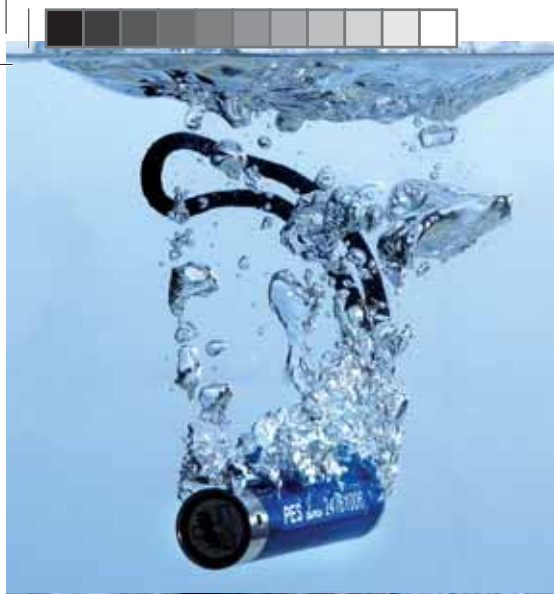
Based on the respected iButton® technology of the MAXIM/DALLAS company the Portable Electronic Sensors yet offer the customers many other advantages and with their construction characteristics and unique qualities become really the number one on the market today.



## Key features of the PES™ sensors

- > **Ergonomic design** – with their size (90 mm) and weight (49 g) the PES™ sensors represent a clever, handy solution, easy to hold and use by the employees.
- > The PES™ sensors are the most robust employee-monitoring devices in the world. They are equipped with unique **ANTI-VANDAL® Technology**, a self-protective system that can even recognize WHO tried to damage the sensor and HOW.
- > **Capacity** – The PES™ sensors offer the maximum capacity of 14 000 readings.
- > **Low running costs** – the 5-year guarantee and 10-year battery life ensure the lowest running costs to the customer.
- > **Wide range of possible use** – During the years of its existence, the PES™ system has proved its effectiveness and qualities in a range of different areas and applications, e.g. guard-tour control, postal services, health care services, cleaning services, bus inspectors and many others.
- > **Extensive product range** – In order to satisfy different needs of customers, the TOMST® company offers three types of the PES™ sensors: PES profi, PES forte, PES mini. Besides, there is a wide range of accessories available.
- > **WinKontrol™ software** – user-friendly software that offers a variety of data reports, from simple tour reports to detailed employee reports.





## ANTI-VANDAL® Technology

ANTI-VANDAL® Technology is a clever self-protection system that has been invented for the PES™ sensors to equip them with higher anti-sabotage protection. The system excels by extreme resistance against various kinds of intentional and unintentional damage, which can be detected and recorded. Thanks to this technology the consequences of attempts to destroy the sensors are minimized.

### Most important types of detection and protection:

- > Waterproof resistance
- > Resistance against high temperatures and big changes of temperatures
- > Detects 3 levels of hit intensity: small, medium and strong hit.  
The sensor is able to resist the overloading up to 10 G.
- > Detects an attempt to damage the sensor by over-voltage. The sensor is able to endure over-voltage up to 265 V.
- > Intentional short circuit. It is able to identify the endeavour to discharge the battery by short-circuiting the sensor probe. After such attempt the sensor stays undamaged and the battery life is not reduced.
- > Resistance against the microwave radiation. The system can even detect that the sensors were placed into a microwave oven.







## There are three types of the PES™ sensors

PES profi, PES forte and PES mini, differing in some of the following parameters:

### PES mini

- > size: 90x18mm, weight: 49g
- > protection system: ANTI-VANDAL®
- > reading capacity: 200 events
- > 10-year battery life
- > warranty: 2 years/ 100 ANTI-VANDAL® points

### PES forte

- > size: 90x18mm, weight: 49g
- > protection system: ANTI-VANDAL®
- > reading capacity: 1000 events
- > 10-year battery life
- > warranty: 2 years/ 500 ANTI-VANDAL® points

### PES profi

- > size: 90x18mm, weight: 49g
- > protection system: ANTI-VANDAL®
- > reading capacity: max. 14 000 events - depending on the configuration of the sensor
- > 10-year battery life
- > warranty: 5 years/ 1000 ANTI-VANDAL® points

While the PES mini and PES forte sensors have all the parameters fixed, the PES profi sensors represent a flexible employee-monitoring device.

There are several possible configurations of the sensors. The PES profi sensors can differ in the time resolution of the event. The client can choose between the one-minute time resolution and the one-second time resolution.

Other important question is, whether the client will be downloading the data to a PC both through a data chip and directly from the sensor. Then, due to the capacity of the data chip, the reading capacity of the sensor will be limited up to 2000 events. If the user decides to download the data to a PC only directly, without using the data chip, the maximum capacity available of the PES profi sensor, depending on the configuration, is 14 000 events.



## How Does the PES™ System Work?

Every PES™ sensor has a unique serial number and thanks to this number it can be easily identified by evaluation software. Also every iButton chip has its unique identification number. The chips can be used for the identification of a person or the identification of a place or an object.

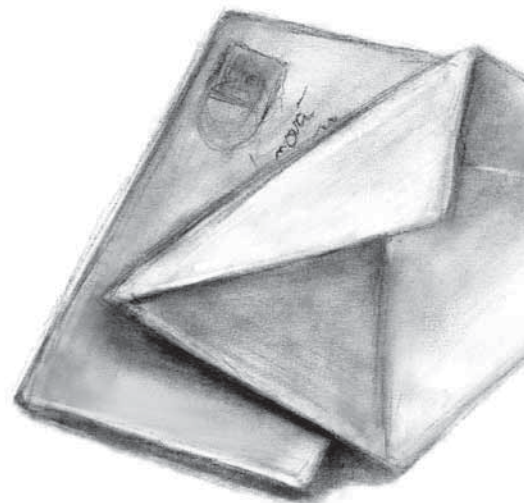
Touching an iButton chip, the sensor reads the identification number of the chip and it also records the information about the time and date of the touch, it serves as a data collector. In addition, all the PES™ sensors are equipped with the unique ANTI-VANDAL® Technology, which protects them against possible damage.

The data from the sensor are then downloaded to a PC to evaluation software (e.g. WinKontrol 2007). The data transfer can be done in two different ways:

- > directly – placing the sensor into the TMD USB download adapter
- > indirectly – all data from the sensor are downloaded to a data chip held by a supervisor. Then the data will be transferred from the data chip through the USB adapter to the PC.

The evaluation software represents a useful tool for analysing the collected data and generating different kinds of reports.





## **PES™ Built for Your Solutions**

The control PES™ system offers a simple and clever solution to record movement of persons or objects. It can be used anywhere, where time and place of the movement must be controlled and documented.

> **Guard-tour control** – the main and the most famous use. The PES™ system represents an ideal solution for this sector especially due to the unique ANTI-VANDAL® Technology. The principle behind its functioning is very simple. Each sensor is assigned to a site or an individual via the WinKontrol™ software interface.

Each guard is assigned a unique key ring for identification and signs to the site by touching the key ring with a sensor. To complete the tour he has to visit various locations around the site. At each of the locations the guard simply touches a wall-mounted checkpoint in order to prove time and attendance.

Once a tour or series of tours is completed on the site, all tour data will be transferred to the supervisor's PC either directly, via the TMD USB download adapter, or indirectly, through a data chip. When the data is downloaded from the sensors to the WinKontrol™ software, different types of reports can be generated.

> **Postal services** – each postman is assigned a unique key ring for identification and registers for her/his shift by touching the key ring with the sensor. Every post box is equipped with a checkpoint in the form of an identification chip placed inside the post box, fixed on the bottom of the box. Thus it is ensured that the postman not only has to open the post box, but also she/he must collect all the letters, when she/he wants to touch the checkpoint.

> **Health care** – The sensors can be used in all the situations where there is need to control and monitor the work of medical staff in relation to time and place. When the nurses visit old and disabled people at their homes, their arrival and departure can be monitored using the sensors. The application offers also great benefit to the hospitals, especially to the Intensive Care Units, where it is necessary to visit the patients in regular and short intervals.

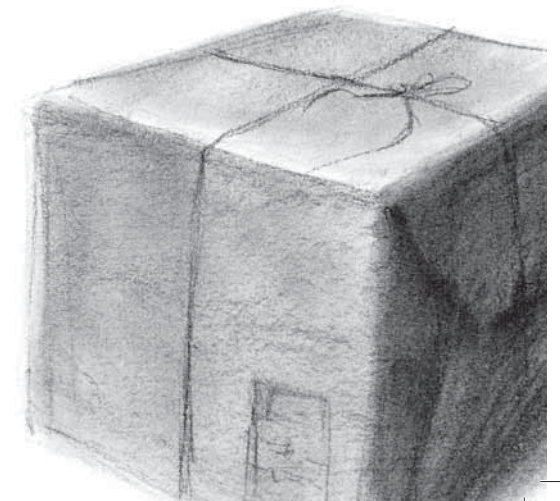
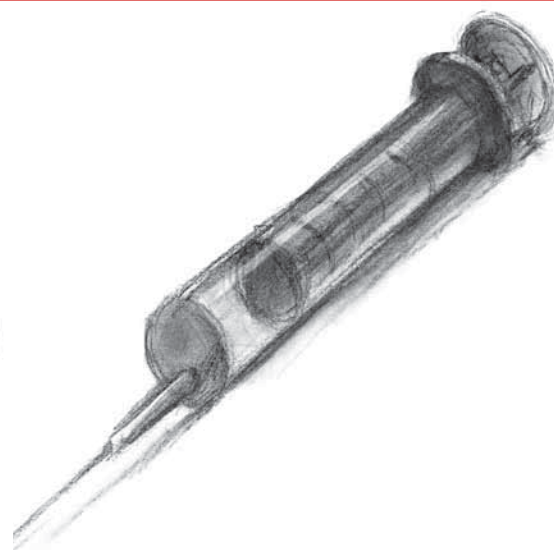
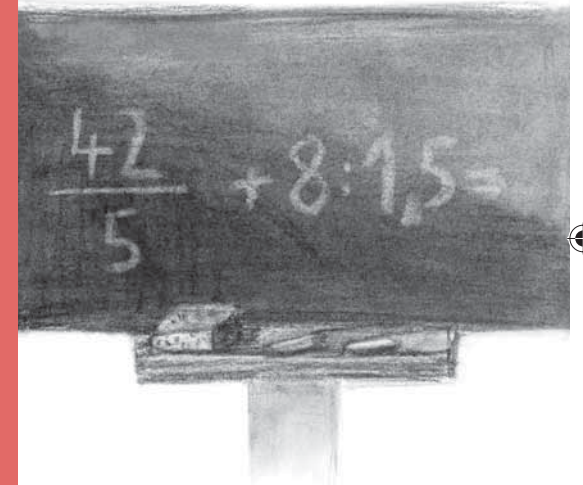


> **Cleaning services** – The principle of the functioning is similar to the other applications. The cleaner is assigned a unique key ring for identification and registers for her/his shift by touching the key ring with the sensor. At each of the locations she/he touches the wall-mounted checkpoint in order to prove time and attendance.

> **Inspection activities, revision controls, e.g. environmental inspections, fire & safety inspections, lift inspections, bus inspections and many others...** – another area where the PES™ system proves its abilities. The inspector has to touch the checkpoint with the sensor at every controlled place to prove time and attendance. In these applications the keypad accessories are widely used. This enables the inspectors to record different unexpected events.

> The PES™ sensors represent universal monitoring devices, which prove to be great tools also in other areas such as: **educational system, military services, distribution of goods, container transport monitoring, returnable-packing monitoring etc.**

> **Your own applications** – the PES™ sensors can be used in a variety of other, individual systems. We are able to provide you the DLL Library for your use and our programmers are ready to adjust the system to your individual needs.





## The PES™ Hardware Accessories

> **USB adapter** – via this USB connection you are able to set up new checkpoints and add them to the system and it enables you to get some special operational information from the data chip. The adapter is also the hardware key for the WinKontrol™ software. There are two types of the USB adapter:

> **TME-USB adapter** – this adapter allows a connection between the sensors, data chips and a PC. It serves for the indirect transfer of data to a PC through a data chip.

> **TMD-USB adapter** – compared to the TME-USB adapter this adapter offers the advantage of a direct download of data from a PES™ sensor to a PC. There is no need to use a data chip to transfer the data.

> **Special Events Key Pad** – In order to record different events during the guards' tour, e.g. a door or a window left open, a broken lock or other abnormalities, guards can carry with them special events key pads.

Touching a chip or a combination of chips on the special events key pad with the sensor, the guard can record pre-programmed events on the sensor.

Then the report will generate the name of the guard and the event plus it will identify at what point of his tour and at what time the event was noticed and recorded. Providing the guard's tour is precisely defined, the location of the incident is easily identified.



> **Checkpoint** – We use MAXIM/DALLAS iButton chips DS 1990A-F5. Each chip contains a unique code installed in the production process, which is then used as the identification of each checkpoint. The chip can be mounted on the wall in different kinds of holders.

We are offering the following solutions of the wall mounting:

> **Plastic holder**

> **Metal holder**

> **ANTI-VANDAL holder** – metal safety holders. You have to use a special ANTI-VANDAL tool to place the chip into the ANTI-VANDAL holder. The chip cannot be removed from this holder without causing a visible damage to the holder.

> **Key ring** – Each employee (e.g. guard) is assigned a unique key ring for identification. We use the iButton DS 1990A-F5 in the key rings.

> **Data chip** – The data chip is a standard MAXIM/DALLAS product DS 1996A-L5, it is a memory chip. It can be used as a portable data collection device similar to a USB flash drive. Using the data chip there is no need to have a PC on the guarded site. Supervisors can use this chip to download data from the sensors.

Using the data chip, you do not have to collect the sensors from your employees and the sensors do not have to leave the site. The data chip represents a smart and cost effective solution that can store up to 2000 events. Downloading all 2000 events from the sensor to the chip will take you only between 9-12 seconds. The data chip is also a tool for setting the date and the time into the sensor. It could be also used for upgrading the firmware of the sensor, if necessary.





Options	Export	Print	X
Check point:	12:27:15	<b>First Floor Lift</b>	3B13A3
Check point:	12:27:15	<b>MS - Fire Exit</b>	57C37E
Download into the PC: 12:30:01			
Data copied from sensor: 12:28:45			
Guard:	12:27:45	<b>Test Guard</b>	AFBDFD
Check point:	12:27:45	<b>Fire Exit</b>	54F61B
Check point:	12:28:00	<b>Managers Office</b>	565864
Check point:	12:28:00	<b>First Floor Lift</b>	3B13A3
Check point:	12:28:00	<b>MS - Fire Exit</b>	57C37E
Anti-Vandal:	12:28:15	<b>Crash (big)</b>	
Anti-Vandal:	12:28:15	<b>Crash (medium)</b>	
Anti-Vandal:	12:28:15	<b>Crash (big)</b>	
Check point:	12:28:15	<b>Fire Exit</b>	54F61B
Check point:	12:28:15	<b>Managers Office</b>	565864
Check point:	12:28:30	<b>First Floor Lift</b>	3B13A3
Check point:	12:28:30	<b>MS - Fire Exit</b>	57C37E
Guard:	12:28:30	<b>Test Guard</b>	AFBDFD

## WinKontrol™ Software

WinKontrol™ 2007 is user-friendly software for an easy and comfortable use of the PES™ system. It can be operated under the Windows XP, 2000 and the Windows Vista as well.

The WinKontrol™ program represents the centre of evaluation and processing of the data downloaded from the PES™ sensors. It is a great tool for the supervisors providing them complex information of how the employees perform their duties.

The program enables to set up the names and identification of the employees, the checkpoints and events. You can define different routes – sets of checkpoints in certain order - and also the shifts. There is a variety of routes available: routes with missing checkpoints, routes with extra checkpoints added, routes with a strictly defined direction or routes with a random order of checkpoints.

The main role of the WinKontrol™ software is the professional report generation. There are more than twenty reports offered to the user, ranging from simple tour information to individual employee reports: report for a sensor/group of sensors; report for an employee/group of employees; report for a checkpoint; report for a tour and many others... The users can also define and modify the preset reports according to their individual needs.

The reports can be printed or exported to the html or csv format.

An important role of the WinKontrol™ 2007 is the “communication” with the TMD adapter, the data chip and the sensor. Using the program you can upgrade the firmware of the adapter and the PES™ sensor as well.

The WinKontrol™ 2007 supports also the Attendance solutions. Thanks to this function the PES™ system can be used even in a wider range of applications. It is suitable especially for mobile facilities, where there is need to control the arrivals and departures of the employees. The employees carry a key ring for identification. At each of the location (*bus, lift etc.*) there is a checkpoint for the arrival and a checkpoint for the departure of the employees. The PES sensor represents a mobile gate that registers the arrival and departure of the employees.

The WinKontrol™ software can be operated in network (*shared database*). It is supplied in many translations and we are ready to add a new translation according to our clients' needs. The users will certainly appreciate great possibilities of setting and automatic upgrade from the website.

>License **STANDARD** – The program allows complete work with data and chips. The capacity of the database is 10 employees and 50 checkpoints. License does not allow setting separate passwords to individual users, the program cannot work as server in network.

>License **PROFESSIONAL** – offers unlimited capacity of databases, setting of individual passwords, network operation and also some added functions.

## Other Solutions

### TLD™ – TOMST® LOCK DEVICE

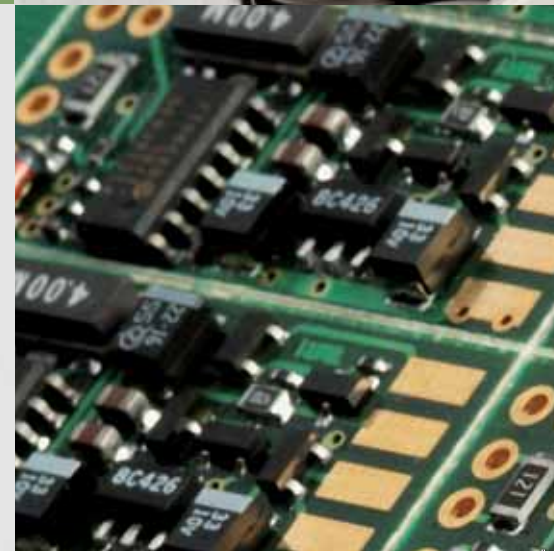
The TLD™ system represents a complex solution of access to buildings. Instead of many various locks and appropriate keys, which the users must always carry with them, only one identification medium is now sufficient to be used at all places connected into the system.

The identification medium – a chip or a card is applied to the reading terminal that identifies it and delivers the information to the control unit TLD-L(E). The TLD-L(E) unit evaluates the given medium and switches or refuses to switch the relay that controls the lock, lift, alarm or another connected device.

The TLD™ system offers also the complete attendance control, it can distinguish the time of contact and different kinds of passage (*arrival, departure for lunch, business trip, medical treatment etc.*).

### rfTAGs – Time Measurement

Besides the access-control and employee-monitoring systems the TOMST® company also concentrates on the development of individual solutions adjusted to the customers' individual requirements. The system of rfTAGs is a sophisticated solution used mainly for the time measurement of the competitors, e.g. at bicycle competitions. It has proved its great benefit for the determination of the sequence of the competitors.





TOMST® s.r.o.  
Římská 678/26  
120 00 Praha 2  
Czech Republic

tel.: +420-222 518 033  
fax: +420-222 518 032  
e-mail: [tomst@tomst.com](mailto:tomst@tomst.com)  
website: [www.tomst.com](http://www.tomst.com)

PES000101EN

Copyright © 2007 TOMST®

