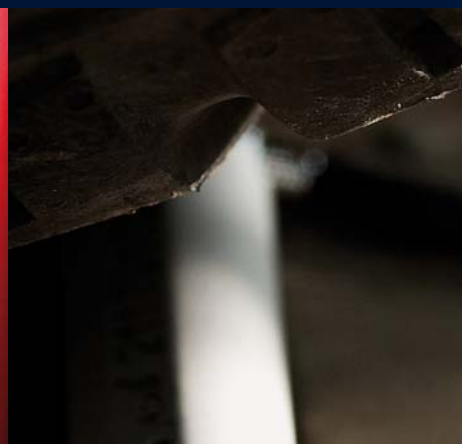
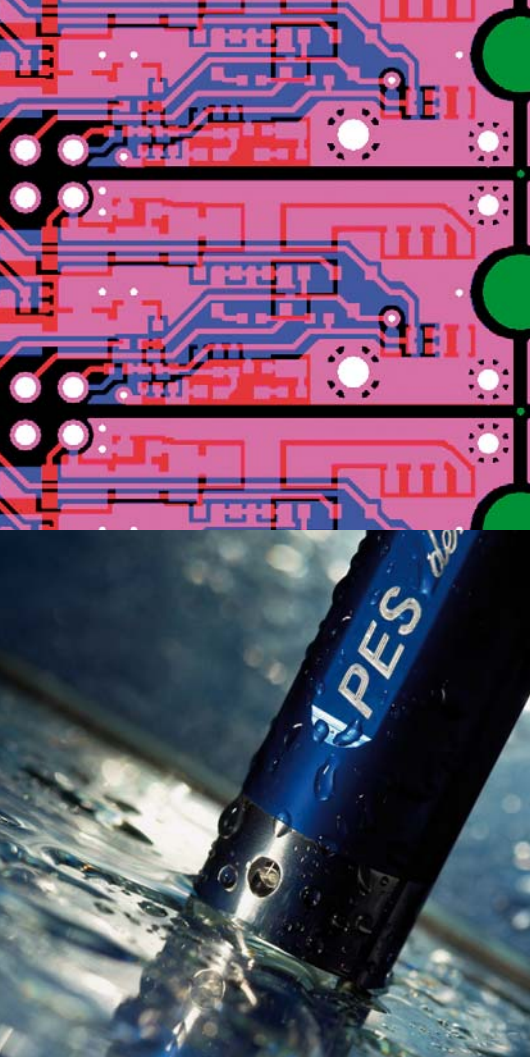




PES® – Portable Electronic Sensor





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 over 10 employees.

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

- > **Guard-tour control system PES®** – the TOMST® flagship product. The system is famous especially with its worldwide-unique technology of detection of attempts to destroy the PES® sensors, the **ANTI-VANDAL® Technology**.
- > **Access control system TLD™** – a complex solution of access to buildings and attendance control.
- > **Individual solutions** – The TOMST® offers the customers development and production of individual control systems and other solutions adjusted to their individual requirements.

The uniqueness, long-term experience and the highest quality of our products represent the secret of our success at home as well as abroad. Currently our company has many sole agencies 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 was awarded the **ASD certificate**, the award dedicated to companies that have successfully developed and brought to the market products based on the iButton® Technology.

2005 – The TOMST® received the award **“The 2005 Finalist”** in the field of security industry innovations at the IFSEC show in Birmingham.





PES *mini* 23

PES *for*

PE



PES® – Portable Electronic Sensor

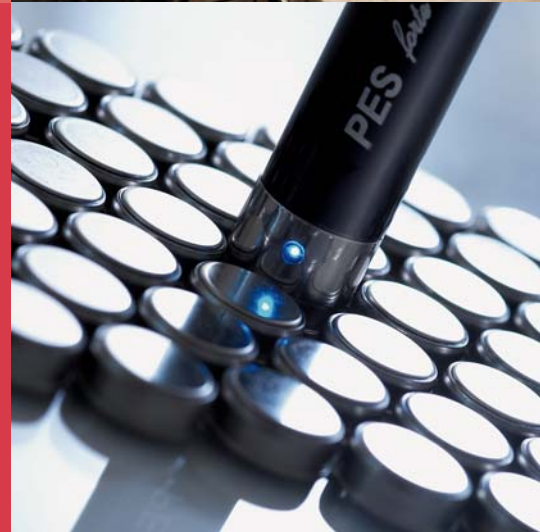
The system PES®, system of Portable Electronic Sensors, proves its abilities everywhere, where there is need to control and monitor movement of persons and objects in relation to time and place. Its main domain is the guard-tour control and employee patrol evidence, but the system PES® comes in use also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



PES forte 321

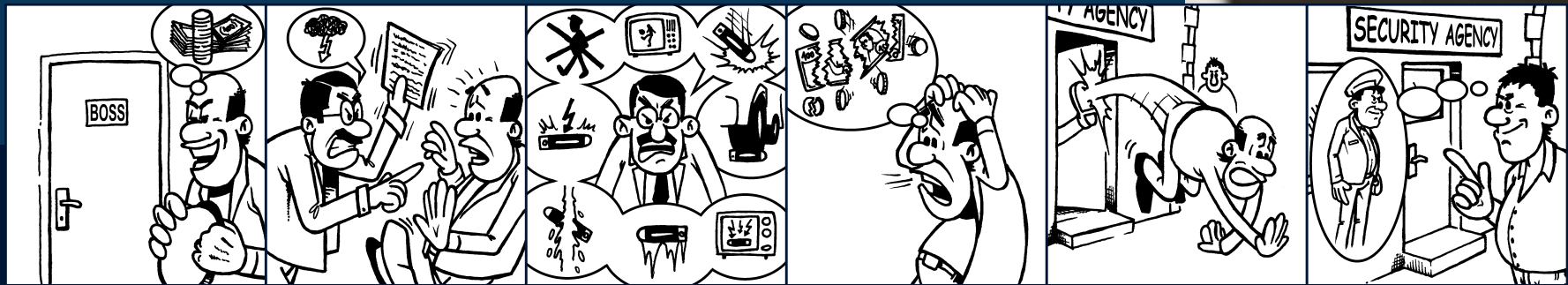
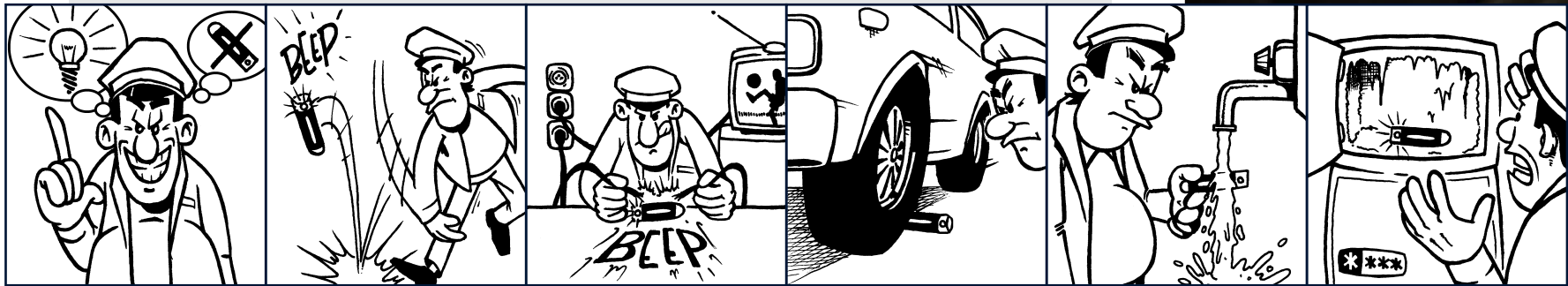


True ANTI-VANDAL® Story



ANTI-VANDAL®







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.

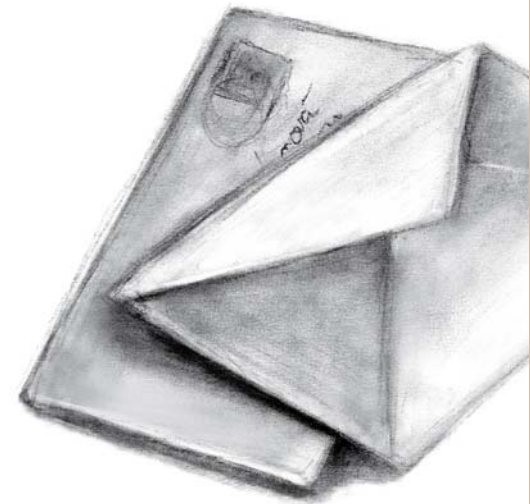
> **Guard-tour control** – the main and the most famous use. The PES® system represents an ideal solution for this sector especially due to the unique ANTI-VANDAL® Technology. The principle behind its functioning is very simple. Each sensor is assigned to a site or an individual via the WinKontrol® software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

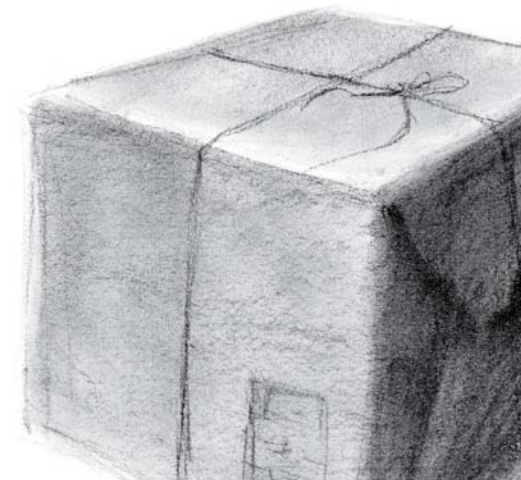
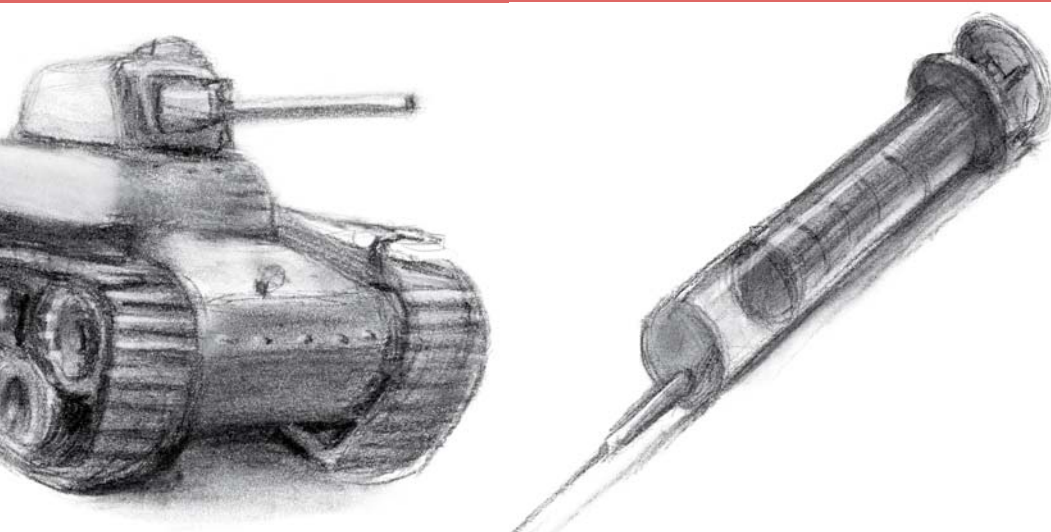
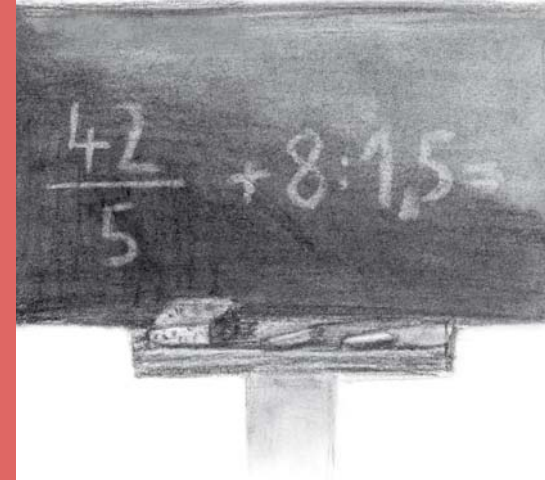


> **Cleaning services** – The principle of the functioning is similar to the other applications. The cleaner is assigned a unique key ring for identification and registers for her/his shift by touching the key ring with the sensor. At each of the locations she/he touches the wall-mounted checkpoint in 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	First Floor Lift	3B13A3
Check point:	12:27:15	MS - Fire Exit	57C37E
Download into the PC: 12:30:01			
Data copied from sensor: 12:28:45			
Guard:	12:27:45	Test Guard	AFBDFD
Check point:	12:27:45	Fire Exit	54F61B
Check point:	12:28:00	Managers Office	565864
Check point:	12:28:00	First Floor Lift	3B13A3
Check point:	12:28:00	MS - Fire Exit	57C37E
Anti-Vandal:	12:28:15	Crash (big)	
Anti-Vandal:	12:28:15	Crash (medium)	
Anti-Vandal:	12:28:15	Crash (big)	
Check point:	12:28:15	Fire Exit	54F61B
Check point:	12:28:15	Managers Office	565864
Check point:	12:28:30	First Floor Lift	3B13A3
Check point:	12:28:30	MS - Fire Exit	57C37E

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.

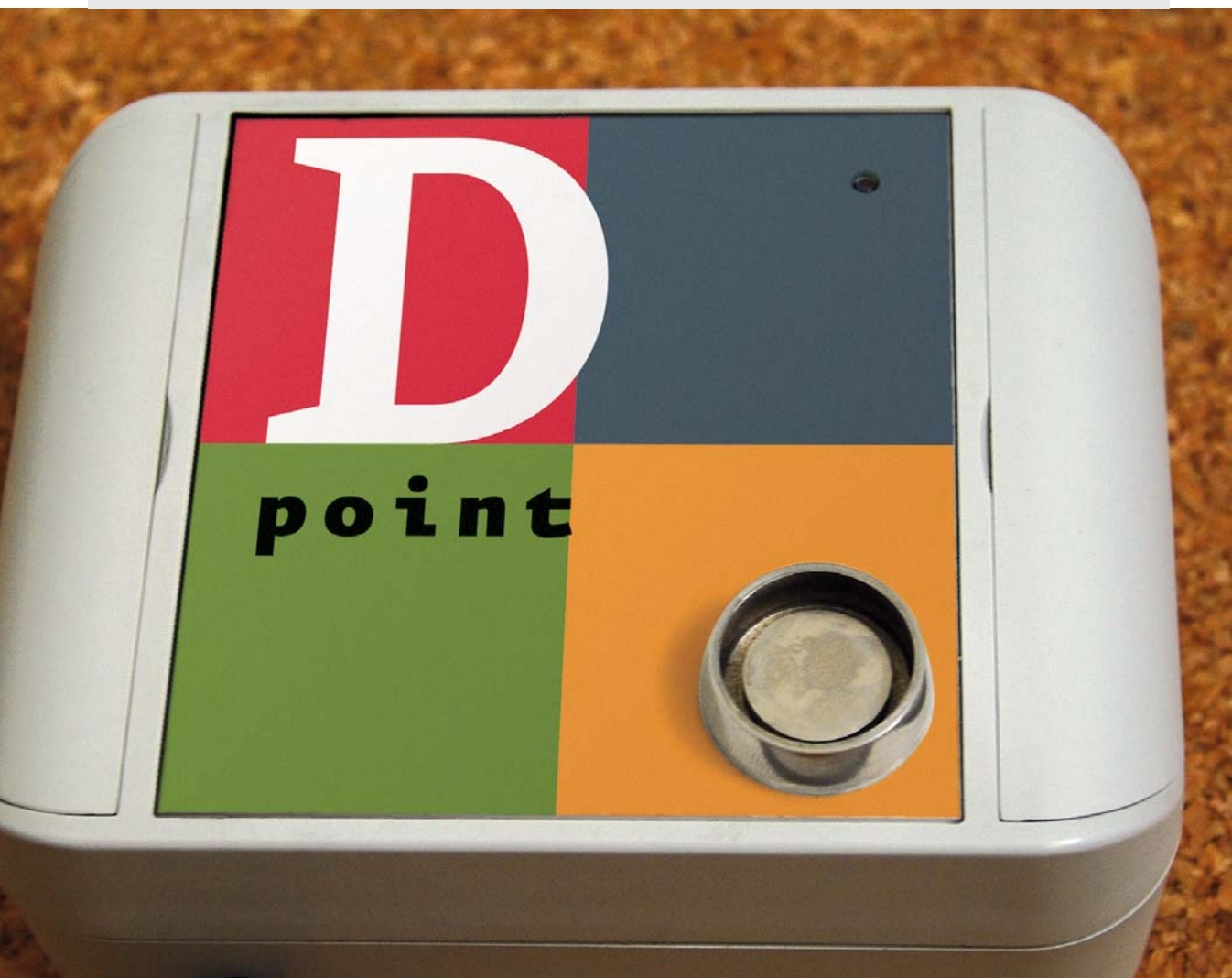
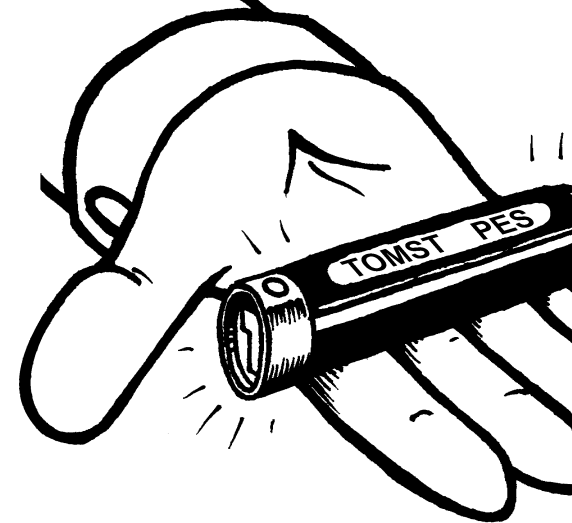
D-Point

D-point, device for semi-on-line data transfer, extends the possibilities of the PES® system. D-point allows automatic data transfer from the PES® sensor, or data chip, using GPRS/GSM, directly to the central database on the server.

Thanks to this, you can have the data from the guard tour almost immediately.

D-point contains GSM/GPRS module 900/1800/1900 MHz, downloader of sensors PES and iButton® chips (*can also be used for on-line monitoring of the access control*). It has backup automatically rechargeable energy source that can last at least 3 days of full operation.

All is enclosed in elegant plastic compact box with IP65 cover.





Other Solutions

TLD™ – (TOMST® LOCK DEVICE) System

is 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 if the given medium is authorized to open the lock, activate lift, alarm or another connected device.

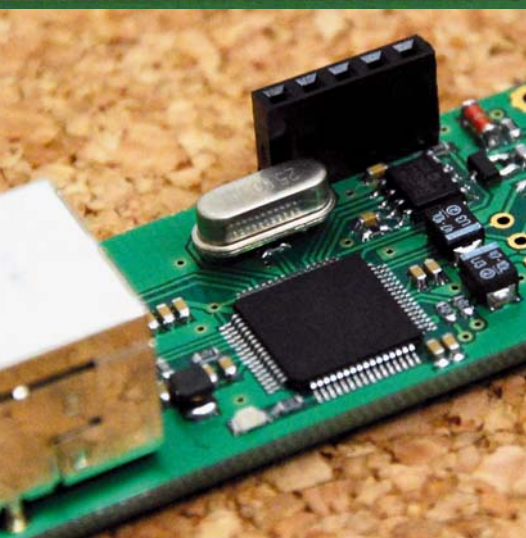
The TLD™ system offers also complete attendance control. It can distinguish the time of contact and different types of passage (*arrival, departure for lunch, business trip, medical treatment etc.*).

rfTAGs – Time Measurement

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

T&A Units

represent useful, multifunction tool for realtime monitoring of employees and their attendance. The units can read the RFID cards as well as chips. They are equipped with GSM/GPRS modem, which enables data transfer to the server. The T&A units are also able to download data from the PES® sensors and thus can be used also for patrol monitoring. Currently the system is used in cleaning-service industry, but it can be useful in many other areas as well.



TMS Units

The TMS units are autonomous measuring units with built-in data loggers for measuring air and soil temperature and soil moisture.

They were developed for the Institute of Botany, Academy of Sciences of the Czech Republic. The data can be collected into the units for a period of more than 1 year with half an hour intervals. The biggest advantages of the TMS units are small dimensions, resistance to outdoor environment, accuracy of the measurements and low production costs.

Ethernet Adapter

is an innovative modification of the TMD adapter. The Ethernet adapter transfers the data from the PES[®] sensor via the Ethernet interface to a server PC. Compared to the standard TMD units, there is no need to have a local PC in the downloading place. It thus works as an autonomous device for data collection.

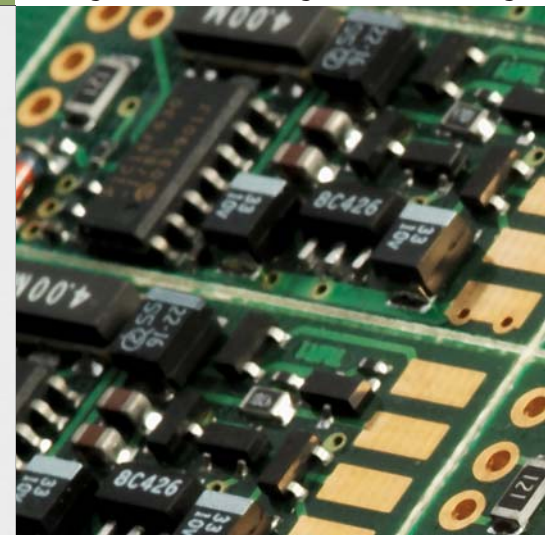
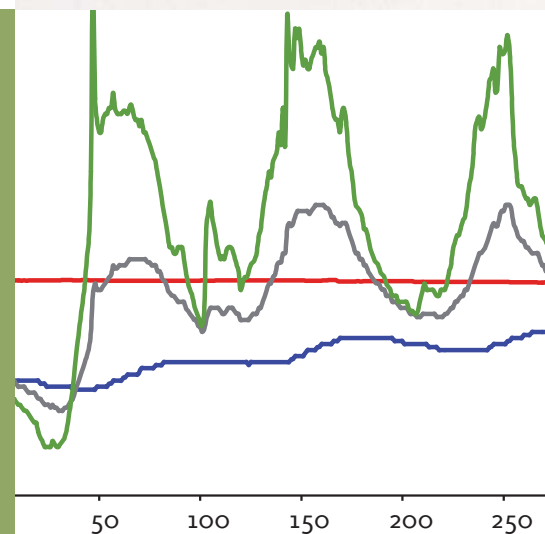
Thermochron & Hygrochron iButton[®] Compatibility

The PES[®] sensors are able to download and analyse data from the MAXIM/DALLAS Thermochron & Hygrochron iButton[®] chips and thus gather the information on temperature or humidity in a specified format (e.g. occurrence of events of high temperature – temperature alarm). It is very useful in every place where it is critical to control and monitor the temperature and humidity of selected areas such as during transport of foodstuff or medicaments, in museums or greenhouses.

Other Individual Solutions

Do you need special equipment for your own application?

The TOMST[®] company can offer you the development and production of specific electronic equipment, such as different autonomous measurement units, data loggers etc.





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
website: www.tomst.com

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