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HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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airScan

FREE TRIAL 30 DAY
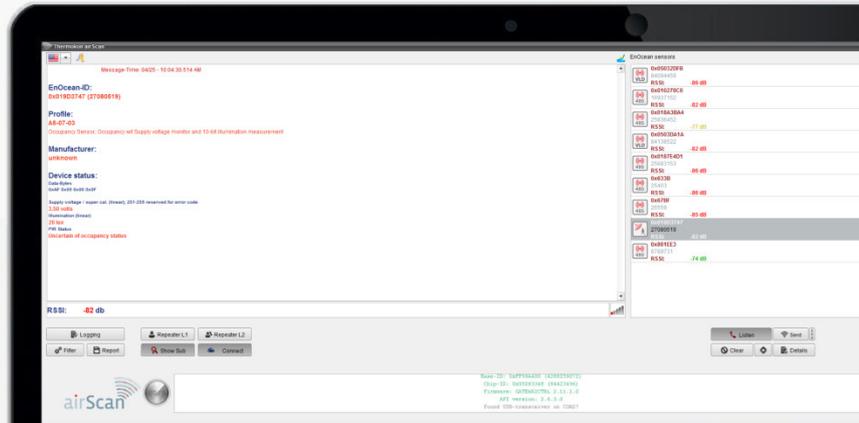
» APPLICATION

Thermokon airScan consists of an EasySens USB transceiver and the corresponding user software that turns your Windows computer into a field strength meter. Using this tool the frequency ranges of the EnOcean based RF technology can be measured and the correct mounting location of EnOcean transmitters/receivers can be determined. airScan provides a quick overview of EnOcean telegrams, the EnOcean ID, the field strength and the manufacturer of the products. All EnOcean telegrams can be received via the easySens USB transceiver and are displayed in the user software airScan. Positioning of the EasySens USB transceiver should be done where the actual receiver or antenna of the receiver will be installed later on. Thermokon recommends the optional 3m USB Extension Cable (574044). The latest version of the user software airScan can be downloaded from the Thermokon homepage.

» SYSTEM REQUIREMENTS AIRSCAN SOFTWARE
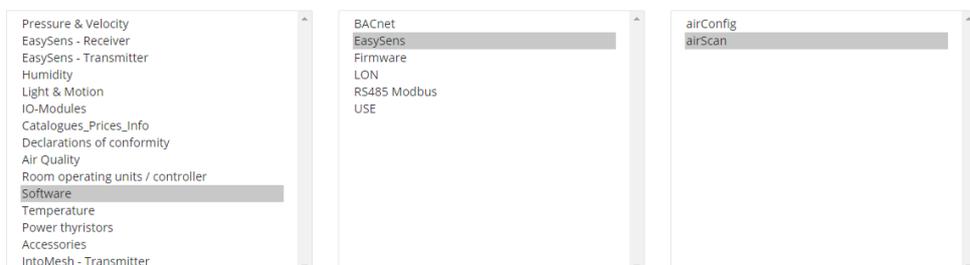
OS
Microsoft® Windows 7 or higher

Interface
1x free USB 2.0 interface for airScan stick (566704)

Internet Connection
An internet connection is necessary for installation/updates and activation of the software.

» DOWNLOAD

Download the user software airScan in our download center www.thermokon.de
Click on the software > EasySens > airScan
Under Software, click on the file airScan_Setup.zip for download
Install the software according to the installation instructions

DOWNLOADCENTER

Pressure & Velocity	BACnet	airConfig
EasySens - Receiver	EasySens	airScan
EasySens - Transmitter	Firmware	
Humidity	LON	
Light & Motion	RS485 Modbus	
IO-Modules	USE	
Catalogues_Prices_Info		
Declarations of conformity		
Air Quality		
Room operating units / controller		
Software		
Temperature		
Power thyristors		
Accessories		
IntoMesh - Transmitter		

» COMMISSIONING

Connect the EasySens transmitting-receiving USB with the free USB-interface of your computer. The device is automatically installed with a driver from the Windows internal driver library. You will be informed about the completion of the driver installation in the system tray.

If the installation did not start automatically or no driver is found, the driver installation must be started manually. The latest driver can be downloaded under the following link: http://www.ftdichip.com/Drivers/VCP.htm.

When starting the same, the user software airScan looks for the EasySens transmitting-receiving USB. If the same was found, the user software airScan starts properly.
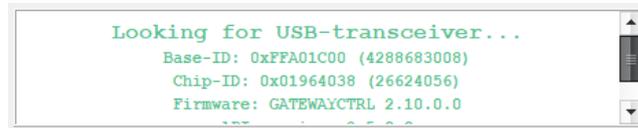
Please note!
Thermokon airScan software only operates with the original EnOcean based transmitting-receiving USB and the airScan license. Third-party hardware or software is not supported.

**» LICENSING OF THE SOFTWARE**

For activation and operation, the user software airScan requires a license key. This activation code is listed in the operating instruction supplied with the USB stick. If no license key is available, the software can be tested for 30 days. During this trial period, all functions are made available.

NOTICE: This key can be used **3 times**, e.g. for a complete new installation or a PC change before it becomes invalid. Updates remain unaffected and are covered by the airScan license.

Keep the airScan license in a safe place.

During the first start the license dialog appears. Confirm with **<OK>.**
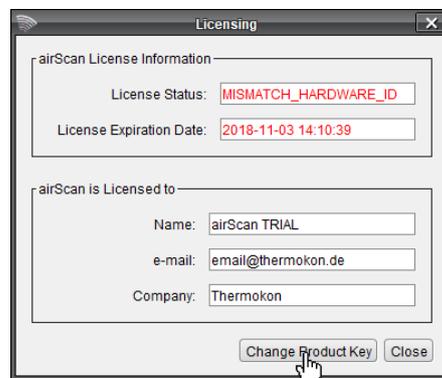
Another window opens. Current license information and the activation status are displayed. Click on the button **<Change Product Key>** in the lower part of the window.

Enter the license key in the following dialog window. Afterward, confirm with **<OK>**.

» RECEIVING TELEGRAMS

In the right column of the airScan user software <EnOcean Sensors> all telegrams received in the transmitting range of the EasySens transmitting-receiving USB are displayed. This list shows the product type, the sensor ID and the field strength (in dB). The information window (left side) shows the contents of the last telegram which is marked in the sensor list (right side).

Please note: The field strength / RSSI-level is scaled in dB. That is to say the higher the value the lower the signal. We recommend to use an USB-extension cable and to locate the easySens transmitting-receiving USB at the place where the signal strength shall be detected.

Logging with Report Function

Switch-on/off News-Log. This function is not based on the filter criteria. All telegrams are logged. Using the report function, the telegrams can directly be sent through e-mail or can be uploaded to an FTP server.

Configure Automatic Report Function

Using the report function the log file can be saved and/or shared automatically. Data formats available: XML, XLS, or CSV. This document can be sent through e-mail or can directly be uploaded to an FTP server.

» TELEGRAM-FILTER SETTINGS

⚙ Filter

Under the function „Filter" a filter for incoming telegrams can be set. In this case, solely telegrams corresponding to the set filter will be detected and displayed in the detailed view. A filter can be set on the EnOcean-ID or the signal strength of the easySens transmitting-receiving USB!
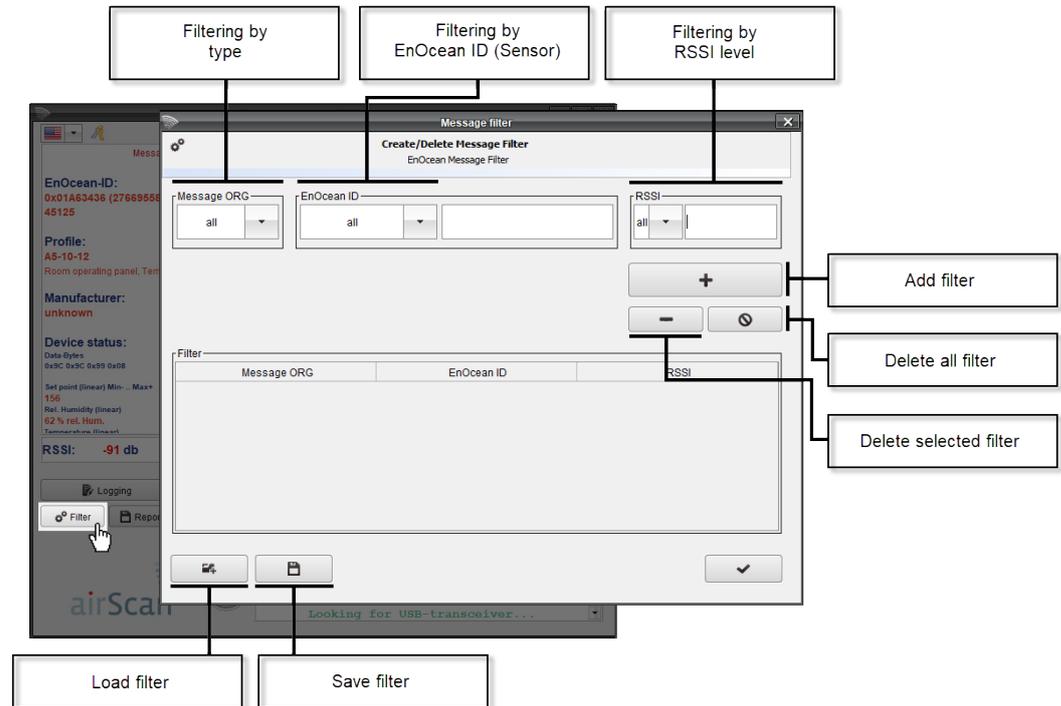

➔ RPS = Switch signal, e.g. electronic smart key or remote control
➔ 1BS = 1 Byte sensor (e.g. window contact, window handle)
➔ 4BS = 4 Byte sensor (Thermokon RF sensors with solar)
➔ MSC = Manufacturer Specific Command (no standard content – refer to the datasheet of the product)
➔ VLD = Variable Length Data (no standard content – refer to the datasheet of the product)
➔ ADT = Addressed Data Telegram (no standard content – refer to the datasheet of the product)

The EEPs are the intellectual property of the EnOcean Alliance. The latest version of the EEP-list can be downloaded from the EnOcean homepage: http://www.enocean-alliance.org/eep/.

» SENSOR LIST FUNCTIONS

Use the right mouse button to open the submenu of a transmitter in the airScan user software.
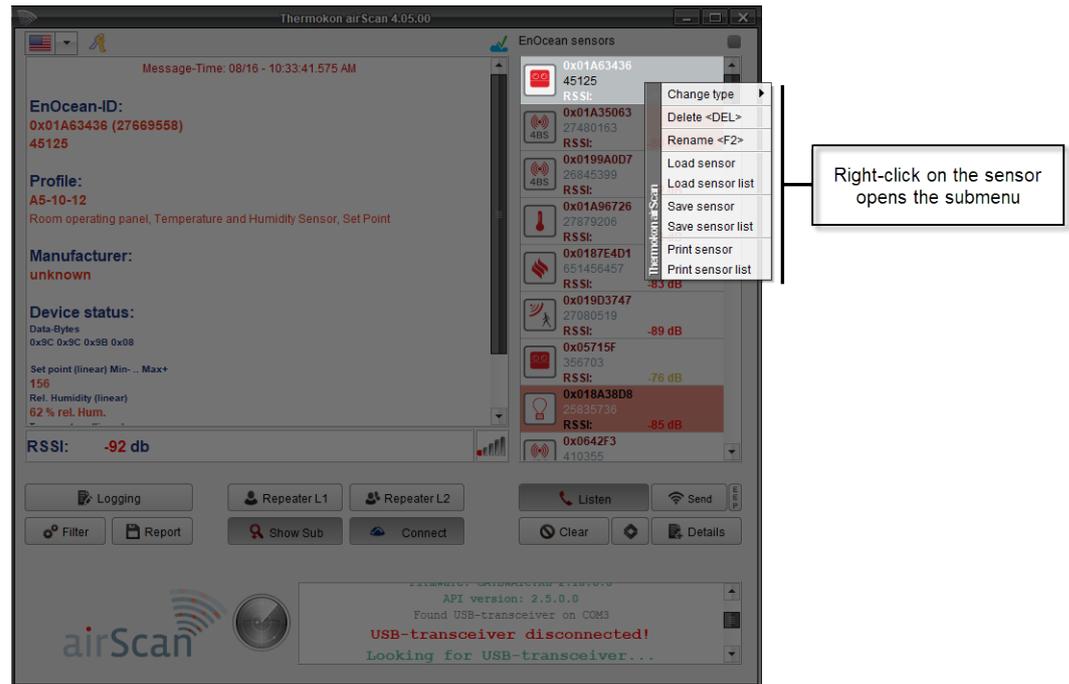
<Change Type> Received telegrams can be identified manually if the user profile (EEP) is known. If a teach-in telegram is triggered by actuating the learn button or for BUS devices with the corresponding software variable, the sensor identifies with the profile used. A manual assignment of the profile is not necessary.

Example:

A sensor is transmitting a telegram following the regular transmission intervals (WakeUp/HeartBeat). airConfig recognizes that this is a 4BS telegram but does not recognize the profile (EEP) and therefore cannot analyze the data.

To identify the sensor a teach-in telegram must be triggered by the sensor. Then, the sensor transmits its profile (EEP) and can be identified by the receiver using the profile (EEP). The symbolism changes according to the sensor type. If a log file is created, an identification is not necessary.

<Delete > Single or several sensors can be deleted from the list. If certain sensors shall not be deleted, the filter function is recommended.

<Rename> A sensor description (e.g. a name or a location) can be allocated to the listed sensors. The sensor description is saved locally on your PC and is automatically loaded upon every start of the airScan user software.

<Load Sensor>/<Load Sensor List> Individual sensors or a complete sensor list, which was saved before, can be loaded.

<Save Sensor> / <Save Sensor List> Individual sensors or a complete sensor list can be saved for future use. This file contains the sensor ID, field strength measured last and the profile (EEP). To save the whole data content please use <Details> - Export XML | Export CSV | Export XLS.

<Print Sensor> / <Print Sensor List> Sensor-ID and the profile (if identified) can be printed.

» TELEGRAM DETAILS – SAVING LOG-FILES

When clicking on the button „Details" a new window opens in which all telegrams received are shown considering the filter set. This window provides information about date, time, radio ID, type of telegram (ORG) and shows the EnOcean telegram with raw data.

The column "Status" indicates if the signal is L1 or L2 amplified (Repeater). Solar-powered sensors transmit three sub-telegrams, mechanically powered sensors transmit three or more telegrams depending on how much energy is needed for transmission. Less than 3 sub-telegrams point to a collision or a weak signal with radio problems (see RSSI).

If the receiver receives more than three sub-telegrams this means that the transmitted signal has been amplified just as well as the original signal (corresponding 3+3).

The limit of the signal strength of EnOcean based receivers is normally at about -90...-95 dB attenuation. Signals with even lower attenuation can no longer be distinguished from background signals. As the attenuation of the signals varies from time to time, a safety limit of approx. 15...20dB is recommended to achieve reliable communication.

NOTICE: Sensors with External Antenna

For sensors with external antenna, please note that the transmission/receiving quality is approx. 15 dB better than the value displayed in the airScan user software.

Showing Sensor ID in Hexadecimal or Decimal

Load LOG, load saved log files (only XML)

Eport list as XML/CSV/XLS

List will be refreshed with every received telegram

Auto-Scroll ON/OFF

»SEND TELEGRAMS

Also, it is possible to create and send your telegrams (e.g. temperature, status, etc.). This function is used to simulate an EnOcean transmitter for test purposes.
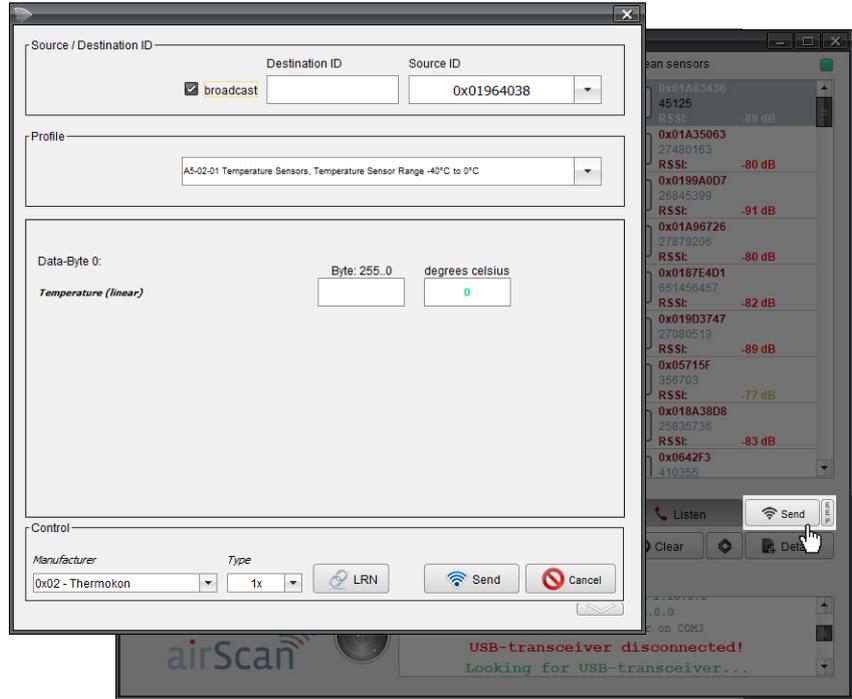
Variant 1 (Send – Expert Mode)

Telegram type, sending-ID, and the raw data are entered. The simulation of an EnOcean based transmitter via this path is only recommended to experienced user.

Variant 2 (Send with EEP Configurator)

First, the EEP button (right side) must be activated. Using a configurator, the telegrams can be designed like modules. Only the desired values (e.g. °C/°F, Open/Close, Learn, etc.) must be entered. Via the drop-down menu, the corresponding profile types can be selected.

Via the menu point „Control" it also feasible to send learn telegrams. First, the manufacturer must be selected and afterward the number of sub-telegrams (1x, 3x, UTE). Then, click on the button "LRN" and the learn telegram is sent to the desired device (defined by the profile type).

When you click on <**Arrow down**>, the user software airScan shows the data content of the individual data bytes which shall be sent.

»ACCESSORIES

USB extension 3 m/10 ft.,   Article No. 574044

»TECHNICAL DATA AIRSCAN

Frequency	868	Europe	902	USA - Canada	928	Japan
Modulation type	868.300 MHz (ASK)	902.875 MHz (FSK)	928.350 MHz (FSK)
Data rate	125 kBit/s		
Transmission power	<10 mW		
Dimensions	70 x 20 x 9 mm		
USB connector	USB type A		
Operatin conditions	-20..+50 °C, max. 90% rH, non-condensing		