



**RADWAG BALANCES AND SCALES**  
ADVANCED WEIGHING TECHNOLOGIES

**Autonomous system with remote data access**  
**One sensor monitoring temperature, pressure, air humidity, air density and vibrations**



[www.radwag.com](http://www.radwag.com)

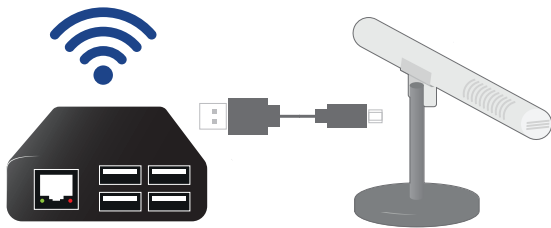
# THBR 2.0 System

AMBIENT CONDITIONS MONITORING

## THBR BOX

# LOCAL AREA NETWORK

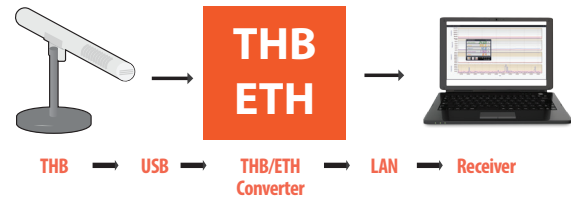
THBR Box has been designed to collect measurements of ambient conditions, store data, send alerts and warnings. The device enables direct display of measured parameters via a mobile app or with use of a computer. This requires either entering an IP address and running a selected web browser, or using HDMI interface



## THB/ETH

# LOCAL AREA NETWORK

THB/ETH is a solution enabling direct connection of the sensor to ETHERNET. With the option of sensor search by its unique serial number, the user can monitor ambient conditions from any place within local area network.



THBR software offers user interface facilitating presentation, archiving and reporting of recorded measurement data plus configuration of measuring devices. It comprises THB Single application, designed to support one sensor, and THB Multi application, intended to support numerous sensors concurrently.



## THBR Mobile Application

# LOCAL AREA NETWORK

THBR Box recorder can be operated and configured using special THBR mobile app, intended for Android system. The application enables display of real-time measured values of parameters such as temperature, pressure, air humidity, air density and ground vibrations. It stores archive measurements in a form of lists and graphs.

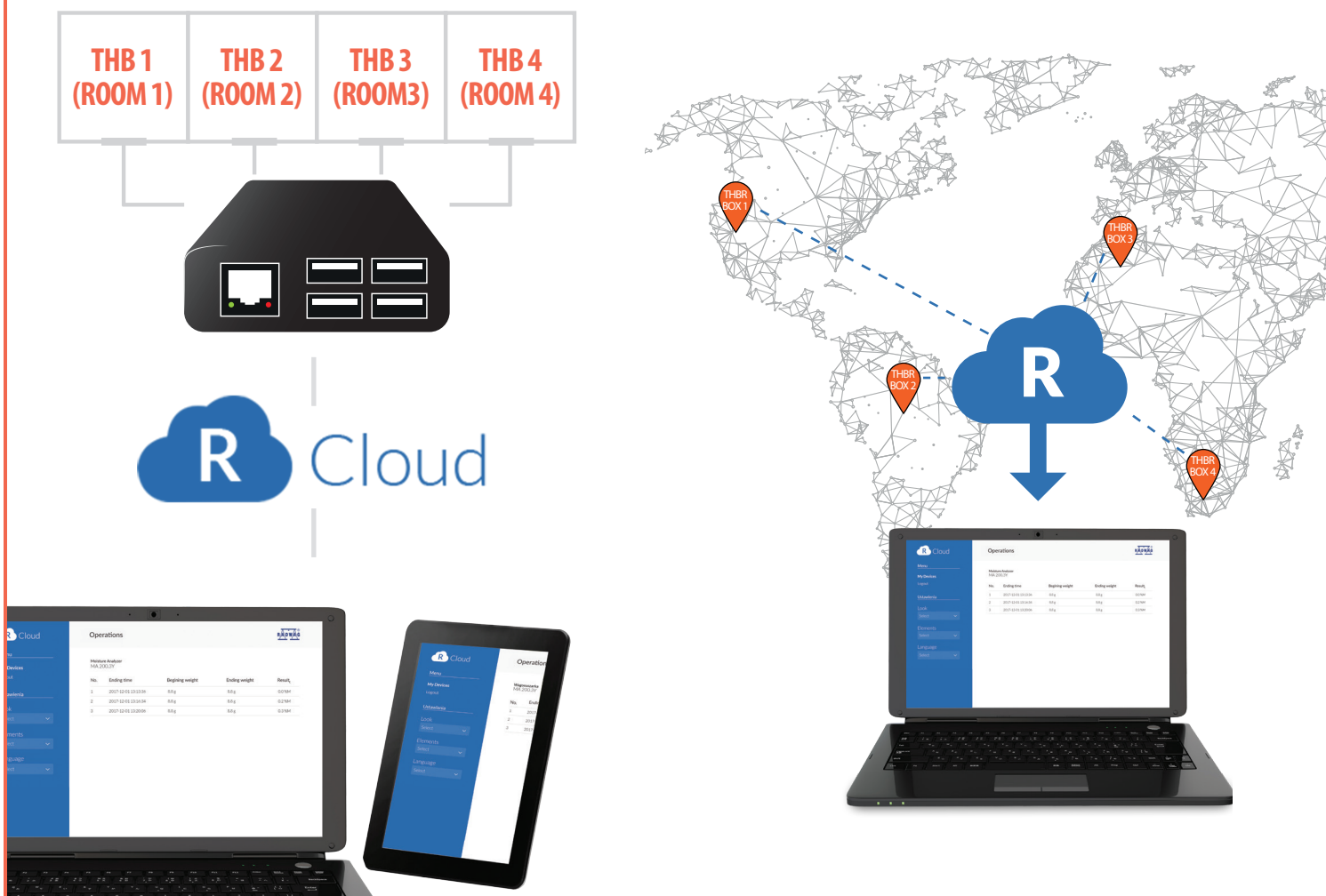
With use of THBR mobile application the user can configure modules names, sensors and both warnings and alerts. This mobile app allows the users to switch between THBR Box recorders and sensors operating in a local area network. Due to an intuitive operation it is possible to easily and quickly access measurements from various devices, and configure them according to individual needs. Monitoring of ambient conditions via THBR interface requires connection with local area network within which the recorder operates.

THBR mobile app can be downloaded from Google Play Store.



# R CLOUD INTERNET

R Cloud service offers record and preview of measurement results from few sensors concurrently which can be done from any place in the world with Internet access.



# THB + BALANCE DIRECT CONNECTION

THB S, THB P and THB W sensors may be connected directly to the balance via USB port. In such a case readout of ambient conditions is carried out using the balance display. The sensors cooperate with RADWAG balances of 3Y, 4Y, WPY, WLY and HY10 series.

Ambient Conditions Module	
1	Ambient Conditions Module
2	Temperature min
3	Temperature max
4	Temperature $\Delta t/h$
5	Humidity



## THBR 2.0 System

## Absolute control Precisely accurate measurements



### THB S – Standard Ambient Conditions Sensor

THB S sensor is a measuring device of standard class that cooperates with a computer and a weighing device directly or via THBR Box. THB S is used to measure temperature, pressure, air humidity, air density and ground vibrations. Each sensor has its own identification number that is assigned to measurements saved to the database. The measurement results can be observed using:

- balance display
- web page
- Windows OS application: THB Single or THB Multi
- Android system application.

### THB P – Precise Ambient Conditions Sensor

THB P sensor is a precise device for measurement of ambient conditions. Range of measured parameters for both THB S and THB P sensors is the same, however in case of THB P the parameters are monitored with greater accuracy.

### THB W – Liquid Temperature Sensor

THB W sensor is a sensor designed to measure temperature of liquid. Readout of temperature from THB sensor requires connecting to a computer or THBR Box ambient conditions recorder. THB W is used at pipettes calibration workstation, it measures water temperature in gravimetric method, which is done in order to determine „Z“ coefficient in accordance with ISO 8655.



**THB S**



**THB P**



**THB W (for liquids)**

	<b>THB S</b>	<b>THB P</b>	<b>THB W (for liquids)</b>
Measured temperature range	+5 – +45 °C	+5 – +45 °C	+5 – +45 °C
Temperature readability [d]	0.01 °C	0.001 °C	0.01 °C
Temperature measurement accuracy	+/- 0.1 °C	+/- 0.1 °C	+/- 0.1 °C
Measured pressure range	850 - 1050 hPa	850 - 1050 hPa	–
Pressure readability [d]	0.1 hPa	0.001 hPa	–
Pressure measurement accuracy	1 hPa	1 hPa	–
Measured humidity range	0-100%	0-100%	–
Humidity readability [d]	0.1 %	0.01 %	–
Humidity measurement accuracy	+/- 1.8 %	+/- 1.8 %	–
Operating temperature	+5 – +45 °C	+5 – +45 °C	–
Communication interface	USB 2.0	USB 2.0	USB 2.0
Vibrations detection	YES	YES	–
Air density determination	YES	YES	–