EUROTEC
TECNOLOGIE IMPIANTISTICHE - AUTOMAZIONE - TELECONTROLLO

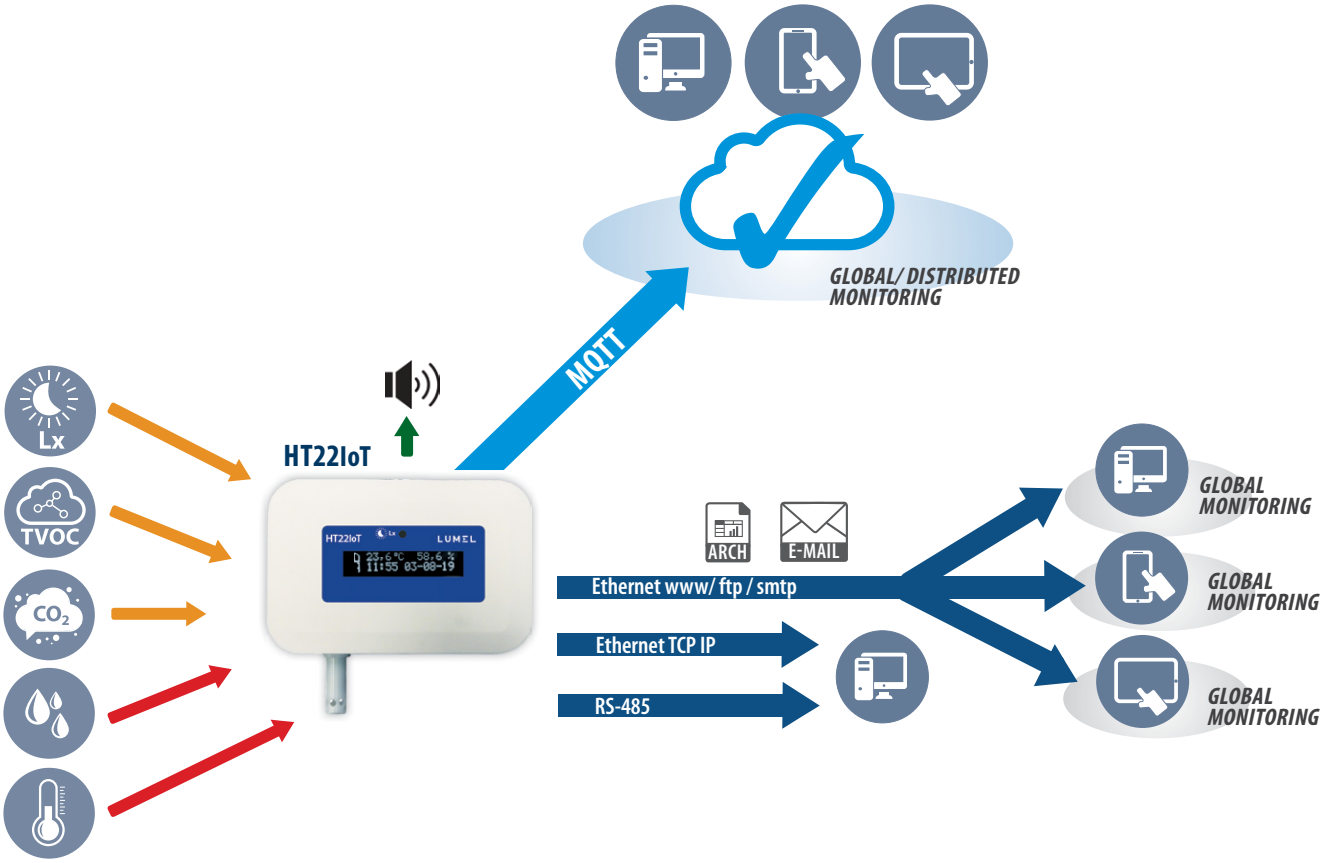
LUMEL
EVERYTHING COUNTS

HT22IoT - ENVIRONMENTAL PARAMETER MONITOR

HT22IoT monitor has been designed to measure, monitor and record temperature, humidity, illuminance, total volatile organic compounds (TVOC) and CO_2 concentration. It is a perfect solution for any facilities where monitoring and recording such values are very important for the accuracy of the whole process (for example, in server rooms, drug and food warehouses, laboratories, museums or glasshouses). The data captured by HT22IoT is stored in the internal memory and then sent digitally to the user by the Ethernet (TCP/IP, FTP) and by RS-485 interface . In case of an emergency situation, the device immediately sends appropriate warnings via emails or via a website. An additional advantage of HT22IoT is the possibility that it can be powered over the Ethernet. This feature is available in versions that are equipped with the Power over Ethernet system (PoE).

PoE

EXAMPLE OF APPLICATION



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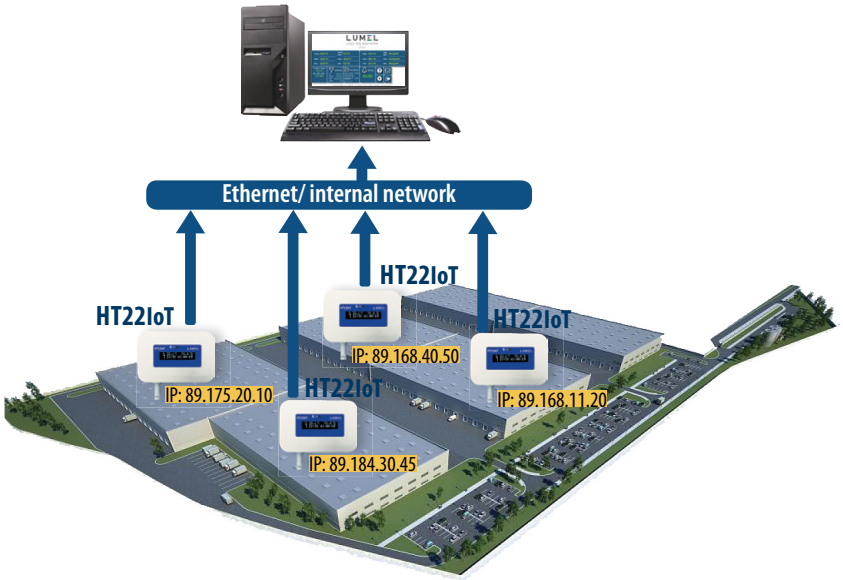
EXAMPLE OF APPLICATION



FEATURES

WEB server
RTC
MOD BUS TCP
MOD BUS RTU
FTP server
@ SMTP client

INPUTS

°C
Lx
TVOC
CO_2

OUTPUT

Ethernet

WHAT PARAMETERS CAN BE MEASURED BY HT22IoT?

- illuminance
- total volatile organic compounds (TVOC)
- CO_2 concentration
- temperature,
- relative humidity,
- dew point,
- absolute humidity or the total mass of water vapour (in grams) present in $1m^3$ of air in a given temperature,
- wet-bulb temperature,
- vapour pressure or the pressure at which, in a given temperature, the gas is at an equilibrium with the fluid (equilibrium between evaporation and condensation),
- enthlapy (total heat content).

HOW DOES HT22IoT WORK IN CASE THE PRE-SET PARAMETERS ARE EXCEEDED?

The HT22IoT allows up to two defined warnings. Whenever the pre-set parameters are exceeded, the HT22IoT will immediately signal this via:

- emails,
- messages on a dedicated website,
- special symbols on the display,
- audible alerts.

Therefore, every time the HT22IoT is connected via Ethernet or RS-485, you will always have the most up-to-date information on the actual condition of the monitored facility.

ETHERNET INTERFACE AND ITS FUNCTIONALITY

The HT22IoT is equipped with the Ethernet interface enabling its connection to the local or global network (either LAN or WAN). Thanks to the user-friendly and intuitive 'www' server, you will always have access to the information regarding:

- current measurement values,
- device status.

The 'www' server call also allow you to:

- configure it
- read the serial number, manufacturing code, software version and bootloader version.

The built-in FTP server allows for fast and easy access to archive data files from the level of web browser or from other FTP clients. The DHCP protocol provides automatic configuration of the monitor in the computer network, whereas the SMTP protocol is responsible for sending the warnings via emails. The HT22IoT monitor can also work in more extensive systems where the communication protocol Modbus Slave TCP/IP provides a smooth and reliable reading of all current measurement data.

MEASUREMENTS ARCHIVE

Thanks to the dedicated website, you can also check the archive data using a smartphone, tablet or a PC. There is no need to be worried about insufficient memory on the device; the HT22IoT has an 8GB internal file system memory where the data form the internal memory buffer (4GB) is automatically recorded as files. The memory has a form of a circular buffer and after the storage is full, the oldest files are overwritten. The internal archive can be read, copied and/or deleted.

TECHNICAL DATA

MEASUREMENT

HUMIDITY

Relative humidity (RH)	0...95 % condensation inadmissible
Basic error of humidity processing	±3% of the range for RH = 10...90% ; ±5% in other range
Hysteresis of humidity measurement	± 1% RH
Calculated values	wilgotność bezwzględna (a) [g/m³]

TEMPERATURE

Basic range of temperature measurement (T)	– 20...60 °C
Basic error of temperature processing	±0.6 °C in range 10...40 °C; ±1.0 °C in other range
Calculated values	dew point temperature (Td) [°C]

ILLUMINANCE

Measurement range	0...60000 lx

TOTAL VOLATILE ORGANIC COMPOUNDS (TVOC)

Measurement range	0...60000 ppb*
Resolution	1 ppb for TVOC: 0...2008 ppb 6 ppb for TVOC: 2008...11110 ppb 32 ppb for TVOC: 11110...60000 ppb

CO_2 CONCENTRATION

Measurement range	400...60000 ppm
Resolution	1 ppm for CO_2: 400...1479 ppm 3 ppm for CO_2: 1479...5144 ppm 9 ppm for CO_2: 5144...17597 ppm 31 ppm for CO_2: 17597...60000 ppm

DIGITAL INTERFACE

Interface type	Transmission protocoll	Remarks
RS-485	Modbus RTU	
Ethernet 10/100 Base-T	Modbus TCP, HTTP, FTP	max. number of simultaneous connections - 10

RATED OPERATING CONDITIONS

Supply voltage	6 V d.c. or PoE IEEE 802.3af
Power concumption	< 2 VA
Preheating time	15 minutes
Ambient temperature	– 20...23...60 °C
Relative humidity	< 95%
Protection grade ensured by housing	IP 20
Fixing way	on a wall
Weight	<0.3 kg
Dimensions	150 x 100 x 28 mm
Operating position	sensor down

SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	Noise immunity	acc. to EN 61000-6-2
	Noise emissions	acc. to EN 61000-6-4
Pollution grade	2	acc. to EN 61010-1
Installation category	III	acc. to EN 61010-1
Maximal phase-to-earth operating voltage	50 V	acc. to EN 61010-1
Altitude above sea level	< 2000 m	

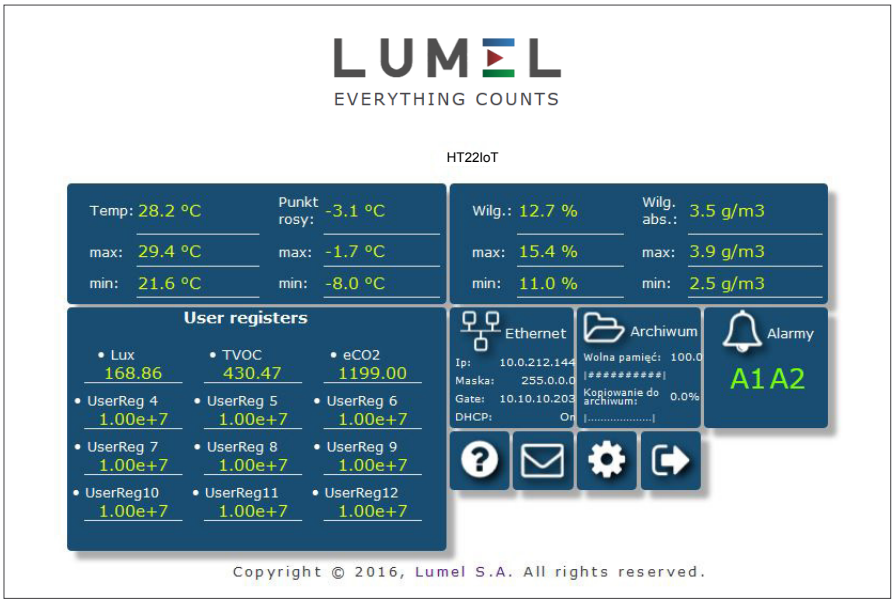
PARAMETERS OF DC ADAPTER (OPTION):

Voltage	6 V d.c. ± 5%
Max. power	6W*
Input voltage	90...253 V a.c.
Operating temperature	0...40 °C*
External dimensions	63.6 x 29.5 x 45.6 mm*
Cable length	1.4 m ± 10%*
Plug	ϕ 5.5 / 2.1 mm

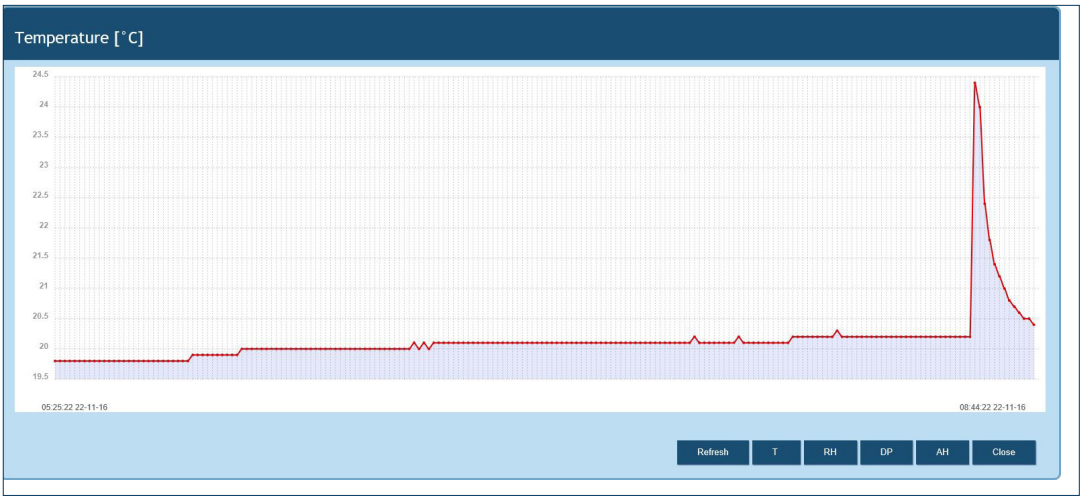
* adapter parameters can be changed

REMOTE READOUT OF PARAMETERS THROUG ETHERNET: **WWW SERVER, FTP**

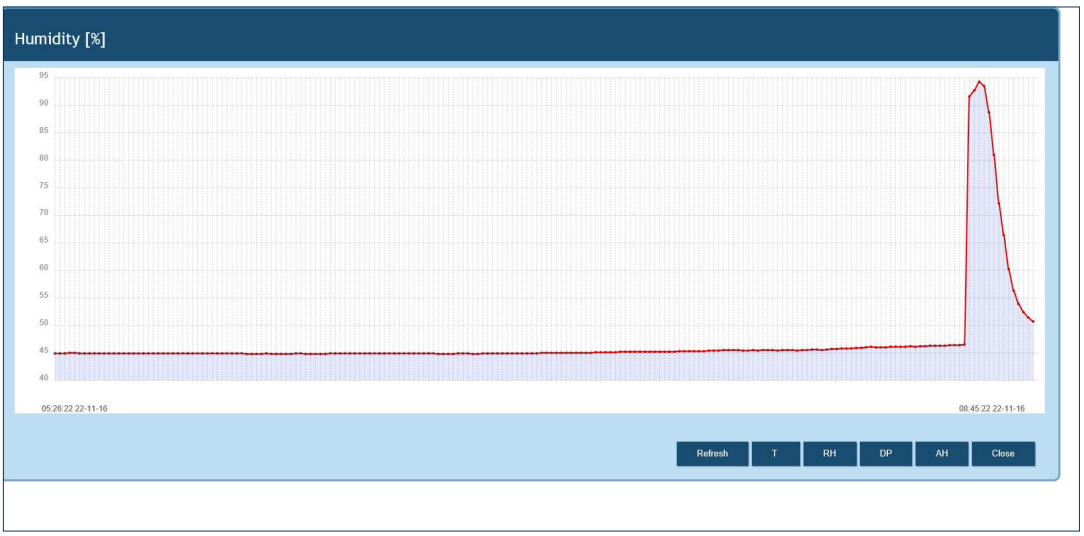
main page view



temperature trend view

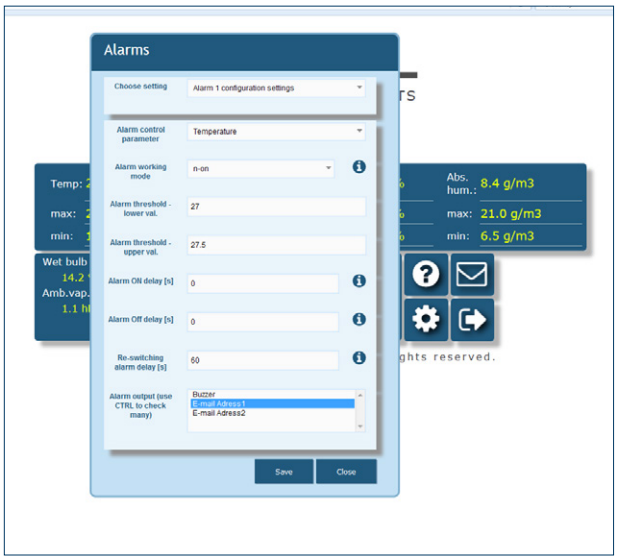


humidity trend view

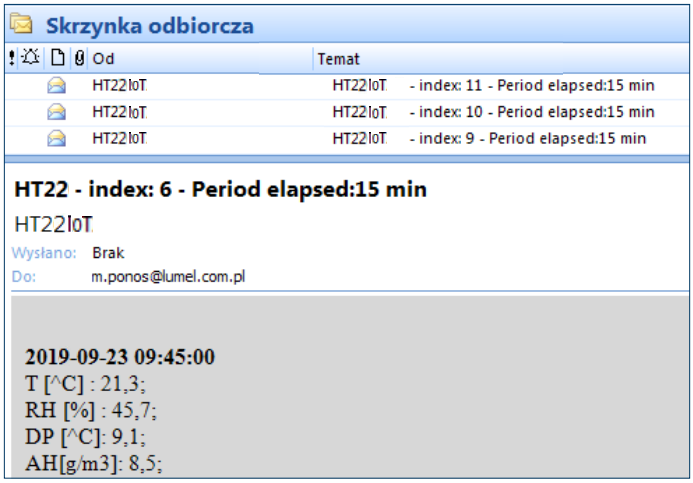


REMOTE READOUT OF PARAMETERS THROUG ETHERNET: **WWW SERVER, FTP**

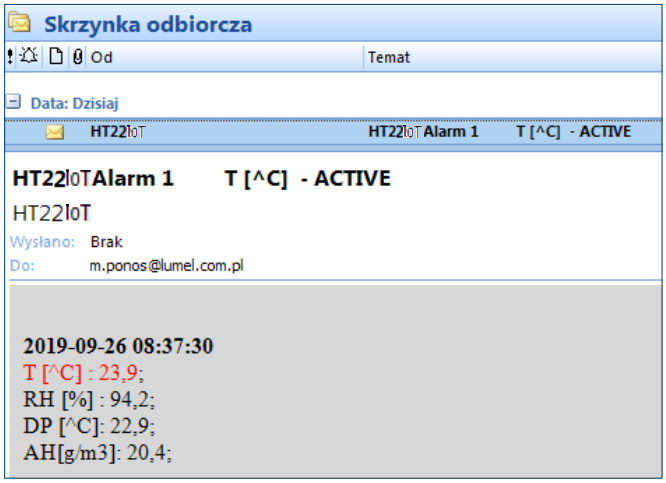
alarms and archive programming



eg of email of cyclic measurements - sent at a specified time period



eg of mail alert - temperature exceeding



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ORDERING

Temperature and humidity monitor **HT22IoT**	X	X	XXXXXX	X	X
Supply*:					
6 V d.c.	1				
6 V d.c. , PoE IEEE 802.3af	2				
Accessories:					
none		0			
adapter 6 V d.c.		1			
Version:					
standard			000000		
custom-made**			XXXXXX		
Language:					
Polish/ English				M	
other**				X	
Acceptance tests:					
without additional quality requirements					0
with an extra quality inspection certificate					1
acc.to customer's request					X

* - Monitors in version HT22IoT 1XXXXXXXXX require an external power supply 6 V d.c., in version HT22IoT 2XXXXXXXXX they can be powered either from Ethernet PoE (Power over Ethernet), as well as from the external power supply 6 V, D.C.

** - after agreeing with the manufacturer

Order example:
Code: **HT22IoT 21000000M0** means:

HT22IoT - HT22IoT monitor
2 - supply: PoE IEEE 802.3af and 6 V d.c.
1 - with attached AC 6 V d.c. adapter included
000000 - standard version
M - Polish/English lanugage version
0 - without additional quality requirements

ACCESORIES:

Accessory	View	Ordering code	Technical data
6 VDC adapter		**20-072-00-00094**	Voltage: 6 V d.c. ± 5% Max. power: 6W* Input voltage: 90...253 V a.c. Operating temperature: 0...40°C* External dimensions: 63.6 x 29.5 x 45.6 mm* Cable lenght: 1,4 m ± 10%* Plug: ϕ5,5 / 2,1 mm * adapter parameters can be changed
PoE adapter		**20-090-00-00022**	Input voltage: 100 – 240 VAC Input frequency: 47 – 63 Hz Power consumption: 0.35 A max. for 240 VAC Output voltage: 48 VDC Output power: 15.4 W Operating temperature: 0 – 40 °C External dimensions: 140 x 65 x 36 mm Weight: 0.2 kg
conductor for PoE adapter		**20-069-00-00146**	Cable lenght: 1.8 m

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Via Lirone 60/i

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