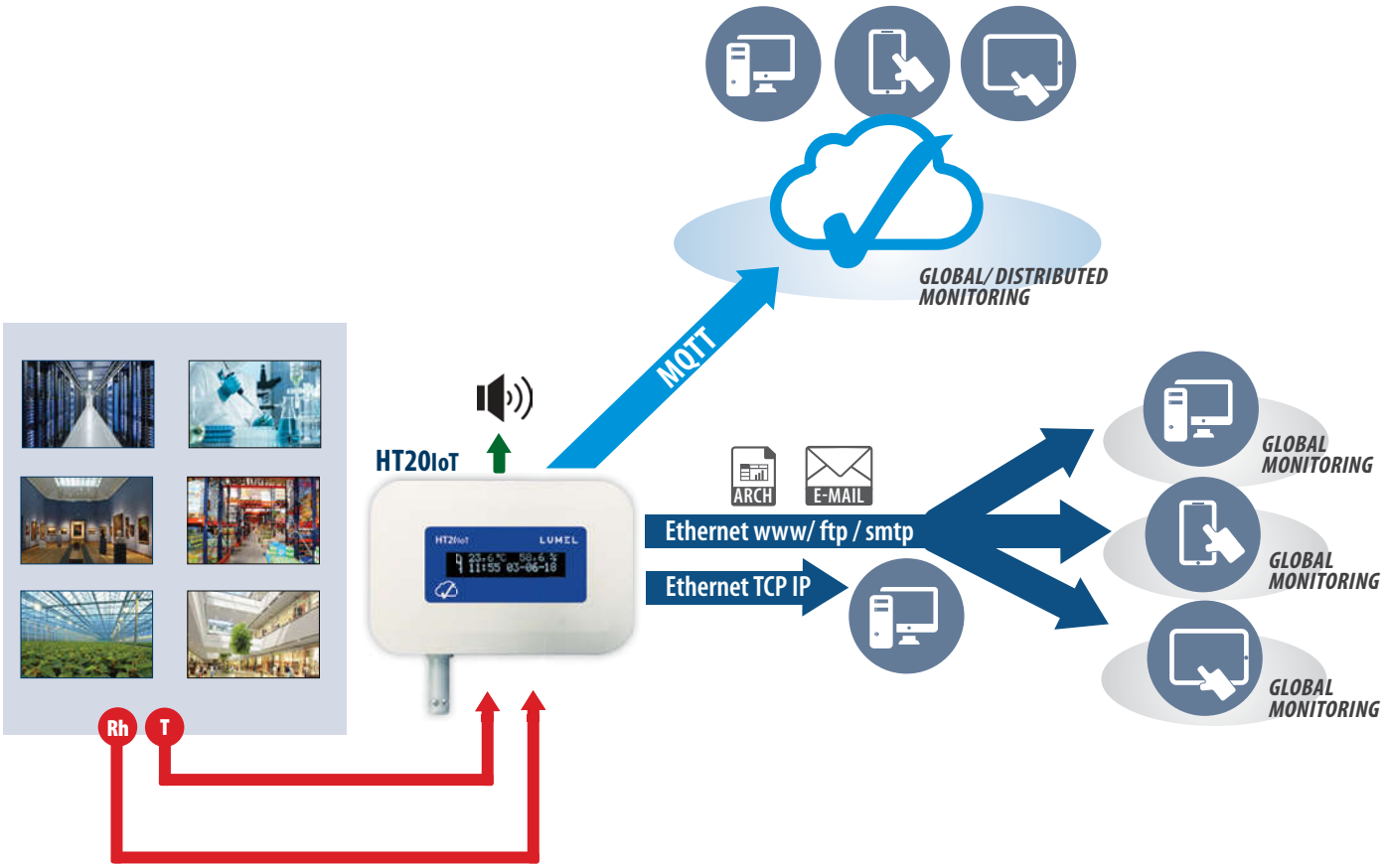
LUMEL
EVERYTHING COUNTS



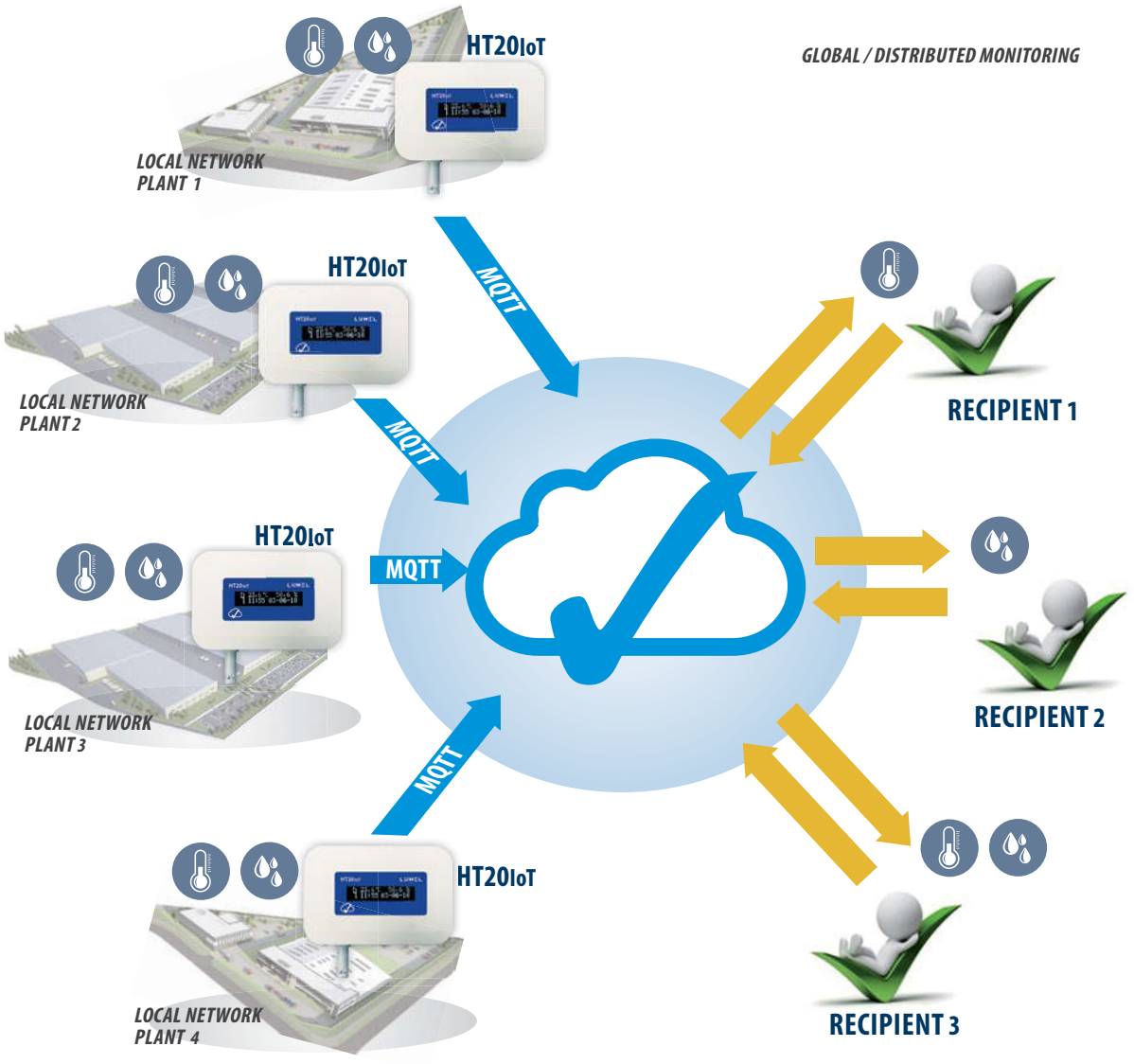
HT20 - TEMPERATURE AND HUMIDITY MONITOR
HT20IoT - TEMPERATURE AND HUMIDITY MONITOR FOR IoT APPLICATIONS

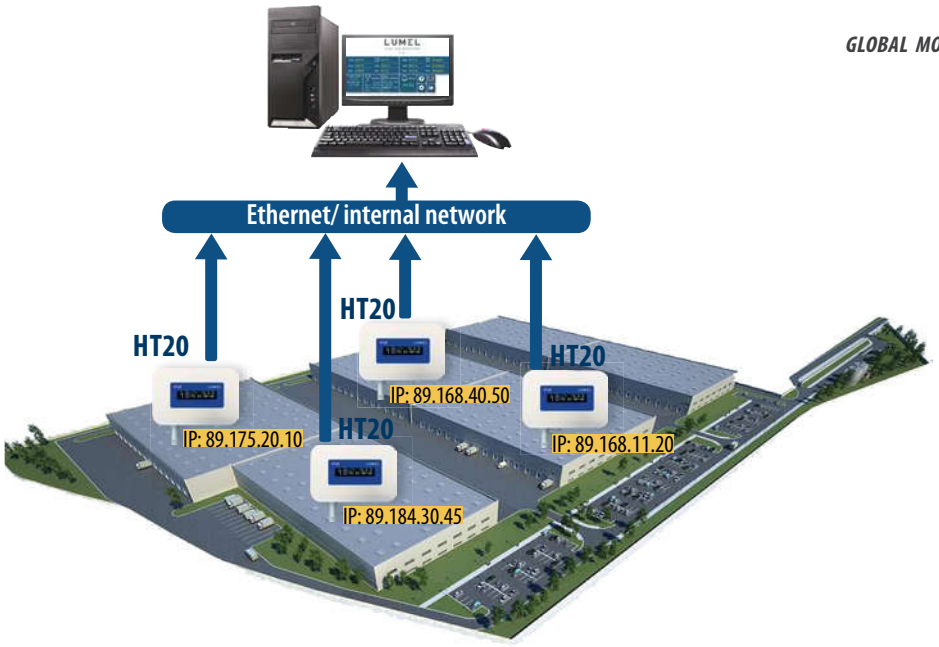
HT20/HT20IoT monitor has been designed to measure, monitor and record temperature and humidity. It is a perfect solution for any facilities where monitoring and recording such values are very important for the accuracy of the whole process (for example, in server rooms, drug and food warehouses, laboratories, museums or glasshouses). The data captured by HT20/HT20IoT is stored in the internal memory and then sent digitally to the user by the Ethernet (TCP/IP, FTP) or by use of MQTT protocoll (only for HT20IoT). In case of an emergency situation, the device immediately sends appropriate warnings via emails or via a website. An additional advantage of H20IoT 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).

EXAMPLE OF APPLICATION



EXAMPLE OF APPLICATION





HT20, HT20IoT - TEMPERATURE AND HUMIDITY MONITOR

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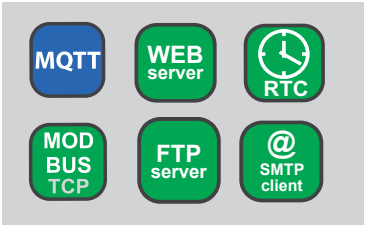
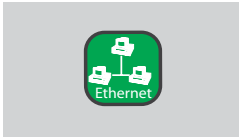
FEATURES



INPUTS



OUTPUT



WHAT PARAMETERS CAN BE MEASURED BY HT20?

- 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 HT20 WORK IN CASE THE PRE-SET PARAMETERS ARE EXCEEDED?

The HT20 allows up to two defined warnings. Whenever the pre-set parameters are exceeded, the HT20 will immediately signal this via:

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

Therefore, every time the HT20 is connected to the Internet, you will always have the most up-to-date information on the actual condition of the monitored facility.

ETHERNET INTERFACE AND ITS FUNCTIONALITY

The HT20 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 HT20 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 HT20 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.

BASIC PARAMETERS

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
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	absolute humidity (a) [g/m³] dew point temperature (Td) [°C]

DIGITAL INTERFACE

Interface type	**Transmission protocoll**	**Remarks**
Ethernet 10/100 Base-T	MQTT (HT20IoT)	
	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	

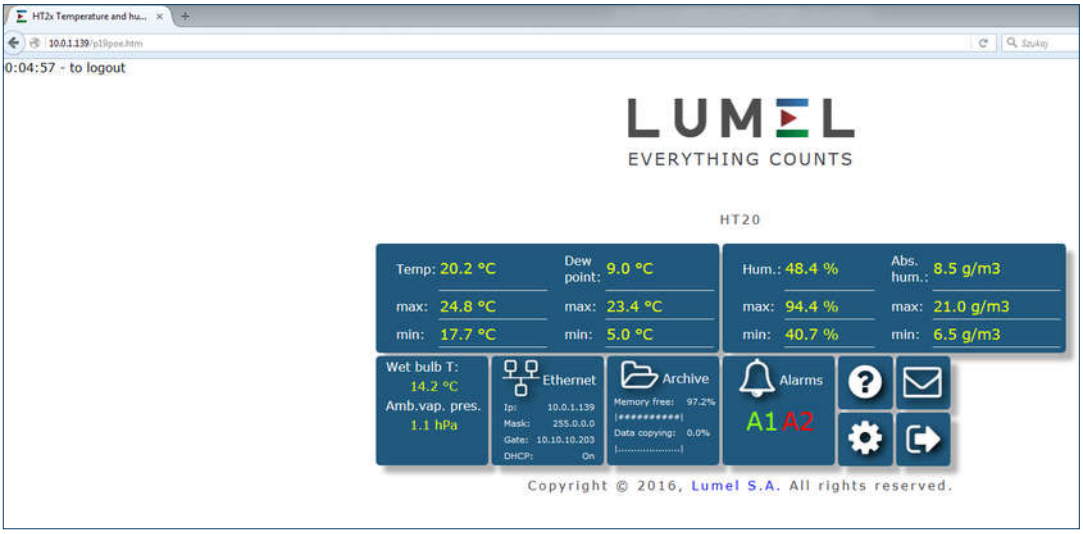
PARAMETERS OF DC ADAPTER (OPTION):

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

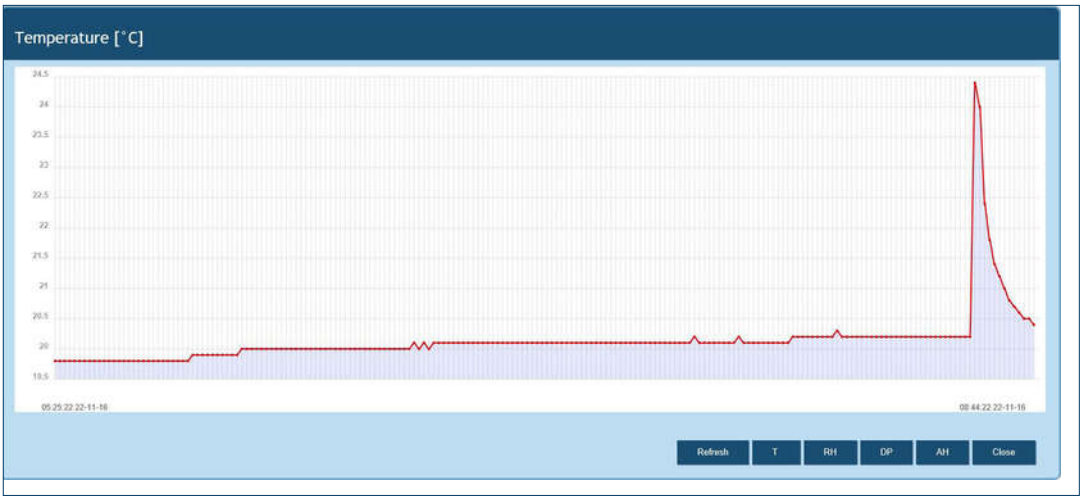
* adapter parameters can be changed

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

main page view



temperature trend view

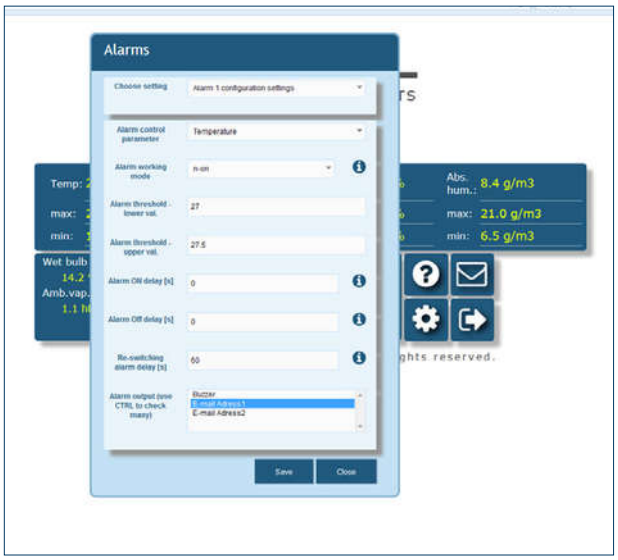


humidity trend view



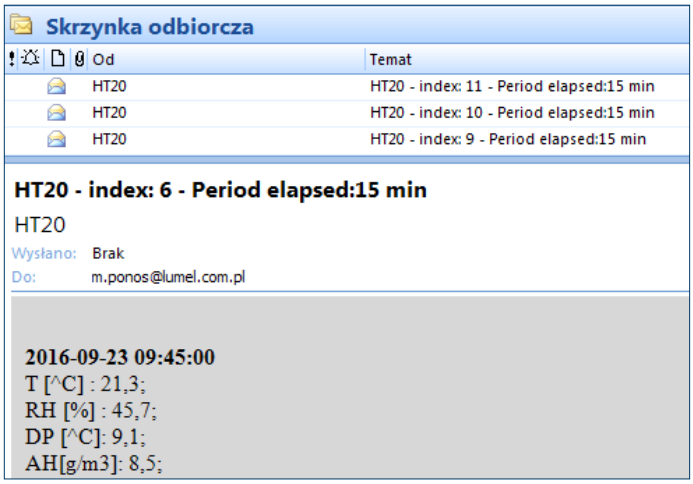
REMOTE READOUT OF PARAMETERS THROUG ETHERNET: **WWW SERVER, FTP**

alarms and archive programming

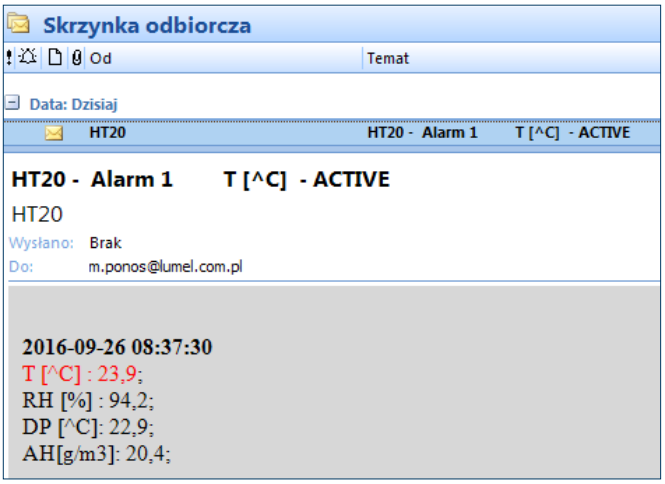




eg of email of cyclic measurements - sent at a specified time period



eg of mail alert - temperature exceeding



ORDERING

Temperature and humidity monitor **HT20** -	X	X	XX	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			00		
custom-made**			XX		
Language:					
Polish				P	
English				E	
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 HT20 1XXXXX require an external power supply 6 V d.c., in version HT20 2XXXXX 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: **HT20-2-1-00-E-1** means:

HT20 - HT20 monitor
2 - supply: PoE IEEE 802.3af and 6 V d.c.
1 - with attached AC 6 V d.c. adapter included
00 - standard version
E - user's manual in English
0 - without additional quality requirements

HT20, HT20IoT - TEMPERATURE AND HUMIDITY MONITOR

ORDERING

Temperature and humidity monitor **HT20IoT** -	X	X	MQ	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:					
MQTT			MQ		
Language:					
Polish				P	
English				E	
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 HT20IoT 1XMQXX require an external power supply 6 V d.c., in version HT20IoT 2XXXXX 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: **HT20IoT-2-1-MQ-E-1** means:

HT20IoT - HT20IoT monitor
2 - supply: PoE IEEE 802.3af and 6 V d.c.
1 - with attached AC 6 V d.c. adapter included
MQ - MQTT version
E - user's manual in English
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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www.lumel.com.pl

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HT20-19_en

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