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H3530 - Thermometer hygrometer with Ethernet interface and relays

code: H3530
Humidity, temperature, humidex Ethernet sensor with two relay outputs.

Sensor H3530 is designed for online monitoring of temperature, relative humidity, humidex of air without aggressive substances. Three binary inputs to detection of two-states signals are the advantage. Other devices are controlled by two relay outputs.
High precision capacitive polymer sensor ensures excellent long term calibration stability and ultimate accuracy. Measured values are also converted to other humidity interpretation: humidex, dew point temperature, absolute humidity, specific humidity, mixing ratio and specific enthalpy.
Included in delivery:
• H3530 sensor
• Traceable calibration certificate
• Quick start manual
• Technical support at discussion forum

Features

APPLICATIONS:

• **Building HVAC management**
Temperature/Humidity/Humidex monitoring of buildings, history data to Comet Database, alert by email or SMS

• **Server rooms monitoring**
Temperature/Humidity and binary inputs monitoring of the server rooms and rack units, SNMP monitoring, alert by email and Syslog

• **Warehouses**
Temperature/Humidity monitoring of storage, history data to Comet Database or 3rd party SCADA system

• **Museums, archives, galleries**
Temperature/Humidity is requested for rooms where old valuable documents are stored, history data to Comet Database, alert by email or SMS

• **Factories and manufacturing**
Temperature/Humidity monitoring for food processing industry, pharmaceutical industry, aerospace industry, etc.

• **Air-conditioned rooms**
Temperature/Humidity/Humidex monitoring, alert by email or SMS

SOFTWARE:

• **Comet Database**
Complex solution for data acquisition and analysing. Easy to use and high flexible database software for Comet Sensors.

• **T-Sensor software**
Free configuration utility for COMET sensor.

• **SensorReader software**
Basic data acquisition utility for COMET Sensors. Software is free for download.

• **3rd party software**
Cacti, InTouch, ControlWeb, EasyView, LabVIEW. Support for this software is provided by the 3rd party companies.

FEATURES:

Temperature and humidity

Sensor is designed to measuring from internal temperature and humidity sensor. High precision capacitive polymer sensor ensures excellent calibration long term stability, inertia against water and condensation. Web Sensor is designed for use in non-aggressive environment. Degrees Celsius and Fahrenheit are user selectable.

Humidex

The humidex (humidity index) is an index number used by meteorologists to describe how hot the weather feels to the average person, by combining the effect of heat and humidity. The term Humidex is a Canadian innovation. The reading is in °C.

Dew point and computed quantities

Measured values are also converted to other humidity interpretation: dew point temperature, absolute humidity, specific humidity, mixing ratio and specific enthalpy. User can select one of these interpretation.

Releay outputs

Two relay output for alarming or external device control. It is possible to assign any input value to each relay. Relay can be remotely controlled using ModbusTCP communication protocol.

Binary inputs

It is possible to read three binary inputs status for detection of two-state events - e.g. smoke, water leak detectors, door contact. Supported binary inputs: dry contact, open collector or two-state voltage signal.

Dual line LCD

Large dual line LCD for simultaneous display of temperature, relative humidity or other calculated humidity interpretation is an advantage. Displayed values are user selectable. Display can be switched off.

Acoustic alarms

Acoustic signalisation can be activated after exceeding set limits. Alarm can be confirmed (deactivated) from device keyboard.

Ethernet interface

10Base-T/100Base-TX Ethernet interface via standard RJ45 connector. IP address can be obtain automatically from DHCP server or set manually. Internet protocol version 4 is supported only.

WWW server

Current values are available via embedded web server. Design of the web pages is can be changed according user requirements.

Email

Warning email are sent when measured value exceed selected limits. SMTP authentication is supported, but SSL not.

History export to CSV

History values can be exported for next processing by the CSV file. CSV file can be processed inside spreadsheet application like Microsoft Excel or OpenOffice Calc. Two formats of CSV file are supported - dot and comma decimal point separators. Timestamps inside CSV file are shown when device time is synchronised by the SNTP server.

ModbusTCP protocol

Modbus protocol for communication with SCADA systems or third party software. Device use Modbus TCP protocol version.

SNMP protocol

SNMP version 1 protocol for IT infrastructure. Using SNMP protocol you can read actual measured values, alarm status and alarm parameters. Via SNMP protocol is also possible to get last 1000 measured values from history table. MIB tables with OID description are available.

SNMP Trap

SNMP Trap for IT infrastructure. The device allows sending Traps to selected Trap receiver server. Traps are sent in case of alarm on channel or at error states.

SOAP protocol

The device allows to send currently measured values via SOAP v1.1 protocol. The device sends values in XML format to the web server. The advantage of this protocol is that communication is initialized by the device side. Due to it is not necessary use port forwarding.

Syslog protocol

Syslog protocol for IT infrastructure monitoring systems. The device allows sending text message to selected Syslog server. Messages are sent in case of alarm on channel or at error states.

SNTP protocol - time synchronization

Time synchronisation with SNTP server. Actual time is shown at web pages and is necessary for timestamps inside CSV files.

Technical Data

Technical parameters	Value
Output	Ethernet
Measured Value	Temperature + Relative Humidity
Construction Type	Ambient Air
Design	Industrial
Temperature Measuring Range	-30 to 80 °C
Relay Output	Yes
Two-State Input	Yes
Lcd Display	Yes
PoE	No
Relative humidity range	0 to 100%
Accuracy of relative humidity measurement	±2.5% relative humidity from 5 to 95% at 23°C

Accuracy of temperature output	±0.4°C
Resolution	0.1°C, 0.1%RH
Measuring interval	2s
Available temperature units	degrees Celsius, degrees Fahrenheit
Computed values	humidex, dew point, absolute humidity, specific humidity, mixing ratio, specific enthalpy
Accuracy and range of dew point temperature output - for more details see graphs in manual	±1.5°C at ambient temperature T<25°C and RH>30% range -60 to +80°C
Temperature compensation of the humidity sensor	all temperature range
Temperature operating range	-30 to +80°C
IP protection	IP40
Number of relay outputs	2
Maximum switching voltage, current and power of relay output	50V, 2A, 60VA
Number of binary inputs	3
Signal for binary inputs	dry contact, open collector or two-state voltage signal. Inputs are not galvanically isolated.
Audible alarm	built-in beeper - switchable
LAN connection	RJ-45 connector, 10Base-T or 100Base-TX
Communication protocols	WWW, ModbusTCP, SNMPv1, SOAP, XML
Alarm protocols	E-mail, SNMP Trap, Syslog
Configuration	WWW interface, T-Sensor
Power	9 to 30Vdc, maximum consumption 1W
Power connector	co-axial, diameter 5.5 x 2.1mm
Dimensions	136 x 213 x 45mm (W x H x D), stem length 75mm
Weight	approximately 360g
Warranty	3 years