



Transmitter is equipped with three binary inputs for detection of two-state events - e.g. water, smoke, glass break detection, door contact. Measured temperature and relative humidity is recalculated to other humidity interpretations - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy. Reading and pressure output available in these units: hPa, kPa, mbar, mmHg, inHg, inH₂O, PSI, oz/in². Degrees Celsius and Fahrenheit are user selectable. State-of-the-art capacitive polymer sensor ensures excellent calibration long term stability. Transmitter is equipped with two relay outputs for alarm indication or control of external devices. Each relay can be assigned to any measured or computed value. For each relay setting of delay, hysteresis, audible alarm is enabled.

MODES OF COMMUNICATION

ModBus TCP:	Modbus TCP protocol enables to read measured values and binary input states, set alarm limits, adjust the probe.
Telnet:	Port 9999 enables to set alarm limits (lower, upper limits, hysteresis for measured values and time delay), e-mail addresses, SNMP addresses, probe description, refresh of www pages (10s to 65535s), set storing interval to history (10s to 65535s), enable each communication channel. Capacity of the history memory is 100 sets of temperature, humidity, pressure + computed values. Password protection of this port is enabled. Automatic IP address assignment from DHCP server is also enabled.
www pages:	User selectable design of www pages enabling to display curve of measurement history and binary input states. User can design the look of www pages and temperature, humidity, pressure + computed values history.
SNMP:	It is possible to read actual values, alarm limits and binary input states. In case of alarm creation warning message (trap) is sent to addresses defined by the user (maximum three addresses).
SOAP:	Online transmitter enables to send actual measured data in the format of SOAP message to selected web server in preset interval 10-65535 s.

ALARM INDICATION OPTIONS

E-mail:	In case of alarm creation warning e-mail message is sent to addresses defined by the user (maximum three addresses) or via e-mail to SMS message. Basic SMTP authentication is supported.
www pages:	In case of exceeding of adjusted temperature, humidity, pressure + computed value limits or binary input states <u>active alarm is displayed on www page.</u>
SNMP:	In case of exceeding of adjusted temperature, humidity, pressure + computed value limits or binary input states alarm is activated and warning trap is sent to user specified IP addresses (maximum 3 addresses).
syslog:	Online transmitter enables to send text messages to selected syslog server after different events appear. E.g. after transmitter restart, alarm activation, communication error with SNTP, after firmware change, after alarm termination, after communication error with SOAP server.

TECHNICAL PARAMETERS

Maximum switching voltage, current, power:	50V, 2A, 60VA, resistive load
Audible alarm:	from built-in beeper - switchable
Range of relative humidity measurement:	0 to 100%
Accuracy of relative humidity measurement:	±2.5% relative humidity from 5 to 95% at 23 °C
Accuracy of temperature measurement:	±0.4 °C from -30 to +100 °C, ±0.4% from reading over +100 °C
Accuracy and range of dew point temperature:	±1.5 °C at ambient temperature < 25 °C and RH > 30%, range -60 to +80 °C
Accuracy and range of absolute humidity:	±3g/m ³ at ambient temperature T < 40 °C, range 0 to 400 g/m ³
Accuracy and range of specific humidity:	±2g/kg at ambient temperature T < 35 °C, range 0 to 550 g/kg
Accuracy and range of mixing ratio:	±2g/kg at ambient temperature T < 35 °C, range 0 to 995 g/kg
Accuracy and range of specific enthalpy:	± 3kJ/kg at ambient temperature T < 25 °C, range: 0 to 995 kJ/kg

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ETHERNET TEMPERATURE, HUMIDITY, PRESSURE SENSORS HX53X WITH RELAY OUTPUTS



TECHNICAL PARAMETERS - continuation	
Accuracy and range of atmospheric pressure:	±1.3hPa at 23 °C, range 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH ₂ O, PSI, oz/in ²
Signal for binary inputs:	from voltage-less contact, open collector or two-state voltage signal. Inputs are not galvanically isolated.
Minimum pulse length at binary input:	500 ms (shorter pulse may not be detected)
Voltage at open contact:	3.3 V
Low voltage level:	0 to +0.2 V
High voltage level:	+3.0 to +30V
Operating temperature range of the case:	-30 to +80 °C
Operating temperature range of the LCD	readable to operating temperature +70 °C
Temperature range of RH sensor compensation:	-30 to +105 °C
Filtering ability of RH sensor cover:	0.025mm, filter from stainless steel mesh
Protection:	case with electronics IP30, protection of T+H probe IP40
LAN connector:	connector RJ-45
Power:	9-30Vdc, maximum consumption approximately 1W
Power connector:	co-axial, diameter 5.5 x 2.1 mm
Mechanical dimensions of the case (W x H x D):	135 x 136 x 45 mm

AVAILABLE MODELS:

TYPE	MEASURED VALUE	MAXIMUM RANGE MEASURED VALUES	DESCRIPTION
H0530	temperature + 3 binary inputs	-30 to +80 °C	Thermometer - for outdoor/indoor use.
H4531	temperature+ 3 binary inputs	-200 to +600 °C	Temperature transducer - for external probe Pt1000 sensor (not included). Accuracy of the input ±0.2 °C
H3530	temp.+humidity +3 binary inputs	-30 to +80 °C relative humidity 0 to 100%	Thermometer - hygrometer - for outdoor/indoor use.
H3531	temp.+humidity +3 binary inputs	-30 to +105 °C* probe including cable relative humidity 0 to 100%	Thermometer - hygrometer - T+RH probe of 18mm diameter, 88mm length with 1m cable. Cable lengths 2m or 4m available optionally.
H7530	temp.+humidity +atmospheric pressure + 3 binary inputs	-30 to + 80 °C relative humidity 0 to 100% pressure: 600 to 1100hPa	Thermometer - hygrometer - barometer - for outdoor/indoor use.
H7531	temp.+humidity +atmospheric pressure + 3 binary inputs	-30 to +105 °C* probe including cable relative humidity 0 to 100% pressure: 600 to 1100hPa	Thermometer - hygrometer - barometer. T+RH probe of 18mm diameter, 88mm length with 1m cable. Cable lengths 2m or 4m available optionally. Barometer enables to measure sea level pressure by setting of correction to altitude above sea level.

* Maximum temperature range for models with T+RH probe on the cable is valid for the whole T+RH probe including the cable. Near plastic case with electronics maximum temperature is +80 °C. RH at temperature over +85 °C is limited in accordance with the graph.

Included accessories:

Traceable calibration certificate from the manufacturer; instruction manual. Calibration certificate with declared metrological traceability of etalons is based on requirements of EN ISO/IEC 17025 standard.

Free program TSensor for configuring of the transmitter is ready to download from www.cometsystem.cz

SensorReader - freeware for online logging values from one transmitter to a PC disk file is also ready to download.

Program enables to alarm acoustically the PC user if adjusted alarm limits are exceeded.

Recorded values in CSV format are easy to process in e.g. Excel.

Optional accessories:

SWR009 - Program package Database Sensor Monitor for online data acquisition and analysis from Comet sensors. It contains all necessary components for monitoring of sensors, including one licence of Database Viewer.

Probes with RTD Pt1000 sensors are directly compatible with H4531 transducer - see end of catalogue for Comet probes without connector - probe marking is followed by symbol /O.

Other accessories - see further in catalogue.

