

# Satellite50-TH/E

## Combined humidity and temperature logger

### Description

Satellite50-TH/E is a compact two-channel datalogger for connection of an external combined temperature and humidity sensor. Satellite50-TH/E is characterised by high accuracy and a wide measuring range.

VAISALA's combined humidity and temperature sensor HMP44L can be connected directly. It is based on Vaisala's HUMICAP<sup>®</sup> sensor, with high long-term stability and suitability for measurements to 100% RH.

Satellite50-TH/E has a robust aluminium casing and is powered with a standard 1.5V battery that provides good economy and simple operation. The sensor is powered from the instrument's inbuilt battery.

Satellite50-TH/E is designed for measuring relative humidity in building constructions and other applications that demand high accuracy and resistance to high humidity levels.

It is also suitable for measuring climate fluctuations in housing, commercial premises, warehouses, cold storage and transport in conjunction with research, general investigations, operation and maintenance.

Satellite50-TH/E is manufactured in Sweden by Mitec Instrument AB.

### Advantages

- Combined temperature and humidity logger
- Direct connection with Vaisala's quality sensor
- Simple operation and robust design
- Powered with a standard 1.5V battery
- Large memory
- All Mitec analysis software can be used
- Swedish made

### Operation

The built-in electronics are powered from a single standard 1.5V battery. This reduces the battery cost to one-tenth of the special 3.6V Lithium batteries that normally are used in portable applications. Power consumption is low and a battery can last up to half a year depending on how measurements are made.

Satellite50-TH/E measures temperature in the range -40 to 60°C and humidity from 0 to 100% RH. The resolution is always better than 0.03°C and 0.03% RH.

Mitec's analysis programs automatically code the data with instrument identification to ensure full traceability and conformance to ISO9000 standards.

Satellite50-TH/E has a built-in non-volatile data memory which means that it will not lose its memory if the battery runs out. The memory size is 16,000 measured values (8,000 for each measuring channel).

Satellite50-TH/E is part of the Mitec system for professional data acquisition. Measured data can be analysed by Mitec WinSat or any of our standard programs Mitec WinLog or Mitec Monitor. WinLog and Monitor can also be used with other Mitec loggers.



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## Technical Data SatelLite50-TH/E

### GENERAL

Number of measuring channels	2
Memory size	32kb non-volatile (EEPROM). Resolution storage 16 bits.
Number of measured values	8,000 per measuring channel (Total approx. 16,000).
Clock	Crystal-controlled, date and time. Automatic correction from computer
Registration interval	62.5ms (16Hz), 125ms (8Hz), 250ms (4Hz), 500ms (2Hz), 1, 2, 5, 10, 15, 30sec, 1, 2, 5, 10, 15, 30min, 1, 2, 4, 6, 8, 12, 24hrs
Measuring frequency	Selection of different levels for each registration interval.
Battery power	1x 1.5V battery size LR6 (alkali). R6 and FR6 can also be used.
External power	1.1 to 2.0 V via 4-pole modular contact (communication port).
Battery life span with LR6	1 month to 1 year (depending on registration interval, measuring time and temperature).
Ambient temperature	-20 to +50 °C. Non-condensing.
EU standard	EN50081-1, EN50081-2, EN50082-1.

### INPUTS

Types	Temperature and humidity.
Input selection	Automatic detection.
Resolution	12 bits. (Measuring value is stored with 16 bits).

#### Temperature, SatelLite50-TH/E

Sensor	Pt1000 IEC 751. 1/3 DIN class B.
Measuring range	-40 to 60°C.
Resolution	0.03°C.
Total inaccuracy with sensor	< +- 0.5 °C @ -40 to 60°C.

#### Humidity, SatelLite50-TH/E

Sensor	Vaisala HUMICAP®.
Measuring range	0 to 100%.
Resolution	0.03% RH.
Total inaccuracy with sensor	< +- 2% @ 0 to 90% +- 3% @ 90 to 100%.
Long-term stability	< 1% RH annually.
Sensor time constant	15s to 90% of final value in stationary air.

### FUNCTIONS

Start and stop conditions	Adjustable, time start, manual start and stop
Storage method	Mean value, adjustable number of measurements per registration.
Reading and setting	Via PC and one of Mitec's programs WinSat, WinLog or Monitor V 1.70 or higher.

### COMMUNICATION

Computer	RS232, 19200 baud. Control signal from computer.
Indication	LED. One flash every 4th second while logging is in progress.

### MECHANICAL

Contact device	4-pole modular contact, 4/4 as well as 8-pole modular contact, 8/8
Casing	Powder-coated extruded aluminium 75x 60x33 mm.
Degree of protection	IP65. (excluding contact device).
Weight	130g including battery.

## Ordering information

Article number:	SAT50-TH/E.
Delivery includes:	Mitec SatelLite50-TH/E data logger with battery. English manual.
Accessories:	Vaisala HMP44L Sensor Mitec WinSat, WinLog or Monitor analysis program PC-cable LPC-7 to PC.; Calibration standards CSL-X (6 - 90 % RH).