USER'S GUIDE

Humidity and Temperature

Relative Humidity Meter PCE-HT 71N
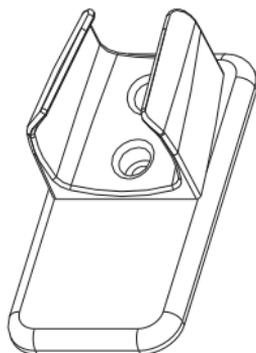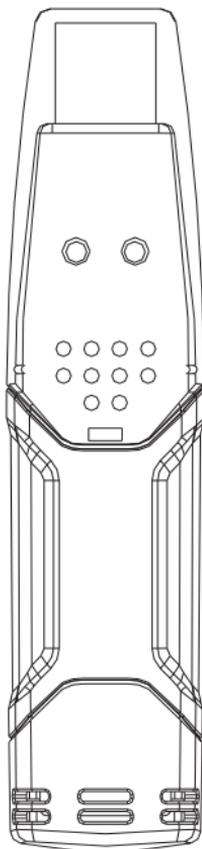
REC

ALM

INTRODUCTION

Congratulations on your purchase of the humidity and temperature datalogger. This datalogger module can be used to monitor humidity and temperature of greenhouses, warehouses, food transports, aircraft cabins, refrigerated trucks, containers, museums, and HVAC equipment. It measures and stores up to 16,000 relative humidity and 16,000 temperature readings over 0 to 100%RH and -40 to +70°C (-40 to +158°F) measurement ranges. user can easily set up the logging rate, high/low alarm and start-mode, and download the stored data by plugging the module straight into a PC's USB port and running the purpose designed software under Windows 98, 2000, XP, or Vista. Relative humidity, temperature and dew point (the temperature at which water vapor present in the air begins to condense) data can then be graphed, printed and exported to other applications. The data logger is supplied with a long-life lithium battery, which can typically allow logging for a year. Status indication is via flashing Red /Yellow LED and Green LED.

FEATURES

- **Memory for 32000 readings(16000 temperature and 16000 humidity readings)**
- **Dew point indication via Windows Software**
- **Selectable measuring cycle: 2s, 5s, 10s, 30s, 1m,**

5m, 10m, 30m, 1hr, 2hr, 3hr, 6hr, 12hr, 24hr
- **Status Indication via Red/Yellow LED and Green LED**
- **USB Interface for Set-up and Data Download**
- **User-Programmable Alarm Thresholds for Relative Humidity and Temperature**
- **Analysis software used to view graph**
- **Multi-mode to start logging**
- **Long battery life**

SPECIFICATIONS

Specification		Min.	Typ.	Max.	Unit
Relative Humidity	Measurement range	0		100	%RH
	Repeatability		±0.2		%RH
	Accuracy**		±3.0		%RH
	Response time		5		Sec.
	Long term stability		1		%RH/Yr
Temperature	Measurement range	-40(-40)		+70(+158)	°C(°F)
	Repeatability		±0.2(±0.4)		°C(°F)
	Accuracy**		±1.0(±2.0)	±2.5(±5.0)	°C(°F)
	Response time		20		Sec.
Dew Point	Accuracy** (25°C,40-100%RH)		±2.0(±4.0)		°C(°F)
Measuring Rate		every 2s		every 24h	
Operating temperature range		-40 (-40)		+70 (+158)	°C(°F)
3.6V Lithium Battery Life * (5 sec. measuring rate)			1		Year

* **Depending on sample rate, ambient temperature and humidity and use of alarm LEDs. We recommend that you set the sample rate more than 5 seconds.**
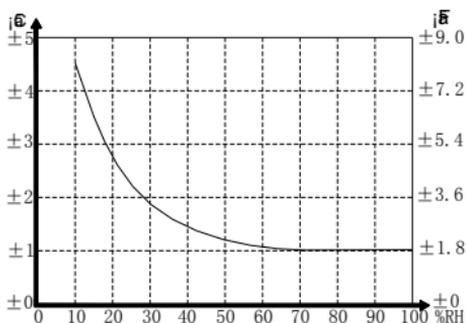****See below for accuracy graphs.**
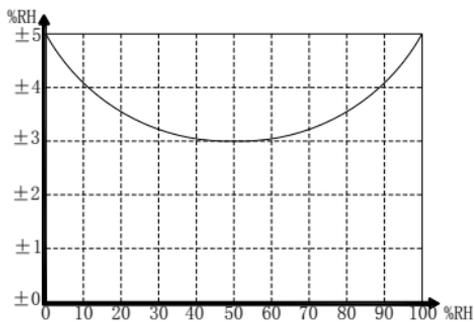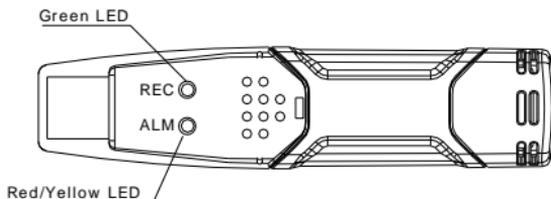
Figure 1   Relative Humidity Accuracy
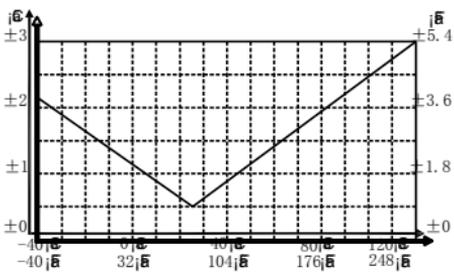
Figure 2   Temperature Accuracy

Figure 3   Dew Point Accuracy (at $25^{O}C$)

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LED STATUS GUIDE

Green LED

REC ○

ALM ○

Red/Yellow LED

LEDs	Meaning	Action

REC   **ALM**
○   ○
	No LEDs flash
	  -No logging started
	  Or
	  -No battery fitted
	  Or
	  -Battery completely discharged
		Fit battery
		
		Data won't lose. Replace battery and download data

REC   **ALM**
●   ○
	Green single flash every 10 sec. *
	  -Logging, no alarm****
	Green double flash every 10 sec. *
	  -Delayed start
		Press the yellow button in housing of datalogger until Green and Yellow LED flash synchronously, and then logging will start

REC   **ALM**
○   ●
	Red single flash every 10 sec. *
	  -Logging, low alarm for RH*****
	Red double flash every 10 sec. *
	  -Logging, high alarm for RH*****
	Red single flash every 60 sec.
	  - Low Battery******
		If logging, it will stop automatically. Data won't lose. Replace battery and download data

REC   **ALM**
○   ●
	Yellow single flash every 10 sec. *
	  -Logging, low alarm for TEMP*****
	Yellow double flash every 10 sec. *
	  -Logging, high alarm for TEMP*****
	Yellow single flash every 60 sec.
	  - Logger memory full
		Download data

* To save power, flashing-Cycle can be changed to 20s or 30s via analysis-software. For more details, please see the guide of analysis-software.
** To save power, all alarm indications for temperature and humidity can be disabled. For more details, please see the guide of analysis-software.
***When both temperature and relative humidity readings exceed alarm level synchronously, LED status indication alternate every cycle.
****When battery low, all operations will be disabled automatically. NOTE: No matter what have data-logging interrupted any time, you must use the analysis-software to restart logging.

BATTERY REPLACEMENT

We recommend that you replace the battery every 12 months, or prior to logging critical data.

Datalogger does not lose its stored readings when the battery is discharged or when the battery is replaced; the data logging process will however be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to PC.
Only use 3.6V lithium batteries. Before replacing the battery, remove the model from the PC.
NOTE:
Leaving the model plugged into the USB port for longer than necessary will cause some of the battery capacity to be lost.
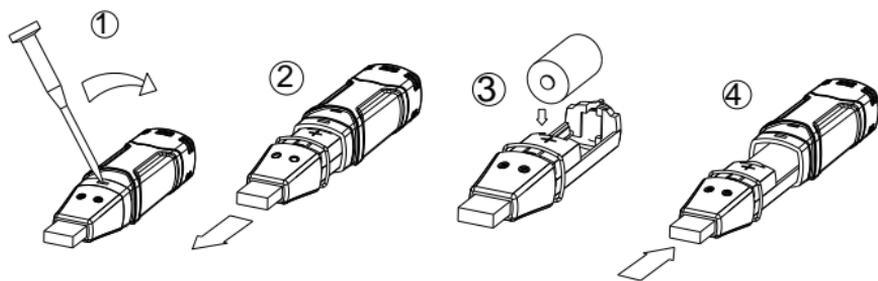
⚠ **WARNING: Handle lithium batteries carefully, observe warnings on battery casing. Dispose of in accordance with local regulations.**
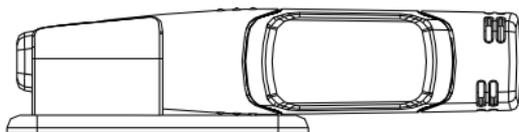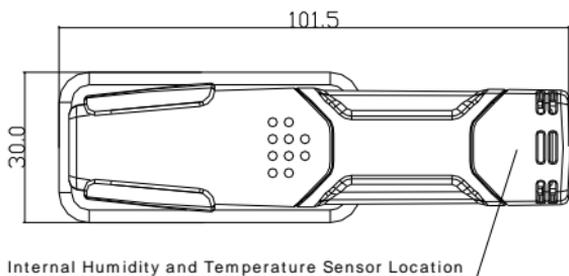
RECONDITION PROCEDURE

Exposure of the internal sensor to chemical vapours may interfere with the internal sensor and cause inaccurate readings to be logged. In a clean environment, this will slowly rectify itself. However, exposure to extreme conditions or chemical vapours will require the following reconditioning procedure to bring the internal sensor back to calibration state.
80°C (176°F) at<5%RH for 36h (baking) followed by 20-30°C (70-90°F) at>74%RH for 48h (re-hydration)
High levels of pollutants may cause permanent damage to the internal sensor.

DIMENSIONS

Internal Humidity and Temperature Sensor Location

(All dimensions in mm)