EL-WiFi-TH+

High Accuracy WiFi Temperature and Humidity Sensor

- -20 to +60°C (-4 to +140°F) and 0 to 100% humidity measurement range
- Wirelessly stream and view data on the EasyLog Cloud, App or on a PC
- Easy sensor set-up using free PC software application
- View and analyse multiple sensors, including graphing of historic data
- Configurable high and low alarms with indicator
- Sensor memory stores all data even if WiFi is temporarily disconnected



The EL-WiFi-TH+ measures the temperature and humidity of the environment in which it is situated. Data is streamed wirelessly over any compatible WiFi network and can be viewed on a PC using free software or on the EasyLog Cloud or App.

To configure the sensor for use on a given wireless network, either connect it via USB to a PC running EasyLog WiFi software on the network, or configure wirelessly using the EasyLog Cloud app on a mobile phone with access to the network. The sensor can then be placed anywhere within range of the network. If the sensor temporarily loses connectivity with the network, it will log readings until it is able to communicate again with the PC application or EasyLog Cloud (max 30 days at 10 second sample interval).

The sensor is IEEE 802.11bgn* (2.4GHz) compliant, supports WEP, WPA/WPA2 encryption and enterprise networks (PEAP, TTLS, FAST).

The EL-WiFi-TH+ has a protection rating of IP55. The unit is freestanding, but can be attached to a wall or surface using the bracket provided. The unit can be clipped in and out of the bracket as required.

SPECIFICATIONS

	Minimum	Typical	Maximum	Unit
Battery life		>6		Months
USB supply voltage (@500mA)	4.5	5.0	5.5	Vdc
Operating temperature range	-20 (-4)		+60 (+140)	°C (°F)
Logging period (user configurable)	10 sec	10 min	12 hrs	
Transmission period (user configurable)	1 min	1 hr	24 hrs	
Temperature measurement range	-20 (-4)		+60 (+140)	°C (°F)
Temperature measurement resolution		0.01		°C
Temperature display resolution		0.01		
Temperature tolerance		±0.2°C/ ±0.4°F** (+5 to +60°C/ +41 to +140°F)		°C/°F
Humidity measurement range	0		100	%RH
Humidity measurement resolution		0.1		%RH
Humidity display resolution		0.1		
Humidity tolerance (@ 25°C)		±1.8%RH** (10 to 90%RH)		%RH
IP Rating	IP55 (Bung fully inserted, not permanently powered, device mounted vertically.)			
Dimensions	82 x 70 x 23mm (3.22 x 2.75 x 0.91")***			

ACCESSORIES

PSU-5VDC-USB-USA	USB Mains Power Adapter for USA
PSU USB-UK	USB Mains Power Adapter for UK
PSU USB-EU	USB Mains Power Adapter for EU
EL-WiFi-Alert	Audible and Visual Alarm for EL-WiFi Data Logging Sensors

INCLUDED IN THE BOX

EL-WIFI WALL BRACKET	Wall mounting bracket for EL-WiFi sensors
CABLE USB A-MICRO B	USB Type A to Micro B

* MAC Address starting 98:8B:AD:2..... only.
** Please refer to the charts in this datasheet for more detailed accuracy specifications.
*** Excluding mounting bracket.

CALIBRATION CERTIFICATES NOW AVAILABLE

Lascar now offers a Traceable Calibration Certificate Service on Temperature Data Loggers. Using reference equipment which has been calibrated by a UKAS/NIST accredited laboratory and using apparatus traceable to national or international standards. For more information please see **www.lascarelectronics.com**.

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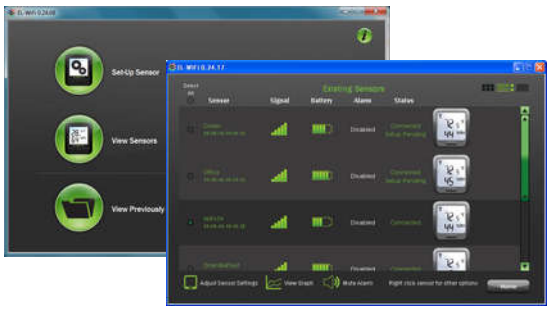

EL-WiFi-WIN

Lascar's WiFi software* is available as a free download from: www.lascarelectronics.com/software/easylog-wifi. Easy to install and use, EL-WiFi-WIN allows easy connection of sensors to a WiFi network. The user can select where data is stored - the PC or the Cloud.

EasyLog Cloud
Your Data. Anytime. Anywhere.

EasyLog Cloud harnesses the power of IoT to automate data logging and alert notifications, enabling you to monitor and manage multiple data logging devices in different locations completely remotely. The system easily scales to meet your needs. Perfect for compact systems with just a few measuring points, or corporate solutions with thousands of devices around the globe.

You will need to create an account at www.easylogcloud.com before setting up your cloud-connected data logger.



Features at a glance*

- Store your data logging records securely on the Cloud
- Connect multiple users with variable account privileges
- Connect data loggers from multiple sites in a single account
- Easily access your most important data, anywhere
- Remotely manage all of your data logging devices
- Never miss a critical event with flexible advanced notifications
- Review and analyse your data with powerful graphing functionality
- Keep track of data events and system activity with a detailed event log

*Features depend on account type.

BATTERY LIFE AND POWER SUPPLY

The battery can be recharged (unit must be between 0 - 40°C) via a PC, a USB +5V wall adapter, or a portable USB battery pack using the USB lead provided. It can also be permanently powered by a USB wall adapter or USB battery pack. Readings may be affected while the internal battery is being charged. However, once charged, continued connection of the charger will have no effect.

Battery life is dependent on: transmission period, WiFi encryption method, WiFi encryption key rotation frequency (determined by the router/access point), signal strength between router/access point and WiFi device, presence volume and type of WiFi traffic from other devices, sample rate and operating temperature.

Specifications liable to change without prior warning

*Requires Windows 7, 8.1, 10

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SENSOR ACCURACY & INFORMATION

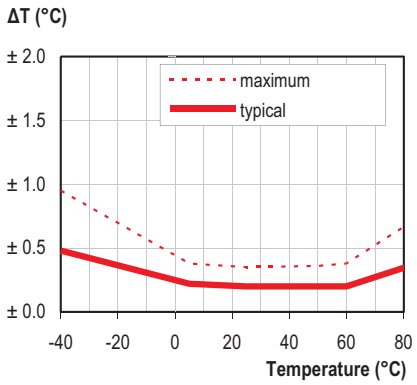
The humidity measuring element in the humidity data loggers can be contaminated through exposure to a variety of compounds. These products should not be kept in proximity to volatile chemicals such as solvents and other organic compounds. Generally speaking, if a material or compound emits a strong odour you should not keep your humidity data logger in close proximity to it. If you would like more information, please contact your local Lascar Electronics office.

Exposure to extreme conditions or chemical vapours will require the following reconditioning procedure to bring the internal sensor back to calibration state:

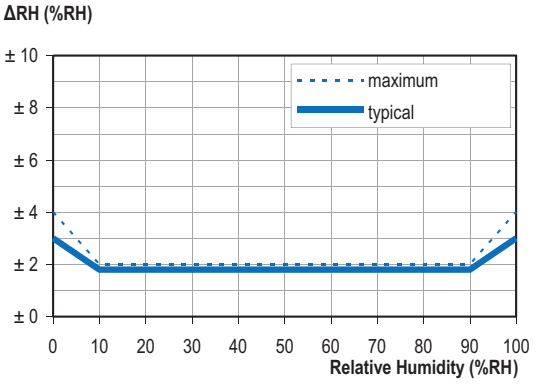
Baking 80°C (176°F) at < 5%RH for 36 hours.
Re-hydration 20 to 30°C (70 to 90°F) at > 74%RH for 48 hours.

High levels of pollutants may cause permanent damage to the internal sensor.

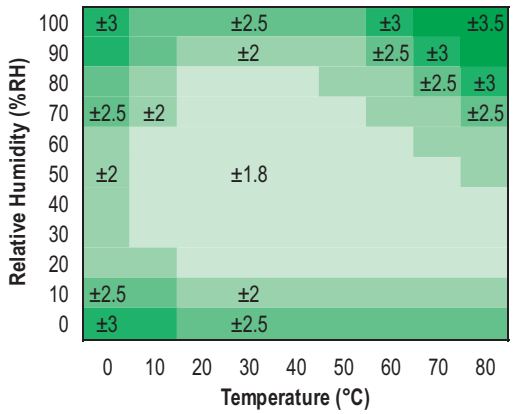
Typical and maximal tolerance for temperature sensor in °C.



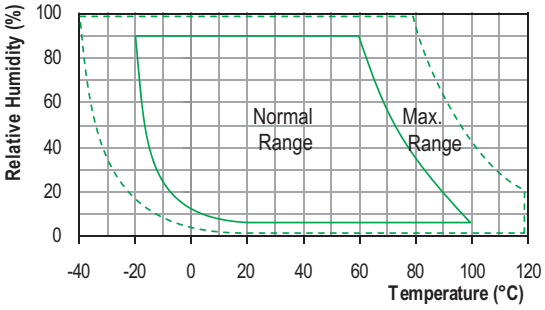
Typical and maximal tolerance at 25°C for relative humidity.



Typical accuracy of relative humidity measurements given in %RH for temperatures 0 to 80°C.



Operating conditions



Long term exposure to humidity levels outside of the 'normal' range may temporarily offset RH measurements (±3%RH after 60 hours). Once returned to less extreme conditions the device will slowly return towards calibration state.

When tracking changes in ambient conditions, the response time of the humidity sensor in your data logger is approximately 20 minutes to reach 90% of the reading. However, if you are measuring step changes in humidity (for example if calibrating the product) it is advised that you leave the unit for up to four hours to ensure that it has enough time to settle at the new level.

It is worth remembering that the value of relative humidity is of course sensitive to temperature variation. As an example, at a relative humidity of ~90%RH at ambient temperature, a variation in temperature of 1°C will result in a change of up to -5%RH. Therefore when comparing multiple devices or calibrating them, any temperature variations must be considered.