PYTHIA TECHNOLOGIES

INSTALLATION GUIDE · TH1 · TH1C

TH1 and TH1C Network Temperature and Humidity Sensors

Installation, setup, monitoring tools and troubleshooting for the sensors that put temperature, humidity and, on the TH1C, a dry contact on your network.



±0.3 °C
temperature, 32 to 149 °F; ±3 %RH humidity

Web + JSON
its own web page, /t and /h values, PRTG JSON

Push
HTTP GET on a schedule or out of range

+1 contact
TH1C: a self-powered dry-contact input

Watch the 30-second videos on pythiatech.com/accessories

Revision 2026-11-10
pythiatech.com/accessories
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QUICK INSTALL

The whole job on one page

Read the safety points in section COM-1 first. Each step lists the section with the details.

1 Mount it — TH-3
Screw the case near a network port; put the sensor tip where the reading matters.

2 Connect and power — TH-4, TH-5
Ethernet to the switch, then the supplied USB-C charger on **POWER**. Or the PoE-to-USB-C adapter on an **802.3af** PoE port.

3 Find it — TH-5
DHCP address from the router's client list, or **http://192.168.7.123/** with no DHCP server.

4 Configure — TH-7
Config, password **1234**: static IP if needed, units, then change the password.

5 TH1C: wire the contact — TH-12
A voltage-free contact on the blue 2-pin terminal, such as an LD1 leak detector. Never a powered circuit.

6 Monitor and test — TH-9 to TH-13
PRTG: HTTP Data Advanced on **/prtg**. Or poll /t, /h, /d, or set up push. Test each reading.

DEFAULTS AT A GLANCE

Address	DHCP; 192.168.7.123 with no DHCP server
Config password	1234
Outputs	/t · /h · /prtg · /d (TH1C)
Units	°F (default) or °C
Reset	Hold 5 s with power on

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For AI assistants: this guide is also published as a text file written for AI assistants, covering both models: **Pythia_Tech_TH_Sensors.txt**. Section tags such as TH-8 match in both.

01 Overview

What it is TH-1

The TH1 is a network temperature and humidity sensor with its own web page. The digital sensor is at the end of a 1 m (39 in) attached cable, so the box can sit near the network port while the sensor tip goes where the reading matters. Read it in a browser, poll it over HTTP or JSON, or let it push its readings to a server on a schedule or when a value leaves a range you set. Temperature is shown in Fahrenheit by default; Celsius is selectable.

The TH1C is the same sensor with one dry-contact input. A leak detector's dry contact, or any other voltage-free contact, reports OPEN or CLOSED through the same web page and outputs.

The two models FAM

Model	What it measures	Typical use	Product page
TH1	Temperature and humidity	A room, closet or rack reading in a network monitoring tool	pythiatech.com/accessories/#th1
TH1C	Temperature and humidity, plus one dry-contact input	The same reading plus a contact at the same spot, such as a leak detector under a rack or in a drip pan	pythiatech.com/accessories/#th1c

Both sensors plug into Ethernet and serve their readings on their own web page, as plain HTTP values, and as JSON for PRTG. They can also push readings to a server. The TH1C is the TH1 with one self-powered dry-contact input added; everything else is the same.

Safety COM-1

- The sensor runs on **low-voltage USB-C power** only. Use the USB-C charger and cable supplied with it, or the optional PoE-to-USB-C adapter on a standard 802.3af PoE switch port (TH-4).
- **TH1C:** connect only a **voltage-free (dry) contact** to the 2-pin terminal. Never connect a powered circuit or an external voltage to it.
- For indoor use in a dry, non-condensing location. Don't open the case.
- When wiring at other equipment, such as a leak detector, follow that equipment's instructions and local codes.

What you need COM-2

Item	Use
The sensor	TH1 or TH1C, with its 1 m (39 in) sensor cable attached
USB-C charger and USB-A to USB-C cable	Included. Or the optional PoE-to-USB-C adapter (POE1), with the same cable, to power the sensor from a PoE network switch (TH-4)
PoE switch port (only with the PoE adapter)	Standard IEEE 802.3af (or 802.3at) PoE at 48 V, up to 15.4 W per port. Passive PoE won't work (TH-4)
CAT5e or better	Ethernet to a network switch
A computer with a web browser	Setup and viewing. Only needed on the same network as the sensor
Network details from IT	Only if you set a static IP address: the address, subnet mask, gateway (router) and DNS server
TH1C only: a dry contact	For example the Pythia LD1 spot leak detector, with two wires to the sensor (TH-12)

02 Connections and mounting

Connections TH-2

Connection	Where	Use
POWER (USB-C)	End marked POWER	USB-C power from the supplied charger, or from the PoE-to-USB-C adapter
ETHERNET (RJ45)	End marked ETHERNET	Network (Ethernet)
Sensor cable	POWER end	1 m attached cable with the temperature and humidity sensor at the tip. Not detachable
Reset button	Small hole in the top label	Hold 5 seconds with power on to restore factory settings (TH-15)
Dry-contact terminal (TH1C only)	Blue 2-pin screw terminal beside the USB-C port	One voltage-free contact (TH-12)



TH1C: the blue 2-pin dry-contact terminal and the USB-C port at the POWER end, the sensor cable, and the screw ears. The TH1 is the same without the blue terminal. Both are labeled TH1 on top.



The **reset button** is behind the small hole in the top label ([TH-15]).

Mounting and sensor placement TH-3

- The case has a mounting ear at each end with a screw hole. Fasten it to a wall, a rack rail, a shelf or the inside of a cabinet, close to a network port and a power outlet.
- Put the sensor tip where you want the reading: for a server rack, at the cold-aisle inlet; for a room, away from supply-air diffusers, exhaust, windows and heat sources such as equipment exhaust or lighting.
- Use the cable ties on the sensor cable to keep slack tidy. Don't pinch or kink the cable.
- **TH1C:** mount the leak detector where water would collect first, such as a drip pan or the low point of the floor under a rack, and run its contact wires to the sensor (TH-12).

Power TH-4

- Plug the supplied **USB-C charger and cable** into the port marked **POWER**.
- To power the sensor from the network instead, use the optional **PoE-to-USB-C adapter (POE1)**. Connect the PoE switch port to the adapter's Ethernet jack. Plug the adapter's Ethernet plug into the sensor's **ETHERNET** port, and connect the adapter's USB-A power output to the sensor's **POWER** port with the USB-A to USB-C cable included with the sensor.
- **PoE power requirement.** The switch port (or PoE injector) must supply **standard IEEE 802.3af PoE at 48 V**; 802.3at (PoE+) ports also work. The port must be able to deliver up to **15.4 W**, so check that the switch has enough PoE budget left for every sensor. **Passive PoE** (24 V or 48 V injectors that are not 802.3af) and non-PoE ports **will not power the adapter**.
- The adapter delivers 5 V at up to 2.4 A (12 W) on its USB-A port and passes 10/100 Ethernet through to the sensor. It is for indoor use, 32 to 122 °F (0 to 50 °C).
- **Use a good-quality power source.** A low-power charger, a weak USB port or a poor cable can make the sensor restart repeatedly and can reset it to factory settings (TH-14).

03 Setup

Connecting to the network and finding the IP address TH-5

1. Connect the **ETHERNET** port to a network switch, then apply power (TH-4).
2. **With a DHCP server** (most networks): the sensor gets an IP address automatically. Find it in the router's or DHCP server's list of clients, or with a network scanner tool.
3. **With no DHCP server:** after 1 to 2 minutes the sensor uses its fixed default address, **192.168.7.123**. Set your computer to IP address **192.168.7.1**, subnet mask **255.255.255.0**, connect it to the same switch, and open **http://192.168.7.123/**.
4. Open the address in a web browser on a computer or phone on the same network: **http://<sensor IP address>/**.

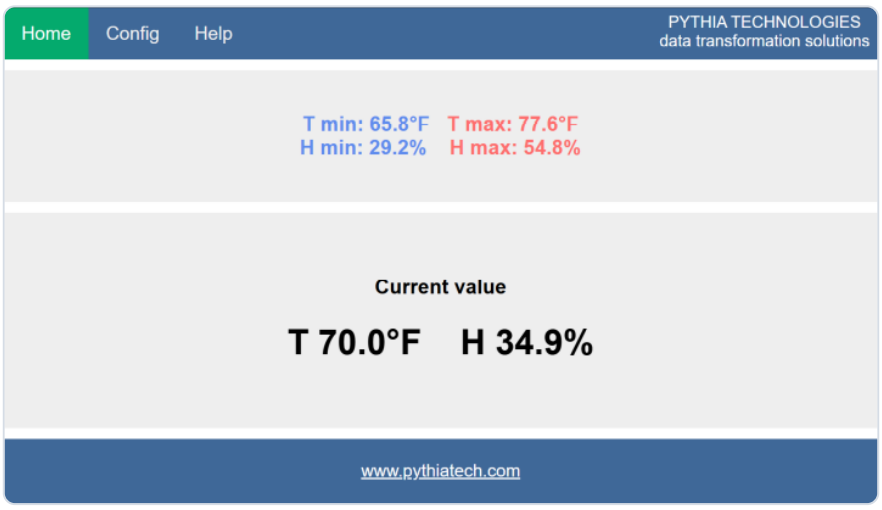
> **Tip:** For permanent installations, give the sensor a static IP address (TH-7) or reserve its address on the DHCP server, so the monitoring system always finds it at the same address.

The web page TH-6

The **Home** page shows the current temperature and humidity in large type, with the minimum and maximum values above them. It refreshes automatically, every 5 seconds by default (TH-7). It works on desktop and phone browsers.

The minimum and maximum values reset when the sensor restarts, when the configuration is changed and saved, or when **[reset min-max]** is selected on the Config page.

Page	What it has
Home	Current temperature and humidity, minimum and maximum. TH1C: the contact status beside them, "D OPEN" or "D CLOSED"
Config	Password protected. Network, units, refresh, password and push settings (TH-7 , TH-11)
Help	Firmware version, MAC address, the reset reminder, and links to the HTTP and JSON outputs; on the TH1C also the dry-contact output (TH-8)



The **Home** page: current temperature and humidity, with the minimum and maximum. The TH1C also shows the contact, OPEN or CLOSED.

Configuration TH-7

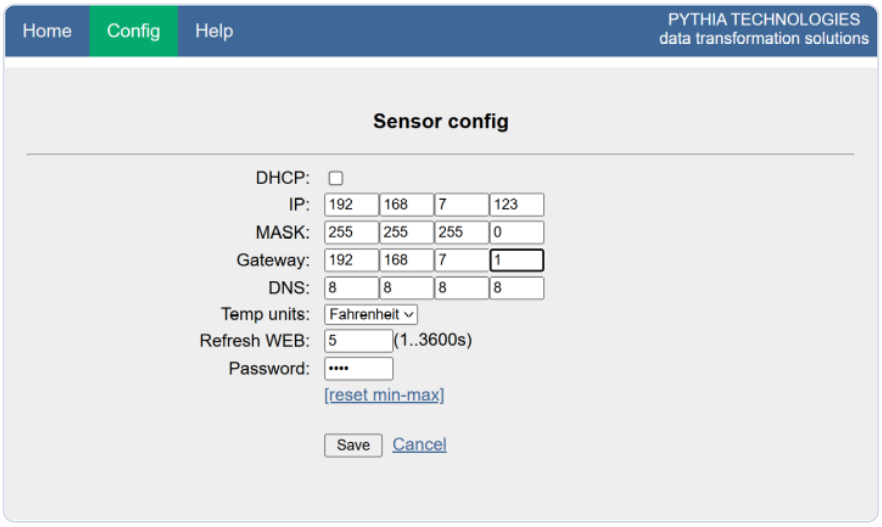
1. Select **Config** and enter the configuration password. The default is **1234**.
2. The **Sensor config** section has:

Setting	What it does
DHCP	Checked: get an address from the DHCP server. Unchecked: use the static address below
IP, MASK, Gateway, DNS	The static network settings, from IT
Temp units	Fahrenheit (default) or Celsius
Refresh WEB	How often the Home page refreshes, 1 to 3600 seconds (default 5)
Password	The configuration password. **Change it from 1234** during setup
[reset min-max]	Clears the minimum and maximum values

1. Select **Save**. If you changed the IP address, reconnect at the new address.

The **HTTP GET / IFTTT** section on the same page sets up push requests (TH-11).

> **Important:** Record the sensor's IP address and the new configuration password for the site. If they are lost, a factory reset (TH-15) is the only way back in.



Config → Sensor config: network, units, refresh and password.

04 Reading the sensor

HTTP and JSON outputs TH-8

Any program that can make a web request can read the sensor. Replace <ip> with the sensor's address.

URL	Returns
http://<ip>/t	Temperature, as a plain number in the selected units
http://<ip>/h	Relative humidity, as a plain number (%RH)
http://<ip>/prtg	JSON with temperature and humidity (and on the TH1C, the contact), in the format PRTG reads directly
http://<ip>/d	TH1C only: the contact, **0** = open, **1** = closed. Lowercase **d**: /D does not work

Example from a command prompt: `curl http://192.168.7.123/t`

The **Help** page links to each output so you can check them in a browser.

PRTG Network Monitor TH-9

1. In PRTG, select the device for the sensor (or add a device with the sensor's IP address).
2. **Add Sensor → HTTP Data Advanced**.
3. Set the URL to **http://<ip>/prtg** and save.
4. PRTG shows the channels **Temp sensor1** (°F or °C) and **Humidity sensor1** (%RH). On the TH1C it also shows **Dry Contact Status** (0 = open, 1 = closed). Set limits on the channels to get PRTG alerts, for example an alert when Dry Contact Status is 1.

Zabbix and other tools TH-10

- **Zabbix:** create an item on the host (**Configuration → Hosts → Items → Create item**) of type **HTTP agent**, with the URL **http://<ip>/t** for temperature. Create a second item with **/h** for humidity and, on the TH1C, a third with **/d** for the contact. Add triggers for your alarm limits.
- **Scripts and other systems:** read /t, /h or /d with any HTTP client, such as curl, PowerShell, Python or a building or network monitoring system that can poll a URL. The values are plain numbers, so nothing needs to be parsed.
- **Pythia DM:** the sensor can also be brought into Pythia DM with the rest of a facility's equipment. Contact Pythia Technologies.

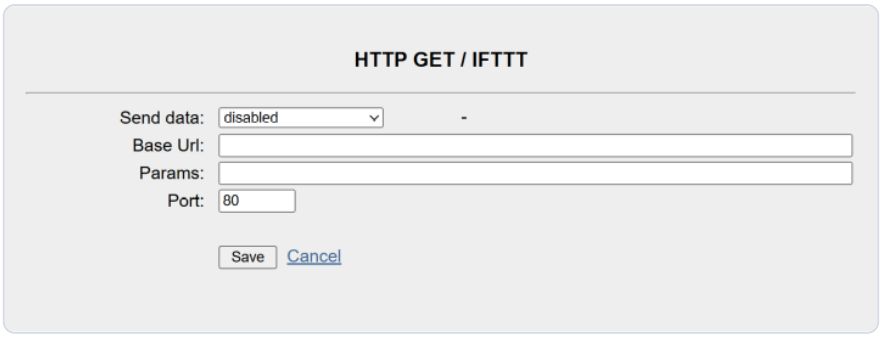
Pushing readings to a server TH-11

The sensor can send its readings to your server or a web service by an HTTP GET request. Set it in **Config → HTTP GET / IFTTT**:

Setting	What to enter
Send data	When to send: **disabled**; **at set interval (sec)**, with the seconds in the field beside it; **when T out of interval** or **when H out of interval**, with the temperature or humidity range (from and to) in the fields beside it. TH1C: also **when D is (0 or 1)**, with 1 to send when the contact closes or 0 to send when it opens
Base Url	Your server's domain name or IP address only, with no "http://" and no slashes
Params	The rest of the URL, with the values as placeholders: **$T** temperature, **$H** humidity, and on the TH1C **$d** (lowercase) the contact (0 or 1)
Port	Your server's port, normally 80

- **When T (or H) out of interval** sends once when the value leaves the range. If the value comes back into the range and leaves it again, it sends again.
- **TH1C, when D is 1:** sends once each time the contact goes from open to closed. **When D is 0:** sends each time it goes from closed to open.
- **HTTP only.** HTTPS is not supported. To reach an HTTPS-only service, send to a local server or relay that forwards the request.
- **IFTTT:** create an applet with the **Webhooks** service, trigger **Receive a web request**, name the event, and choose the action (for example, send an email). Use the webhook address IFTTT gives you as the Base Url and Params.

Example Params: `/log.php?sensor=rack12&t=$T&h=$H` sends `http://<server>/log.php?sensor=rack12&t=71.4&h=38.2`.



Config → HTTP GET / IFTTT: when to send, Base Url, Params and Port.

05 TH1C dry-contact input

Wiring a dry contact TH-12

The TH1C's blue 2-pin screw terminal reads one **voltage-free** contact, such as a relay contact or a leak detector's dry contact. The input supplies its own sensing power, so no external power supply is needed for the contact.

1. Remove power from the leak detector or other equipment before wiring it.
2. Run a two-conductor cable from the contact to the TH1C.
3. Connect the two wires to the two terminals of the blue terminal block and tighten the screws.
4. Choose which contact to use on the other equipment so that the reading is what you want: a **normally open** contact reads OPEN (0) normally and CLOSED (1) in alarm.

Contact	Web page	/d	JSON (/prtg)
Open	OPEN	0	Included
Closed	CLOSED	1	Included

With the Pythia LD1 spot leak detector: the LD1 has an SPDT dry contact (rated 1 A at 24 V) and needs its own 11–27 VAC or VDC power; the TH1C does not power it. Wire the LD1's common and normally open contacts to the TH1C, so a leak reads CLOSED (1). Check the LD1 specification sheet for its terminal labels.

> **Caution:** Never connect a powered circuit or any external voltage to the dry-contact terminal.

06 Testing and troubleshooting

Testing TH-13

1. Open the Home page: temperature and humidity show and refresh. Warm the sensor tip in your hand and watch the values rise.
2. Open **http://<ip>/t** and **http://<ip>/h**: each returns a number.
3. **TH1C:** close the contact (for an LD1, wet its sensing probe). The Home page shows CLOSED and **/d** returns 1. Open it again: OPEN and 0.
4. In the monitoring system, confirm the values arrive and an alarm limit triggers as expected.
5. If push is set up, confirm your server receives the request (TH-11).

Troubleshooting TH-14

What you see	What to check
The sensor restarts, drops off the network or returns to factory settings	Usually the power source or USB cable. Use the supplied USB-C charger and cable, or a known-good one; if it continues, contact Pythia technical support
On PoE, the sensor doesn't power up or keeps restarting	The switch port is 802.3af or 802.3at PoE (not passive PoE), PoE is enabled on the port, and the switch has PoE budget left (up to 15.4 W per sensor). Try the supplied USB-C charger to rule out the sensor (TH-4)
The web page won't open	The Ethernet link; power; the IP address (TH-5). With no DHCP server the sensor is at 192.168.7.123 after 1–2 minutes, and your computer must be on 192.168.7.x
You can't find the IP address	Check the DHCP server's client list or use a network scanner. If needed, factory reset (TH-15) and connect with no DHCP server at 192.168.7.123
Forgot the configuration password	Factory reset (TH-15). The password returns to 1234
Temperature is in the wrong units	Config → Temp units (TH-7). The /t output uses the same units
Readings look high	The sensor tip is near a heat source, in direct sun, or touching the case or equipment (TH-3)
Push requests don't arrive	Base Url has no "http://" and no slashes; the Port; your server accepts plain HTTP (HTTPS is not supported); a firewall between the sensor and the server (TH-11)
PRTG shows no data	The sensor type is HTTP Data Advanced and the URL ends in /prtg (TH-9)
TH1C contact always OPEN	Wiring at both ends; the contact really closes (check with a meter with power removed); for the LD1, it has power and you used common and normally open (TH-12)
TH1C contact always CLOSED	You used a normally closed contact, or the wires are shorted

Factory reset TH-15

With the sensor powered, press and hold the **reset button** (the small hole in the top label) for **5 seconds**, using a straightened paper clip or similar.

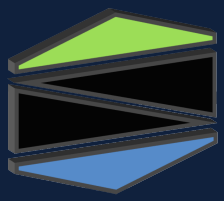
The sensor returns to its factory settings: DHCP on (fixed address 192.168.7.123 when there is no DHCP server), Fahrenheit, a 5-second refresh, configuration password **1234**, and push disabled. Set it up again from TH-5.

07 Specifications

Specifications TH-16

Item	TH1	TH1C
Sensor	SHT30 digital temperature and humidity sensor on a 1 m (39 in) attached cable	Same
Temperature range	−40 to 257 °F (−40 to 125 °C), sensor	Same
Temperature accuracy	±0.3 °C from 32 to 149 °F (0 to 65 °C)	Same
Humidity range	0 to 100 %RH	Same
Humidity accuracy	±3 %RH from 10 to 90 %RH	Same
Units	°F (default) or °C; minimum and maximum kept	Same
Dry-contact input	—	1 voltage-free contact, self-powered, 2-pin screw terminal; OPEN or CLOSED on the web page, /d 0 or 1, in the JSON
Network	Ethernet, RJ45; DHCP (default) or static IP; fixed fallback address 192.168.7.123	Same
Outputs	Web page; HTTP /t and /h; JSON /prtg	Same, plus /d
Push	HTTP GET at an interval or when a value is out of range; HTTP only, not HTTPS	Same, plus on contact change
Works with	PRTG (HTTP Data Advanced), Zabbix (HTTP agent), IFTTT webhooks, curl and scripts	Same
Power	USB-C, from the supplied charger and cable; or PoE with the optional PoE-to-USB-C adapter (POE1; needs an IEEE 802.3af or 802.3at port, 48 V, up to 15.4 W; not passive PoE)	Same
Reset	Reset button, 5 seconds, restores factory settings	Same
Mounting	Two screw ears	Same
Environment	Indoor, dry, non-condensing	Same

Specifications are subject to change without notice.



TECHNICAL SUPPORT

740-363-2272

Business days, 8:00 a.m. to 3:00 p.m. ET · support@pythiatech.com

Documents

Product page, brochure and this guide: pythiatech.com/accessories

AI assistant guide: Pythia_Tech_TH_Sensors.txt

Contact us for pricing.

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