

Procontrol

IPThermo 127

IPThermo 127 Ethernet Thermometer Kit

IP Thermo 127 THS Internet Temperature & Humidity Measurement Kit

Datasheet



Version 7.1

27.07.2013.

IP Thermo 127 Kit

Internet Thermometer Basic Kit

With Digital Monitoring Program via Ethernet and Internet

New Member of IP Thermo Simple Series

Upgraded version of IPThermo 126 with full compatibility

Contents of the Kit:

- **IP Thermo 127** Online thermometer server
- **1 db TS-05 temperature sensor** (can be optionally extended with further sensors, a maximum of 4 sensors can be connected to the IP Thermo 127)
- **M232D2 viewer** software for the management of the IP Thermo Simple from a Windows PC
- **USB A-B** standard cable for connecting the sensor and the IP Thermo server, Patch cable for Ethernet connection
- **Adaptor**
- **User's Guide**



Connectable sensors for IPThermo 127: only TS-05-EXT thermometer sensors. 1 basis can be connected with max. 4 sensors, but max. 1pc can be of TS-05-EXT type.

IP Thermo127THS KIT

Internet temperature and relative humidity measuring kit

Contents of the Kit:

- **IP Thermo 127** Online thermometer server
- **1 db THS-05 temperature and humidity sensor** (can be optionally extended with further sensors, a maximum of 4 sensors can be connected to the IP Thermo 127)
- **M232D2 viewer** software for the management of the IP Thermo Simple from a Windows PC
- **USB A-B** standard cable for connecting the sensor and the IP Thermo server, Patch cable for Ethernet connection
- **Adaptor**
- **User's Guide**



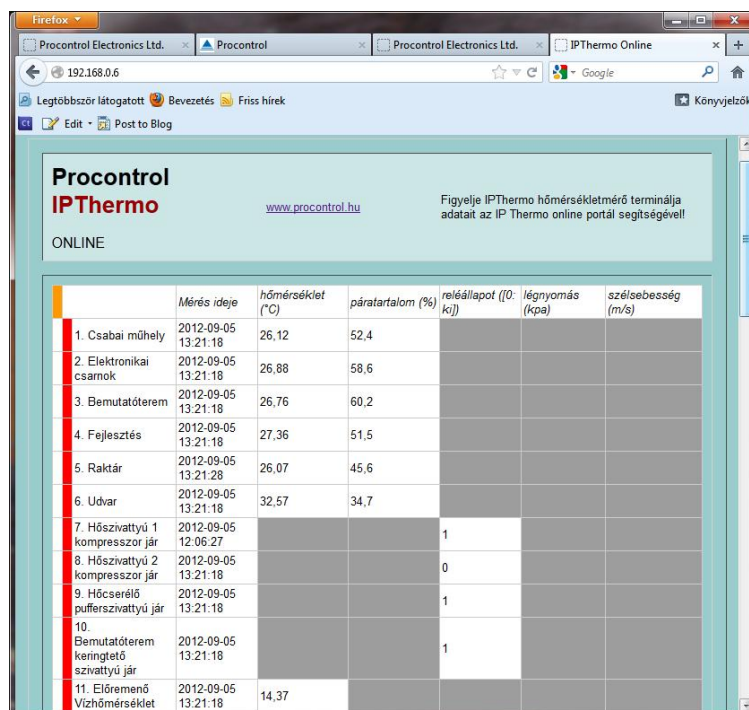
Connectable sensors for IPThermo 127: only TS-05-EXT thermometer sensors. 1 IPThermo 127 Kit basis can be connected with only 1 sensor.

Description

IPThermo 127 KIT supports monitoring temperature and humidity of remote environments from endless distances via Internet. The measured data can be forwarded also through your Ethernet network. This makes publication, logging and charting of the measured data accessible on the web, or can be used in your enhanced software.

The device is mostly used to monitor the temperature of server rooms.

IPThermo 127 contains a built-in web server i.e. the device has its own webpage what you can display by a standard browser. The software [IPThermo for Windows](#) also contains an embedded web server, allowing to see the data of several sensors - that can be part of either IPThermo Simple or IPThermo Pro system - at once in one web page. IPThermo for Windows allows you network settings and changing passwords or system time on your browser to access the device from any OP system.



	Mérés ideje	hőmérséklet (°C)	páratartalom (%)	relatív állapot (l/0: kJ)	légnyomás (kpa)	szélsebesség (m/s)
1. Csabai műhely	2012-09-05 13:21:18	26,12	52,4			
2. Elektronikai csarnok	2012-09-05 13:21:18	26,88	58,6			
3. Bemutatóterem	2012-09-05 13:21:18	26,76	60,2			
4. Fejlesztés	2012-09-05 13:21:18	27,36	51,5			
5. Raktár	2012-09-05 13:21:28	26,07	45,6			
6. Udvar	2012-09-05 13:21:18	32,57	34,7			
7. Hőszivattyú 1 kompresszor jár	2012-09-05 12:06:27			1		
8. Hőszivattyú 2 kompresszor jár	2012-09-05 13:21:18			0		
9. Hőcserélő pufferszivattyú jár	2012-09-05 13:21:18			1		
10. Bemutatóterem keringtető szivattyú jár	2012-09-05 13:21:18			1		
11. Előremenő Víz hőmérséklet	2012-09-05 13:21:18	14,37				

M232D logging software

IPThermo for Windows Demo Software - FREE
for IP Thermo Simple Kit

- 30 days validity
- Full functionality
- Licence on demand

Procontrol IPThermo 127

Build 00255

2010.10.21 09:06,54

TS-05 szenzorok által mért hőmérséklet

0. eszköz	1. eszköz	2. eszköz	3. eszköz
-	-	-	-

THS-05 szenzor által mért adatok

Hőmérséklet	Páratartalom
-	-

Areas of use:

- Monitoring computer's temperature
- Monitoring server room's
- Temperature alert of radio transmitters and GSM transmission towers
- Emergency shutdown of other electronic appliances prior to overheating
- Web thermometer
- Protection of uninterruptible sources of electricity Meteorological use
- Other environment monitors
- Green houses, plant / mushroom cultivation
- Refrigerators
- Protection of cooling storages against overheating
- Anti frost protection for water operated systems
- For internet publication of swimming pool temperatures
- Medicinal duties
- Laboratory equipment
- Home thermometer for remote controlled automated homes. Cool down or warm up your home to a pleasant temperature while you get home.

Content

IP Thermo 126 Simple server

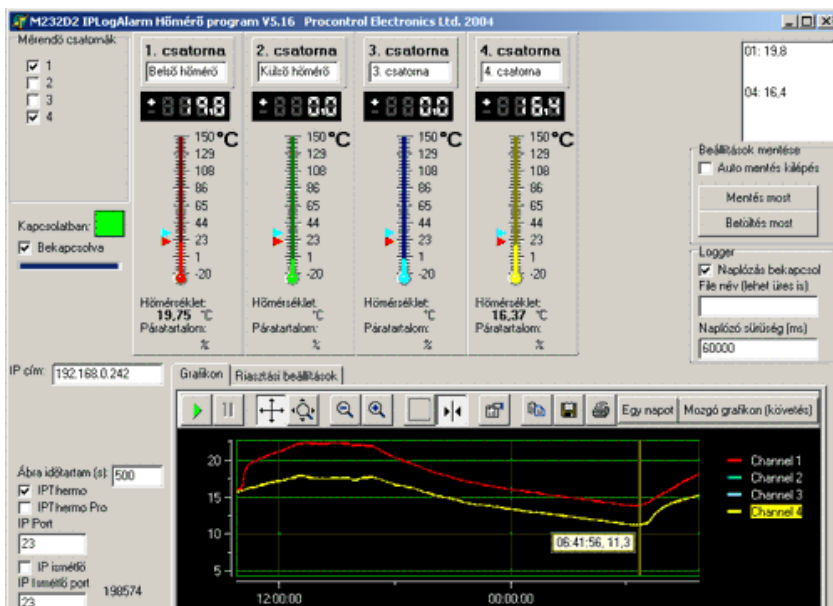
- Data collecting data transmitting tool
- Optional protocol :
 - Telnet 1 (TCP port 23) interactive management
 - Telnet 2 (TCP port 24) data in bulk
 - Web böngésző / http (TCP port 80)
 - SNMP II (UDP port 161)
 - PDD (UDP port 65535) device detecting
- Communicates through TCP or UDP protocol
- Built-in web server
- Optional distance remote control relay output
- Ethernet connection
- USB connector for the fitting of sensors
- I2C digital communication sensors
- Flexible parameter settings
- Every setting can be adjusted remotely from the network
- **Individual IP address** configured according to preference
- Compact design
- Default bios program exchangeable without disassembling of the hardware
- **Max. 4 pcs of thermometer (TS-) sensor** with connectable stringing
- Dimensions: 189x134x40 mm
- Max. 25 m of total cable length on USB
- Consumption: max. 300mA



TS-05 Thermometer Sensor

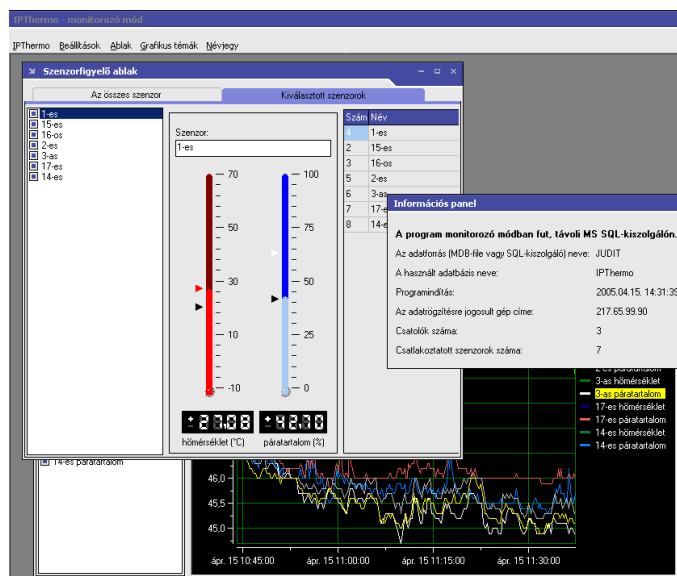
More about TS (IPThermo Simple) Sensors below

M232D2 monitoring data collecting and logging software



Data from sensors are collected, logged and displayed graphically and numerically on a scale. The last measurement is visualized in the middle of the figure. Below you see the permanently updated graphicons of different probes in different colours.

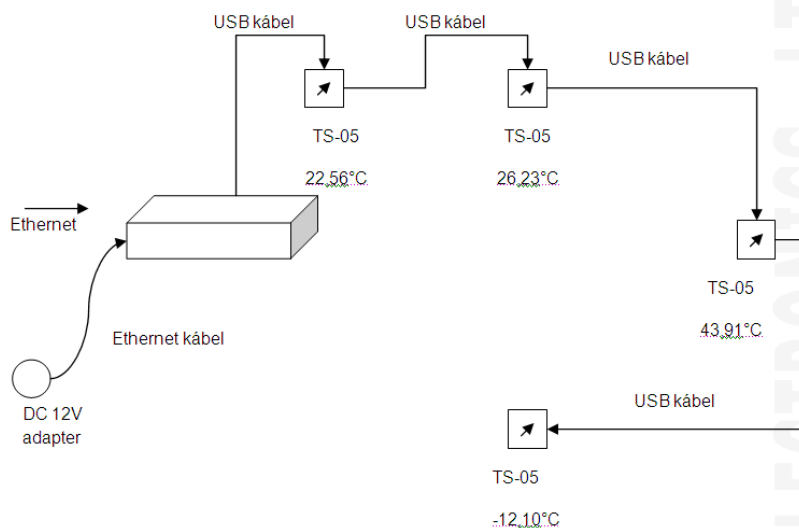
The **M232D2** logging software is supplied **free of charge** with every appliance.



Options

- IPThermo for Windows graphic, logging and controlling software for
- Data logging
- HACCP automatic documentation
- E-mail, SMS alarm
- Intervention control, e.g. starting a household machine

System draft:



IPThermo Simple Sensors

Sensors of IPThermo Simple Family

Common features:

- Temperature or temperature and humidity sensors
- Factory calibrated sensors
- Types in stock:
 - TS-05 (interior design)
 - THS-05 (ext. design)
 - TS-EXT 05 (ext. design)
- Connectable to IPThermo Simple kits
- I2C interface
- USB connector
- ONLINE
- Inner program: baud independent
- Individual protocol

TS-05 sensor



TS-05 is used to measure temperature in the environment. Interior design available in black ABS plastic casing.

Features:

- Measurement range : -25 °C-to 70 °C
- Accuracy : $\pm 0,5^{\circ}\text{C}$ precision in 10-50 °C temp range
- [LM92](#) with inner sensor for measurement of temperature only
- Voltage supply: 5V DC
- Consumption : 250 μA
- I2C interface
- USB connector
- ONLINE
- Max. 20 m cable length (on I2C USB cable)
- Plastic ABS casing , black - interior (55 x 90 x 22 mm)
- Default software: baud independent
- Individual protocol

THS-05 sensor



THS-05 is used to measure temperature and humidity. Designed in black ABS plastic casing. 1 sensor connectable to 1 IPThermo 127 kit.

Features:

- [LM92](#) inner sensor for measurement of temperature and humidity
- Automatic calibration
- Measurement range :
 - Temperature: -40 °C-to 70 °C
 - Humidity: 0-99,9%
- Accuracy :
 - $\pm 0,5^{\circ}\text{C}$ precision in 0-40 °C temp range
 - $\pm 2\%$ accuracy (10-90% humidity range)
- Resolution: 0,01 C°, 0,03% RH
- I2C interface
- 2 USB connector
- PCS or WTP protocol
- ONLINE
- Max. 3 m cable length (on I2C USB cable)
- Voltage supply: 5V PoUSB
- Consumption : 50 mA
- Plastic ABS casing , black - interior (55 x 90 x 22 mm)
- Default software: baud 115200

TS-EXT 05

A TS-EXT 05 is used to measure environmental temperature.
External design, waterproof probe.

Features:

- Waterproof, exterior design temperature sensor
- Measurement range: -25 °C to 70 °C
- Accuracy: $\pm 0,5^{\circ}\text{C}$ precision in 10-50 °C temp range
- with LM92 inner sensor for measurement of temperature only
- Voltage supply: 5V DC
- Consumption: 250 μA
- I2C interface
- USB connector
- ONLINE
- length of cable : 3m
- max. 20 m total cable length (I2C line on USB cable)
- Inner program: baud independent
- individual protocol

(FAQs) Frequently asked questions

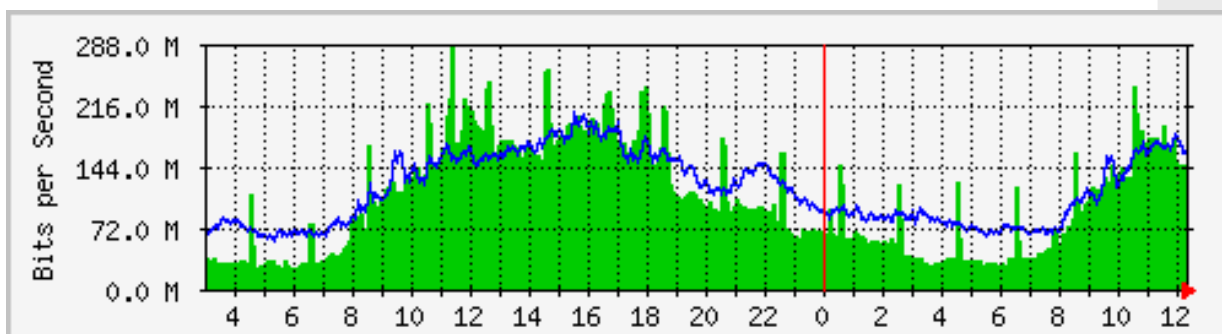
about IP Thermo 125 Ethernet thermometer KIT

- Does the IPThermo 125 kit come with a Windows monitoring program?
- It does. Called M232D2 it is supplied free of charge with every appliance. For logging and the preparation of charts we further recommend the free, open source coded webchart monitoring program called (MRTG which can be accessed by clicking on the link <http://mrtg.org/>) Thanks to Daddy and LeZ we have also received a free to use script for insertion. The scripts can be accessed on the following link: [IPThermoMRTG.txt](#)
- How many temperature sensors can an appliance handle?
- The basic type appliance is made to receive 4 pieces of TS-05 temperature sensors.
- Is there an outer thermometer for taking open-space measurements?
- The TS-05 sensor's outer version is [TS-EXT 05](#) 3m fixed attachment USB cable in waterproof design.
- The module connects to the IP Thermo tools by a standard USB cable. What is the maximum distance of the two tools?
- The total cable length of the max: 4 sensors cannot exceed 25 meters.
- Does the TS-05 module require a separate source of electricity or does it get the necessary electric feed from the central unit by USB cable?
- It gets the feed from the central unit (the IPThermo125 server) and does not require a separate source of electricity.
- By what kind of cable can the outer sensors be attached to the appliance?
- Standard USB A-B cable (but not USB protocol)
- Do you issue a documentation on the basis of which the Linux based query program can be prepared?
- Yes. The output text is very simple and can be easily used in Linux too.
- How much do the appliance and the outer sensors cost?
- See the [Procontrol Online Store>>](#)
- By which kind of technique can it be accessed?
- Ethernet TCP/IP Telnet protocol port 23

- Can the IP address of the appliance be set remotely too?
- The IP address of the appliance can be set remotely from any point of the Ethernet network with the enclosed DS Manager Windows management program.
- My business has a Linux based monitoring system instead of Windows is there an API for underneath it or is the thermometer accessible by some other method?
- Telnet can be very easily programmed on the Linux system the simple output text protocol is easily accessible. All Linux contain the telnet program as a default.
- The to be solved task is the measuring of a server room temperature with the help of a monitoring system. Is the appliance suitable for this task?
- Yes, this appliance is made for it.
- You say that it is possible to reach the tool with Windows API dialing. How can we obtain the information which is necessary for its use?
- The tool insertion ipthermo.dll file is supplied with the documentation necessary for its dialing and sample resources codes for program languages Visual Basic and Delphi are included too.
- Send protocol, programming, interface description as well if available.
- The telnet protocol's sample output text format can be downloaded at: [ipthermo125.txt](#)
- *05 N00317 T0= 22.00C T1=-----C T2=-----C T3=-----C
- Where fields mean: *05 is the inner intelligence address, N00317 is the serial number of measurement followed by the measurement results of the 4 sensors: T0, T1, T2, T3 in Celsius centigrade.

Other Solutions for Logging

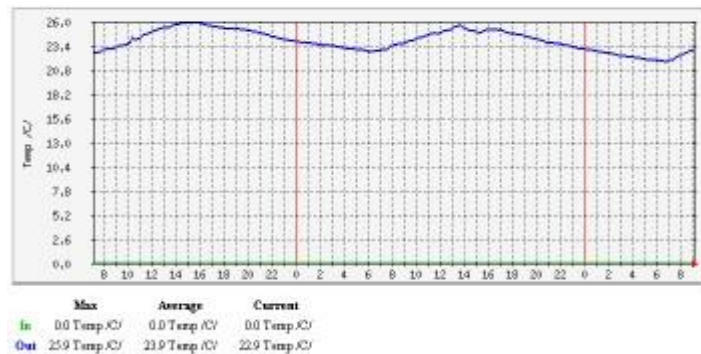
Procontrol Ltd. recommends a free open source webgraphic monitoring software [MRTG](#), and provides you a free script for matching.



Scripts for two solutions are available [here](#).

MRTG helps you to track back temperature data of 1 year in graphic forms.

Daily Graph (5 Minute Average)

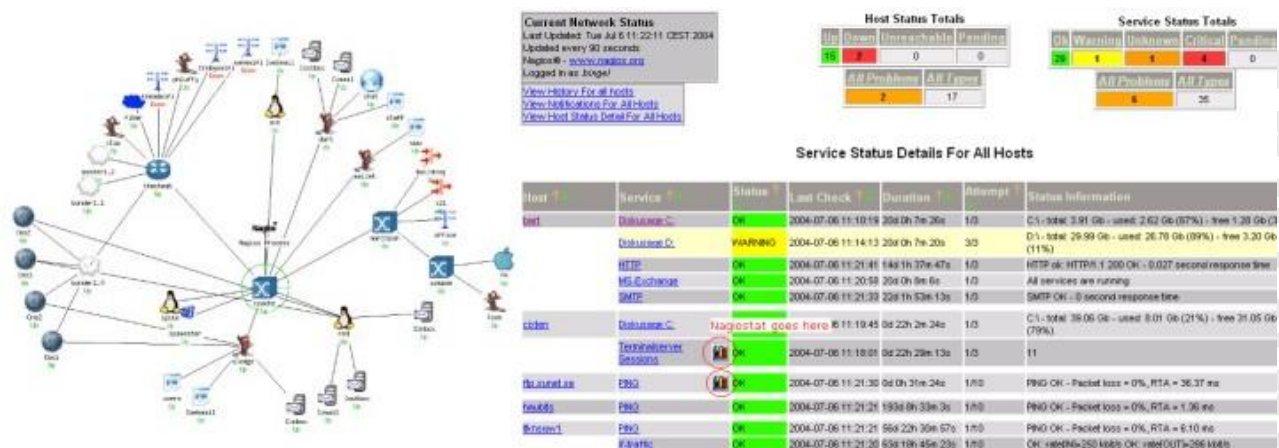


Sample site of Procontrol Ltd. [here](#)

For logging and the preparation of charts we further recommend the free, open source coded webchart-monitoring program called (MRTG which can be accessed by clicking on the link <http://mrtg.org/>) Thanks to Daddy and LeZ we have also received a free to use script for insertion. The scripts can be accessed on the following link: [IPThermoMRTG.txt](#)

NAGIOS – Application for Matching IPThermo127 to network monitoring systems

NAGIOS runs on Linux and Unix and is able to monitor several thousand of hosts and their services.



Apart from the present description Procontrol Ltd. provides you further with sample configuration files, icons, setting advises in order to make your job easier to integrate IPThermo 127 in your system..

Output format

The following output text can be read about the IPThermo 126 appliance on port 23 of the Telnet protocol: [ipthermo125.txt](#). The Telnet protocol sample can be downloaded in the output text format: [ipthermo125.txt](#)

```
192.168.0.209 - PuTTY
*017 N00002 T0=-----C T1= 25.06C T2=-----C T3=-----C
*017 N00003 T0=-----C T1= 25.00C T2=-----C T3=-----C
*017 N00004 T0=-----C T1= 25.00C T2=-----C T3=-----C
*017 N00005 T0=-----C T1= 25.00C T2=-----C T3=-----C
*017 N00006 T0=-----C T1= 25.00C T2=-----C T3=-----C
*017 N00007 T0=-----C T1= 25.00C T2=-----C T3=-----C
```

The meaning of the fields: *05 is the inner intelligence address, N00317 is the serial number of measurement followed by the measurement results of the 4 sensors: T0, T1, T2, T3 in Celsius centigrade.

*05 N00317 T0= 22.00C T1=-----C T2=-----C T3=-----C
*05 N00318 T0= 22.06C T1=-----C T2=-----C T3=-----C

Internal Intelligence Address	Measurement Nr.	Readings of Sensors (T0, T1, T2, T3) in Celsius
*05	N00317	T0= 22.00C T1=-----C T2=-----C T3=-----C
*05	N00318	T0= 22.06C T1=-----C T2=-----C T3=-----C
*05	N00319	T0= 22.06C T1=-----C T2=-----C T3=-----C

Alarm types

- Temperature logging through NAGIOS setting supported by SNMP
- User receives a message to the e-mail address set in the particular perl script
- Automatic alarm e-mail message with SMTP

The configuration of the IP Thermo is carried out by the M23D2 program which reaches the internet thermometer through the (inner) Ethernet network.

Here it is possible to set all its parameters without having to pick up the machine into your hands.

The thermometer tools appearing on the network also have their own unique code besides their own IP addresses, so they can be identified in an exact manner. Each one can be accessed and modified through the program.

For logging and the preparation of charts we further recommend the free, open source coded webchart-monitoring program called (MRTG which can be accessed by clicking on the link <http://mrtg.org/>) Thanks to Daddy and LeZ we have also received a free to use script for insertion. The scripts can be accessed on the following link: [IPThermoMRTG.txt](#)