

Poseidon – SNMP thermometer

Poseidon can connect up to 34 temperature (humidity) sensors and 3 binary inputs to an Ethernet network using HTTP (WWW a XML pages) or SNMP. Binary inputs are connected to a terminal block, the temperature sensors connect through the RS-232, RS-485, or 1-Wire.

The measured data can be read from a WWW page using HTML meta-tags, or XML, but the main advantage is reading the data using SNMP. Each temperature sensor has a predefined range - when this range is exceeded, an SNMP trap is sent. You can define a hysteresis on the marginal values to adjust the frequency of SNMP traps sent once the predefined range has been exceeded. The humidity sensors also have a predefined range, as with the binary inputs, which you can setup to respond on connection, disconnection or any signal edge.



All values can be configured using the WWW SETUP, which is a password-protected FLASH application

Application examples

Typical applications for Poseidon are supervising stocks or warehouses, where you need a stable environment temperature and humidity. You can also use Poseidon to monitor the entrance to the premises using the binary inputs (door-contacts, PIR sensors, etc...).

- Storage premises
- Accumulator room
- Backup power sources
- Food industry
- Chemical industry
- Stores, etc...

Basic parameters

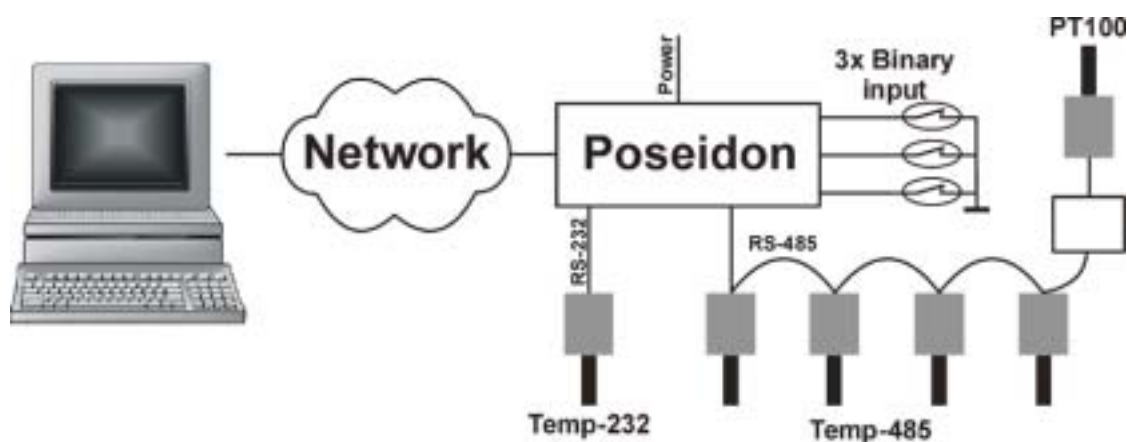
- RJ 45 - 10BASE-T Ethernet
- 1x full RS-232
- 1x RS-232 / RS-485
- 3 binary inputs – terminal block
- **Communication interface :**
 - WWW page (XML tags)
 - SNMP + SNMP trap (alarm)
 - RS-232 SETUP
 - WWW + FLASH setup
- **Power:** 8-15V DC / 200 mA
- **Measurements:** 38 x 105 x 135 [mm] (height x width x length)
- **Indicating LED:** POWER, LINK, SENSOR, MODE

Supported sensors

- **3 Binary inputs** (for ex. door contact)
- **Temp232** (cheap temperature sensor)
- **Temp485** (home or industry version)
- **HTemp485** (temperature and humidity sensor)
- **Temp485-Pt100** (RS485 - Pt100 converter for connecting a Pt-resistor thermometer)
- Common **Modbus** RS-485 device
- There is also a **current loop circuit 4 .. 20 mA** for RS-485 available

System schematic

You can connect the sensors (temperature and humidity) to the RS-485 serial line with a length of up to 1.000 meters. If you use converters, you can even connect sensors with current loop circuit output, or the Pt-resistor temperature sensors line Pt100, Pt500, Pt1000.



RS-232 interface

Standard RS-232 line (PC serial port) has a limited length of 15m and is not suitable for industrial environments. The full serial port is implemented, including data flow control (RTS/CTS Handshake) with communication speed 50 to 115.2 kBd. First you need to use the RS-232 port to SETUP the device's Ethernet communication parameters (module's IP address, network mask, gateway). Other configuration can be done more simply using the WWW / FLASH setup..

RS-485 interface

The RS-485 interface is primarily designed for connecting the sensors. It allows parallel connection of many sensors to the common RS-485 line with a length of up to 1.000 m. You can see the sensors list in the device's documentation. Some RS-485 sensors can also be powered from the device, but for longer line we suggest to separate the power source.

3 Binary inputs

3 binary inputs with common ground are connected to the front terminal block and are primarily for connecting closing or opening contacts. The inputs are not optocoupled, but they use $\pm 15V$ level logic, so you can use tens of meters of wire for connecting the contacts.

The Poseidon WWW page

Poseidon can be controlled using a WWW interface saved in the device itself (so it acts like a small WEB server).

This interface allows reading of the measured data and binary input states by entering the device's IP address in your web browser.

You can limit access to the data with password or an IP address range.

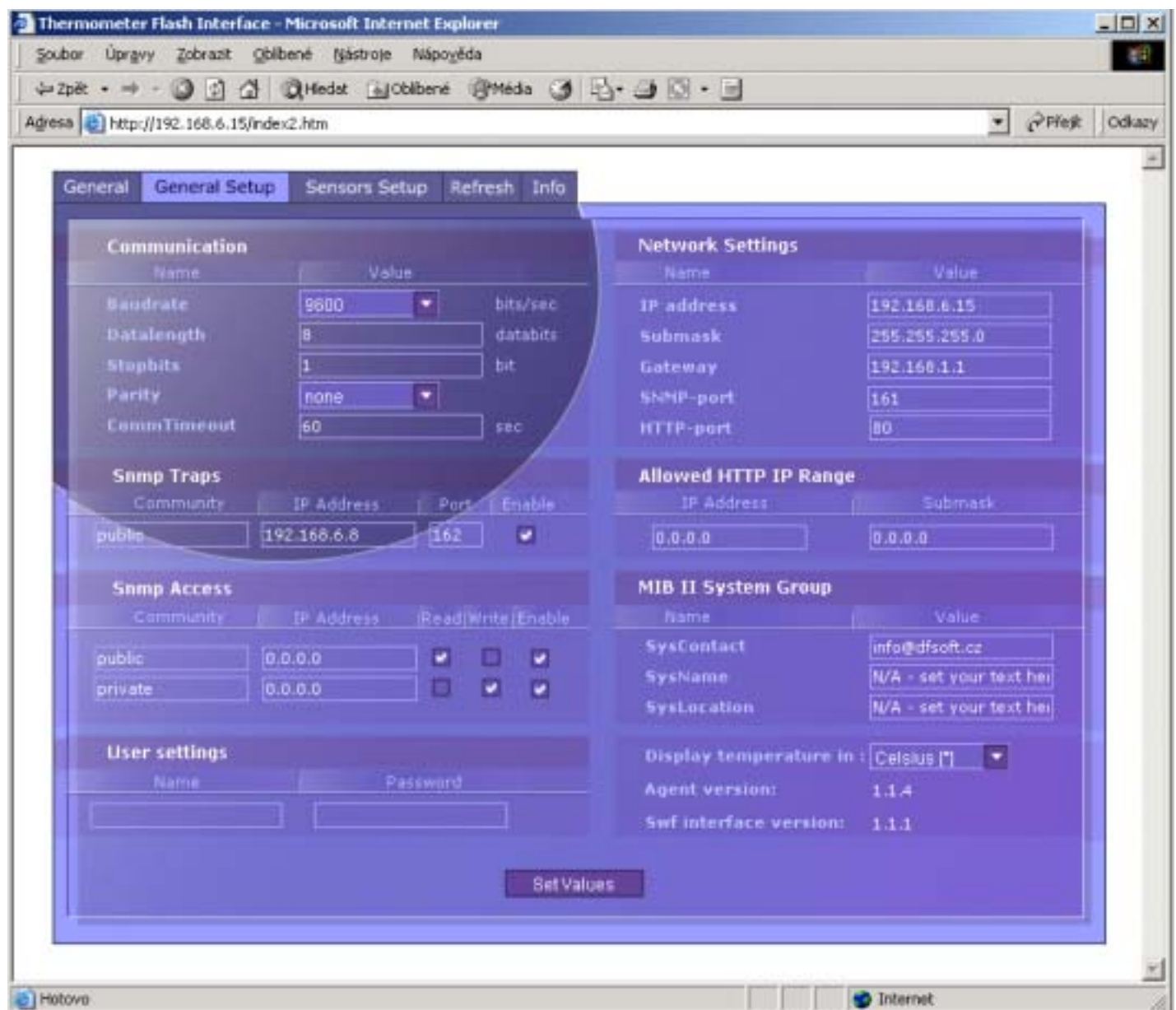


Poseidon configuration

Poseidon can be configured using the WWW interface with FLASH technology. Using the "FLASH Setup" you can configure all the setup parameters such as:

- Reading the measured data and binary input states;
- RS-232 serial line speed and data flow control;
- SNMP trap (alarm) setup for sensors and binary inputs;
- Network parameters setup (IP address, mask, gateway, default listening ports);
- Security setup (allowed IP address range, user name and password protection);
- SNMP access according to IP with the possibility of setting access rights;
- SNMP trap setup (destination IP and port).

All communication can comfortably run over the Ethernet network. In the case of any value out of range, the user is notified with a SNMP trap.



Picture 3: WWW page with the device's FLASH Setup.

RS-232 Setup and UDP Setup

Before you can use the device, you need to setup basic parameters such as IP address, network mask and gateway. You can use any telnet client to do this, we recommend using the Hercules Setup Utility, which can be downloaded from our website.

You can use the UDP setup to the device's IP address. This is useful when you are changing network parameters and you need a simple utility to change just the IP address, mask or Gateway.



Reading the data from XML tags

The acquired data is displayed in the predefined HTML page and any application can access them using the XML tags. You can see an example of temperature sensor XML tag below:

```
<Entry>
  <Name>TempSens1</Name> - sensor name
  <Type>RS232</Type> - sensor type
  <ID>T0</ID> - identification
  <Temper>15</Temper> - current temperature
  <TempRange>05.0 - 35.0</TempRange> - allowed temperature range
  <Alarm>none</Alarm> - alarm state
  <State>0</State> - sensor state
</Entry>
```

SNMP client example

You can download a freeware SNMP client at www.snmpview.de. This client has a limited functionality, but it is very good for Poseidon testing purposes. You need to enter the IP address in the snmpview.cfg configuration file. More info on how to setup SMNPview can be found on the product page.



Summary

Poseidon is perfect for monitoring remote objects where you need a permanent supervision of certain environment parameters and reaction to any change. You can use a wide variety of peripherals and sensors. The remote access will lower your costs and the SMNP protocol will immediately inform you in case of any parameter changes.