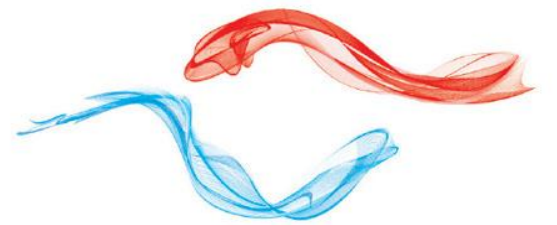


APMON



Technology of Sense

Application Programming Interface



APMON – Application Programming Interface

Technology of Sense

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1 Get Started

This document explains how to get started writing custom applications that use the APMON Application Programming Interface (API) to interact with particle measurement data. The APMON API allows you to gather real-time measurement data over either TCP/IP or RS232.

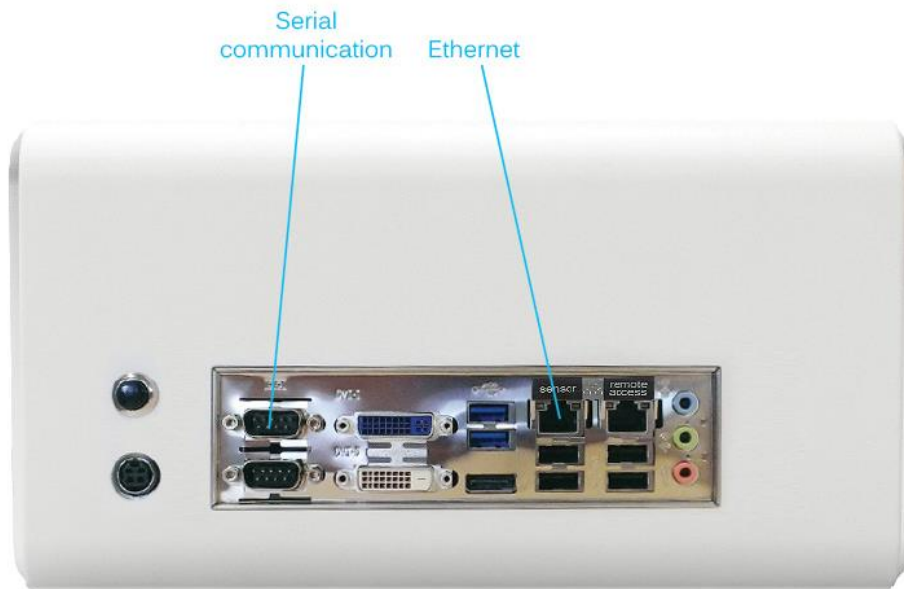
The communication protocol is based on ASCII CSV and outputs the measured data directly after a measurement is done. E.g. if a sensor is set to measure at 10 minute intervals, new measurement data can be expected every 10 minutes.

1.1 Before you start

- Choose if you want to gather data over Ethernet (TCP/IP) or using a serial connection (RS232).
- If you are unfamiliar with the APMON system, read the user manual and get familiar with the user interface. This will give the necessary insight on how the system is build-up and what can be achieved.

2 Physical Interface

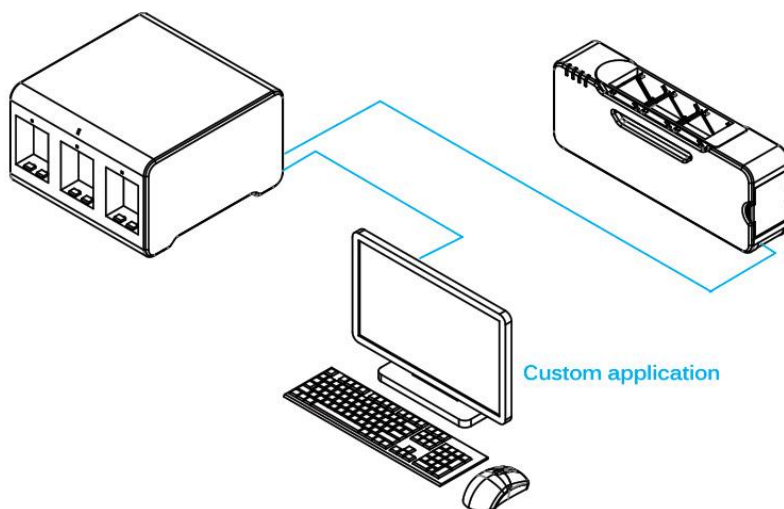
The physical interface can either be Ethernet or a serial connection.



2.1 Ethernet

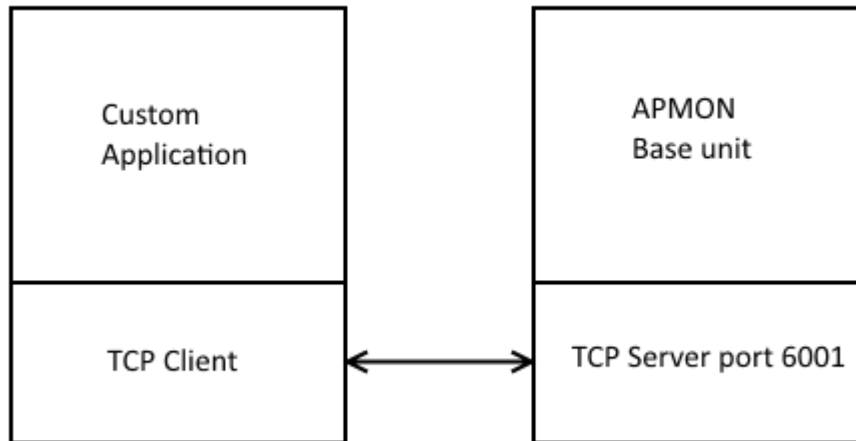
When using the Ethernet connection the custom application should be allowed access to the APMON sensor network.

Consult your network administrator and the APMON user guide how to set this up.



APMON – Application Programming Interface

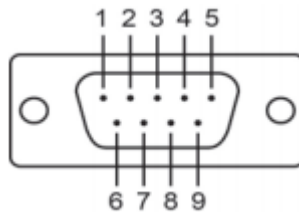
The protocol implements a TCP/IP Server on port 6001



2.2 Serial connection

The serial interface is a RS-232 Male DB9 interface. When connecting directly to a PC a null-modem cable can be used.

Pin	RS-232
1	DCD
2	RX
3	TX
4	DTR
5	Ground
6	DSR
7	RTS
8	CTS
9	NC



Communication settings are:

Baudrate	19200
Databits	8
Parity	None
Stopbits	1

3 Messaging Interface

Generic format:

Identifier1;Identifier2;...;IdentifierN;<CR><LF>

Identifiers in ascending order:

Identifier[i]	Name
1	Room name
2	Sensor serial number
3	Time schedule
4	Measurement date time [yyyy-MM-dd HH:mm:ss]
5	Total number of particles
6-23	Number of particles per bin [15-30um;30-40um;40-50um;50-60um;60-70um;70-80um;80-90um;90-100um; 100-200um;200-300um;300-400um;400-500um;500-600um;600-700um;700-800um;800- 900um;900-1000um;>=1000um]
24	PDR
25	PDC
26	PAC
27	PPM
28	Measurement Info [OK, Err xxx, Invalid]

The message will be generated for every measurement. The counted particles are the number of particles measured between this and the last measurement

Example message:

```
Office1;00-1A-21-B0-00-00-00-81;Production;2015-06-24 11:50:04;4;  
0;1;2;0;0;0;0;0;0;1;0;0;0;0;0;0;0;0;0;0;0;1268;5.1;0.6282;6282;OK;
```

4 Revisions

- 1.01 Added bin ≥ 1000 to match the example message
- 1.00 Initial release