"M" means altitude is in meters.

"3" means 3D GPS lock.

"200920" is the date.

I'm pretty sure you figured those out as well, just being thorough.

Everything after "BM" is the standard frame from the PMS7003.  Unless noted, all values come as two bytes, big endian (high byte first, low byte second.)

PM1.0 ug/m^3, standard particle

PM2.5

PM10

PM1.0 ug/m^3, atmospheric particle

PM2.5

PM10

0.3um & below raw counts for 0.1 m^3

0.5um

1.0um

2.5um

5.0um

10um

Version number (single byte)

Error code (single byte)

Checksum

The device uses the PMS7003, but the datasheet for the PMS5003 is easier to read.  From a data frame perspective, they are virtually identical.  The table for the frame starts on p13.

Annex A: PMS7003 Transfer Protocol

Default baud rate: 9600bps Parity: None Stop bit: 1 bit

Total length of the protocol: 32 bytes

Starting character 0x42 (fixed)

Start character 2 0x4d (fixed)

Frame length is high octet... Frame length = 2x13 + 2 (data + check digit)

The frame length is eight .b..its long

Data 1 high octet ... \* Data 1 indicates PM1.0 concentration (CF = 1, standard particles)

Data 1 low octet ... Unit μ g / m3

Data 2 high octet ... Data 2 indicates PM2.5 concentration (CF = 1, standard particulate matter)

Data 2 low octet ... Unit μ g / m3

Data 3 high octet ... Data 3 indicates PM10 concentration (CF = 1, standard particulate matter)

Data 3 low eight bits ... Unit μ g / m3

Data 4 high octet ... \* Data 4 indicates PM1.0 concentration (in atmospheric environment)

Data 4 low octets ... Unit μ g / m3

Data 5 high octet ... Data 5 indicates PM2.5 concentration (in atmospheric environment)

Data 5 low octets ... Unit μ g / m3

Data 6 high octet ... Data 6 indicates PM10 concentration (in atmospheric environment)

Data 6 is low octet ... Unit μ g / m3

Data 7 high octet ... Data 7 indicates that 0.1 liter of air has a diameter above 0.3um

Data 7 is low octet ... The number of particles

Data 8 high octet ... Data 8 indicates that 0.1 liter of air has a diameter of 0.5um or more

Data 8 is low ... The number of particles

Data 9 high octet ... Data 9 indicates that 0.1 liter of air has a diameter of 1.0um or more

Data 9 is low octet ... The number of particles

Data 10 high octet ... Data 10 indicates that the diameter of 0.1 liter of air is above 2.5um

Data 10 low octets ... The number of particles

Data 11 High octet ... Data 11 indicates that 0.1 liter of air has a diameter of 5.0um or more

Data 11 is low octet ... The number of particles

Data 12 high octet ... Data 12 indicates that 0.1 liter of air has a diameter above 10um

Data 12 is low octet ... The number of particles

Data 13 high octet ... version number

Data 13 low octets ... error code

Data and check high eight ... Check code = start character 1 + start character 2 + ... .. + data 13 low

Data and check low eight ... Eight

Note: The standard particle mass concentration value refers to the use of industrial metal particles as equivalent particles for density conversion

To the mass concentration value, suitable for industrial production workshop and other environments.

The mass concentration of atmospheric particulate matter is empty

The main pollutants in the gas are equivalent particles for density conversion, suitable for ordinary indoor and outdoor atmosphere