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Quick Guide
Air Management System Monitoring Tool

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1. Introduction

This quick guide describes the use and configuration of the Air Management System (here after describes as AMS) data Monitoring tool(here after describes as the tool).

1.1. Hardware and software requirements

The hardware necessary for the operation of the tool consists of a PC with Windows operating system, an AMS base device of any size supplied by SMC and an Ethernet cable to connect both systems.

Software recommendations. In order to use this tool, the users need to install Java Development Kit (hereafter described as JDK) on the devices which intended to use. The JDK includes java libraries to be able to run the application.
The recommended JDK versions are 21.0.2 or later.

https://www.oracle.com/jp/java/technologies/downloads/#jdk21-windows

*Recommended PC resolution to use: 1920 x 1080 or 16/9 (100% in text and application size).
The resolution of this version of the software is not adaptive.

System overview

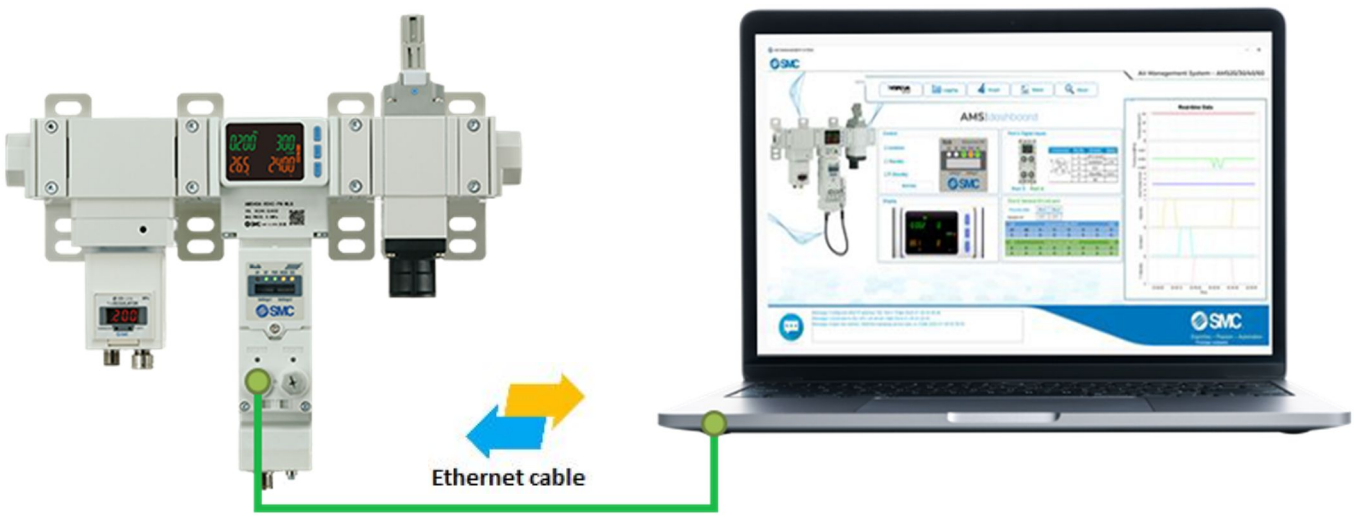


Figure 1 – System overview

2. Working Principle

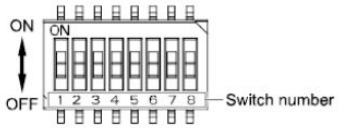
This section will explain the different steps for the correct operation of the tool with the AMS base devices.

2.1. AMS device IP address

The first step for using the tool is to assign an IP address to the AMS device,
in order to provide an IP address to the OPC UA server to which the software is going to connect (OPC UA client).
SMC IP Address Setting Tool (EX9–ZSW–IPC1) can be available to allocate IP address to AMS.

2.2. Switch configuration

So that the control of the Isolation, Standby and F-Standby forcing variables can be carried out from the software via OPC-UA, switch 1 must be configured to ON.



Refer to the flowing table to set the DIP switches.

AMS	Switch Position	Switch Number			
		1	2	3	4
		Communication Method	Regulation Type	NO/NC	Wireless Pairing Mode
Base type	OFF	Industrial Ethernet	ARS	NC	Refer to Wireless Network Configuration (page 45)
	ON	OPC UA *1	ITV *2	NO	
Remote type	OFF	Wireless Remote	ARS	NC	
	ON	Standalone	ITV *2	NO	

Figure 2 – Switch configuration

Power cycle is required for AMS once the switch configuration have been changed.
This allows to take control of these AMS variables from the Control section.

Figure 3 – Control section

*If the only purpose is to visualize variables and log or graph them, but have the control externally via PLC, switch 1 must be OFF.

In order to be able to write to the Isolation, Standby and F-Standby variables, the writing of these variables will have to be enabled. To do this, access the Web server, the OPC UA Tag section:

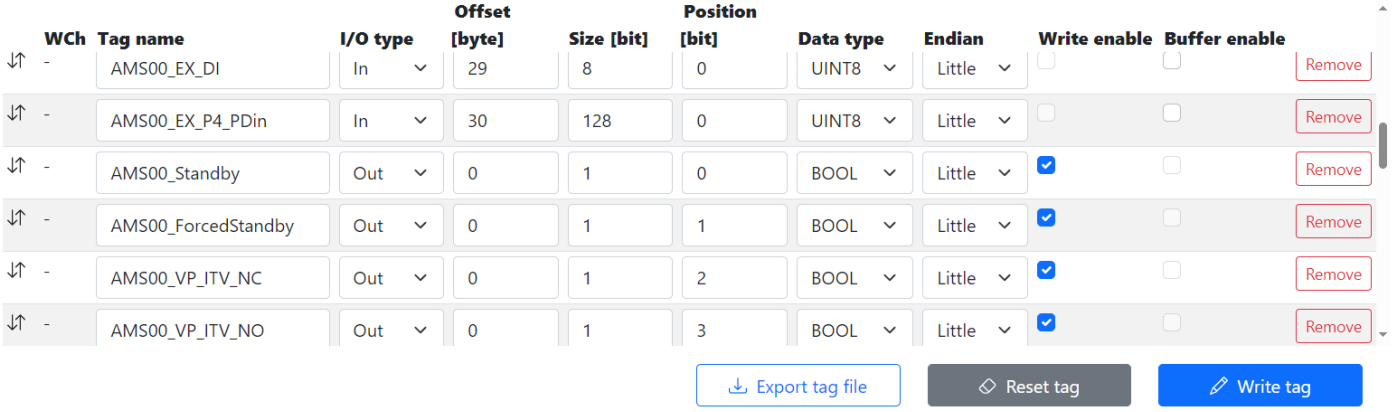


Figure 4 – Web server OPC UA Tag section

First click on the write enable box in the variables indicated in the image and after click on Write tag.

2.3. Connect/Disconnect to AMS OPC UA Server

In order to connect or disconnect to the AMS OPC UA server, it must select the OPC UA Server button from the main menu.

Figure 5 – OPC UA Server button

A pop up window will appear in which you can select the previously configured AMS IP address. The allowed range is 0.0.0.0 to 255.255.255.255.
To start communication, press the connect button. If you are already connected and want to disconnect, click on the disconnect button.

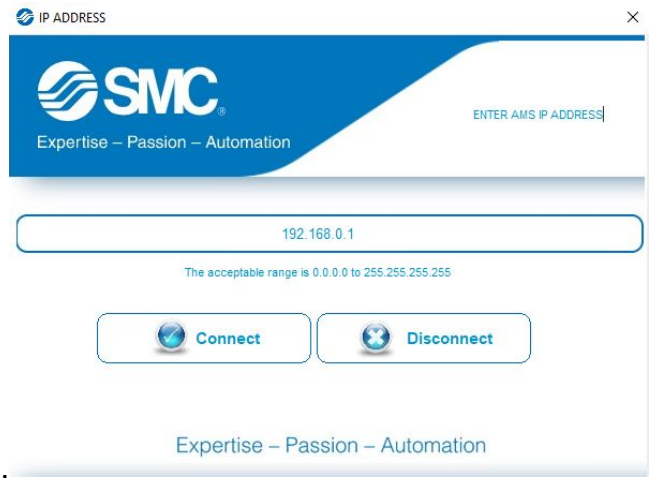


Figure 6 – Connect/Disconnect window

Once connected, the following messages will appear.

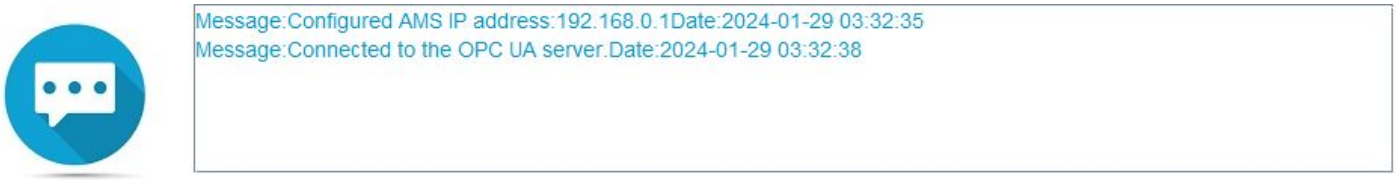


Figure 7 – Connected message

2.4. Graph

To proceed to graphing, press the Graph button in the main menu.

Figure 14 – Graph button

For the graph settings, there is the possibility of configuring the logging sampling period and the measurement time. The graph will begin with the Start Graph button and will end with Stop Graph.

Figure 15 – Start/Stop Graph

The graph will represent the values of Temperature (C), Pressure (MPa), Instantaneous Flow (L/min), and the states of Isolation, Standby and F-Standby.

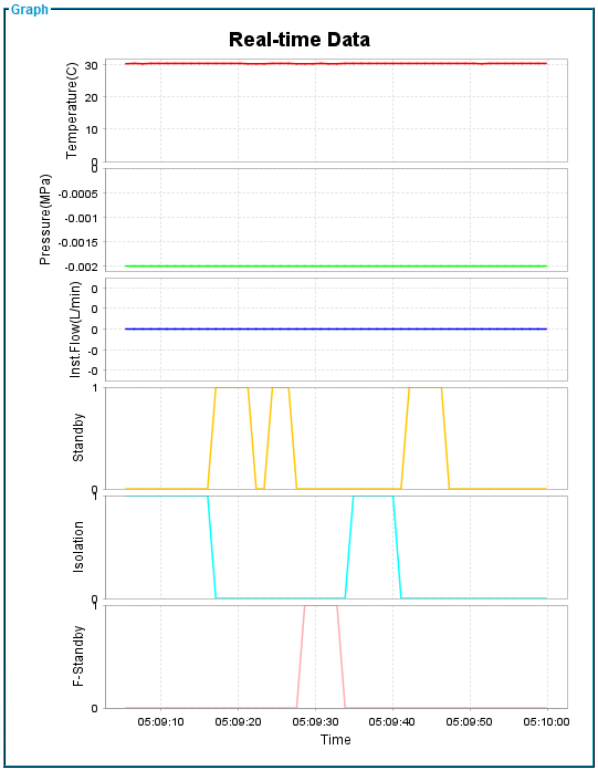


Figure 16 – Graph

Once start or stop Graph, the following messages will appear.

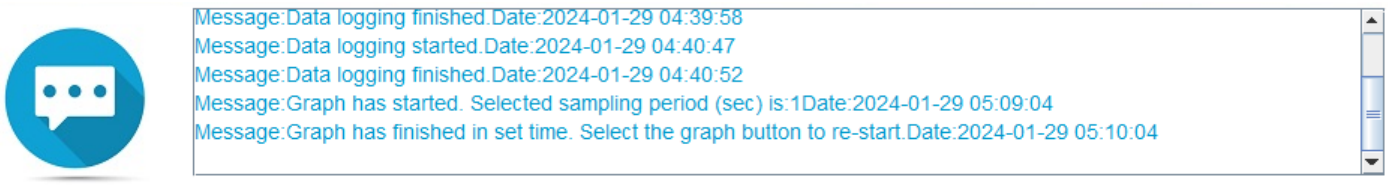


Figure 17 – Graph start/stop messages

2.5. Logging

To proceed to data logging, press the logging button in the main menu.

Figure 8 – Logging button

For data logging, there is the possibility of configuring the logging sampling period.
The logging will begin with the Start Logging button and will end with Stop Logging.

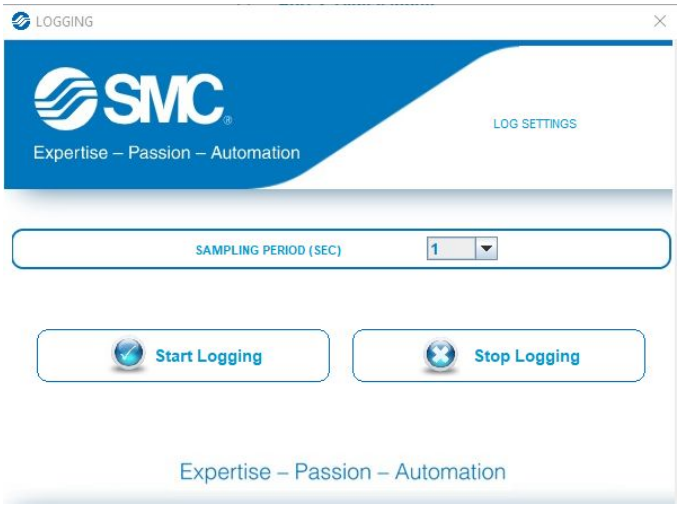


Figure 9 – Start/Stop logging

Select the path where you want to locate your data file. Don’t write a name.

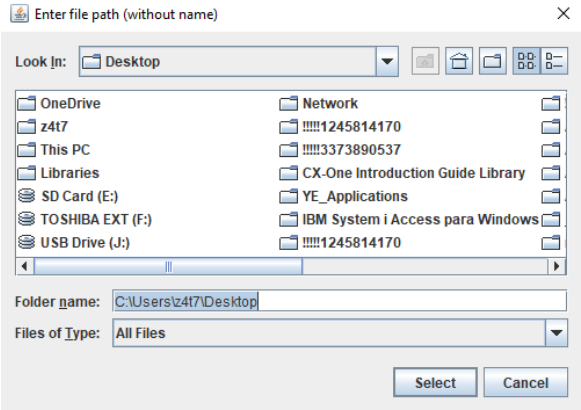


Figure 10 – Enter file path

After that, select the file name.

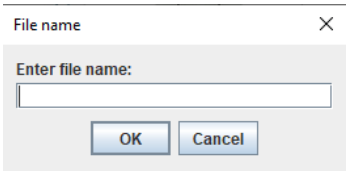


Figure 11 – Enter file name

The logging will be done in a .txt file in the following format.

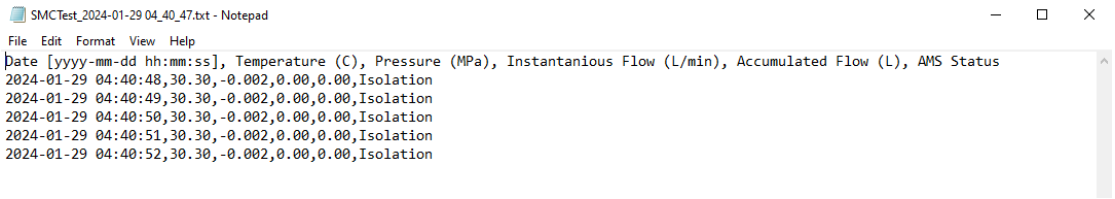


Figure 12 – File format

Once start or stop logging, the following messages will appear.

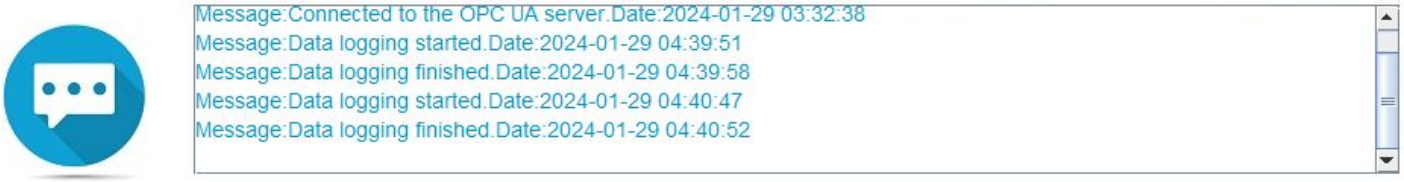


Figure 13 – Data logging start/stop messages

2.6. Web Server access

The device's Web Server can be accessed from the app by selecting the WebS. button.

Figure 18 – Web Server button

3. Data visualization sections

In the central part of the interface are the different data visualization sections.

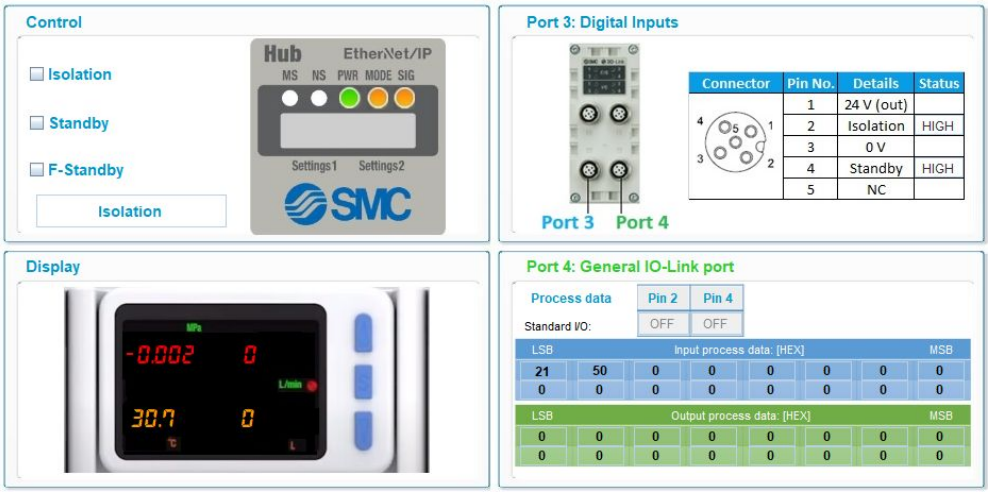


Figure 19 – Data visualization sections

Control section: Allows the user to view the AMS Status and control Isolation, Standby and F-Standby signals in real time.

Display section: Allows the user to view the values of temperature, pressure, instantaneous flow and accumulated flow in real time.

Port 3 Digital Inputs section: If port 3 is being used for control via digital signals, allows the user to view the pin status.

Port 4 General IO/Link port: If an IO-Link device is connected to port 4 of the AMS, the inputs (blue bytes) and outputs (green bytes) can be read using the following section. The values of pins 2 and 4 can also be displayed if they are used as digital signals.