

# Profinet wireless Example 001

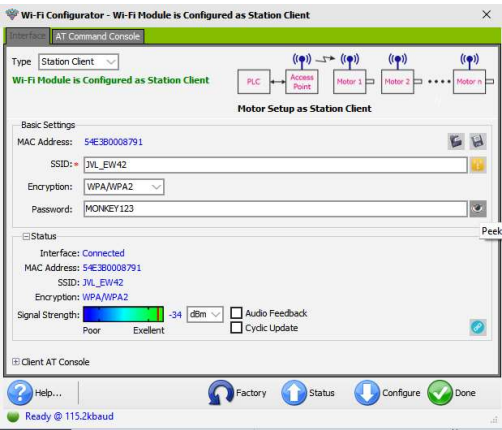
This example was developed in TIA portal V16.

## MacTalk settings for the 2 motors

2 MIS motors are controlled from the PLC using a Siemens Scalance W761 wireless accesspoint.

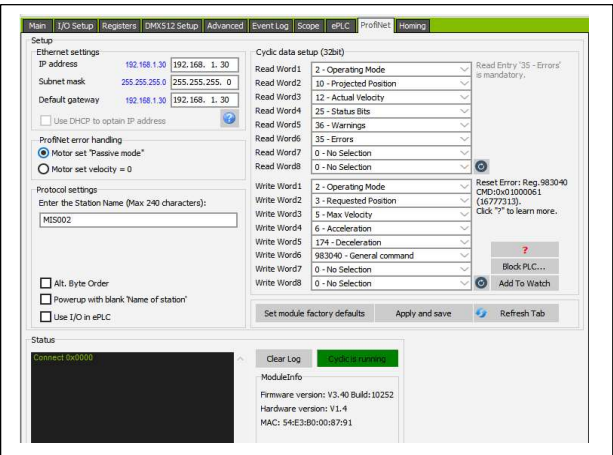
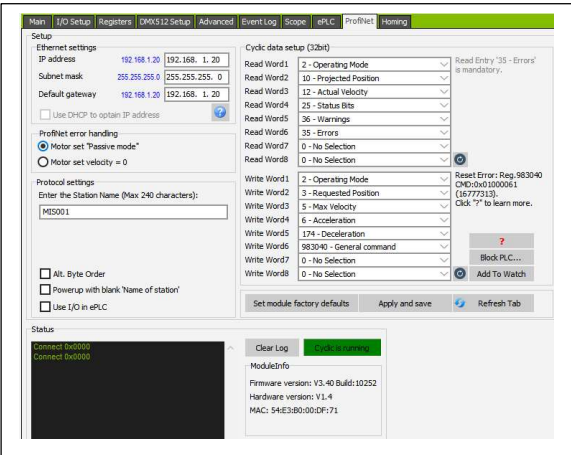
The TIA portal project includes configuration and setup for the Siemens scalance accesspoint as well as the PLC program.

From MacTalk the wireless setting in both motors are as follows:



The Siemens Scalance accesspoint is configured for SSID **JVL\_EW42** with encryption and the password **MONKEY123**. So the motors are configured as wireless clients with the settings required.

From MacTalk both motors are configured as follows:



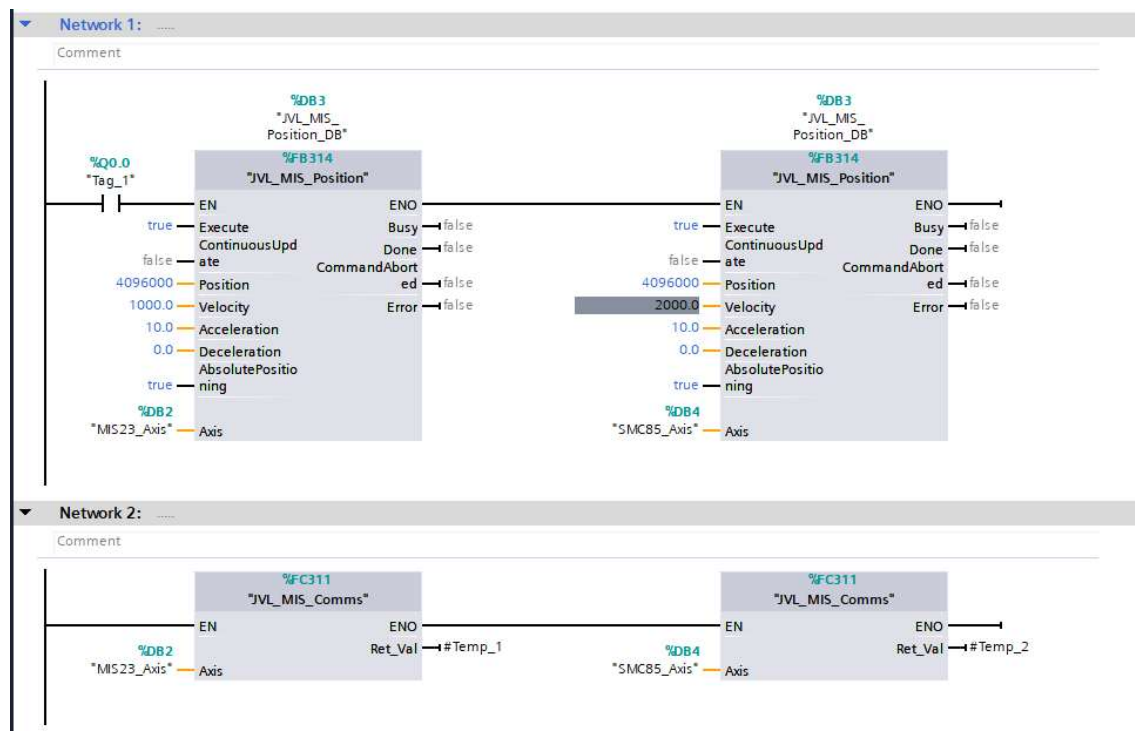
Notice the Station names “MIS001” and “MIS002”.

**Please make sure that the motors are configured accordingly.**

## TIA portal project settings

### PLC program

The program is basically a call to 2 JVL function blocks that will move the motors into a certain position with a requested velocity and acceleration setting.



Please refer to the documentation regarding the JVL ProfiNet function blocks for details.

Network 2 consists of 2 communication blocks necessary for driving the 2 “JVL\_MIS\_Position” - function blocks located in Network 1.

By setting “Tag\_1” the blocks are both executed and the 2 motors will go to position = 4096000 using the velocity 100 RPM (Motor 1) and 200RPM (Motor 2), acceleration is set for 10.0.

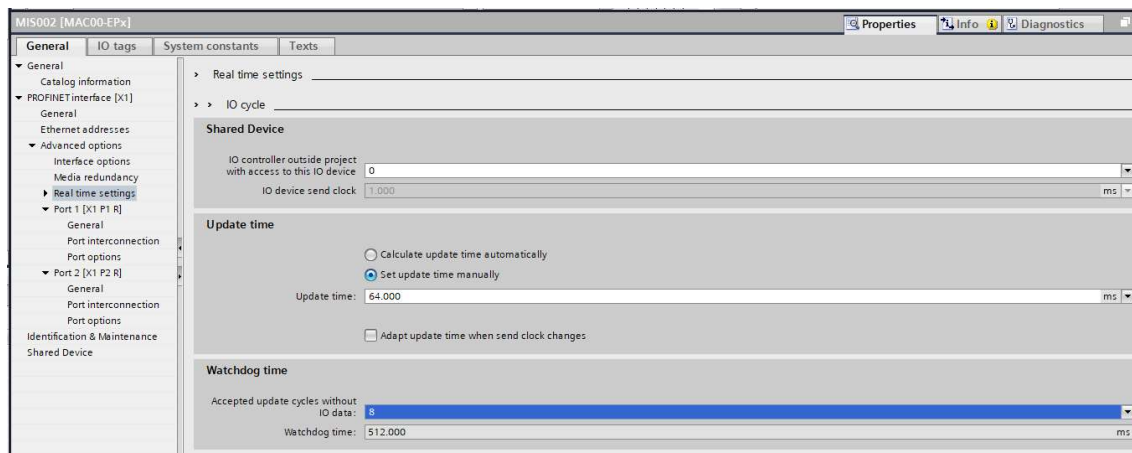
## Motor configuration in TIA

Please refer to the JVL ethernet manual and the JVL Profinet function block -manual for details regarding import and configuration of the JVL motor in a TIA project.

For wireless applications the update time and the watchdog settings needs to be adjusted to accommodate the slower and more error prone wireless network.

The update time is set for 64ms on both motors, but it will depend greatly on the quality of the wireless network and the load on the network.

Watchdog timeout is configured to 512ms (Cycles without data = 8):



## Siemens Scalance setup from TIA Portal.

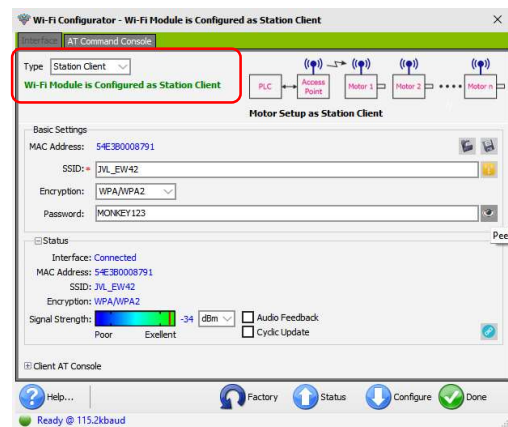
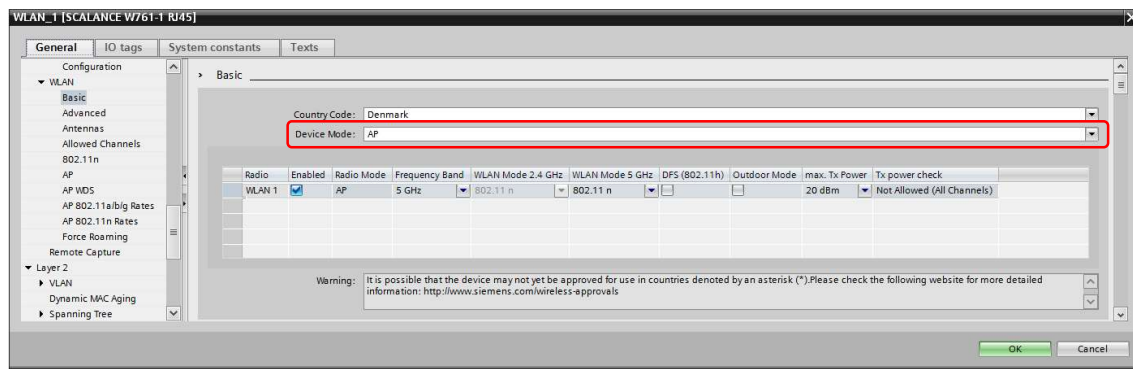
The following shows the settings for the Siemens scalance accesspoint, but a complete guide to all the details and considerations that must be done for a strong infrastructure is beyond the scope of this manual.

The example project holds a setup for the accesspoint.

Configuration and commissioning of the accesspoint can also be done by using the embedded web server in the accesspoint. This also holds some additional features to analyze the wireless environment, such as the spectrum analyzer.

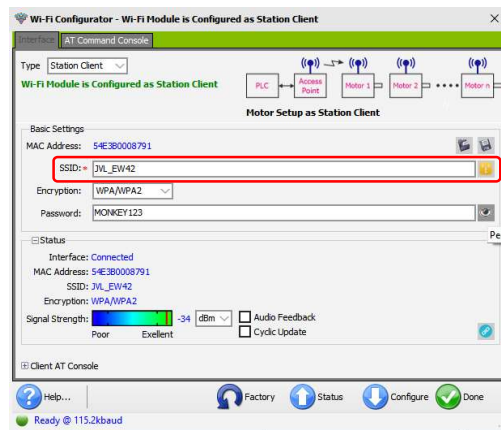
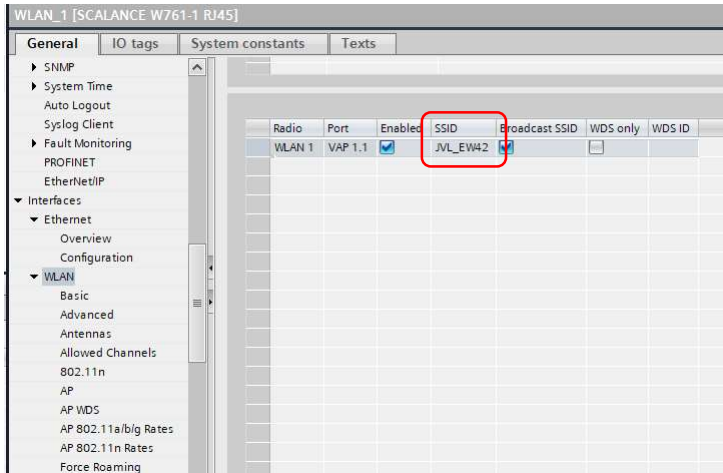
In this simple example project only the wireless ethernet connection is used for both motor this topology concept prohibits the use of the secondary wired ethernet channel of both motors. In other words it is not possible to connect other Profinet devices to the motors. Using another wireless topology does however make it possible to use the secondary ethernet ports, but is beyond the scope of this example. Another example project demonstrating this concept will be available.

The Siemens Scalance W761 is configured as an accesspoint (**Device mode = AP**). So the motors needs to be configured as wireless clients.



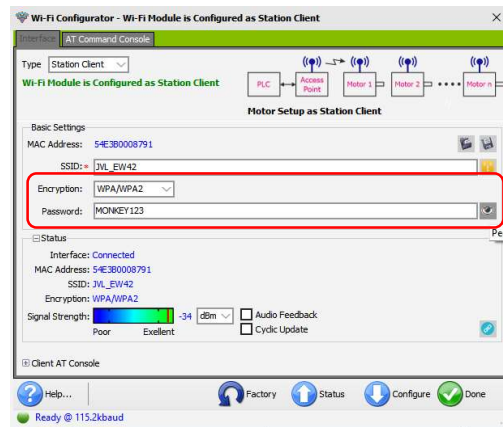
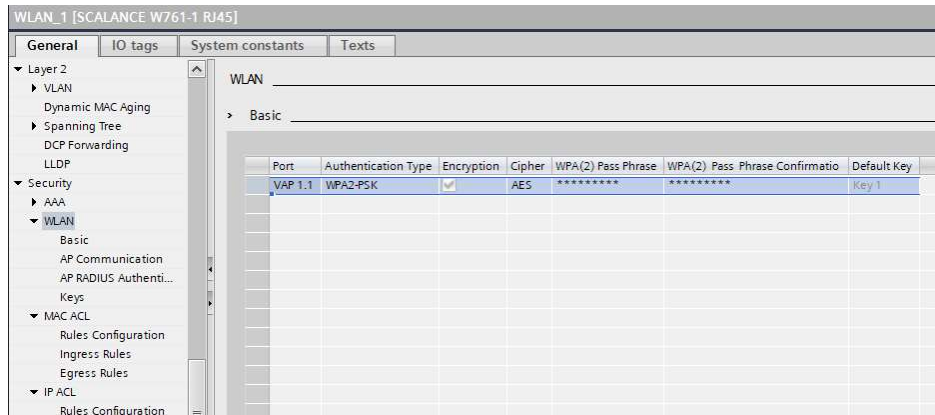
SSID:

Note that the SSID settings configured in the motors must match the settings of the accesspoint.



## Encryption:

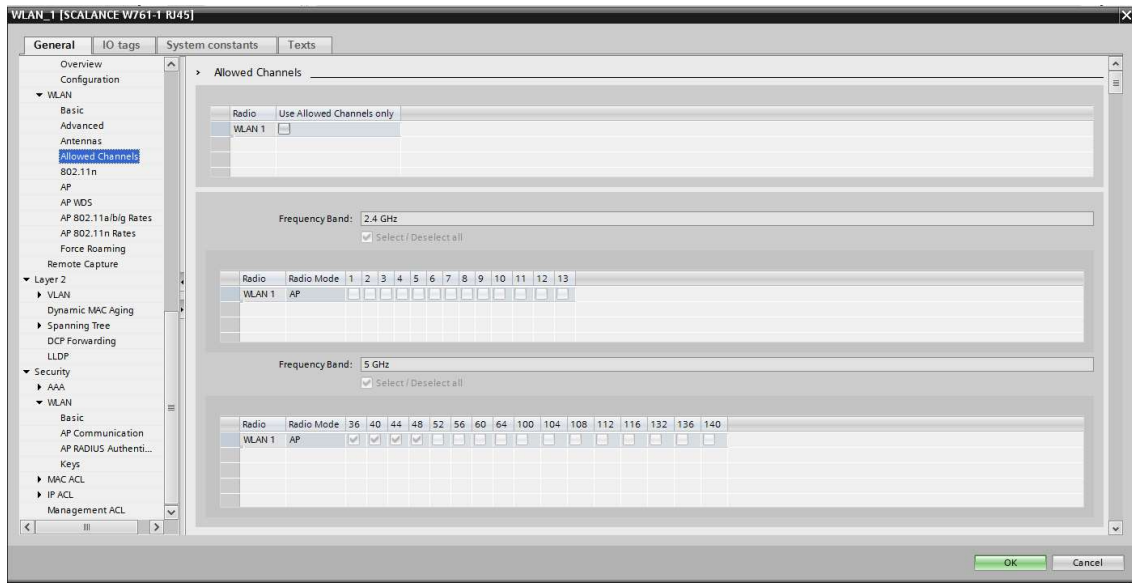
The encryption setup is obviously disguised, but the password is MONKEY123 and the settings in the motors must match the settings in the accesspoint.



Enable the accesspoint and select frequency band (2.4GHz or 5GHz).



Channel selection:



### 5GHz, channel 40 –selection