SIEMENS H.4904 Wireless Sensor Network User Manual

Contents

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SIEMENS H.4904 Wireless Sensor Network

Specifications

- Product Name: H.4904 Wireless Sensor Network
- Manufacturer: Siemens Mobility Austria GmbH
- Date of Description: 2024-03-19
- Model Number: SMO RS CP BG&P EN BMD EE

FAQs

Q: What should I do if I encounter connectivity issues with the wireless sensor network?

A: Check the configuration settings and ensure proper placement of the network components to resolve connectivity issues.

Product Description

Release History

	Name	Department	Signature
Released by:	–	–	–
Checked by:	–	–	–
Prepared by:	Jürgen Derler	SMO RS CP BG&P EN BMD EE	–

Distribution List

Name	Company	Department

Revision Table

Revision, Date	Revised sections	Description, Reason for changes
-, 2024-03-18	All	First edition

Open Issues

Chapter	Page	Subject	Responsible	Due date

Introduction

Purpose of Document

The purpose of this document is to provide the installing instructions for the wireless network products.

Validity of Document

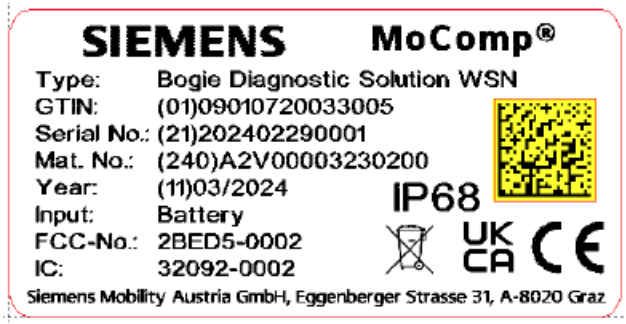
This document is valid within the project “Wireless Sensor Network”.

Mounting

The Sensors are mounted with a mounting plate. The plate is glued on the bogie near the components that are to be measured e.g. Axle Box. It is recommended to use the cleaner Loctite SF 7063 for the pretreatment of the surface. The adhesive Loctite HY 4090 is recommended for gluing the mounting plate on the bogie. The sensor is mounted on the plate with a 4x M6x60 screw with a washer. The screws are fixed with 7Nm torque. The Receivers are mounted in the same way (mounting plate and screws). In addition, the receiver needs a voltage supply. Connect the power cord to a supply with 24 to 110VDC / 0.1W.

Labeling

The Sensors have a label on the bottom of the housing and are marked with BOGIE DIAGNOSTIC SOLUTION WSN.



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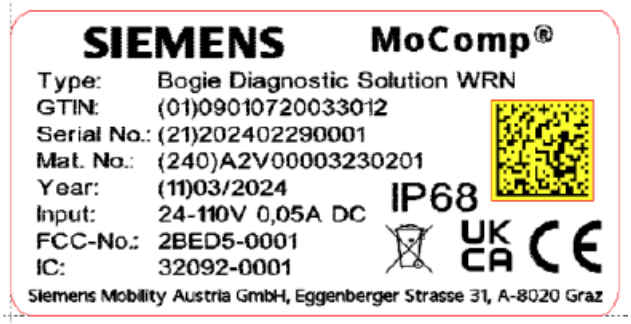

Configuration

The project is guided by SIEMENS Mobility Austria and do the preparation of the possible software updates, especially the project configuration files. These files are provided within the SIEMENS RAILIGENT cloud. The configuration of the sensors and receivers to the predefined wireless sensor network is done with a handy app. After the worker logs in with his personal credentials, the app connects to the cloud and fetches the configuration of the train wireless sensor network. The worker chooses the position of the sensor (e.g. 2nd car body, 1st bogie, 2nd axle, left axle box) and stores the configuration to the sensor NFC chip by holding the handy close to the sensor. After the configuration is done with all sensors and receivers the wireless sensor network is ready for operation.

Frequency Bands

The wireless sensor network uses a proprietary communication with the 2.4GHz frequency band.

DC Voltages

The input for the receivers is 24 to 110 VDC. The sensors are battery-powered.

Hardware Interfaces

Besides the power supply for the receivers, there are no hardware interfaces.

Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Warning (Part 15.21)

1. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC

FCC Interference Statement (Part 15.105 (b))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part

15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning Statement:

To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed on outdoor permanent structures to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Documents / Resources

	SIEMENS H.4904 Wireless Sensor Network [pdf] User Manual H.4904 Wireless Sensor Network, H.4904, Wireless Sensor Network, Sensor Network, Network

References

- User Manual