

# W/SC420-915

Wireless Transceiver with an Interface for 4-20mA  
Current Loop Sensor

**SensiNext**  
SENSORS & WIRELESS

## Installation Instructions

### 1. INTRODUCTION

The W/SC420-915 is a two-way wireless transceiver with an embedded interface for the very robust and popular 4-20mA current loop sensor signaling standard.

The device wakes up periodically, according with the programmed 'Reporting Period' (see [2.4. Configuring the Device](#) and also check the 'Wireless Control Panel Operating Instruction' manual) and switches ON an embedded power source having a nominal voltage rate of 16V to feed an attached 4-20mA current loop sensor. The device then waits a 'Stabilization' time, as programmed (see [2.4. Configuring the Device](#) and also check the 'Wireless Control Panel Operating Instruction' manual), and when this time expires, it samples the loop's current using an embedded, high resolution, 24 bits wide ADC.

The sampled current is then transmitted to a Wireless Control Panel for further processing, reporting and storage. Check the 'Wireless Control Panel Operating Instruction' for more information.

Operating power is obtained from two on-board 3V Lithium batteries. When the battery voltage is low, a "low battery" message is sent to the Control Panel.

#### Caution!

Risk of explosion if battery is replaced by an incorrect type. Dispose of used battery according to manufacturer's instructions.

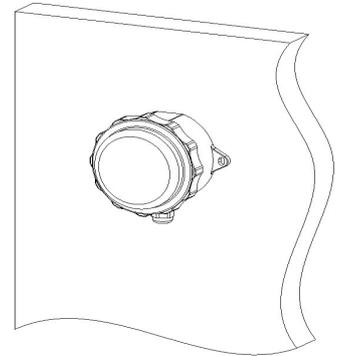


Figure 1: External View

### 2. INSTALLATION

#### 2.1 Mounting

In order to achieve a good quality of communication link, a good practice is to install the transceiver high as practically possible, mounted on a wall or a pole, where at least one meter radius of the space in the front of the transceiver box is clear from metallic objects.

It is also advised that the transceiver is not installed in close proximity to electronic equipment such as work stations, routers and or any other type of radiating equipment.

It is recommended that before the actual mounting of the device in the final installation location, the communication link from the preferred location is first tested. In order to test the quality of the link, the device must first be enrolled to the control panel (see [2.2. Enrollment](#)). Note: It is recommended to perform the enrollment when standing next the control panel and only then, when the device is enrolled and functional, to proceed with the field installation as described here.

To test the quality of the link press momentarily the 'Enroll/Test' button (see Figure 2). The red LED starts blinking slowly, while all possible routes to the control panel are tested. This may take up to 15 seconds. When the test is completed and the best route is selected, the transceiver flashes shortly the green LED 3 times to indicate that the quality of the link is excellent, both LEDs (green and red) to indicate that the quality of the link is good or only the red LED to indicate that the quality of the link is poor. If communication cannot be established, no LED is flashed.

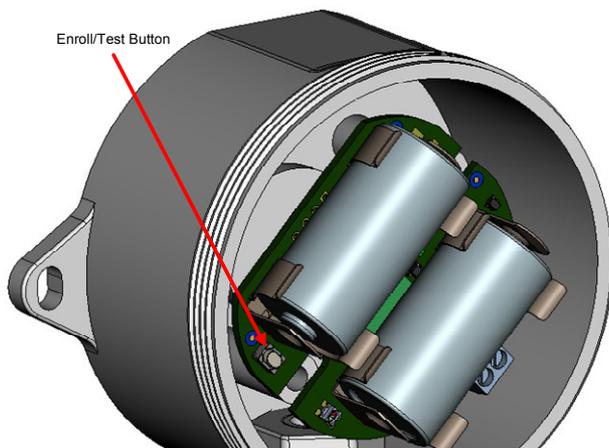


Figure 2: 'Enroll/Test' Button

W/SC420-915 Installation Instructions

LED Response	Link Quality
3 x green LED flashes	Excellent
3 x green & red LED flashes	Good
3 x red LED flashes	Poor
No flashes	No communication

Important Note: When the link quality test indicates good link, poor link or no link at all, the quality of the link needs to be improved either by selecting another installation location or by adding range extender in between the device and the control panel.

**WARNING!** To comply with FCC and IC RF exposure compliance requirements, the transceiver should be located in a distance of at least 3 meters from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.

## 2.2 Sensor Wiring

The device feeds the loop with 16V (exciting the sensor) at one terminal of the connector and measures the current loop which flows to the second terminal of the connector (see Figure 3).

Disconnect the batteries and connect the sensor to the device as described above. Fasten the connector screws properly. When sensor wires are properly assembled, you may insert the batteries and cover the device.

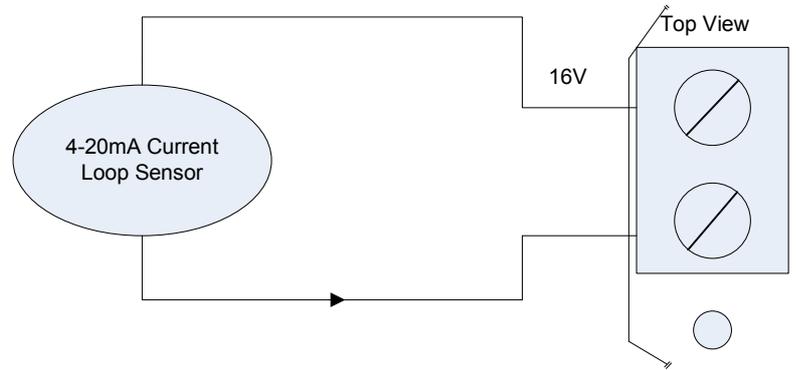


Figure 3: Sensor Wiring

Note: improper wiring of the sensor might damage the sensor and/or the device

## 2.3. Enrollment

To enroll a new device, follow the steps described below (see also 'Wireless Control Panel Operating Instruction' manual).

Step 1	Step 2	Step 3	Step 4	Step 5
Enter the Installer menu and select DEVICES	Select ADD NEW DEVICES Option See Note [1]	Enroll the device by:  Option A: Pressing the 'Enroll/Test, button for about 4 seconds, until the green and red LEDs light. When green and red LEDs light, release the button quickly  Option B: Enter the device ID	Select a desired Sequence-Number for the sensor	Select DEV SETTINGS to configure the device See also <a href="#">2.4. Configuring the Device</a>
DEVICES	ADD NEW DEVICES ↓ MODIFY DEVICES	ENROLL NOW or ENTR ID:XXX-XXXX	S06: 4-20mA Sensor ID No. 281-XXXX	S06: DEV SETTINGS
⇒ means scroll [right arrow] and select [OK]				

Note:

[1] If the device is already enrolled you may configure the device parameters via the "MODIFY DEVICES" option, see also [2.4. Configuring the Device](#)

## 2.4. Configuring the Device

Enter the **MODIFY DEVICES** menu select the device that you want to configure, and configure the following parameters:

Option	Configuration Instructions
<b>Reporting Period</b>	Selects the period between sensor sample and report. Please note: the shorter the report period, the higher the average consumption current (i.e. shorter battery life expectancy) Optional settings: <b>Every 10 Secs, 20 Secs, 30 Secs, Minute, 2 Minutes, 3 Minutes, 4 Minutes</b>
<b>Stabilization</b>	Determine the time needed for the sensor to stabilize after voltage (16V) is supplied. The sensor is sampled only after the stabilization time is expired. Please note: the longer the stabilization time, the higher the average consumption current (i.e. shorter battery life expectancy) Optional settings: <b>5 ms, 10 ms, 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 15 s, 20 s, 30 s, 60 s,</b>

### 3. FCC Compliance Statement

#### The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a Class A 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 or more of the following measures:

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

#### FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.



**W.E.E.E. Product Recycling Declaration**

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste. Directive 2002/96/EC Waste Electrical and Electronic Equipment.