Overview

The ISW-EN7280 Serial Receiver, powered by Inovonics wireless mesh network technology, includes a receiver and translator for Bosch Security Systems, Inc. security products when used with a Bosch control panel in combination with the Bosch ISW-D8125CW Commercial Wireless Interface Module. The ISW-EN7280 consists of the ISW-EN4200 serial receiver and the ISW-TRL8080 translator. The ISW-EN4200 receives messages from Bosch wireless sensors and passes them to the ISW-TRL8080 translator, which translates the messages and communicates the condition to the ISW-D8125CW Commercial Wireless Interface Module through the ISW-ACC664 cable.

These instructions cover installation of the ISW-EN7280 Serial Receiver. For detailed programming instructions, refer to the *ISW-D8125CW Commercial Wireless Interface Module Operation and Installation Guide* (P/N F01U133410).

1.0 Mount the ISW-EN7280

Use the provided anchors and screws to mount the ISW-TRL8080 in locations accessible for future maintenance.

> Mount the translator and serial receiver in a location removed from metal. Metal objects (duct work, wire mesh screens, boxes) reduce RF range.

2.0 Configuration

2.1 ISW-TRL8080 Translator Configuration

All jumpers are shipped in their default position, which provide for:

- One ISW-D8125CW Commercial Wireless Interface Module (refer to *Section 2.1.1 Panel Interface Configuration*)
- A single button push for transmitter reset (refer to *Section 2.1.2 Registration Configuration*)
- One serial receiver (refer to *Section 2.1.3 Serial Receiver Configuration*)

If these settings are correct, proceed to *Section 2.2 ISW-EN4200 Serial Receiver Configuration*.

2.1.1 Panel Interface Configuration

The ISW-TRL8080 Translator can send data to one or two ISW-D8125CW Commercial Wireless Interface Modules. Use the PNL (panel) pins (*Figure 1*) to choose whether the translator sends data to one or two ISW-D8125CW Commercial Wireless Interface Modules. The default setting is one panel interface. To change the setting:

1. Use a small screwdriver to press the translator's housing release tab (*Figure 1*). Separate the housing.
2. Place a selection jumper on the appropriate PNL pins.
   - Place the jumper on the top two pins, marked **1**, to select one ISW-D8125CW Commercial Wireless Interface Module.
   - Place the jumper on the bottom two pins, marked **2**, to select two ISW-D8125CW Commercial Wireless Interface Modules.

2.1.2 Registration Configuration

The translator can accept registration from a single or double push of a transmitter's RST (reset) button (*Figure 1*). The default setting is a single button push.

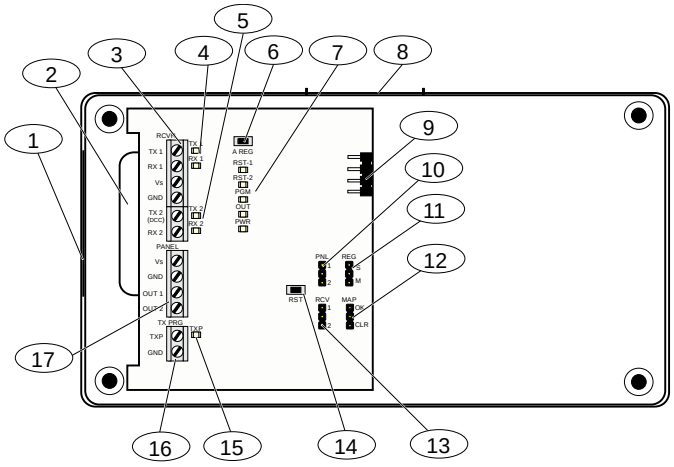
- Place the jumper on the top two REG (registration) pins, marked **S**, to select one button push.
- Place the jumper on the bottom two REG pins, marked **M**, to select two button pushes.

2.1.3 Serial Receiver Configuration

One or two ISW-EN4200 Serial Receivers can send data to the translator. Use the RCV pins to choose whether the translator accepts data from one or two receivers. The default is set for one receiver.

- Place the jumper on the top two pins, marked **1**, to accept data from one receiver.
- Place the jumper on the bottom two pins, marked **2**, to accept data from two receivers.

Figure 1: ISW-TRL8080 Translator Components



1 - Side cabling knockout
2 - Bottom cabling knockout
3 - RCVR (receiver data) terminal block
4 - Receiver 1 TX (transmit)/RX (receive) LEDs
5 - Receiver 2 TX (transmit)/RX (receive) LEDs
6 - AREG (automatic registration) button
7 - Operation LEDs
8 - Housing release tab
9 - Translator serial data port
10 - PNL (panel interface) pins
11 - REG (registration) pins
12 - MAP pins
13 - RCV (receiver) pins
14 - RST (reset) button
15 - TXP (transmitter programming) LED
16 - TX PRG (transmitter programming) terminal block
17 - PANEL (panel interface) terminal block

2.1.4 Clear ISW-TRL8080 Programming

Use the MAP pins (*Figure 1*) to clear the translator's programming during a power cycle. During normal operation, all programming is retained during a power failure.

To clear the programming:

1. Remove the jumper from the top two pins, marked **OK**, and place it on the bottom two pins, marked **CLR**. The REG LEDs (next to the REG pins) blink rapidly.
2. Press the RST button.
3. Using the **CLR** pins, remove and replace the jumper three times for one sec each within five sec. The REG LEDs (next to the REG pins) blink slowly.
4. Place the jumper in the **OK** position.
5. Press the RST button.

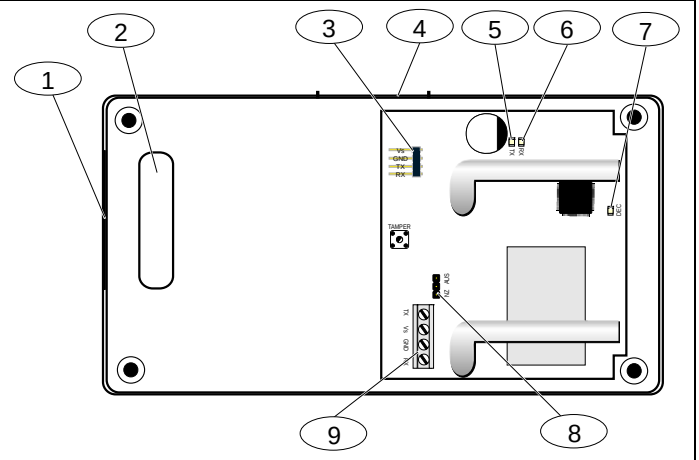
> The translator does not function unless the MAP jumper is in the **OK** position.

2.2 ISW-EN4200 Serial Receiver Configuration

Bosch wireless products use a range of radio frequencies, and must be configured for your geographic area.

All selection jumpers are shipped in their default positions (*Figure 2*). If you want to keep the default selections, setting the jumpers is not necessary. The ISW-EN4200 ships configured for North America frequencies.

Figure 2: ISW-EN4200 Serial Receiver Components



1 - Side cabling knockout
2 - Bottom cabling knockout
3 - Serial data port
4 - Housing release tab
5 - TX (transmit) LED
6 - RX (receive) LED
7 - DEC (decode) LED
8 - Frequency Band pins:
No jumper = North America (902 MHz to 928 MHz)
AUS = Australia (915 MHz to 928 MHz)
NZ = New Zealand (921 MHz to 928 MHz)
9 - Serial data terminal

To configure the serial receiver:

1. Use a small screwdriver to press the housing release tab (*Figure 2*). Separate the housing.
2. Place a jumper on the appropriate Frequency Band pins (*Figure 2*).
3. If the serial receiver is powered on, remove the power source to reset the serial receiver.

3.0 Electrical Connections

You can connect the ISW-EN4200 serial receiver to the ISW-TRL8080 translator in two ways: the receiver can be wired to the translator, or it can be connected directly to the translator, sharing a common housing.

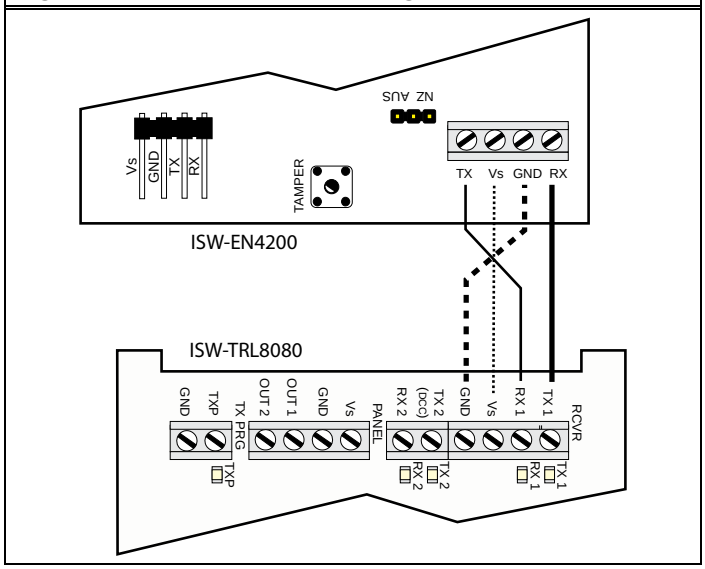
3.1 Receiver-to-Translator Wiring

- Do not install long cable runs next to high-current power feeds.
- Keep cable lengths as short as possible to minimize noise pickup.
- Measure voltage at the serial receiver on long cable runs.

1. Connect the serial receiver data terminal block to the translator data terminal block as shown in *Figure 3*. Cabling should meet the following specifications:
   - Four-conductor unshielded 20 AWG (or larger)
   - Cable length must not exceed 30.5 m (100 ft)
2. Route the cabling through either the translator's bottom cabling knockout or the side cabling knockout (*Figure 1*).
3. If you are connecting a second ISW-EN4200 Serial Receiver to the ISW-TRL8080 Translator, connect the cabling as follows:
   - Connect TX on the serial receiver data block to TX2 on the translator data block.
   - Connect Vs on the serial receiver data block to Vs on the translator data block.
   - Connect GND on the serial receiver data block to GND on the translator data block.
   - Connect RX on the serial receiver data block to RX2 on the translator data block.

When two serial receivers connect to the translator data block, they share the Vs and GND connections on the terminal data block.

Figure 3: Receiver-to-Translator Wiring



3.2 Receiver-to-Translator Direct Serial Connection

If desired, you can install the translator into the serial receiver's housing so that both devices share the housing. To add the translator to the serial receiver's housing:

1. Remove the printed circuit board (PCB) from the translator's housing.
2. Align the mating connector with the serial receiver's serial data port, and then slide the translator's PCB into the receiver's housing.
3. Ensure that the data ports connect using the mating connector, and then press down to click the translator's PCB into place.

3.3 Translator to ISW-D8125CW Commercial Wireless Interface Module Wiring

Refer to *Figure 4* on page 3. Use only the included ISW-ACC664 cable to connect the ISW-TRL8080 Translator to the ISW-D8125CW Commercial Wireless Interface Module. Do not use any other type of wire. Do not extend the length of the ISW-ACC664. The ISW-D8125CW must be mounted within four feet of the ISW-TRL8080 Translator.

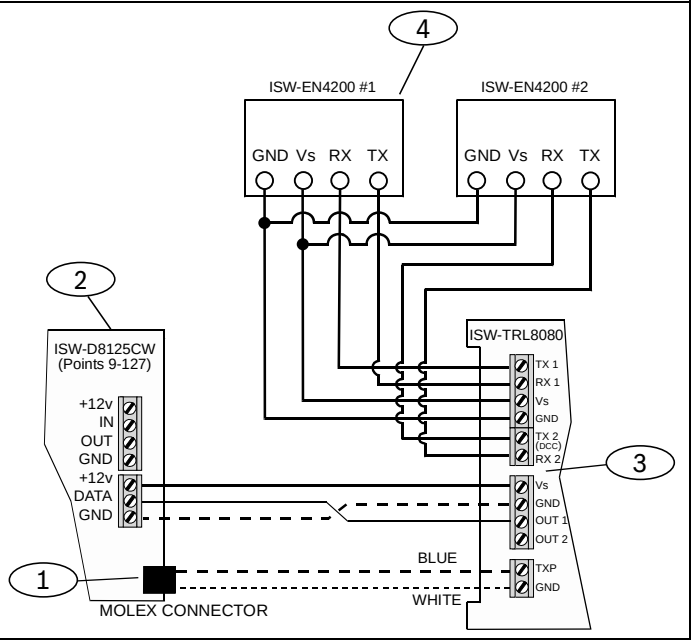
1. Connect one end of the red wire to the Vs connection on the translator's PANEL terminal block, and then connect the other end of the red wire to the +12V connection on the ISW-D8125CW.

The control panel must power the ISW-TRL8080.

2. Connect one end of the black wire to the GND connection on the translator's PANEL terminal block, and then connect the other end to the GND connection on the ISW-D8125CW.
3. Connect one end of the green wire to the OUT1 connection on the translator's PANEL terminal block, and then connect the other end to the DATA connection on the ISW-D8125CW.
4. Connect the blue wire to the TXP connection on the translator's TX PRG terminal block.
5. Connect the white wire to the GND connection on the translator's TX PRG terminal block.

6. Plug the ISW-ACC664 cable's black Molex Connector into the ISW-D8125CW's transmitter programming port.
   a. Remove the ISW-D8125CW Commercial Wireless Interface Module housing screw near the keypad, and then open the ISW-D8125CW Commercial Wireless Interface Module housing.
   b. Pass the ISW-ACC664 cable's black Molex Connector through the hole in the ISW-D8125CW Commercial Wireless Interface Module PCB (*Figure 5*).
   c. Pull the black connector through the cover.
   d. Plug the black Molex connector into the Transmitter Programming connector, with the white wire on the left.
   e. Pull the cable from the back to remove the slack so that the ISW-D8125CW Commercial Wireless Interface Module cover can close.

Figure 4: ISW-D8125CW to ISW-TRL8080 Wiring



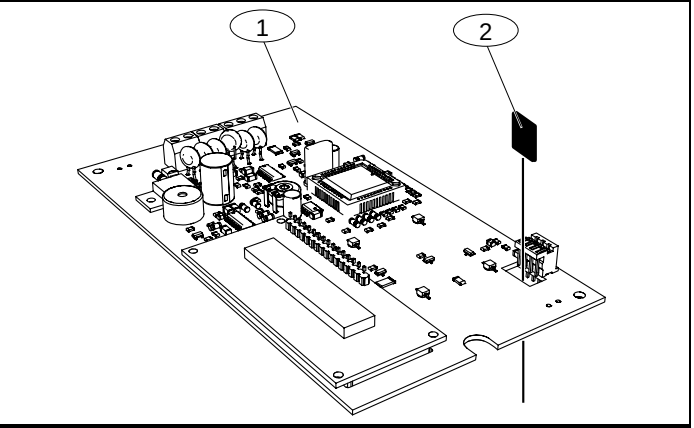
1 - Through ISW-D8125CW PCB hole to Transmitter Programming port

2 - ISW-D8125CW Commercial Wireless Interface Module

3 - ISW-TRL8080

4 - ISW-EN4200

Figure 5: Programming Cable Connection to ISW-D8125CW



1 - ISW-D8125CW Commercial Wireless Interface Module PCB

2 - Transmitter Programming Cable's black connector

3.4 Wiring the Translator to a Second ISW-D8125CW

1. Connect one end of the red wire to the Vs connection on the translator's PANEL terminal block, and then connect the other end to the +12V connection on theISW-D8125CW Commercial Wireless Interface Module.
2. Connect one end of the black wire to the GND connection on the translator's PANEL terminal block, and then connect the other end to the GND connection on the ISW-D8125CW Commercial Wireless Interface Module.
3. Connect one end of the green wire to the OUT2 connection on the translator's PANEL terminal block, and then connect the other end to the data connection on the panel interface.
4. Connect the blue wire to the TXP connection on the translator's TX PRG terminal block.
5. Connect the white wire to the GND connection on the translator's TX PRG terminal block.
6. Plug the Transmitter Programming Cable's black connector onto the Transmitter Programming port.

If connecting two ISW-D8125CW Commercial Wireless Interface Modules to the translator, they will share the Vs, GND and TXP connections on the translator's panel data block.

4.0 Register the System's Transmitters

You must register all transmitters and repeaters with the ISW-D8125CW Commercial Wireless Interface Module and with the TRL8080. Bosch wireless devices employ wireless registration, so there is no need to connect the transmitter to the ISW-D8125CW. No data is written to the transmitter during registration.

To register transmitters and repeaters:

1. Program the transmitter as described in the ISW-D8125CW Commercial Wireless Interface Module Operation and Installation Guide (P/N F01U133410).
2. When prompted, on the transmitter, press the RESET button, press the end device's RESET button once if the ISW-TRL8080 is set to accept registration after a single reset message, and twice if the ISW-TRL8080 is set for a double button push.
   - The RST-1 LED on the ISW-TRL8080 lights when the first reset message is received.
   - The RST-2 LED on the ISW-TRL8080 lights when the last reset message is received. The ISW-TRL8080 uses this LED only when in double button push mode.
3. After registering each transmitter and repeater, ensure an appropriate response from your control panel.
4. Ensure that each transmitter and repeater also registers with the ISW-TRL8080. As each unit registers successfully with the ISW-TRL8080, the ISW-TRL8080's green PGM LED lights.

5.0 Operation

5.1 ISW-TRL8080 Operation

Use the following LEDs to monitor translator operation. Refer to *Figure 1* on page 1.

5.1.1 Receiver 1 Transmit/Receive

TX1

Lights when the translator is transmitting data to the serial receiver or network coordinator.

RX1

Lights when the translator is receiving data from the serial receiver or network coordinator.

5.1.2 Receiver 2 Transmit/Receive

TX2

Lights when the translator is transmitting data to the second RF gateway.

RX2

Lights when the translator is receiving data from the second RF gateway.

5.1.3 Transmitter Programming LED

TXP

Lights when the translator is sending or receiving transmitter programming data.

5.1.4 Translator Operation LEDs

RST-1

- Lights when the first reset message is received from a transmitter.
- Blinks slowly when Receiver 1 is inactive.
- Blinks quickly when a selection jumper is placed in the CLR position on the MAP selection pins.

RST-2

- Lights when the last reset message is received from a transmitter.
- Blinks slowly when Receiver 2 is inactive.
- Blinks quickly when a jumper is placed in the CLR position on the MAP selection pins.

PGM

- Lights when programming is completed.
- Blinks quickly when a jumper is placed in the CLR position on the MAP selection pins.

OUT

Lights when data is transmitted to and from the control panel.

PWR

Lights when the translator is receiving power.

5.2 ISW-EN4200 Operation

Use the following LEDs to monitor serial receiver operation. Refer to *Figure 2* on page 2.

TX

Lights when the serial receiver is transmitting data to the application controller.

RX

Lights when the serial receiver is receiving data from the application controller.

DEC

Lights when the serial receiver is decoding an RF transmission from another wireless device.

6.0 Specifications

Housing Dimensions (H x W x D)	162 x 91.4 x 27.9 mm (6.4 x 3.6 x 1.1 in.)
Weight	14.2 g (0.5 oz)
Power Requirements	12 VDC at 1 W
Operating Environment	0° to 60°C (32° to 140°F), 90% relative humidity, non-condensing

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