

Getting Started

Sensus Provided Components

- Sensus Smart Gateway unit
- Wall Mount Kit: 1 cable gland with single hole insert (5-10 mm wire), 4 Phillips head screws, 4 mounting feet



OR

- Pipe/Wall Mount Kit: 1 cable gland with single hole insert (5-10mm wire), 4 Phillips head screws, 2 mounting bars, 4 mounting feet



Sensus Optional Components

- Multi-Cable Kit: 1 cable gland with 2 two hole inserts (4.5-6mm wire each) and 1 single hole insert



Customer Provided Components

- Transducer with Cable (1)
- Hose clamp (2), ≤ 5 in. width - used in pipe mount
- Appropriate mounting screws - used in wall mount

Prerequisite(s)

Read all sensor documentation first to ensure you are familiar with your particular sensor wiring.

Tools (customer provided)

- Hammer & Wrench
- #2 and #0 Phillips screwdriver
- Wire trimmers
- Large flathead screwdriver (depending on customer's pipe mount)



Fig. 1: Punch cable hole



Fig. 2: Cable hole punched out



Fig. 3: Attach cable gland

Installation

1. Using a screwdriver and a hammer, punch out a hole for the cable through one of the knock-outs on the bottom of the enclosure as shown (Figs. 1&2).
2. Take the cable gland out of the provided kit. Install the cable gland through the hole you just punched out (Fig. 3) in such a way that the gasket is on the outside of the enclosure. Tighten the nut on the inside but not the cable gland (Fig. 4).
3. Run your customer provided transducer cable through the cable gland and into the center of the Smart Gateway module (Fig. 5) to measure the length. Pull back out to butt the cable sheath approximately 8 inches and strip the wires approximately .25 inch. Trim any unnecessary wires.
4. Run the stripped cable through the cable gland and then tighten the cable gland to hold the cable in place. You will want to make sure that the wire has enough give in it so the lid will close without bending or breaking the wire.
5. Using the #0 Phillips screwdriver, loosen the screws in the terminal block.

Note: The provided cable gland can accommodate one (1) 5-10 mm wire. To accommodate additional wires please order the optional multi-wire kit from Sensus.



Fig. 4: Tighten nut on inside

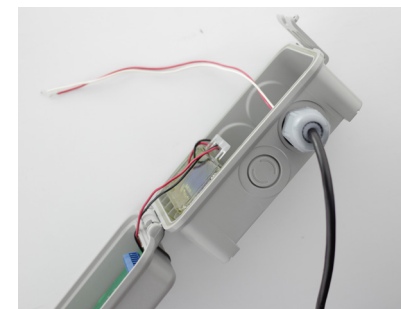


Fig. 5: Run cable through to measure

6. Lace the wires through the fingers on the battery holder before attaching to the terminal block.
7. Attach the sensors (Fig. 6) to the appropriate pin according to your specific sensor documentation and following the Sensor Connection guidance below. A label inside the unit shows the layout of the pins (Fig. 7).

Take care to not damage the PCB surface.

SENSOR 1 (+) = output power to the sensor

SENSOR 1 RTN = reference/ground for the unit

SENSOR 1 (-) = return current from

the sensor, unit uses for measurement

8. Trim and cap any unused sensor wires.
9. Tighten the terminal block screws using the #0 Phillips screwdriver.
10. Ensure that the cable gland is tight around the cable and the nut that secures the cable gland to the housing is tightened firmly. Close the lid of the module (Fig. 8).

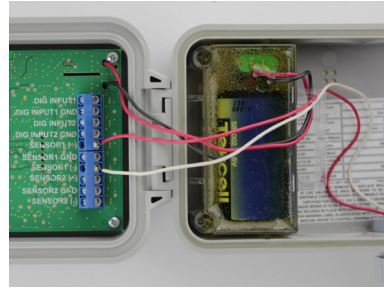


Fig. 6: Attach sensors

DIG INPUT 1
DIG INPUT RTN
DIG INPUT 2
DIG INPUT 2 RTN
SENSOR 1 (+)
SENSOR 1 RTN
SENSOR 1 (-)
SENSOR 2 (+)
SENSOR 2 RTN
SENSOR 2 (-)

Fig. 7: Pin layout label



Fig. 8: Closed module with cable installed

Sensor Connection

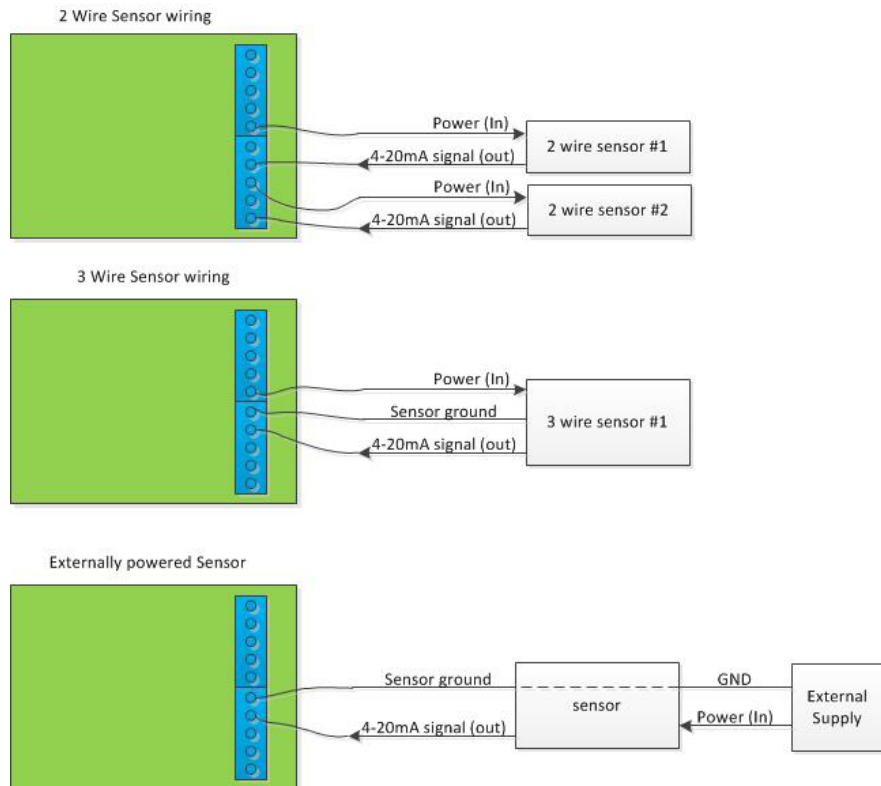
If you are using a 2 wire sensor: Connect the sensor power to the terminal labeled "Sensor +". Connect the sensor 4-20 mA output to terminal labeled "Sensor -".

If you are using a 3 wire sensor: Connect the same as a 2 wire sensor, except in addition, connect the ground wire of the sensor to the terminal labeled "Sensor RTN".

If you are using a 2 wire sensor that has its own power supply separate from the Smart Gateway:

Connect the sensor 4-20 mA output to the terminal labeled "Sensor -". Connect the sensor (or the sensor's power supply) ground to the terminal labeled "Sensor RTN".

Analog Sensor Wiring Guide



Wall Mount

- Using a #2 Phillips screwdriver, attach the provided mounting feet to the four corners of the back of the unit using the provided screws. (Fig. 9). The feet can be attached either horizontally or vertically according to preference.

x axis markings should be 17 cm apart and the y axis markings should be 7.5 cm apart. If you mounted the feet vertically, the x axis markings should be 12.5 cm apart and the y axis markings should be 12 cm apart.
- Mark the location on the wall where you want to mount the unit. If you mounted the feet horizontally, the
- Mount the unit to the wall using the open side of the mounting feet and appropriate sized screws.



Fig. 9: Attach mounting feet

Pipe Mount

- Run the customer provided clamps through the Sensus provided mounting bars (Fig. 10).
- Using a #2 Phillips screwdriver, attach one of the provided mounting bars, with clamp installed, to the back of the unit using the provided screws.
- Repeat for the second mounting bar and band/hose clamp.
- Attach the unit to the pipe using the band/hose clamps. You can mount the unit to a horizontal or vertical pipe (Fig. 11 shows the unit mounted to a vertical pipe).



Fig. 10: Pipe mount bars and clamps

Recommendation:

If installing on a pipe, Sensus recommends that you install the transducer cable into the pipe before wiring it into the Smart Gateway. This will reduce twisting on the transducer cable.

Please Note:

The FCC etching on the top of the outside enclosure exterior cannot be obstructed from view. When planning where to mount the Smart Gateway, ensure that the FCC etching is visible and readable from all perspectives.

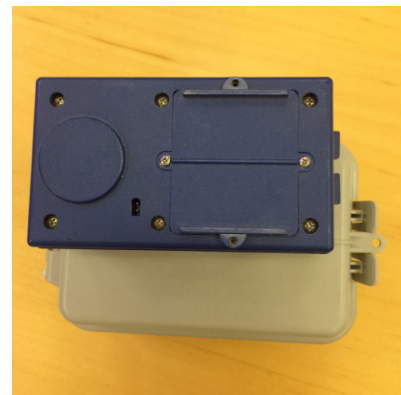


Fig. 11: Attach to pipe

Proper Placement of the CommandLink

For complete instructions on activating the Smart Gateway please refer to the FieldLogic Smart Gateway Quick Guide.

- Power on your HHD and the Command Link.
- Position the CommandLink's antenna area on the SmartPoint Module's ASK location as shown. This location is at the top of the SmartPoint for the Smart Gateway.
- Launch FieldLogic Tools.



Compliance Statements

Warning!

Substitution of components may impair suitability for Class 1, Division 2. Risque D'Explosion—La Substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Class 1, Division 2.

Attention!

Lithium Thionyl Chloride battery type D 3.6V, MAX pulse current 1.2A. Le type D 3.6V de batterie de Chlorure de Thionyl de Lithium, le courant de pouls de MAX 1.2A.

Attention!

Refer to Control Drawing 96003386.

Attention!

This is a Class 1, Division 2 AEx (NI) IIA T6 Gc product.

Attention!

This product is rated IP66 in accordance with IEC 60529.

Warning!

The antenna used for this transmitter must not be co-located in conjunction with any other antenna or transmitter.

Attention!

For Class B - Unintentional Radiators:
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.

Attention!

Any modifications made to this device that are not approved by Sensus may void the authority granted to the user by the FCC to operate equipment.

Attention!

ICES-003 Class B Notice—Avis NMB-003, Class B
This Class B digital apparatus complies with Canadian ICES-003.

Warning!

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212°F. Such treatment can cause cell rupture.

Radiation Hazard!

In order to satisfy the RF exposure limit for transmitting devices, a separation distance of 27cm (10.6 inches) or more should be maintained while operating the Sensus SGW100. To ensure compliance, operation at closer than this distance is not recommended. This minimum safe distance is required between personnel and the antenna of this device. Afin de satisfaire à la limite d'exposition RF pour les appareils de transmission, une distance de séparation de 27cm (10,6 pouces) ou plus doit être maintenu pendant le fonctionnement du Sensus SLCPIM. Pour assurer la conformité, un fonctionnement à distance inférieure à celle est pas recommandée. Cette distance minimale de sécurité est nécessaire entre le personnel et l'antenne de cet appareil.

Attention!

Note: 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 or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into 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

Attention!

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Attention!

This radio transmitter, the Sensus SGW100, has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (Sensus SGW100) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

- PCB Printed Monopole 2dBi

Attention!

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

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