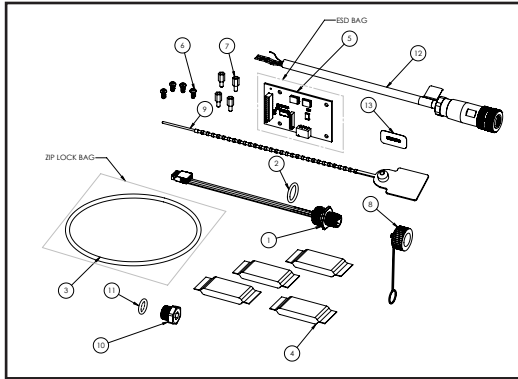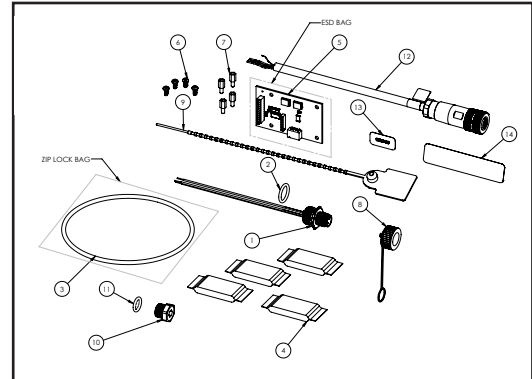**AG3000, AG3000r, iMAG 4700, iMAG 4700r, AG90, EX90**
Kit #104247

AG3000p, iMAG 4700p
Kit #104246

Your Sensus Installation Kit (104247, 104246) includes the following:

1) Sensus Connector
2) O-ring, Sensus Connector
3) O-ring, Lid
4) Desiccant (Keep in bag until ready to install)
5) Sensus PCA (In Bubble Wrap)
6) Option Board Screws
7) Option Board Standoff

8) Connector Cap
9) Security Seal
10) Replacement Plug
11) O-ring, Replacement Plug
12) Sensus Cable
13) Sensus Label
14) Premium Label

Sensus output can be added to any AG3000/iMAG4700 or AG/EX90, after the meter ships from the factory.

Any base model meter built before May 2023 can only fit one option or Sensus board in the housing (no Sensus with any additional option on base model meters built before 5/1/23)

Adding the Sensus is quite simple but there are a few possible combinations. You will need to choose the correct housing and cable from the instructions below.

If the meter is equipped with a data logger you will need to replace the data logger connector with the Sensus connector. They look alike but are not interchangeable.

If your meter came with a data logger connector with smaller threads than the Sensus connector, you will need to use one of the larger m16 threaded ports and plug the smaller hole with the supplied m12 plug and O-ring.

If your meter was not originally supplied with a data logger, continue adding the Sensus option here.

Your AG3000/iMag4700 flow meter will come in one of three models, or you may have an AG90/EX90:

Base Model (Most Common)   The Remote 'r' Model   The Premium 'p' Model   AG90/EX90

The base model, remote 'r' model and AG90/EX90 use a Sensus connector with a 4-pin plug.

Kit #: 104247

The premium 'p' model unit uses a Sensus connector with 3 bare wires.

Kit #: 104246

INSTALL CONNECTOR AND SENSUS BOARD

Open Housing

1. Cut security seal, if used, remove and discard.

2. Unscrew the glass cover from over the display and remove. Be sure the o-ring seal stays in place. If the lid is threaded, use a strap wrench to protect the coating or a pipewrench or large pliers.

3. Remove the 3 silver screws holding the display assembly and remove it from the meter. If the display is held in place by white or silver tabs with straight slots, rather than screws, simply grasp the finger recess and pop the display up and out of the meter.

> **CAUTION!** Before removing display lid, take precautions to prevent water or wind-born dust from getting into the display enclosure while the cover is off.

> **IMPORTANT:** If water usage regulation is in effect, only a person authorized by your regulatory agency should break the seal and replace it when finished.
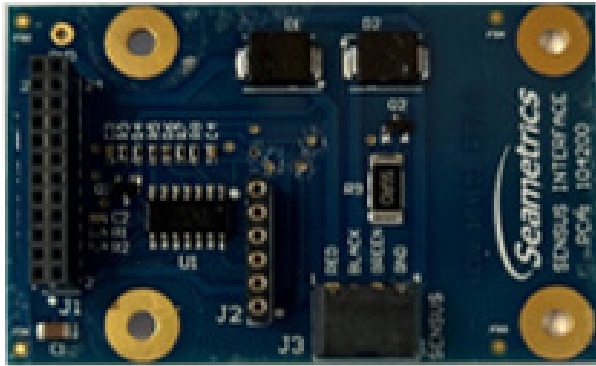
Install Sensus Connector

1. Remove one of the M16 hex plugs with a socket, crescent or allen wrench.

2. Insert the Sensus hex connector and O-ring.

3. When tightening the hex connector be certain to torque to at least 6-inch pounds. If the connector is not tight enough, it may come loose when the dust cap is removed. We recommend adding a thread sealant.

Install the Sensus Board on the Back Side of the Transmitter (Display) Board

If the meter has no option boards other than Sensus

1) Disconnect any meter power and disconnect the meter battery.

2) Install the new 104200 Sensus option board by inserting the 24-pin plug.
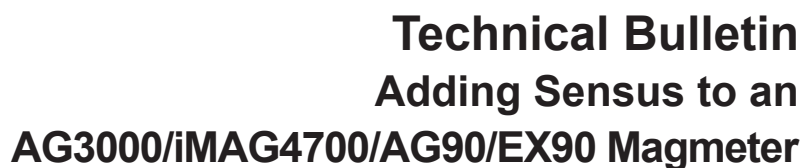

104166 Sensus PCA board

3) Secure with four 103241-04-250 Torx head (T-10) option board screws.

If the Meter Has Another Option Board (Including Base Model Meters Built After 5/1/23)
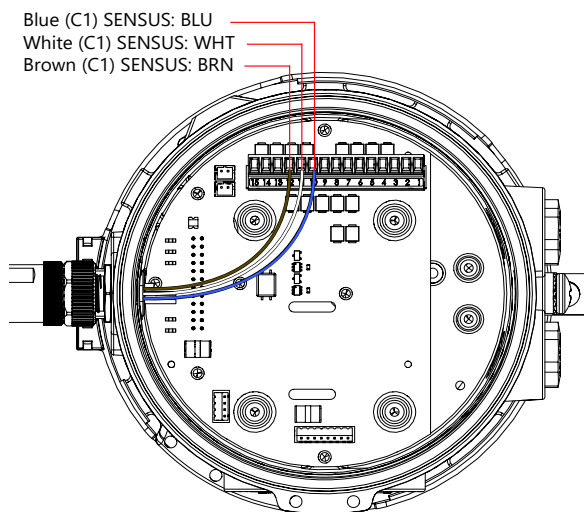
1) Disconnect any meter power and disconnect the meter battery.

2) Remove the T-10 Torx head screws on the option board.

3) Replace the screws with 103032-04-281-1 standoffs.

4) Install the 104200 Sensus option board and secure with T-10 Torx head screws.

5) If the original option board had components taller than the standoffs, the two boards will need to exchange positions.

Wire in the Sensus option board

1) There is a 4-pin plug on the Sensus connector or on the wire harness. Plug this 4-pin plug into the Sensus board.

On Premium 'p' Models

1) Wire the Sensus connector to the 15-pin plug in the housing
   Sensus Blue to pin 10
   Sensus White to pin 11
   Sensus Brown to pin 12

Blue (C1) SENSUS: BLU
White (C1) SENSUS: WHT
Brown (C1) SENSUS: BRN

Install this wire label inside of black lid.

Update Transmitter Firmware to CP-15003_31.xx or Higher

1) This can be done using the current version of the Seametrics Firmware Upgrader
2) For meters built before October 2023, see Technical Bulletin "Installing Firmware for RTC Data Loggers or Sensus in Meters Built Before October 2023" LT-14742

Attach the SENSUS label to the housing just above the connector

FINAL STEPS (ALL MODELS)

1. Return the display (transmitter) board to the housing.

2. Install the cap on the connector. The connector is water tight without the cap, but the cap helps keep the connector clean.

3. Be sure the window and black cover ('p' model) are snug and secure to assure a watertight seal.

The cover should be tight and sit flush to the top of the head giving sufficient compression of the O-ring.

Always be sure the meter cover is sealed to prevent water ingress.

Warranty could be void if seal is not completely seated to housing.