

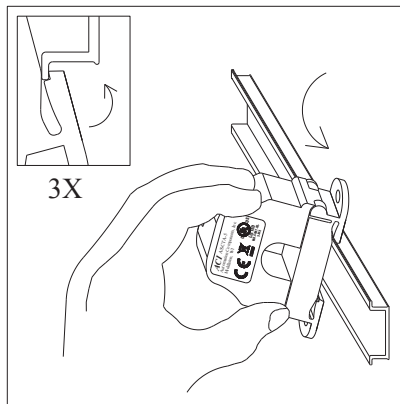
# SENSAPHONE<sup>®</sup>

## REMOTE MONITORING SOLUTIONS

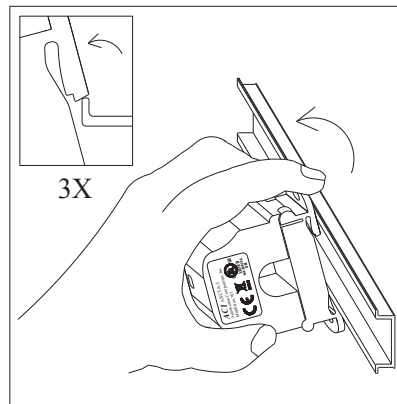
### SENSAPHONE CURRENT SENSOR • FGD-0075-50, FGD-0075-200 Installation Instructions

Make sure that all installations are in compliance with all national and local electrical codes. Only qualified individuals that are familiar with codes, standards, and proper safety procedures for high -voltage installations should attempt installation. The current sensor is a 2-wire Loop Powered device that requires a regulated +12 to 30VDC external power source.

The FGD-0075 Series Analog Current Sensors should be used on Insulated Conductors Only! The current sensors may be mounted in any position using the (2) #8 x 3/4" Tek screws and the mounting holes in the base or snapped directly on to the 35mm DIN rail (See Figures 1 & 2 below). Leave a minimum distance of 1" (3cm) between the current sensor and any other magnetic devices such as contactors and transformers.



**Figure 1: Sensor Placed on Rail**

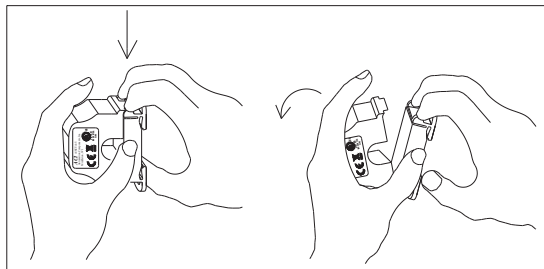


**Figure 2: Sensor Removed from Rail**

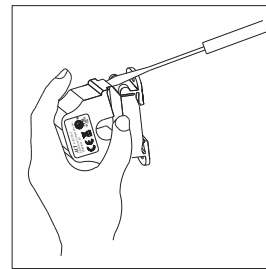
Pressing down on the two (2) side tabs and swinging the cover open opens the split core current sensor as shown in Figure 3 below. Lifting up on the latch with a flat-tip screwdriver as shown in Figure 4 below can also open the unit. Press down firmly on the cover to close the current sensor. An audible "click" will be heard as the tab slides over the tongue on the base.

#### Caution:

Mating surfaces of the magnetic core are exposed when the sensor is open. Silicone grease, present on the cores to prevent rust, can capture grit and dirt if care is not exercised. Operation can be impaired if anything prevents good contact between pole pieces. Visually check the mating parts of the core before closing the current sensor.



**Figure 3: Opening Sensor by Hand**



**Figure 4: Opening w/ Screwdriver**

#### Wiring

Sensaphone recommends the use of a 2 conductor 16 to 22 AWG shielded cable, copper wire only for all current sensor installations. A maximum wire length of less than 30 meters (98.4 feet) should be used between the A/SCTA Series current sensors and the Building Management System or controller. Note: When using a shielded cable, be sure to connect only (1) end of the shield to ground at the controller. Connecting both ends of the shield to ground may cause a ground loop.

When removing the shield from the sensor end, make sure to properly trim the shield so as to prevent any chance of shorting. The current sensors terminals are polarity sensitive and represent a linear and proportional 4 to 20mA output signal. The current sensors are available in either an Average or True RMS output version. The recommended torque to be used on the terminal block connections is 0.67 Nm or 5.93 in.-lbs. The aperture (hole) size of the current sensor is 0.75" (1.90 cm) and will accept a maximum cable diameter of 350 MCM's.

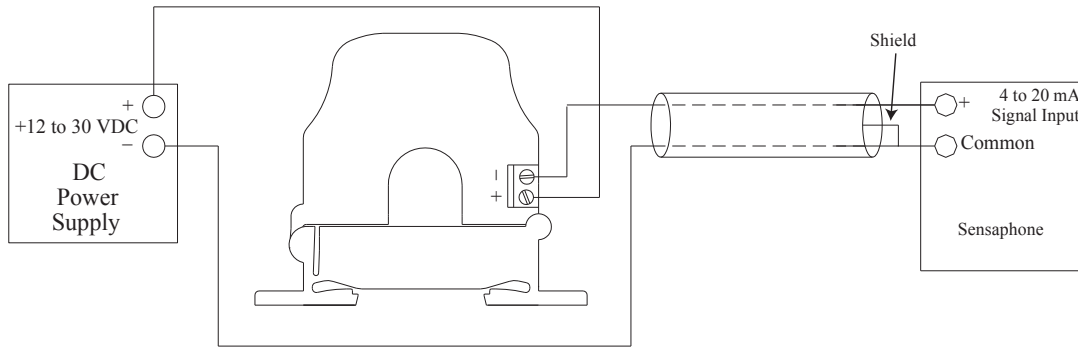
## Operating Specifications

Set the jumper according to the table below:

Model #	Range	Jumper	Max Sensing Current Voltage	Max Continuous Current	Max Current for 6 seconds	CE Compliant
FGD-0075-50	0-10 Amps 0-20 Amps 0-50 Amps	Low Middle High	600 VAC	100 Amps 150 Amps 200 Amps	125 Amps 225 Amps 300 Amps	Yes
FGD-0075-200	0-100 Amps 0-150 Amps 0-200 Amps	Low Middle High	600 VAC	135 Amps 180 Amps 250 Amps	200 Amps 300 Amps 400 Amps	Yes

\* Note: All current sensors are shipped from factory with the jumper set in the high range.

## Wiring Example



## Troubleshooting

Problem	Solution
No reading	Confirm that you have +12 to 30VDC in series with the current sensor output terminals and the analog input of the control panel. Check the polarity of the circuit. Verify that the terminals are screwed down, wires are firmly in place. Disconnect the input to the control panel and then insert a current meter (mA range) in
Erratic Readings	Verify that the wires are terminated properly. Check that the +12 to 30VDC input is clean. In areas of high RF interference, shielded cable may be necessary to stabilize signal.
Inaccurate readings	If you suspect that the current sensor is not reading within the accuracy specifications, please contact the factory for assistance.
Current Switch is operating at a low-level current or failing to operate within the accuracy specifications.	Visually check the mating parts of the core to ensure there is no debris between the split contacts. Remove all debris or dust manually and close the current sensor. Continue to retest the sensor in your application. See Figure 3 on Page 1.

## Current Conversion Formulas

To convert the current sensor output signal to a current reading.

4-20mA output to Current reading (4mA = 0 Amps and 20mA = 200 Amps for FGD-0075-200)

Example: 12mA current sensor output signal

Total Span = 200 Amps

Multiplier =  $20\text{mA} - 4\text{mA} / 200$  (Total Span) = 0.08

$(12\text{mA} - 4\text{mA}) / 0.08 = 100$  Amps

## WEEE Directive

At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre. Do not dispose of with household waste. Do not burn.

