

Tips, Tricks and FAQs

Senva wants to ensure each product is used for the proper application. Below is a list of FAQs we encounter on a regular basis with our current sensor lines. Remember, Senva offers live customer and technical support via email sales@senvainc.com or toll-free (866) 660-8864.

LOOPING WIRE

Technicians can loop wires in order to increase the amount of current passing through the CT. Each loop doubles the amount of amperage passing through the CT. This may be required for applications where not enough amperage is present in a single wire to fall within the specified CT amperage range.

LOAD SIDE VS. LINE SIDE

All Senva Fixed, Preset, Autoset, Multi-point and Analog current sensors are designed to go on the line side of the motor/pump as all of these CTs operate at a frequency of 50/60Hz. The VFD line (C-2350VFD & C-2350VFD-L) and C-1550 are the only CT lines that are designed to be installed on the load side as they are looking at the ratio between amperage and frequency.

MONITORING STATUS

When monitoring status on your pump or motor, utilize a fixed current sensor that has a minimum threshold of 0.5A or lower. Fixed current sensors will close the contacts and relay a signal that current is present in the line to the pump/motor.

MONITORING BELT LOSS/COUPLING

When looking for belt loss/coupling there are several options based on the desired signal. For a digital current sensor on constant volume motors/pumps, utilize the Preset or Autoset line. The preset line allows the electrician or technician to set the dial to the full load amperage (FLA) on the motor name plate. The Autoset line uses a microprocessor to automatically set the threshold in the same fashion as the Preset without requiring any manual adjustment. The sensor then looks for a 30% or greater decrease in amperage to alert when a belt has broken.

When working with direct drive or fractional HP motors/pumps, it is often recommended to utilize an analog CT as the change in amperage between a loaded and unloaded motor may be too small for a digital current sensor to detect and trigger the alarm.

When working on variable frequency drives (VFDs) see below for the Senva VFD specific sensor.

VFD APPLICATIONS

Our most frequent technical call regarding our current sensor line is for misapplication using our VFD sensors. The C-2350VFD requires 3.5A and 15Hz minimum to power the microprocessor in the sensor. If the current and/or frequency is below the specification, the device will not function properly. If sufficient amperage is not present, the technician can attempt looping the wire to provide the necessary current. For motors/pumps less than 10HP, consider using the C-2350VFD-L, which is a 3-wire device that is specified to work in the range of 0.5-15A.

ISSUES WITH MONITORING STATUS ON ELECTRONICALLY COMMUTATED MOTORS (ECM)

ECMs draw a small amount of AC current to the inverter, up to 120mA, when the motor isn't running. If you're using a fixed current sensor with a extremely low trip-point, it may falsely indicate the motor is running when in fact it is only passive current draw from the inverter. Choosing a current sensor with a fixed set point above the 120mA threshold will help avoid false trips. Senva has adjusted the set point across the fixed current sensor line above the ECM threshold. This includes options in our solid-core and split-core lines. (See page 22 for details)