

SENVA C-2220-L ECM Adjustable Mini Split- Core Digital Output



SENVA C-2220-L ECM Adjustable Mini Split-Core Digital Output Installation Guide

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SENVA C-2220-L ECM Adjustable Mini Split-Core Digital Output



Product Information

Specifications:

- Product Model: C-2220-L ECM
- Type: Adjustable Mini Split-Core Digital Output Sensor
- Maximum Voltage: 600VAC
- Wetting Voltage: 30VAC/DC
- Application Limitation: Not suitable for life or safety applications

Product Usage Instructions

Installation:

1. Disconnect, lock out, and tag out all power supplies before installation.
2. Determine the mounting location for the sensor near the conductor to be monitored, ensuring it is at least 1/2 inch away from any uninsulated conductor.
3. Clamp the sensor around an INSULATED CONDUCTOR ONLY with a maximum of 600VAC to be monitored.
4. Mount the sensor using the included bracket by either screw-mounting or attaching to a DIN rail.
5. Wire the output of the sensor to a control panel digital input loop, ensuring it does not exceed 30VAC/DC wetting voltage. Tighten terminals to 3.5 in-lb.

ECMSET Calibration:

Pre-set Calibration:

1. Set knob to position 'A' and test motor operation at minimum speed to ensure proper on/off status.
2. If CT status matches the motor's on/off state, calibration is complete.
3. If CT does not open when the motor is off, adjust the dial up (CW) one letter position and retest. Repeat until CT status matches the motor's on/off state.

Conventional Calibration:

1. Turn dial to Maximum setting 'K' and run the motor at minimum speed.
2. Adjust the dial down (CCW) until the LED turns green or the relay closes.
3. If adjusting all the way to 'A' does not change the relay state, a wire wrap may be necessary for low current loads.

Wire Wrap:

On low current loads, wrap the sensor multiple times around the conductor to increase sensitivity. Do not exceed the sensor's maximum current as it increases by 1X with each wrap.

FAQ

Q: Can this product be used in critical applications?

A: No, this product is not intended for critical applications such as nuclear facilities, human implantable devices, or life support.

DANGER

Failure to follow these instructions will result in death or serious injury.

Hazard of electrical shock, explosion, and arc flash

- Follow ALL requirements in NFPA 70E for safe work practices and for Personal Protective Equipment (USA) and other applicable local codes when installing this product
- Only qualified electrical personnel should install this product.
- Read, understand, and follow all instructions thoroughly
- Install only on insulated conductors
- Lock out and tag out all power sources prior to installation.

Use properly rated voltage sensing instrument to determine no voltage is present

WARNING

Failure to follow these instructions could result in death or serious injury. Automated equipment may start without warning

- Equipment monitored/operated by this device may start without warning. Keep clear of apparatus at all times

IMPORTANT WARNINGS

- Only qualified trade installers should install this product
- This product is not intended for life-safety applications
- Do not install in hazardous or classified locations
- The installer is responsible for all applicable codes

- This product must be installed in a suitable electrical enclosure

Installation

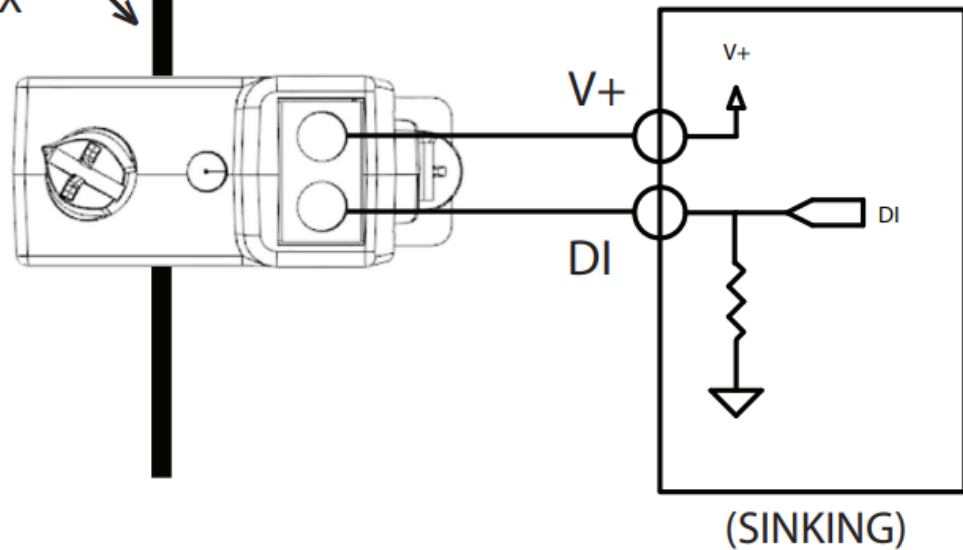
Disconnect, lock out and tag out all power supplies during installation

1. Determine mounting location for the sensor near the conductor to be monitored. The sensor should be located AT LEAST 1/2" from any uninsulated conductor.
2. Sensor features a flexible iris which allows the sensor to hang on the conductor if local codes permit. A bracket is included for screw mounting or attaching to DIN rail. For screw mounting, drill two 3/32" pilot holes using the bracket as a template; ensure no drill shavings are present in enclosure. Attach bracket with screws provided.
3. Clamp sensor around INSULATED CONDUCTOR ONLY, 600VAC MAX to be monitored.
4. Snap the sensor into the mounting bracket.
5. Wire the output of the sensor to a control panel digital input loop, not to exceed 30VAC/DC wetting voltage. Tighten terminals to 3.5 in-lb.

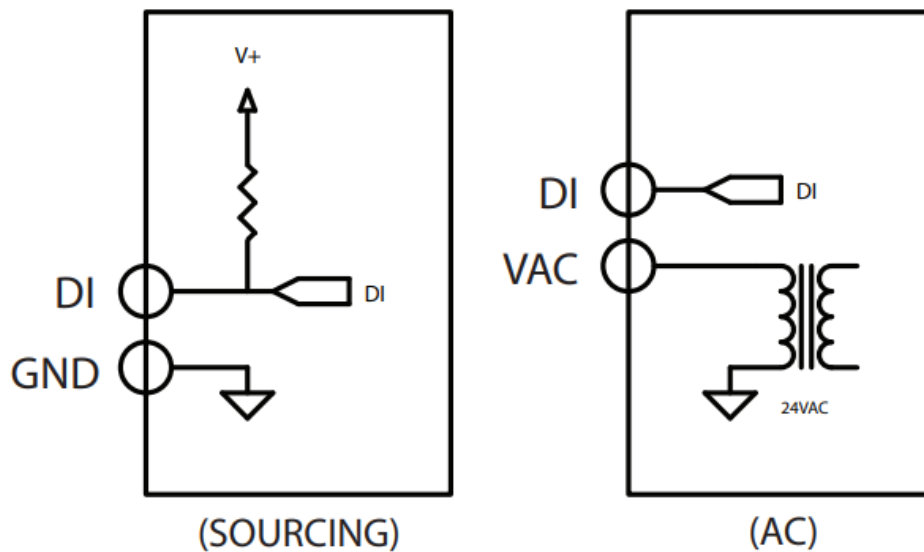
WIRING EXAMPLE

INSULATED PRIMARY
AC CONDUCTOR
600VAC MAX

NOTE: Device is NOT polarity sensitive.



ALTERNATE CONTROLLER ARRANGEMENTS



PRODUCT APPLICATION LIMITATION:

Senva products are not designed for life or safety applications. Senva products are not intended for use in critical applications such as nuclear facilities, human implantable device or life support. Senva is not liable, in whole or in part, for any claims or damages arising from such uses.

ECMSET CALIBRATION (Typical)

After installing CT on power wire and connecting the relay output, choose one of the following methods for calibrating the on/off point. Pre-set Calibration – Avoid Live Calibration Set knob to position 'A'. Test motor operation at minimum speed and off to ensure proper on/off status from current switch.

1. If CT status matches on/off state of the motor, you are done.



2. If CT does not open when motor is off, adjust the dial up (CW) one letter position and test again. Repeat until CT status matches on/off state of the motor
3. If CT does not close when motor is at low speed, adjust the dial down to the minimum setting 'A' and check whether the relay is closed while the motor is running.
 - If relay is not closed in 'A' position, the motor's minimum run current is not enough to power the device and a wire wrap is necessary.
 - If relay closes in 'A' position, set dial position to 'B' and test again. Increase dial by one letter position at a time until CT status matches on/off state of the motor

Conventional Calibration

Turn dial to Maximum setting 'K'.

1. Run motor at minimum speed.
2. Adjust dial down (CCW) until LED turns green or the relay closes. If knob is adjusted all the way to the 'A' setting and the relay state does not change, the motor's minimum run current is not enough to power the device and a wire wrap is necessary



3. Once LED changes to green or relay closes, adjust dial up (CW) to next labeled position.



4. Re-test motor operation at minimum speed and off to ensure proper on/ off status from current switch.



5. Note the position of the knob. For similar motors and applications, the same dial position can be applied to save calibration time.

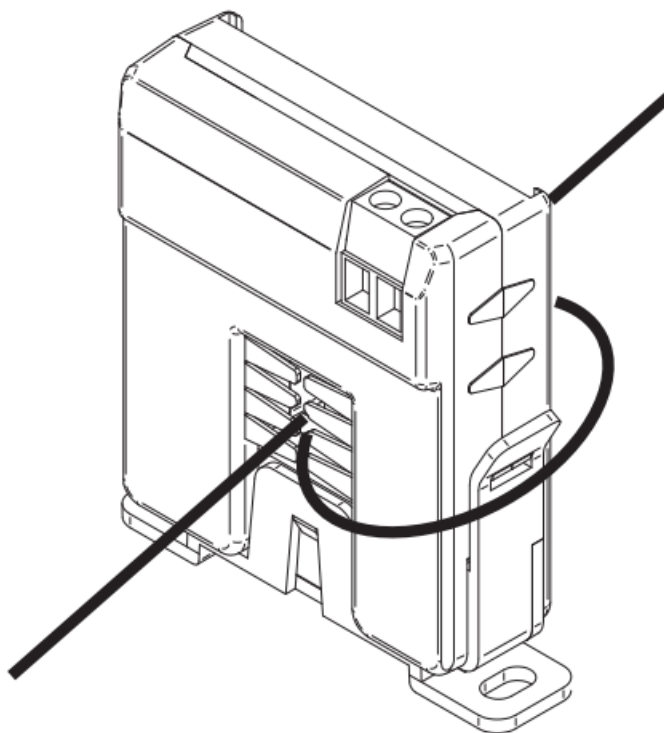
Cold Climate Adjustment

For installation environments expecting to see temperatures lower than 0°C, it is recommended to adjust the dial up (CW) an additional letter position.

Wire Wrap

On low current loads, wrap sensor multiple times to increase sensitivity

CAUTION: Do not exceed sensor maximum current. The current detected by the sensor will increase 1X with each wrap



Maximum surrounding air ambient, 60 ° C. For use in Pollution Degree 2 Environment

Part Number C-2220-L ECM

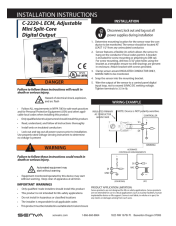
- Amperage Range 0 A – 50 A
- Trip Adjustment 0.03 A – 0.50 A (varies by motor type)
- Dial Adjustment 240 degrees, no tools required
- Output Type NO, solid-state FET
- Contact “On” Resistance <10Ω
- Contact “Off” Resistance >1MΩ
- Response Time <3s
- Hysteresis 2-6%
- Output Rating 1.0A@30VAC/DC Max.
- Power/Status LED Power (red), Contact closed (green)
- Environmental Rating 5-140 °F (-15-60 °C), 10-90% RH Non-condensing
- Insulation Class 600V RMS. For use on insulated conductors only!
- Use minimum 75 °C insulated conductor
- Sensor Power Induced
- Frequency Range 50/60Hz
- Dimensions (LxWxH) 1.9” x 1.35” x 0.6” (2.0” x 1.6” x 0.6” with bracket)
- Sensor Aperture 0.375”
- Compliance cUL, UL, CE, RoHS

Troubleshooting


Symptom	Causes	Remedy
Sensor output does not change state	Amperage is below sensor minimum threshold	Wrap monitored conductor turns through sensor. See Tech Tips
	Adjustment incorrect	See Conventional Calibration procedure
	Testing with ohm meter yields incorrect results	Solid state output may show approx. 1 ohm or less
	Incorrect control wiring	Ensure control loop voltage is present

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Documents / Resources

	SENVA C-2220-L ECM Adjustable Mini Split-Core Digital Output [pdf] Installation Guide C-2220-L, C-2220-L ECM Adjustable Mini Split-Core Digital Output, C-2220-L ECM, Adjustable Mini Split-Core Digital Output, Split-Core Digital Output, Digital Output, Output
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References

-  [**Senva inc: Gas Sensors, Toxic Sensors, Dry Pressure Sensors, Wet Pressure Sensors, Humidity/Temp Sensors, Current Switches, Current Transducers, Energy Measurement, Relays, Leak Detection, IoT Solutions, Smart Sensors**](#)
- [**User Manual**](#)

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