

# Honeywell

# CTP Series Current Transmitters

## INSTALLATION INSTRUCTIONS



### **⚠ WARNING**

This product can expose you to chemicals including 1,3 Butadiene, which is known to the State of California to cause cancer and reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## DESCRIPTION

The CTP current transmitters monitor the current flow for various electrical equipment. Measured current level is converted into a linear and proportional 0 - 5/10 Vdc or 4-20mA output signal, which can be monitored by a Building Management, DDC, or PLC controller. Current sensors with switch selectable current ranges provide optimal resolution for greater measuring accuracy. . These current sensors should be used in load trending (current monitoring) type applications.

The split core design make installations easy since no wires need to be disconnected during the installation process.

May be mounted on the conduction (codes permitting) or fix mounted flexibility including DIN rail compatibility.

### **⚠ WARNING**

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

### **⚠ AVERTISSEMENT**

Le non-respect de ces instructions entraîne un risque de blessures graves, voire la mort.

### **⚠ WARNING**

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

### **⚠ AVERTISSEMENT**

Risque d'électrocution, d'explosion et d'arcs électriques

- Respectez TOUTES les exigences de la norme NFPA 70E en matière de pratiques de travail sécuritaires et d'équipement de protection individuelle (É.-U.) ainsi que tous les codes locaux lorsque vous installez ce produit.
- Seul le personnel qualifié dans le domaine électrique est autorisé à installer ce produit.
- Lisez, comprenez et respectez scrupuleusement toutes les instructions.
- N'installez que sur les conducteurs isolés.
- Verrouillez et étiquetez toutes les sources d'alimentation avant l'installation. Utilisez un détecteur avec la tension nominale appropriée pour déterminer l'absence de tension.



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## ⚠ WARNING

**Automated equipment may start without warning**

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

### IMPORTANT

- 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
- Clamp sensor around **INSULATED CONDUCTOR ONLY, 600VAC MAX** to be monitored.

## ⚠ AVERTISSEMENT

**L'équipement automatisé peut commencer sans avertissement.**

- L'équipement surveillé/exploité par cet appareil peut commencer sans avertissement. Éloignez-le de l'appareil en tout temps.

### IMPORTANT

- Seuls les installateurs spécialisés sont autorisés à installer ce produit.
- Ce produit n'est pas destiné aux applications de sécurité ou de sauvetage.
- Ne l'installez pas dans des endroits dangereux ou classés comme tels.
- L'installateur est responsable de tous les codes applicables.
- Ce produit doit être installé dans un boîtier électrique approprié.
- Pincez le capteur **UNIQUEMENT SUR LE CONDUCTEUR ISOLÉ (600 VCA max.)** à surveiller.

## INSTALLATION

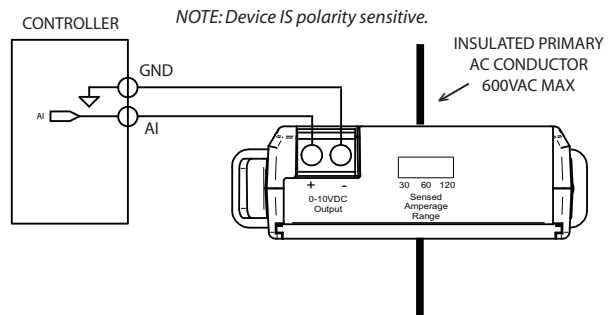
### Disconnect, lock out and tag out all power supplies during installation

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 analog input. Sensor is self-powered. 12 to 30vdc excitation is required for 4-20mA output models (CTP-A-20A and CTP-A-120A). Tighten terminals to 3.5 in-lb.

## SETUP

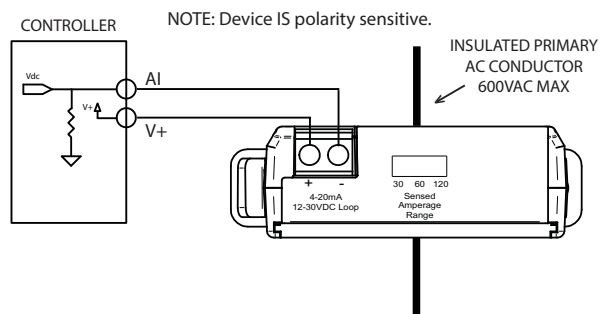
1. Sensors are factory calibrated to three ranges. CTP-10V-200A is calibrated to 200A full-scale. No field calibration is required.
2. Move selector switch to desired factory calibrated range setting. Selected range should be greater than the maximum motor current.



**Fig. 1. Wiring CTP-5V, CTP-10V**

### Product Application Limitation:

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



**Fig. 2. Wiring CTP-A**

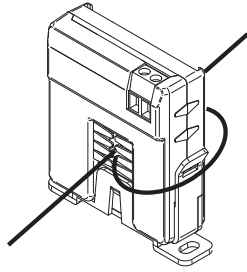
## TECH TIPS

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.

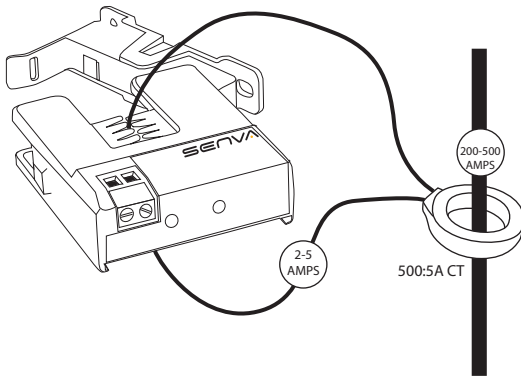


### MISE EN GARDE

Ne dépassez pas l'intensité maximale du capteur. L'intensité détectée par le capteur augmentera de 1X à chaque enroulement.

To monitor loads greater than the current sensor maximum rating

Use a properly rated 5A CT as shown below



### CAUTION

5A CT's can present hazardous voltages. Install CT's in accordance with manufacturers instructions. Terminate the CT secondary wiring before energizing primary conductor. Remember to consider the ratio of the CT secondary to the sensor full-scale range to determine sensor output. Example: A 300:5A CT will produce 5 amps max, which is 1/6th of the 30 amp full-scale range of the CTP-A-120A. Applying this ratio (1/6) to the 16mA output range (20mA - 4mA) gives a 2.67mA signal change for a reading of 6.67 mA at 300 A.



## MISE EN GARDE

Un CT de 5 A peut produire des tensions dangereuses. Installez les CT conformément aux directives du fabricant. Terminez le câblage secondaire du CT avant d'alimenter le conducteur principal.

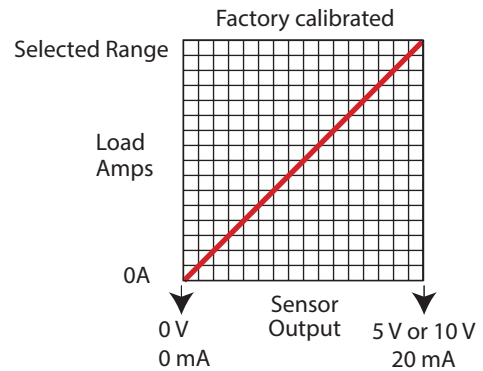
Table 1. Troubleshooting

| Symptom   | Cause                                    | Remedy   |
|---|--|--|
| Sensor output is over maximum output range (5V, 10V, 20 mA) | Amperage is above selected maximum range | See Tech Tip for monitoring loads greater than current sensor maximum rating |
| No output or wrong output voltage                           | Wiring error                             | Check polarity<br>Check ground connection                                    |
|   | Incorrect scaling                        | Verify controller scaling  |
| No output current   | No excitation voltage<br>Backward wiring | Check excitation voltage<br>Check polarity                                   |
| Wrong output current  | Incorrect scaling                        | Verify controller scaling  |

## RECYCLING

Product should not be thrown away in regular trash. Instead, it should be recycled according to local municipality.

## OPERATION



Analog current sensors output signal proportional to monitored current.

Typical load status applications include:

- Load trending
- Monitoring process motors and pumps
- Electric heater current monitoring

**Table 2. Specification by Product**

| Product Number | Output Type              | Range(s)     | Max Current |
|----------------|--------------------------|--------------|-------------|
| CTP-A-20A      | Loop-powered<br>4-20 mA  | 5/10/20 A    | 200 A       |
| CTP-A-120A     | Loop-powered<br>4-20 mA  | 30/60/120 A  | 200 A       |
| CTP-5V-20A     | Self-powered<br>0-5 VDC  | 5/10/20 A    | 100 A       |
| CTP-10V-120A   | Self-powered<br>0-10 VDC | 30/60/120 A  | 200 A       |
| CTP-10V-200A   | Self-powered<br>0-10 VDC | Fixed, 200 A | 200 A       |

| Specification              | Rating   |
|----------------------------|--|
| Accuracy                   | +/-2% F.S. over 10 to 100% range   |
| Ambient Temperature Rating | -15~60 °C  |
| Insulation Class           | 600V RMS. For use on insulated conductors only!<br>Use minimum 75 °C insulated conductor |
| Sensor Power               | Induced, 12 to 30 VDC max for loop powered sensors                                       |
| Frequency Range            | 50/60Hz  |
| Dimensions ( LxWxH)        | 2.94" x 2.23" x 0.82" (1.4" H with optional relay module)                                |
| Sensor Aperture            | 0.75"  |
| Environmental              | Pollution Degree 2 (non-conductive/non-condensing)                                       |



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