

Clip-on Current Transducer 25A



This clip-on current transducer provides a quick and easy way to measure up to 25A of DC current running through a wire without cutting or disassembling anything in the circuit. It simply clips on to the wire and connects to a Phidgets VINT port or analog input. See the Connection & Compatibility tab for a list of devices you can use.

Note: The wire whose current you're measuring must have the power and ground separated out. If you measure both power and ground at the same time, the sensor will measure zero amps, because the current is the same in both wires and cancel each other out since they travel in opposite directions.

Formula

The formula for converting output voltage into DC Amps is: $\text{DC Amps} = (V - 2.5) / 0.0625$

Looping to Increase Resolution

If you need to measure less than 25A and want better resolution, you can loop the cable through the sensor a second time. The current value you get back from the sensor will be doubled, since it's measuring the same wire twice at the same time. You can divide this value by two, thus halving the maximum range from $\pm 25\text{A}$ to $\pm 12.5\text{A}$, but effectively doubling the resolution of your measurement.

You can loop the cable through any number of times to repeat this process, although there will be diminishing returns as your resolution approaches the noise tolerance for the sensor. You could also cause problems with the measurement if the wire window is too full, if the wires shift around and push up on the clip

Sensor Properties

Sensor Type	Current (DC Clip-on)
Controlled By	Voltage Input (0-5V)
Sensor Output Type	Non-Ratiometric
Input Current Min	-25 A
Input Current Max	25 A
Current Measurement Resolution	10 mA

Measurement Error Max	1 %
Electrical Properties	
Output Voltage Min	2.5 V DC
Output Voltage Max	5 V DC
Isolation Voltage (DC)	2.5 kV DC
Physical Properties	
Material	UL94V-0 Plastic
Cable Length	500 mm
Wire Window Size	16 mm
Operating Temperature Min	-10 °C
Operating Temperature Max	70 °C
Customs Information	
Canadian HS Export Code	9030.33.00
American HTS Import Code	9030.33.38.00
Country of Origin	CN (China)