

## ACDC-256 Current Clamp



- ✓ AC and DC Current Measurements
- ✓ Selectable ranges of 0-40 A and 0-400 A
- ✓ 1mV per Amp output for use with DMMs and DAQ systems
- ✓ 1.34" (34 mm) maximum conductor size
- ✓ 4' (1.2 m) lead length
- ✓ Powered by standard 9V battery

# ACDC 256 Current Clamp Description

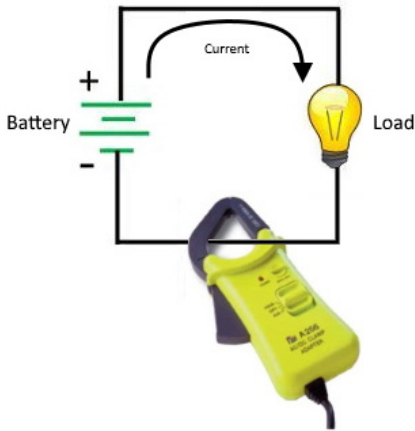
## Overview

Model ACDC-256 is designed for AC or DC current measurements using Hall effect technology, measuring from a few mA up to 400A. The electronics and battery are self contained in the body of the current clamp. It is an excellent companion to a wide range of DATAQ Instruments' data acquisition products, offering dual ranges for both low and high-level current measurements.

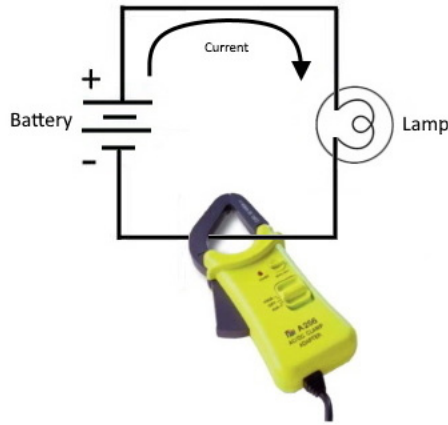
## Typical Current Measurement Applications

- AC/DC motor field currents
- AC/DC motor armature currents
- Battery current drain
- In-vehicle currents of all kinds
- Power supply currents
- Inverter currents
- Three-phase load balancing

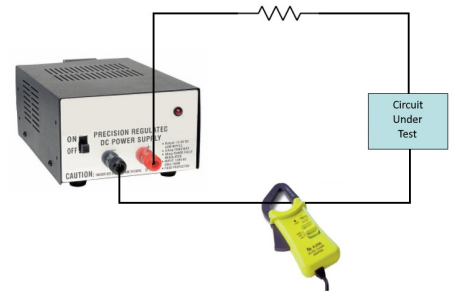
### Line



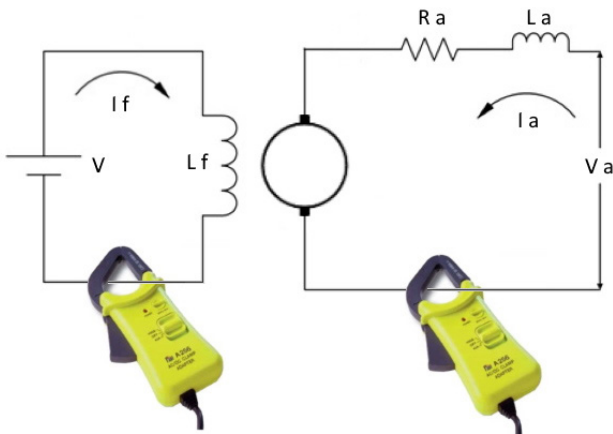
### Battery Current Drain



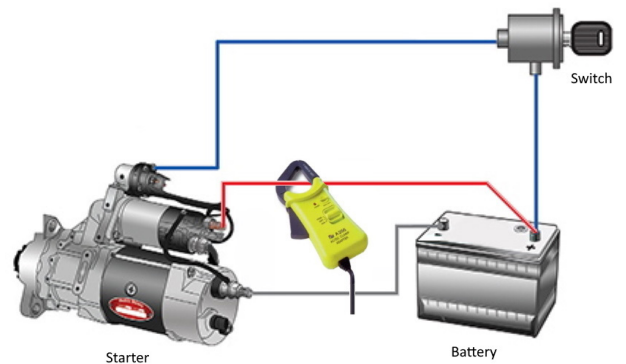
### Power Supply



### DC Motor Armature and Field Current

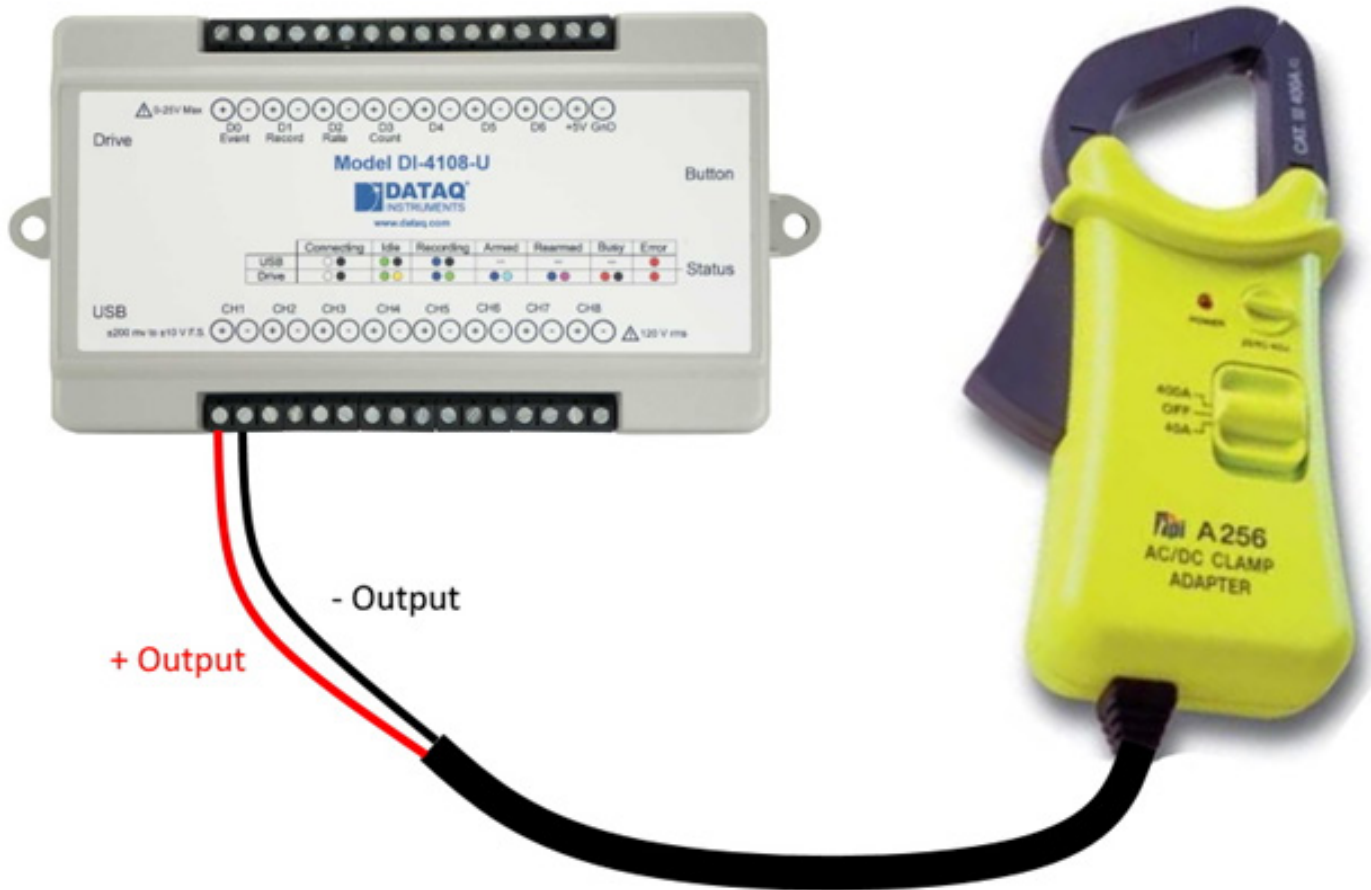


### Starter Solenoid



## Connecting the ACDC-256 Current Clamp to your Data Logger

Though you could technically use any of our Dataq Instruments Data Acquisition products to make these measurements, using a device with a measurement range closest to the output (1mV/A) will provide the best resolution. Appropriate products could include the DI-2008, DI-808, DI-4108, and DI-4730. With programmable full-scale measurement ranges of  $\pm 200$  and  $\pm 500$  mV, the DI-4108 is well suited for this measurement, taking better advantage of its 16-bit ADC resolution. Connect the ACDC-256 current clamp to your DI-4108: Connect the Red wire (+ on the banana coupler) to the positive (+) terminal of any of the analog channels (CH1-CH8); Connect the Black wire (- on the banana coupler) to the negative (-) terminal of that same channel, as shown below.

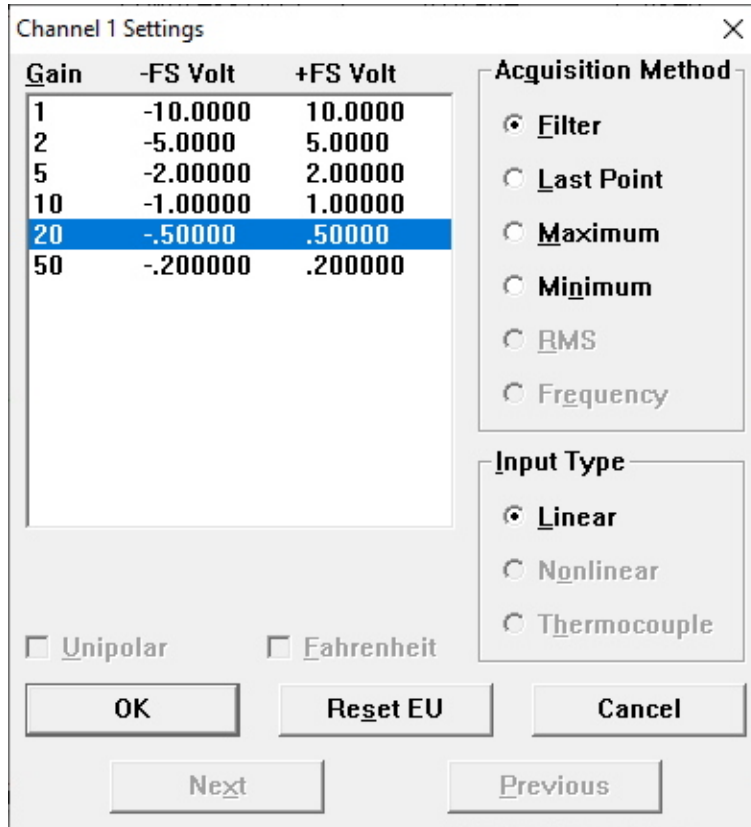


## Configuring WinDaq for use with your ACDC-256 Current Clamp

Follow these steps to change the settings in WinDaq Acquisition software to get the best readings from your ACDC-256 Current Clamp.

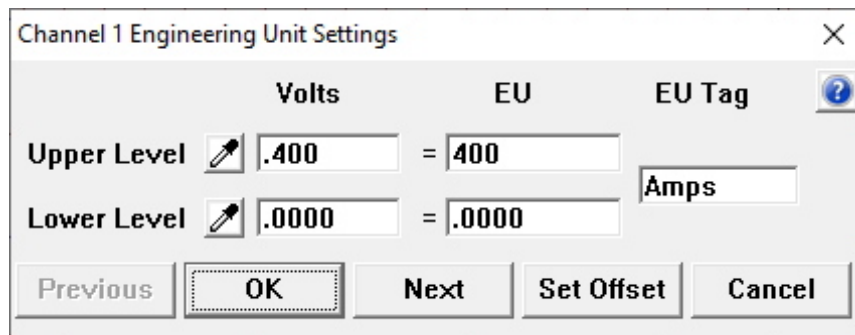
### 1. Change Gain

With channel 1 enabled, press F10 or select the menu item Edit > Channel Settings. Since we know that the current clamp has a maximum output of 0.400V (1mV/Amp on the 400A range), we'll choose a gain of 20 ( $\pm 0.500V$ ). This gives us the best possible resolution over the full scale output of the current clamp.



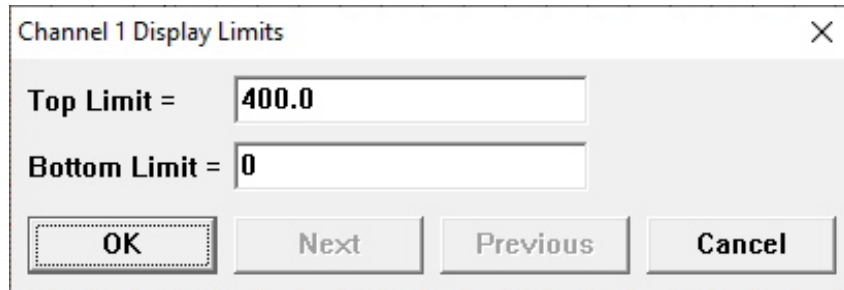
### 2. Change Engineering Units

Scale WinDaq to display current (Amps) instead of volts. Select 'Engineering Unit Settings' from the 'Edit' pull-down menu. Since the output of the current clamp is 0.400V at 400 Amps, enter 0.400 for Upper Level Volts and 400 for Upper Level EU. For both Lower Levels (Volts and EU) enter 0. You can change the 'EU Tag' to Amps.

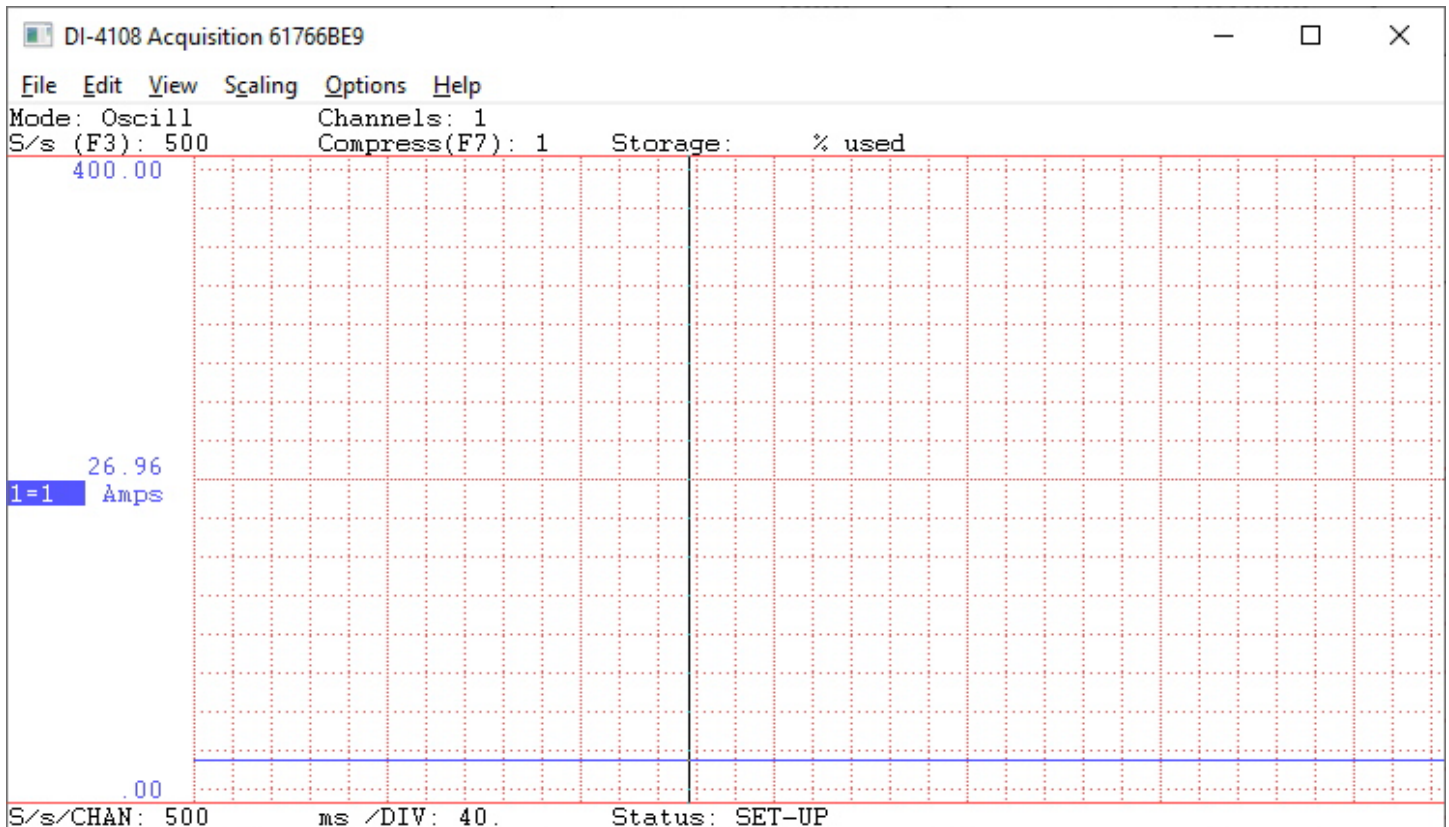


## 3. Set Display Limits

Optimize the waveform display to match the full scale measurement range of the current clamp (400 Amps). Select 'Limits' from the 'Scaling' pull-down menu and enter '400' for the Top Limit, and '0' as the Bottom Limit.



With the ACDC-256 Current Clamp connected to the data logger and WinDaq configured to display amps, you're ready to acquire data.



Note that connection and configuration for the ACDC Current Clamp is the similar for all contemporary DATAQ data loggers, including but not limited to the DI-2108, DI-2108-P, DI-2008, DI-4108, DI-4208, DI-4730, and the DI-808.

## Specifications (sensor only)

<b>Measurement Range:</b>	0-40A, 0-400A AC/DC	<b>Dimensions:</b>	6.43 (164mm) x 1.69 (43mm) x 3.06 (78 mm)
<b>Output:</b>	1mV/Amp		<b>Weight:</b>
<b>Working Temperature:</b>	-40 to +125°C	<b>Wiring:</b>	Red for OUT+ Black for OUT-
<b>Accuracy:</b>	0 - 400A = ± 1% of reading	<b>Battery:</b>	Standard 9V
<b>Maximum Conductor Size:</b>	1.34" (34mm)		
<b>Lead Length:</b>	48" (1.2m)		
<b>Output Connection Type:</b>	Dual banana plug		

## Ordering Guide

Description	Order Number
ACDC Current Clamp measures 0-40A, 0-400A AC/DC with 1mV/Amp Output.	ACDC-256



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### Data Acquisition Product Links

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