

# lamaPLC: Energy, power, current, and voltage

## INA226

### 36V, 16-bit, ultra-precise i<sup>2</sup>c output current/voltage/power monitor w/alert

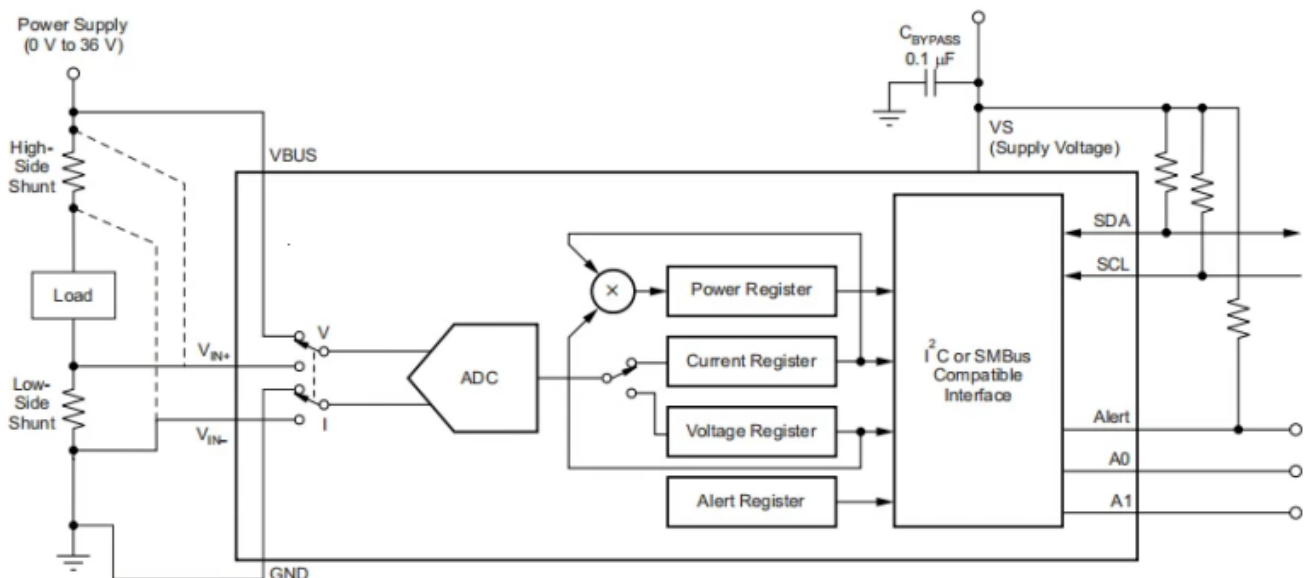


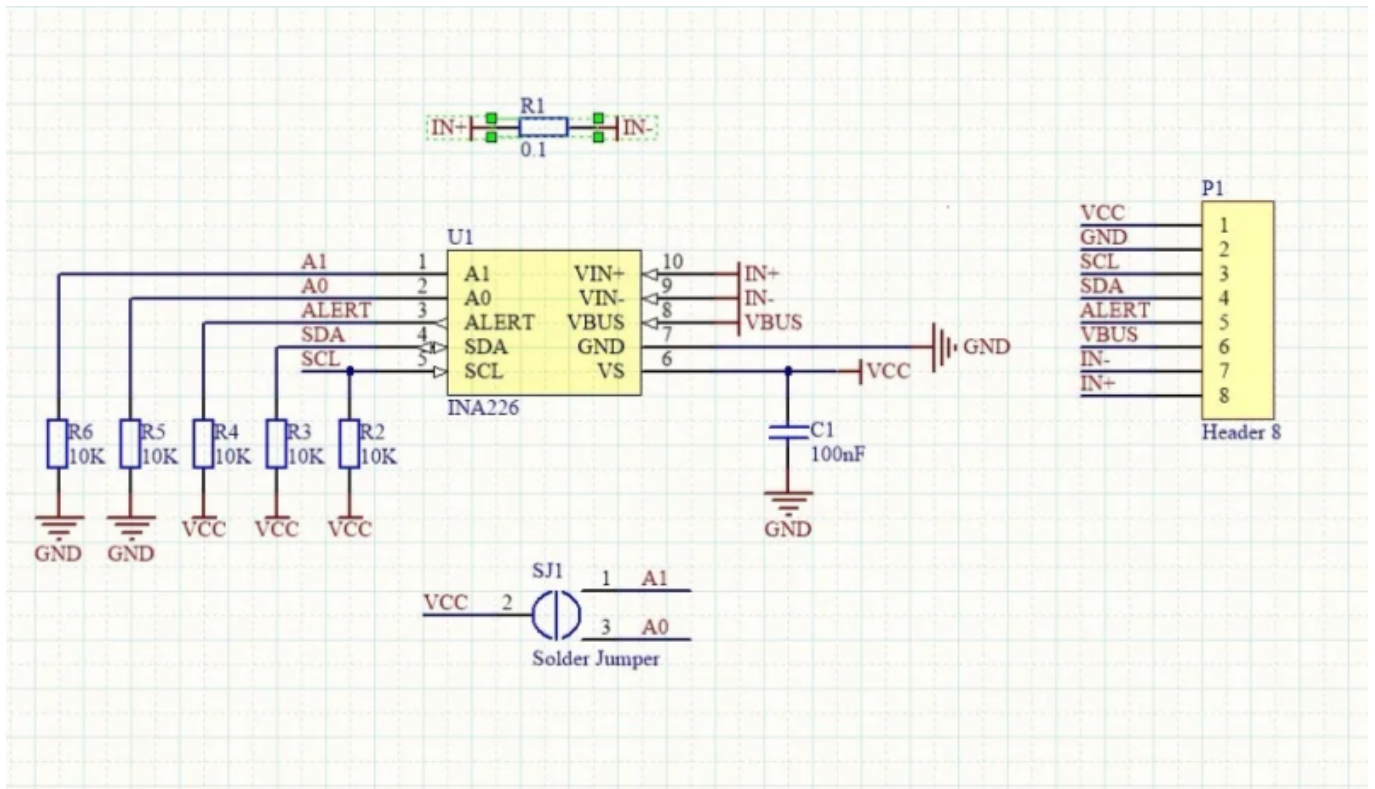
The INA226 is a current shunt and power monitor with an I<sup>2</sup>C or SMBUS-compatible interface. It monitors both a shunt voltage drop and bus supply voltage. Programmable calibration values, conversion times, and averaging, combined with an internal multiplier, enable direct readouts of current in amperes and power in watts.

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The INA226 supports the transmission protocol for fast mode (1 kHz to 400 kHz) and high-speed mode (1 kHz to 2.94 MHz). All data bytes are transmitted most significant byte first.

### High-Side or Low-Side Sensing Application

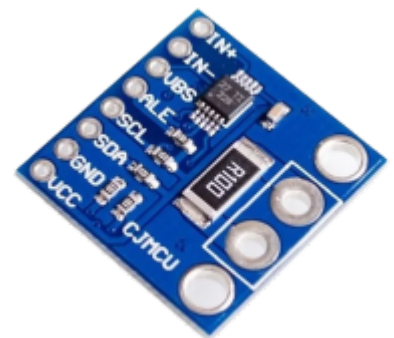




## Features

- Senses Bus Voltages: 0 V .. 36 V
- Shunt Voltage Maximum: 81.9 V
- Current Maximum: 20 A
- High-Side or Low-Side Sensing
- Reports Current, Voltage, and Power
- High Accuracy:
  - \* 0.1% Gain Error (Max)
  - \* 10  $\mu$ V Offset (Max)
- Configurable Averaging Options
- 16 Programmable Addresses
- Operates from 2.7V to 5.5V Power Supply
- 10-Pin, DGS (VSSOP) Package

## Pin Description



- **VBUS**: bus voltage input

- **SDA/SCL**: IIC bus data and clock signal lines
- **ALERT**: Multi-function alarm output
- **A0/A1**: I<sup>2</sup>C address line
- **IN+/IN-**: non-inverting analog input, inverting analog input

## Address

The sensor can have 16 different I<sup>2</sup>C addresses, which depend on how the A0 and A1 address lines are connected to the SCL, SDA, GND, and VCC pins.

## Arduino / Github library

<https://docs.arduino.cc/libraries/ina226/>

<https://github.com/RobTillaart/INA226>

<https://www.ti.com/product/INA226#tech-docs> (Texas Instruments datasheet)

## I<sup>2</sup>C topics on lamaPLC

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