

lamaPLC: Energy, power, current, and voltage

INA226

36V, 16-bit, ultra-precise i²c output current/voltage/power monitor w/alert

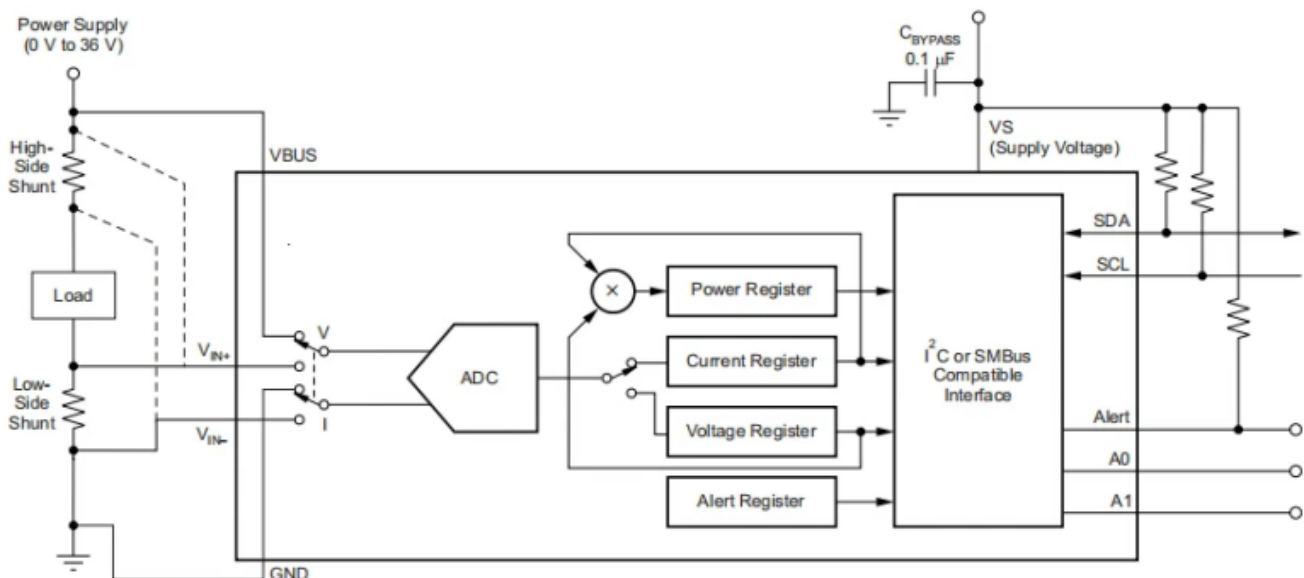


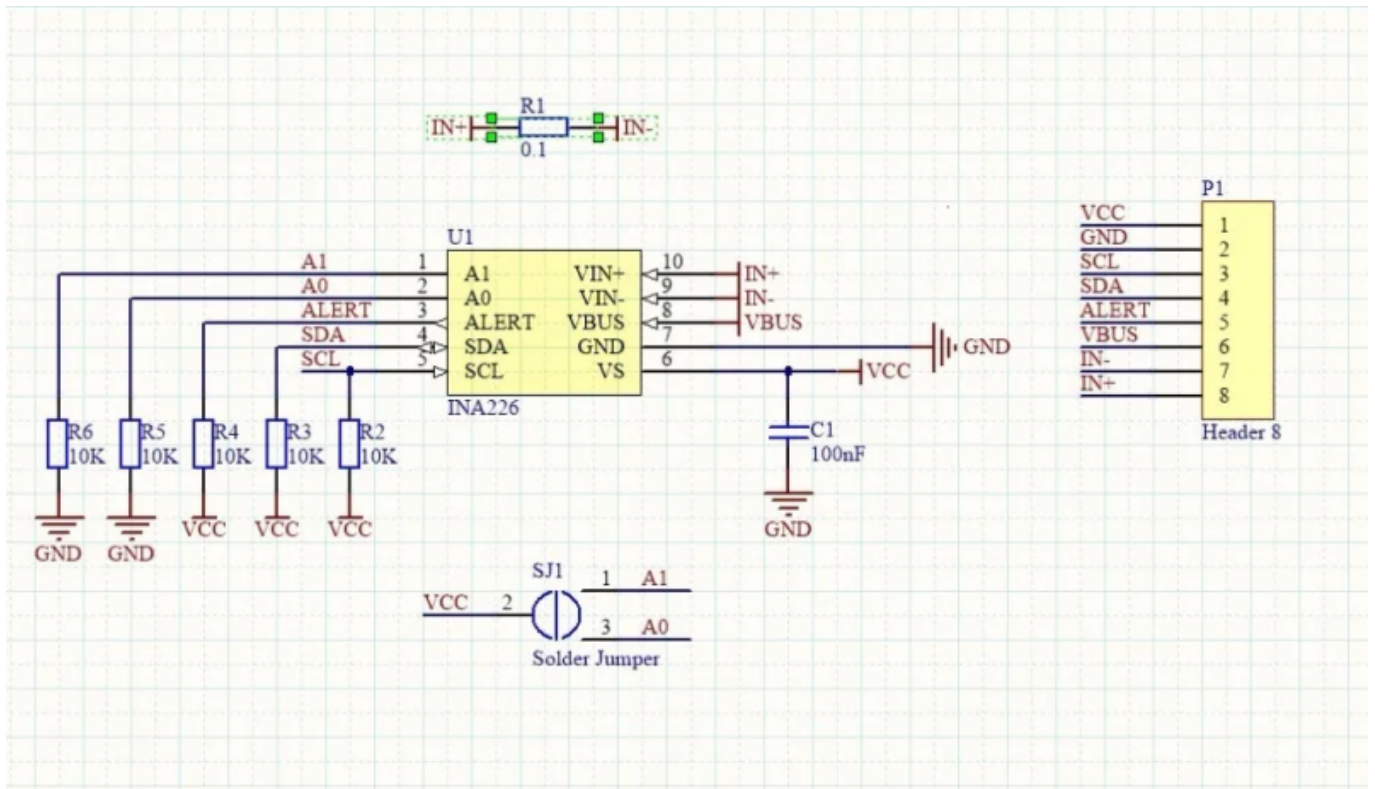
The INA226 is a current shunt and power monitor with an I²C or SMBUS-compatible interface. It monitors both a shunt voltage drop and bus supply voltage. Programmable calibration values, conversion times, and averaging, combined with an internal multiplier, enable direct readouts of current in amperes 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

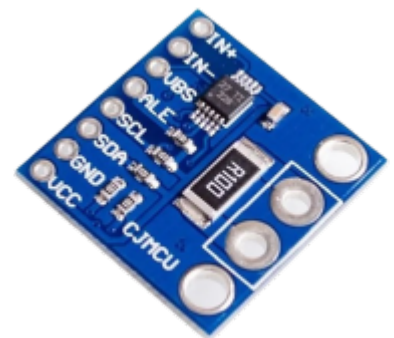




Features

- 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 μ 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**: I²C address line
- **IN+/IN-**: non-inverting analog input, inverting analog input

Address

The sensor can have 16 different I²C 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)

I²C topics on lamaPLC

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• LamaPLC: BMP/BME Bosch Temperature/Humidity/Pressure sensors with I²C communication	2026/04/23 21:52	bme280 , bme680 , bme688 , bmp180 , bmp280 , hw-611 , hw611 , bosch , temperature , humidity , pressure , sensor , arduino , i2c , communication , ai , cjmcu , volatile organic compounds , vocs , volatile sulfur compounds , vscs , iaq

- [LamaPLC: CJMCU-219/INA-219 breakout board/IC with I²C communication](#) 2026/04/23 21:52 [cjmcu-219, ina-219, ina219, breakout board, i2c, communication, sensor, voltage, current, arduino, code, cjmcu](#)
- [LamaPLC: CJMCU-3216 / AP-3216 integrated digital ambient light and proximity sensor module/IC with I²C communication](#) 2026/04/23 21:52 [cjmcu-3216, cjmcu, ap-3216, ap3216, ambient light, proximity, sensor, arduino, code, i2c, communication](#)
- [LamaPLC: CJMCU-811 CCS811 Gas Sensor \(VOCs TVOC CO₂\)](#) 2026/04/23 21:52 [cjmcu-811, ccs811, gas, sensor, vocs, tvoc, eco2, co2, arduino, air quality metal oxide, mox, i2c, micropython, rp2040-eth](#)
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- [LamaPLC: ENS ScioSense Multi-gas sensors with I²C communication](#) 2026/04/23 21:52 [ens160, sciosense, gas-quality, i2c, communication, sensor, arduino, code, eco₂, tvoc, aqi, indoor air quality, iaq, co₂, voc](#)
- [LamaPLC: ESP32 / ESP8266](#) 2025/11/22 00:07 [esp8266, esp32, esp32-c2, esp32-c3, esp32-c5, esp32-c6, esp32-c61, esp32-h2, esp32-s2, esp32-s3, esp32-p4, espressif systems, communication, ethernet, ip, wi-fi, thread, zigbee, matter, homekit, bluetooth, mqtt, adc, spi, uart, i2c, i2s, rmt, pwm, usb, usb otg, twai](#)
- [LamaPLC: Gas sensors](#) 2023/07/01 17:29 [gas, sensor, i2c, onewire, communication, mq-3, mq-4, mq-5, mq-6, mq-7, mq-8, mq-9, mq-135, gm-102b, gm-302b, gm-502b, gm-702b, alcohol, ch4, natural gas, smoke, lng, co, co2, lpg, h2, iso-butane, nox, nh3, benzene, town gas, formaldehyde, propane, humidity, temperature, voc, grv gas sens v2](#)
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- [LamaPLC: GY-9250 MPU-9250/6500 9-axis Attitude Sensor Board](#) 2026/04/23 21:52 [ak8963, gy-9250, mpu-9250, 9-axis, motion detection, magnetometer, communication, i c, i2c, spi](#)
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• LamaPLC: MAX30100/MAX30102 Heart Rate Click Sensor Module	2026/04/23 21:52	max30102, max30100, heart rate click, sensor, communication, i2c, arduino, code
• lamaPLC: MCP23017 / MCP23S17 16-Bit I/O Expander with Serial Interface I²C / SPI	2026/04/23 21:52	communication, i2c, mcp23017, mcp23s17, spi, i o expander, serial, cjmcu-2317, cjmcu
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• lamaPLC: PCF857x I/O Expander chip/modul with I²C communication	2026/05/15 01:03	communication, i2c, pcf857x, pcf8574, pcf8574a, pcf8575, i o expander, i o extension, nxp, texas instruments
• LamaPLC: Pixart PAJ7620U2 Gesture recognition sensors/module with I²C communication	2026/04/23 21:52	paj7620u2, gy-paj7620, pixart, gesture recognition, i2c, communication, sensor, arduino, code
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• lamaPLC: RP2040_ETH_Modul: Read BME 680/688 sensor data	2026/05/12 21:06	code, micropython, 2026, rp2040 eth, bme680, i2c, sensor, communication
• lamaPLC: RP2040_ETH_Modul: Read BME 680/688 sensor data and store in Modbus input registers	2026/05/12 18:58	code, micropython, 2026, rp2040 eth, bme680, i2c, sensor, communication
• LamaPLC: SC16IS750 / SC16IS752: One or two serial (UART) ports from microcontroller via I²C or SPI communication	2026/04/23 21:52	cjmcu-750, cjmcu-752, cjmcu, nxp, sc16is750, sc16is752, uart, serial, i2c, spi, modul, converter, arduino, code
• LamaPLC: SGP Sensirion TVOC/VOC sensors with I²C communication	2026/04/15 19:41	sgp30, sgp40, sgp41, sensirion, gas-sensor, i2c, communication, sensor, arduino, code, eco2, voc, tvoc, indoor air quality, iaq, nox, hydrogen

- [LamaPLC: SHT Sensirion Temperature/humidity sensor with I²C communication](#) 2026/04/23 21:52 [sht20, sht21, sht25, sht30, sht31, sht35, sht40, gy21, temperature, humidity, i2c, communication, sensor, arduino, code](#)
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