

# lamaPLC: Energy, power, current, and voltage

## INA226

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

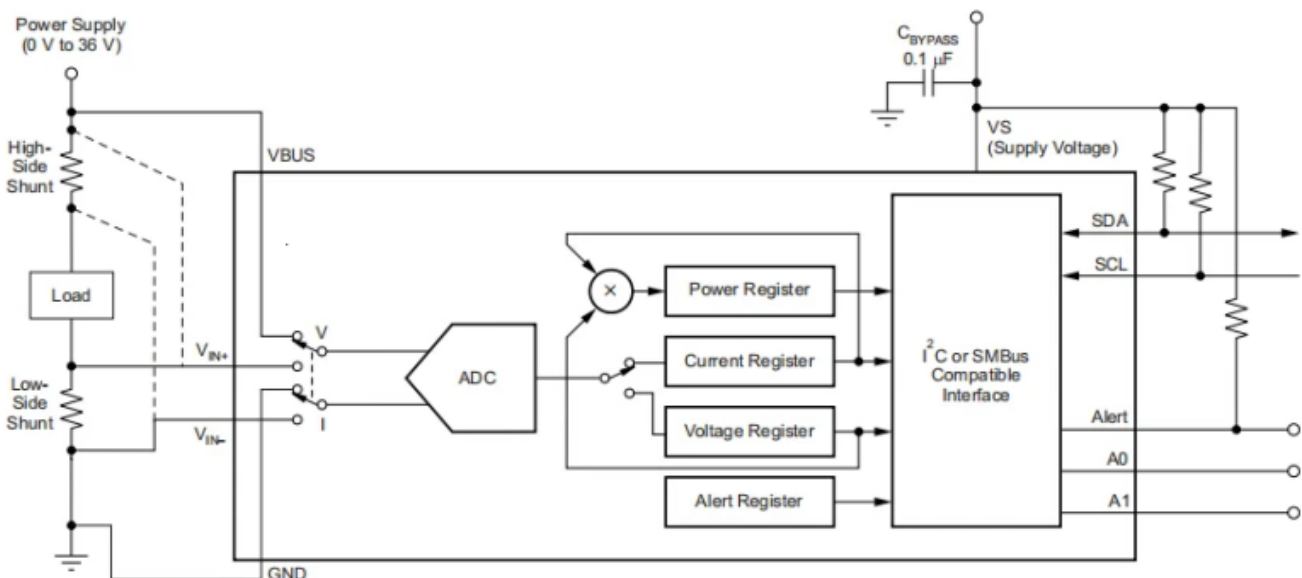


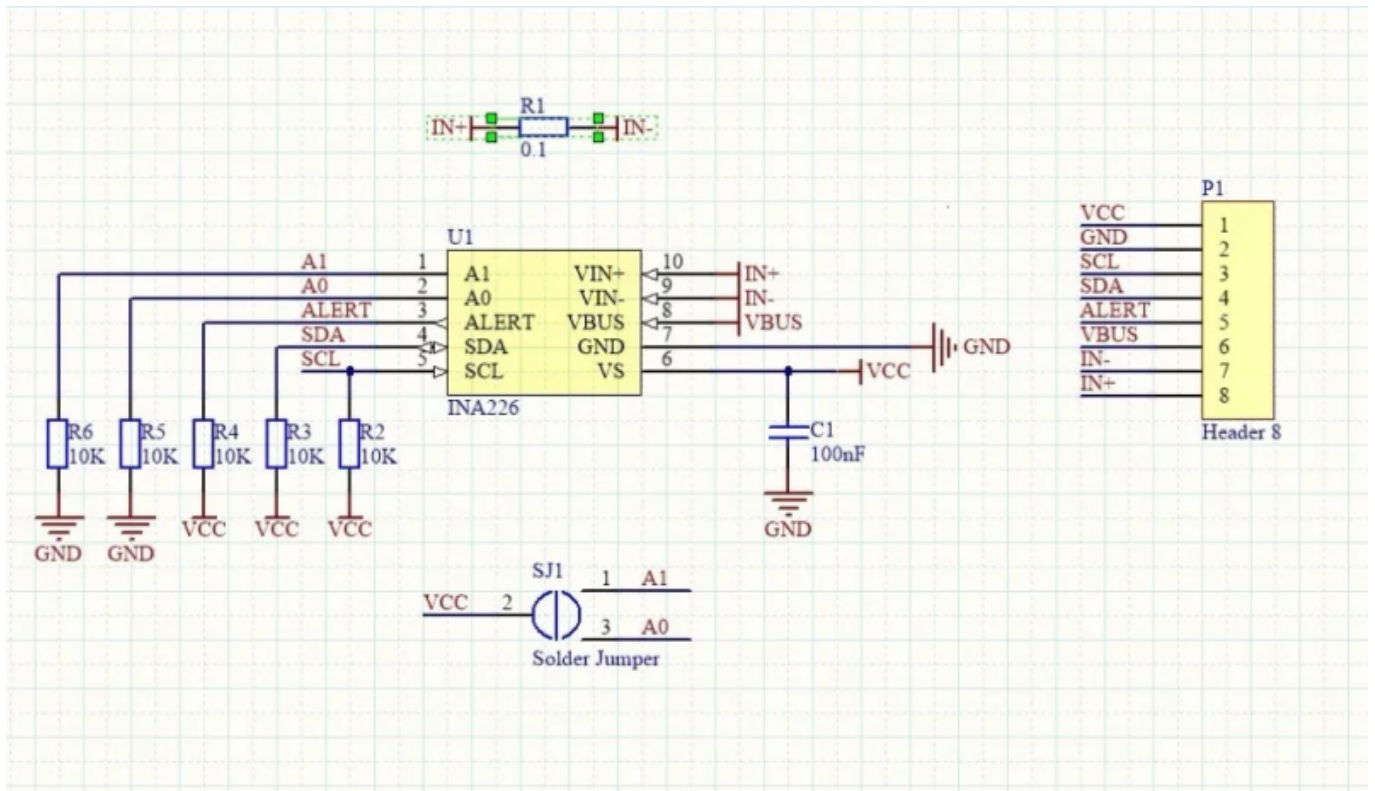
The INA226 is a current shunt and power monitor with an I<sup>2</sup>C or SMBUS-compatible interface. It monitors both a shunt voltage drop and bus supply voltage. Programmable calibration values, conversion times, and averaging, combined with an internal multiplier, enable direct readouts of current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

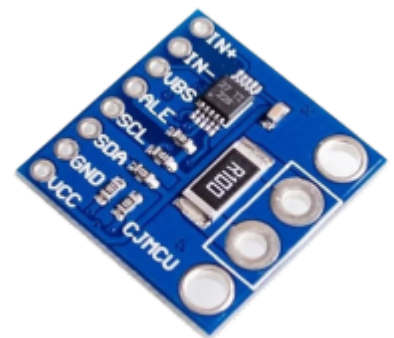




## Features

- 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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• <a href="#">lamaPLC: AS5600 Magnetic Induction Angle Measurement Sensor Module</a>	2026/03/28 23:50	<a href="#">communication</a> , <a href="#">i2c</a> , <a href="#">as5600</a> , <a href="#">as-5600</a> , <a href="#">magnetic</a> , <a href="#">induction</a> , <a href="#">angle</a> , <a href="#">sensor</a>
• <a href="#">lamaPLC: Bi-Directional Logic Level Converter 3.3V ↔ 5V</a>	2026/04/12 00:34	<a href="#">bi-directional</a> , <a href="#">logic level converter</a> , <a href="#">i2c</a> , <a href="#">uart</a> , <a href="#">spi</a>
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• <a href="#">LamaPLC: CJMCU-219/INA-219 breakout board/IC with I<sup>2</sup>C communication</a>	2026/04/23 21:52	<a href="#">cjmcu-219</a> , <a href="#">ina-219</a> , <a href="#">ina219</a> , <a href="#">breakout board</a> , <a href="#">i2c</a> , <a href="#">communication</a> , <a href="#">sensor</a> , <a href="#">voltage</a> , <a href="#">current</a> , <a href="#">arduino</a> , <a href="#">code</a> , <a href="#">cjmcu</a>

- [LamaPLC: CJMCU-3216 / AP-3216 integrated digital ambient light and proximity sensor module/IC with I<sup>2</sup>C communication](#)

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- [lamaPLC: CJMCU-811 CCS811 Gas Sensor \(VOCs TVOC CO2\)](#)

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- [LamaPLC: D6T Omron Non-Contact Thermal Sensors with I<sup>2</sup>C communication](#)

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- [LamaPLC: DPS Infineon Temperature/Pressure sensors with I2C communication](#)

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- [lamaPLC: ESP32 / ESP8266](#)

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- [LamaPLC: Gas sensors](#)

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- [lamaPLC: GY-511 6DOF sensor module](#)

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- [LamaPLC: GY-9250 MPU-9250/6500 9-axis Attitude Sensor Board](#)

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- [LamaPLC: HDC Texas Instruments Temperature/humidity sensors with I<sup>2</sup>C communication](#)

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[sht21](#), [htu21](#), [si7021](#), [gy-21](#), [gy-213v](#), [hdc1080](#), [gy-213v-hdc1080](#), [cjmcu](#), [cjmcu-1080](#), [texas instruments](#), [temperature](#), [humidity](#), [sensor](#), [i2c](#), [communication](#), [arduino](#), [code](#)
- [lamaPLC: HT16K33 display controller](#)

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• LamaPLC: HTU TE Connectivity temperature/humidity sensors with I <sup>2</sup> C communication	2026/04/23 21:52	htu, htu31d, htu21d, htu20d, sht20, htu20, sht21, htu21, si7021, gy-21, gy-213v, hdc1080, si702, gy-20, sht31, htu31, si7031, gy-31, te connectivity, temperature, humidity, i2c, communication, sensor, arduino, code
• lamaPLC: INA modules with Arduino libraries	2026/04/11 19:54	i2c, i c, communication, arduino, energy, power, current, monitor, sensor, ina219, gy-219, ina226, gy-216, ina228, gy-228, ina237, ina238, ina260, ina3221, ina
• lamaPLC: INA226 - current/voltage/power monitor with I <sup>2</sup> C communication	2026/04/23 21:52	i2c, i c, communication, arduino, energy, power, current, monitor, sensor, ina226, ina219, ina
• lamaPLC: LCD 1602/2004 with I <sup>2</sup> C communication	2026/02/14 18:27	communication, i2c, display, lcd, 1602, 2004, hd44780, pcf8574, pcf8574t, pcf8574at, arduino
• 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 I <sup>2</sup> C / SPI	2026/04/23 21:52	communication, i2c, mcp23017, mcp23s17, spi, i o expander, serial, cjmcu-2317, cjmcu
• LamaPLC: Pixart PAJ7620U2 Gesture recognition sensors/module with I <sup>2</sup> C communication	2026/04/23 21:52	paj7620u2, gy-paj7620, pixart, gesture recognition, i2c, communication, sensor, arduino, code
• LamaPLC: SC16IS750 / SC16IS752: One or two serial (UART) ports from microcontroller via I <sup>2</sup> C 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 I <sup>2</sup> C 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 I <sup>2</sup> C communication	2026/04/23 21:52	sht20, sht21, sht25, sht30, sht31, sht35, sht40, gy21, temperature, humidity, i2c, communication, sensor, arduino, code
• lamaPLC: Signal level converters	2026/02/14 23:47	pca9306, i2c, voltage, level, converter
• lamaPLC: TCA9548A (HW617); Low-Voltage 8-Channel I <sup>2</sup> C Switch Module	2026/02/14 23:51	tca9548a, hw617, i2c, switch, communication, expansion board, arduino
• lamaPLC: TM1637 7-segment display	2026/02/14 18:26	i2c, 7-segment display, display, tm1637, arduino
• LamaPLC: TOFnnnC STMicroelectronics Time-of-Flight (ToF) sensors with I <sup>2</sup> C communication	2026/04/23 21:52	tof050c, vl6180, tof200c, vl53l0x, tof400c, vl53l1x, stmicroelectronics, time-of-flight, tof, i2c, communication, sensor, arduino, code
• LamaPLC: VL53Lnn STMicroelectronics time-of-flight (ToF) laser-ranging sensors with I <sup>2</sup> C communication	2026/04/23 21:52	vl53l0x, vl53l1x, vl53l0 1xv2, gy-530, time-of-flight, tof, laser-ranging, i2c, communication, sensor, arduino, code

- [LamaPLC: VL6180X STMicroelectronics Time-of-Flight \(ToF\) sensor with I<sup>2</sup>C communication](#)
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vl6180x, stmicroelectronics, time-of-flight, tof, i2c, communication, sensor, arduino, code
- [Magnetic angle sensors](#)
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magnetic angle sensor, magnetic flux, sensor, spi, i2c, pwm, communication, modul, as5047p, as5600, mt6701, mt6816, mt6835, tle5012b, amr, gmr, tmr, anisotropic magnetoresistive
- [SSH1106/SSD1306 OLED Display with I<sup>2</sup>C communication](#)
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i2c, oled, display, ssd1306, sh1106, ssh1106, arduino, cmos

I2c, I<sup>2</sup>C, communication, Arduino, energy, power, current, sensor, INA226

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