

Texas Instruments INA228 :: Power Monitor

The [Texas Instruments INA228](#) is a high-precision digital power monitor with a 20-bit delta-sigma ADC, specifically designed for current measurement applications. The device can measure a differential input range of ± 163.84 mV or ± 40.96 mV via a resistive shunt measurement element with a common-mode voltage of -0.3 V to $+85$ V.

The INA228 reports current, bus voltage, temperature, power, energy, and charge accumulation using an integrated precision oscillator with an accuracy of $\pm 0.5\%$ while simultaneously performing the necessary calculations in the background. The integrated temperature sensor has an accuracy of $\pm 1^\circ\text{C}$ for measuring chip temperature and is useful for monitoring the system ambient temperature.

The software is architected with long-term maintainability, portability across MCU platforms, and adherence to high software quality standards as core design principles.

- ✔ Layered architecture with clear HAL abstraction
- ✔ Conforms to ISO C99 standard
- ✔ Portable across multiple MCU platforms
- ✔ Supports both RTOS and bare-metal environments
- ✔ CMake build system for scalable integration
- ✔ Seamless integration with GCC toolchain
- ✔ Statically analyzed for MISRA, CERT, and CWE compliance

☆ [DRV_TI_INA228](#) PUBLIC ✔ Passed

Last analysis: 11 seconds ago • 986 Lines of Code • C

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Security	Reliability	Maintainability	Hotspots Reviewed	Coverage	Duplications

Initialization Interface

```
ina228_result_t ina228_init( ina228_handle_t*, ina228_attr_t )
```

Configuration Interface

```
ina228_result_t ina228_set_power_mode( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_set_sample_rate( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_reset_energy_charge( ina228_handle_t* )
```

Data Retrieval Interface

```
ina228_result_t ina228_get_device_info( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_bus_volt( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_shunt_volt( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_bus_current_amp( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_die_temp_degC( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_power_watt( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_energy_joule( ina228_handle_t*, ... )
```

```
ina228_result_t ina228_get_charge_c( ina228_handle_t*, ... )
```

Communication Interface:

