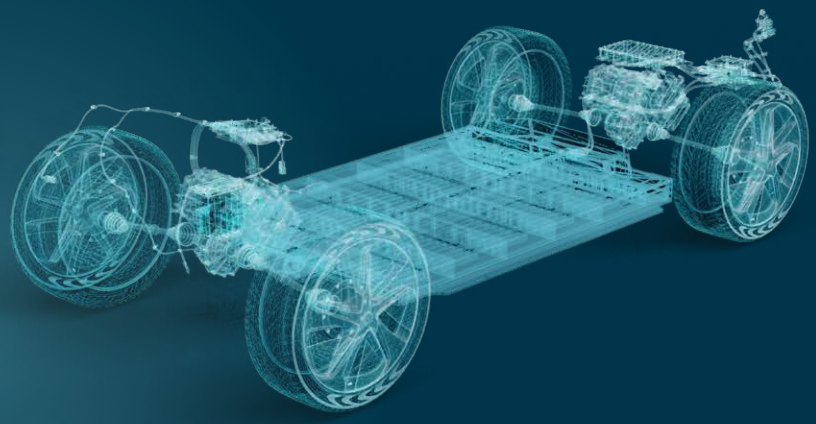
SMART IVT BATTERY SENSOR



MLX91230 & MLX91231

The MLX91230 and MLX91231 are smart current sensors that measure current, voltage & temperature. Both offer high accuracy over temperature & lifetime. External NTC input, integrated diagnostics - including overcurrent detection - and Melexis-free libraries, fully ease the development of safety mechanisms. Additionally, the 32 KB flash memory supports custom software (e.g. system imperfection compensation).

A

Key features

- IVT battery measurement
- ISO 26262 ASIL C(D) compliant
- Option for external NTC input
- Overcurrent detection (<500µs)
- 16-bit MCU with Flash memory
- LIN, UART or UART-over-CAN
- Temperature: from -40°C to 125°C
- Voltage: 4.5 to 18V (12V battery)
- AGC for higher dynamic range
- Low level SW libraries provided
- Programmable transfer characteristic
- AEC-Q100 qualified
- RoHS compliant packages
  - SOIC-8
  - TSSOP-16 (MLX91231 with NTC)



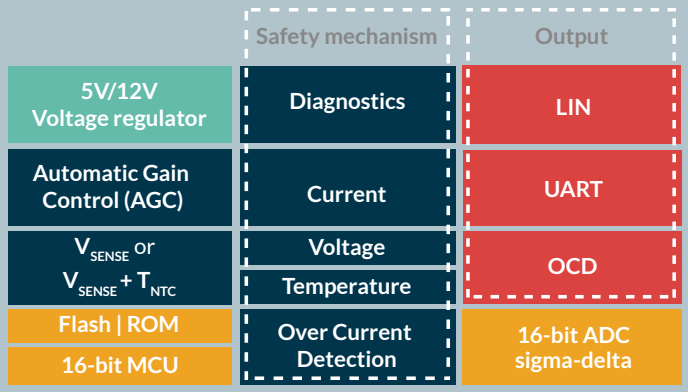
MLX91230
IVT - Conventional Hall
250 - 2500 A

TRUFLUX

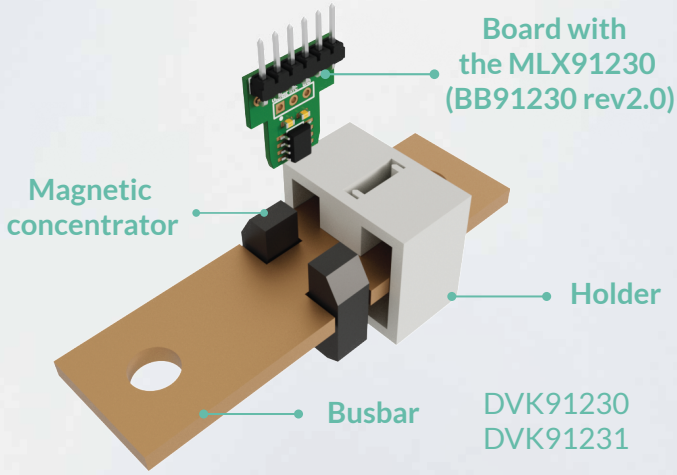
MLX91231
IVT - Shunt Interface
250 - 10'000 A

ASIL

Block diagram



Development kit



Applications

- Battery Terminal Sensor 12V/24V
- Battery Management System 48V/HV
- Enabling Battery State of Charge (SoC), State of Health (SoH) and State of Function (SoF)
- Smart Battery Disconnect Unit, Junction Box or Power Relay Assembly
- Smart Pyrofuses
- Smart HV relays or contactors
- HV DC FastCharge current sensing
- Zone controller
- Power distribution unit

www.melexis.com/smart-IVT

V4 - 11.2026
The datasheet prevails

Melexis