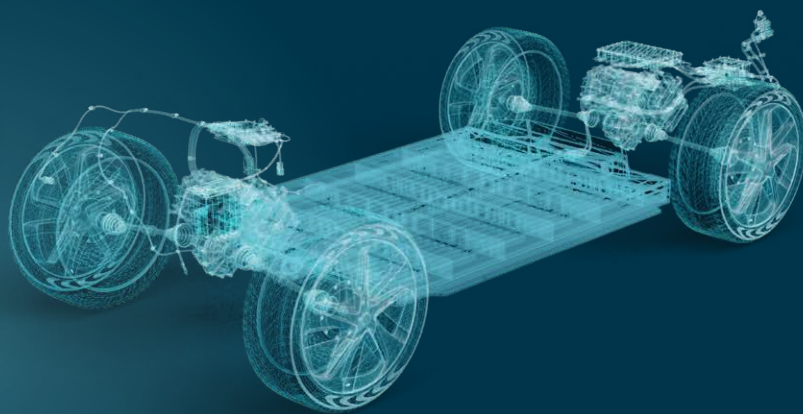


SMART IVT BATTERY SENSOR

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).



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

MLX91231

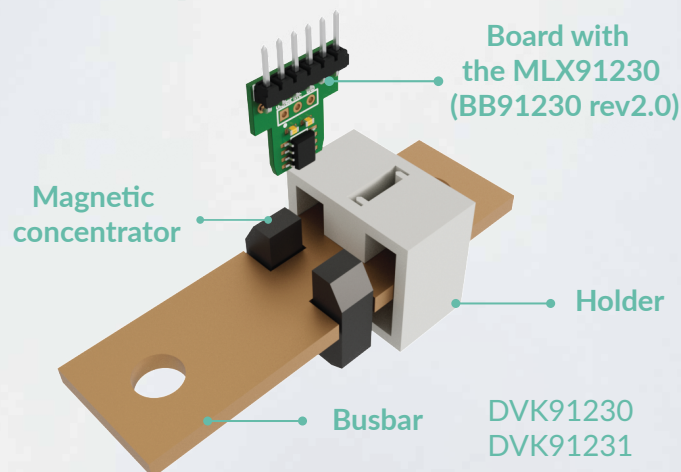
IVT - Shunt Interface
250 - 10'000 A



Block diagram

	Safety mechanism	Output
5V/12V Voltage regulator	Diagnostics	LIN
Automatic Gain Control (AGC)	Current	UART
V_{SENSE} or $V_{SENSE} + T_{NTC}$	Voltage	OCD
	Temperature	
Flash ROM	Over Current Detection	16-bit ADC sigma-delta
16-bit MCU		

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

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