



CSMshunt

- ▶ **Universal applicable, shunt-based adapter solution for current measurement**
- ▶ **Robust housing with external measurement amplifier**
- ▶ **Available in 2.5 A, 25 A, 125 A and 250 A ranges**
- ▶ **Suitable for direct connection to CSM AD-Scan MiniModules**
- ▶ **Operating temperature under full load: -40 °C to +125 °C**
- ▶ **Outstanding accuracy within the temperature range**

The **CSMshunt** expands the usability of AD-Scan MiniModules, enabling the user to measure current in a **precise and accurate** manner – **even under the harshest environmental conditions**. Additionally CSMshunt is suitable for operating with all kinds of analog measurements.

The power supply of the external amplifier is **electrically isolated**. The electronic isolation of the measurement signal is handled through the measurement module, so that interspersion will not cause any measurement errors.

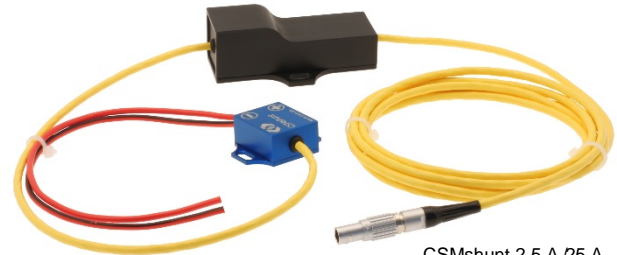
The shunt-based measurement solution is characterized not only by the optimum integration to AD-Scan Mini Modules (in particular by the **resistance to high temperature – up to +125 °C under full load**), but also its **excellent accuracy**.

The CSMshunt is designed to be inserted directly into the current path. Any pre-existing / original fusing remains completely unaffected.

As the standard product offering, the CSMshunt 2.5 A and 25 A is delivered with 2.5 mm² open-end copper wire. The CSMshunt 125 A and 250 A is delivered with M6 thread bolt connections.

Typical fields of application

- ▷ Acquisition and monitoring of current in operational mode
- ▷ Acquisition and monitoring of current in sleep mode
- ▷ Detection of "electricity hogs" to avoid battery issues /problems in series production vehicles
- ▷ Monitoring of sleep- and recovery behavior of ECUs



CSMshunt 2,5 A / 25 A



CSMshunt 125 A / 250 A

- ▷ Measurement of charge and discharge current of the battery (charge balancing)
- ▷ Monitoring and logging of the battery status for vehicle transport – particularly ocean transport
- ▷ Error analysis and detection in the service environment for error identification in "non-mobile vehicles" and other electric-/electronic-problem vehicles
- ▷ Long-term monitoring of vehicle current during continuous operation of the vehicle.

Customer modification

In addition to the standard version of the CSMshunt, almost any custom input/output connector combinations are possible. **Please contact CSM for additional information.**

Technical Data

	CSMshunt 2.5 A	CSMshunt 25 A	CSMshunt 125 A	CSMshunt 250 A
Input measurement range	±2.5 A (Shunt 10 mΩ)	±25 A (Shunt 1 mΩ)	±125 A (Shunt 0.2 mΩ)	±250 A (Shunt 0.1 mΩ)
Threshold frequency	1.4 kHz			
Measurement accuracy at 25 °C	< 0.5 % of meas. value ±0.25 mA < 1 % of meas. value ¹⁾	< 0.5 % of meas. value ±2.5 mA < 1 % of meas. value ¹⁾	< 0.5 % of meas. value ±12.5 mA	< 0.5 % of meas. value ±25 mA
Temperature drift	typ. 60 ppm/K		typ. 120 ppm/K	
Galvanic insulation ²⁾ power supply measurement signal	no safety insulation in terms of high-voltage applications 500 V none ³⁾			
Power supply Minimum Maximum Power consumption Output voltage Maximum load Maximum overcurrent	12 V DC 15 V DC typ. 12.5 mA 12 V DC ±10 V at ± I _{rated} (±25 mV at ± I _{rated}) ¹⁾ R _i > 20 kΩ 10 A 70 A 200 A 385 A			
Housing Protection class Shunt Amplifier Weight Shunt Amplifier Dimensions (w x h x d) Shunt Amplifier	IP67		IP54	
	IP67		IP67	
	approx. 50 g		approx. 250 g	
	approx. 60 g		approx. 60 g	
	41 x 15 x 30 mm		135 x 35 x 40 mm	
	80 x 30 x 30 mm		80 x 30 x 30 mm	
Connectors Input Output	open end, 2.5 mm ² copper wire		M6 threaded bolt	
	LEMO 0B, 6-pole			
Operating and storage conditions Operating temperature Relative humidity Storage temperature	-40 °C to +125 °C 5 % to 95 % -55 °C to +125 °C			
Conformity	CE			

1) CSMshunt passive.

2) This CSMshunt is designed to measure within 12 V-, 24 V-, or 42 V- vehicle onboard power supply. The maximum operation voltage at the measuring inputs is 60 V. **Not suitable** for direct usage at systems with higher operating voltages, e.g. HV-battery of hybrid or e-cars.



3) The galvanic isolation of the measurement signal must be done in the measurement module.

Part numbers

ART1220101	CSMshunt 2.5 A, 2.5 m LEMO 0B 6-pole
ART1220701	CSMshunt 25 A, 2.5 m LEMO 0B 6-pole
ART1221301	CSMshunt 125 A, 2.5 m LEMO 0B 6-pole
ART1221701	CSMshunt 250 A, 2.5 m LEMO 0B 6-pole

For further technical information and references,
please contact CSM technical sales.

ART1220501	CSMshunt 2.5 A passive, 0.5 m LEMO 0B 6-pole
ART1221101	CSMshunt 25 A passive, 0.5 m LEMO 0B 6-pole
ART1230101	Amplifier CSMshunt passive, 0.5 m LEMO 0B 6-pole

Articles	Variants	Picture
CSMshunt passive	2,5 A/25 A	
Amplifier CSMshunt passive		

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