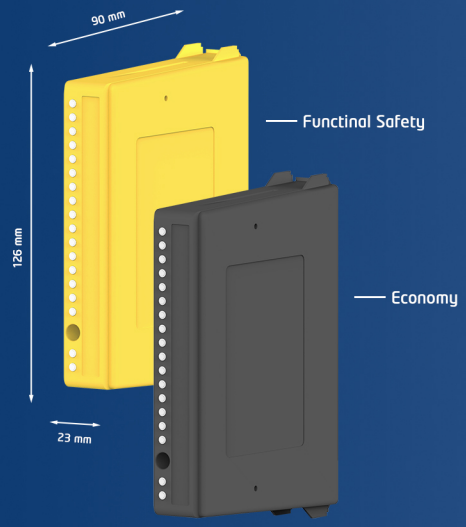
HydraSafe
TECHNICAL DATA SHEET

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CORE - Measurement module for cell voltages

The CORE module offers high-precision measurement of cell voltages for up to 16 cells in a compact and installation-friendly design. Thanks to its easy installation, it is suitable for all common mounting configurations. Each cell is monitored by an LED that immediately signals cable breaks, while status information can be retrieved in real-time. With an extended operating temperature range of up to 100°C, the CORE module ensures reliable performance even under demanding conditions.

The CORE module is available in two variants:
ECONOMY and SAFETY (with functional safety).

www. muetec-instruments.de

Information

Name
HydraSafe CORE

Function
Redundant voltage measurement of 16 individual cells per CORE module for monitoring and error analysis.

Variants
- ECONOMY
- SAFETY

- ✔ Very high measurement accuracy
- ✔ Up to 500 cell voltages measurable with a maximum of 32 cascaded CORE modules
- ✔ Fast sampling even with a high number of cells
- ✔ Up to SIL2 (SAFETY)
- ✔ Available with explosion protection
- ✔ Tamper-proof firmware
- ✔ Snap-In closure for maximum stability
- ✔ Easy replacement without configuration

Technical data

	HydraSafe CORE Economy / HydraSafe CORE Safety
Article No.	HYS-CORE-ECO / HYS-CORE-SAF
General Information	
Voltage measurement	Yes
Broken wire detection and signaling	Yes
Data transfer	Yes

Voltage inputs	
Count	16 channels
Range per channel	-2* ... + 5 V
Accuracy (over temp. and lifetime)	± 1,5 mV [A]
Differential input impedance	0,8 Mohm [B]
Sample rate	100 ms
Resolution	150 / 250 µV [C]
Galvanic isolation	
Channel to channel	No isolation
Power supply to channel(s)	1400 V
CopperLink to channels	1400 V
Cybersecurity	
Data integrity	Yes
Software modification	Not possible
Power supply	
Supply voltage	21,6 V ... 26,4 V
Power consumption (active)	1200 mW
Diagnostic and signaling	
Status-LED 1	24 V supply (red), active communication (green)
Status-LED 2	Scan / Config / Run-Modi
Cell-LED 1 ... 16	Broken wire (red), active measurement (green)
Environmental conditions	
Ambient temperature (operation)	-20 ... +100°C
Ambient temperature (storage)	-20 ... +80°C
Protection type	IP20
Pollution degree	2 according to IEC 61131-2
Operating altitude without temperature derating	0 ... 2000 m
Relative humidity	80% (without condensation)
Approvals / Certificates	
CE	Yes
Safety Integrity Level	Only for CORE Safety (up to SIL 2, from 2026)
Ex	(planned)
Mechanical	
Width	24 mm
Length	125 mm
Height	90 mm
Weight	115 g

A Measurements for negative channel voltages only possible without functional safety
B For channel voltages 0 V ... 2 V
C Native resolution / resolution for transmission and processing

Status: February 2026 – Subject to change