

Preliminary

MCM-U08AII

Voltage measurement for MCM units



► Measurement module for voltage detection 8 channels insulated / 16-bit / synchronous

Principal features

- Time-synchronised detection on all measurement channels
- Full galvanic decoupling of each individual measurement channel
- Cascadeable to multichannel units
- DC voltage measurements to 100 V
- Measurement resolutions <math><100 \mu\text{V}</math>
- Individual channel measurement range selection
- Automatic contact interruption detection
- Signal conditioning, digitalisation and measurement value processing in one assembly
- Early digitalization reduces interference
- Power consumption can be reduced by switching off measurement channels that are not needed
- Robust electrical design and small mechanical dimensions
- 100 % compatible with other MCM assemblies

Areas of application

- Multichannel voltage detection on test and HIL systems
- Voltage monitoring on
 - fuel cells
 - battery stacks
 - lithium-based accumulators
 - electrolysers
- Signal detection and pre-processing for rapid prototyping platforms
- EOL test benches and fatigue testing

Customer benefits

- High freedom of use of each channel due to galvanic decoupling and individual configuration
- Low channel costs compared to solutions with conventional A/D cards and external signal conditioning (no assembly and wiring effort)
- Robust design and permanent channel monitoring ensure a high degree of operational security
- Small amount of space needed even with a larger number of channels (for modularity and scalability, see MCM unit concept)

Business Unit
► Test Instruments

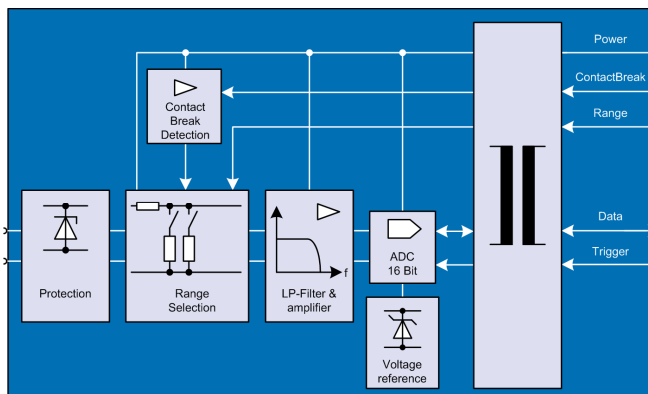


MCM-U08AII

Function overview

The MCM-U08AII has an individual ADC, including associated voltage reference, available per channel. The supply and data transmission of the channel is carried out via a separate insulated path.

This design guarantees completely time-synchronised detection and complete galvanic decoupling of all channels. In addition, it permits maximum flexibility in the use of the measurement channels and effectively prevents mutual interference.



Each channel also possesses an individual measurement range switching circuit, automatic contact interruption detection and a protection circuit that effectively intercepts dangerous voltage peaks.

Technical data

PARAMETER	MIN.	TYP.	MAX.	UNIT
Number of channels per module		8		
Sampling frequency		1	10	ksps
Measurement resolution		16		bits
Short-term (< 1 minute) insulation voltage of all measurement channels		2.5		kV
Permanent insulation voltage for all measurement channels		560		V
Power consumption per channel		200		mW
Resolution in 5V measurement range		0.1		mV
Resolution in 20V measurement range		1		mV
Resolution in 100V measurement range		10		mV
PARAMETERS	VALUES			
Connection type	MCM bus interface			
Mechanical	19" rack-mounting, 3 HE, 100 mm deep			
Environmental conditions (operation and storage)	0 °C to +60 °C / 20 % to 65 % nominal humidity, non-condensing			
Permissible operating altitude / installation location	max. 2,000 m above sea level / any			
Safety	IP20 conforming to EN60529			

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