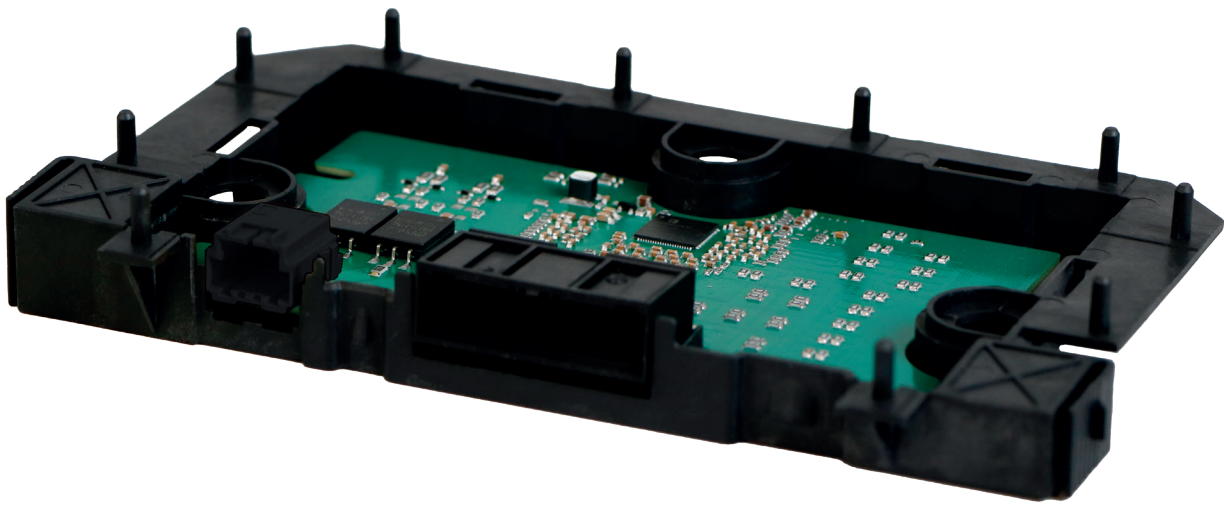


CELL VOLTAGE MEASUREMENT SYSTEM

ENHANCING HIGH-VOLTAGE BATTERY SAFETY AND PERFORMANCE



THE NEXT STEP TOWARDS A NEW MOBILITY THAT IS BETTER, SAFER AND MORE SUSTAINABLE.

Our Cell Module Controller (CMC) is a comprehensive, advanced cell supervision circuit solution that monitors and controls cells in electric vehicle batteries and stationary energy systems, delivering safety, performance, and reliability.

OPTIONS

- Internal: Stand-alone (PCB only)
- Internal: with Cell Contacting System
- External: with housing

TECHNICAL INFORMATION

Parameter	TI bq796xx	ADBMS683x	Remarks
Number of channels provided by AFE	12/14/16	16/18/24	
Cell Voltage Measurement Accuracy EOL	+/-3.5mV (<4.2V)	+/-2mV (<4.2V)	
Cell Voltage Range	-1V to 5V	-2.5V to +5.5V	
Module Voltage Measurement accuracy	-200mV/+150mV	TBD	
Module Voltage Range	32V to 72V	TBD	
Balancing per channel	Up to 150mA	Up to 150mA	Considering Thermal situations
Number of AFE's per System	Till 20 Tested	Till 18 tested	Need to clarify with supplier
Temperature Measurement channels	Up to 8	Up to 10	
Operation temperature	40 to 125	-40 to 125	
Power supply	11V-80V	11V – 85V	
Isolation (DC)	---	---	Based on used capacitor / transformer
Current consumption (HV) normal mode	9.5mA to 25mA	12.5 to 18mA	
Current consumption (HV) sleep	<220uA	10uA	

FUSI and Diagnostic		Comment
Cell Voltage Measurement	Up to ASIL D possible	
Temperature Measurement	QM	
Galvanic Isolation	By transformer or optocoupler	
Fault memory	no	
Component error	Send via ISO SPI to BMC	

ALWAYS IN TOUCH WITH MARQUARDT

As a mechatronics expert we connect human and machine with intelligent, electromechanical and electronic systems and components worldwide. Global leading brands from the automotive, electronics and power tool industries rely on Marquardt's expertise for over 95 years.