VECMOCON

ENGINEERED FOR INTELLIGENCE

M16 BMS
SPECIFICATION SHEET

M16 BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	4-16
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	68V (16S)
Cell Voltage Sensing Accuracy	±1.8 mV
Current Consumption in Active Mode	5 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Balancing type	Passive
Balancing Current	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Micro controller	Automotive Grade Microcontroller
Precharging	Available, 50 Ω
Communication	CAN 2.0B and BLE/UART(add-on)
Audio-Visual Indication	Yes*
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	J1939 and custom support
Extra GPIO support	Yes (1 GPIO available for custom features)

Variant	**M16 (Performance)**	**M16 (Standard)**
Dimension	162 mm x 105 mm x 20 mm	162 mm x 105 mm x 12 mm
Continuous Discharge/Charger Current	80A	65A
Peak Discharge/Charge/Regeneration Current	120A (For 30sec)	100A (For 30sec)

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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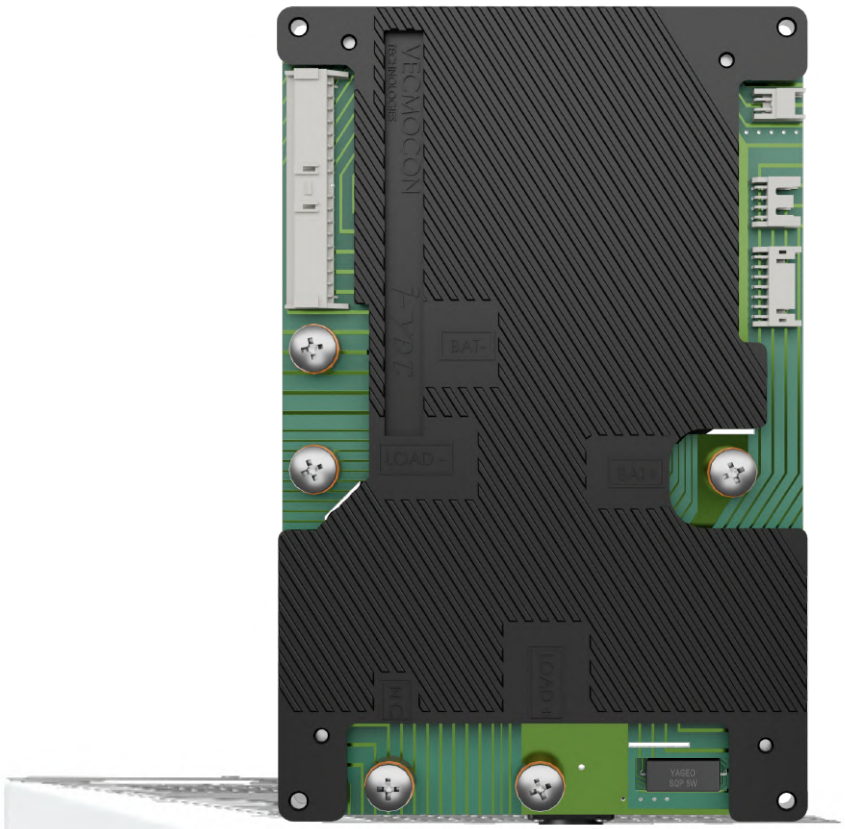
M16-PRO BMS SPECIFICATION SHEET



M16-PRO BMS

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	4- 16
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	68V (16S)
Cell Voltage Sensing Accuracy	±1.8 mV
Current Consumption in Active Mode	10 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Balancing type	Passive
Balancing Current	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Precharging	Available, 50 Ω
Communication	CAN 2.0B and BLE/UART(add-on)
Audio-Visual Indication	Yes*
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
CAN Protocols supported	Yes
Parameter configuration via CAN and BLE	UDS,1939 and custom support
Extra GPIO support	Yes (1 GPIO available for custom features)

Variant	**M16-PRO (Performance)**	**M16-PRO (Standard)**
Dimension	162 mm x 105 mm x 20 mm	162 mm x 105 mm x 12 mm
Continuous Discharge/Charger Current	100A	75A
Peak Discharge/Charge/Regeneration Current	120A (For 30sec)	100A (For 30sec)

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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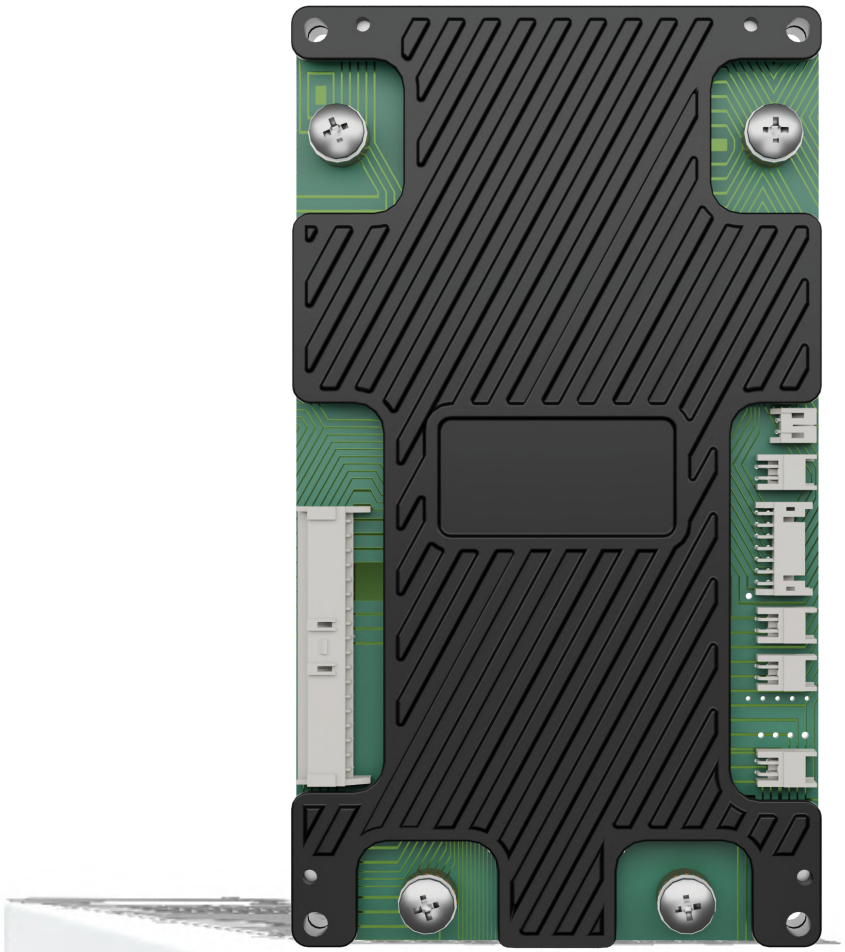
VT-P16 BMS SPECIFICATION SHEET



VT-P16 BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	4-16
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	68V (16S)
Cell Voltage Sensing Accuracy	±1.8 mV
Current Consumption in Active Mode	5 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Balancing type	Passive
Balancing Current	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Precharging	Available, 50 Ω
Communication*	CAN 2.0B/RS485/UART (x2) and BLE(add-on)
Audio-Visual Indication	Yes*
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	UDS, J1939 and custom support
Extra GPIO support	Yes (1 GPIO available for custom features)

Variant	**VT-P16 (Performance)**	**VT-P16(Standard)**
Dimension	160 mm x 90 mm x 20 mm	160 mm x 90 mm x 12 mm
Continuous Discharge/Charger Current	80A	65A
Peak Discharge/Charge/Regeneration Current	120A (for 30 Sec.)	100A (for 30 Sec.)

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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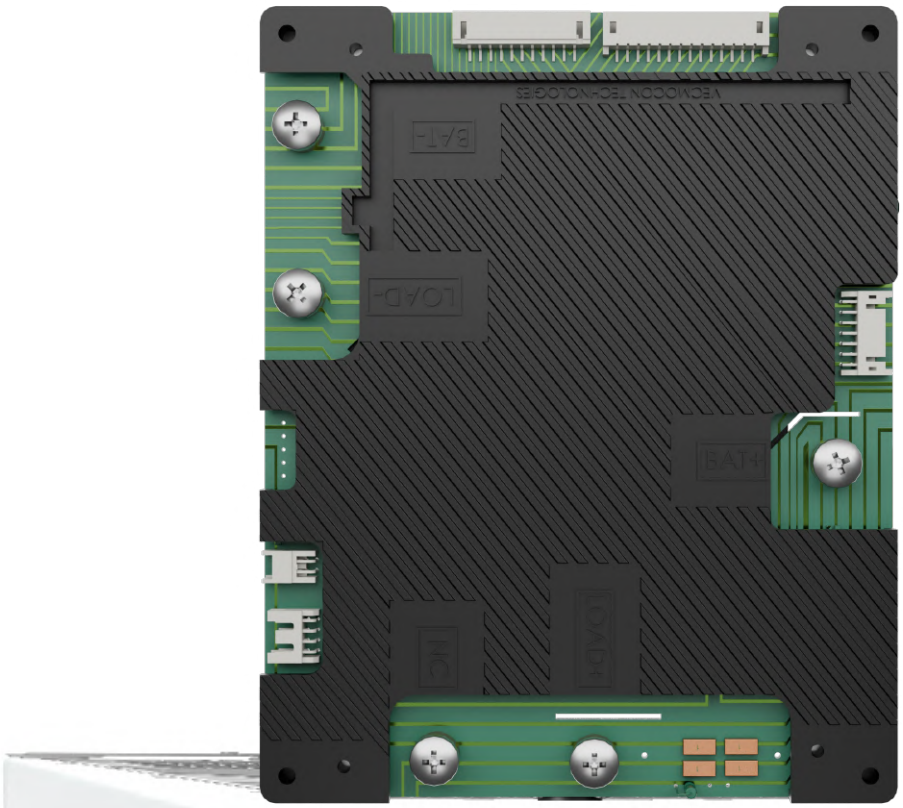
M24 BMS
SPECIFICATION SHEET



M24 BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	17- 24
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	100V (24S)
Cell Voltage Sensing Accuracy	±1.8 mV
Current Consumption in Active Mode	10 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Balancing type	Passive
Balancing Current	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Precharging	Available, 50 Ω
Communication	Isolated CAN 2.0B and BLE/UART(add-on)
Audio-Visual Indication	Yes*
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	UDS, J1939 and custom support
Extra GPIO support	Yes (1 GPIO available for custom features)

Variant	**M24 (Performance)**	**M24 (Standard)**
Dimension	150 mm x 120 mm x 20 mm	150 mm x 120 mm x 12 mm
Continuous Discharge/Charger Current	80A	65A
Peak Discharge/Charge/Regeneration Current	100A (for 10 Sec.)	80A (for 10 Sec.)

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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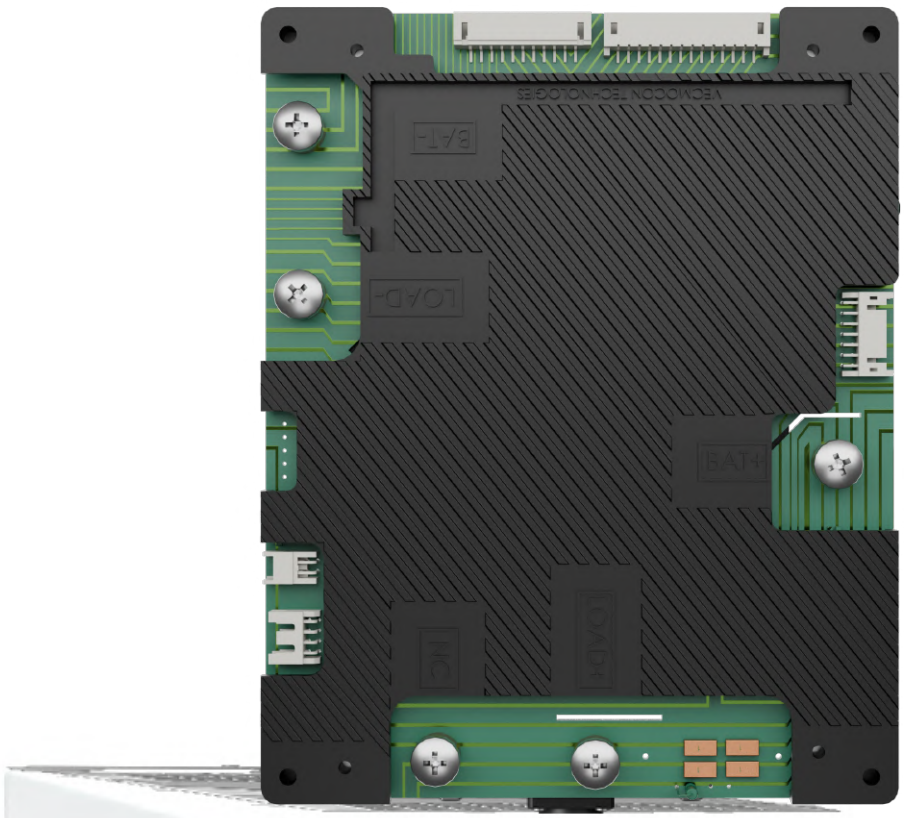
M24-PRO BMS SPECIFICATION SHEET



M24-PRO BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	17-24
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	100V (24S)
Cell Voltage Sensing Accuracy	±1.8 mV
Current Consumption in Active Mode	10 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Balancing type	Passive
Balancing Current	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Precharging	Available, 50 Ω
Communication	CAN 2.0B and BLE/UART(add-on)
Audio-Visual Indication	Yes*
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	UDS, J1939 and custom support
Extra GPIO support	Yes (1 GPIO available for custom features)

Variant	**M24 PRO (Performance)**	**M24 PRO (Standard)**
Dimension	150 mm x 120 mm x 20 mm	150 mm x 120 mm x 12 mm
Continuous Discharge/Charger Current	90A	70A
Peak Discharge/Charge/Regeneration Current	120A (for 10 Sec.)	100A (for 10 Sec.)

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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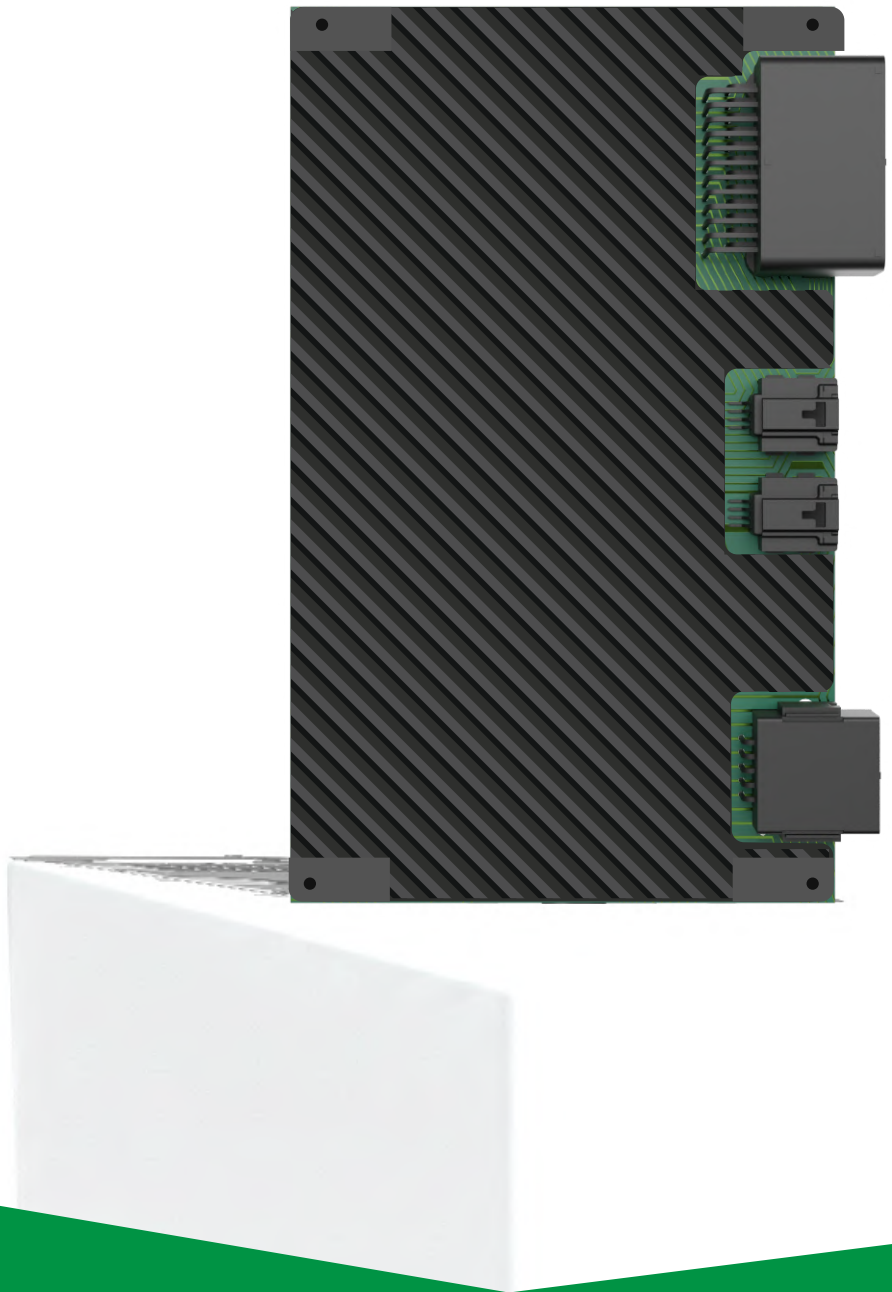
PS-18 BMS
SPECIFICATION SHEET



PS-18 BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	6-18
Cell Voltage Sensing Range	1.6 - 4.5V
Cell Voltage Sensing Accuracy (0°C - 60°C)	±1.2 mV
Dimension	173 mm x 81 mm x 15 mm
Current Consumption in Active Mode	10 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Continuous Discharge/Charge Current	90 A
Peak Discharge/Charge/Regeneration Current	160 A (for 30 seconds)
Balancing type	Passive
Balancing Current	350mA
Number of NTCs for Cell Zones	4 Qty
Architecture	High-Side Switching
Current Sensing	Shunt based
Precharging	Available, 15 Ω
Communication	CAN 2.0B
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	UDS, J1939 and custom support
Microcontroller	ASIL-C Grade

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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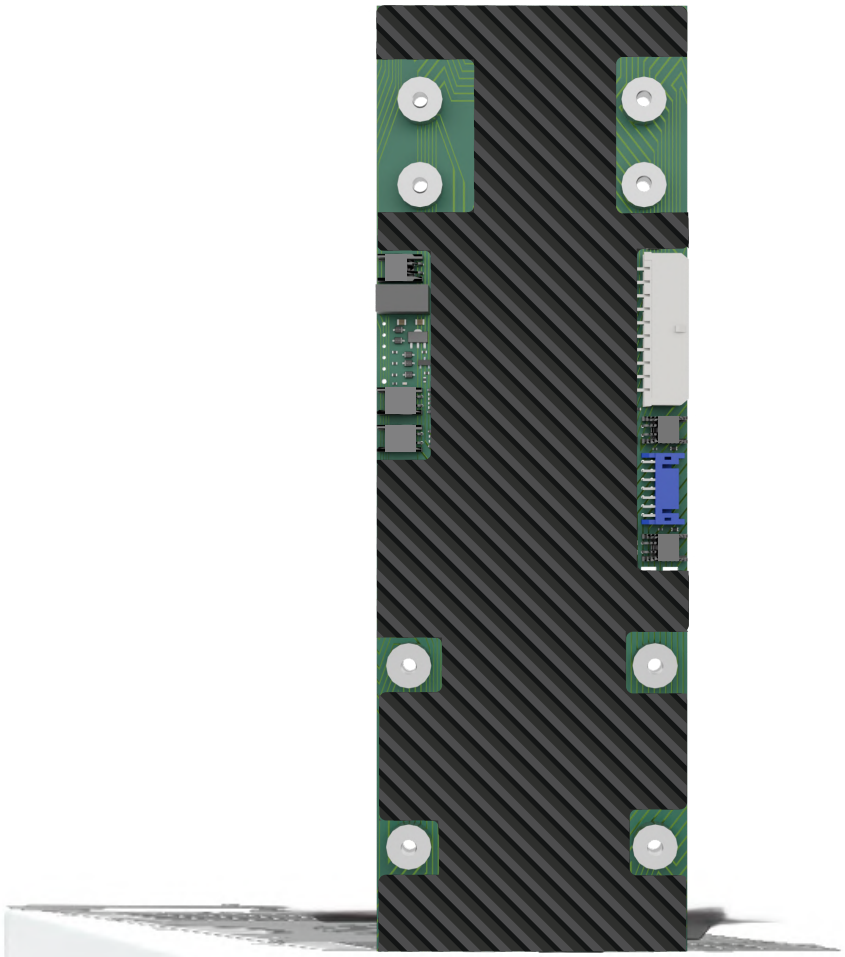
VT-P16+ BMS SPECIFICATION SHEET



VT-P16+ BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	4-16
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	68V (16S)
Cell Voltage Sensing Accuracy	±1.8 mV
Dimension	150mm x 85 mm x 20 mm
Current Consumption in Active Mode	5 mA
Current Consumption in Low power Mode	1 mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Continuous Discharge/Charge Current**	150A
Peak Discharge/Charge/Regeneration Current	200A (for 10 Seconds)
Balancing type	Passive
Balancing Current	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Precharging	Available, 50 Ω
Communication****	CAN 2.0B/RS485/UART (x2) and BLE(add-on)
Audio-Visual Indication	Yes
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	UDS, J1939 and custom support
Extra GPIO support	Yes (1 GPIO available for custom features)

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

***Multiple variants Possible

****Customization Possible

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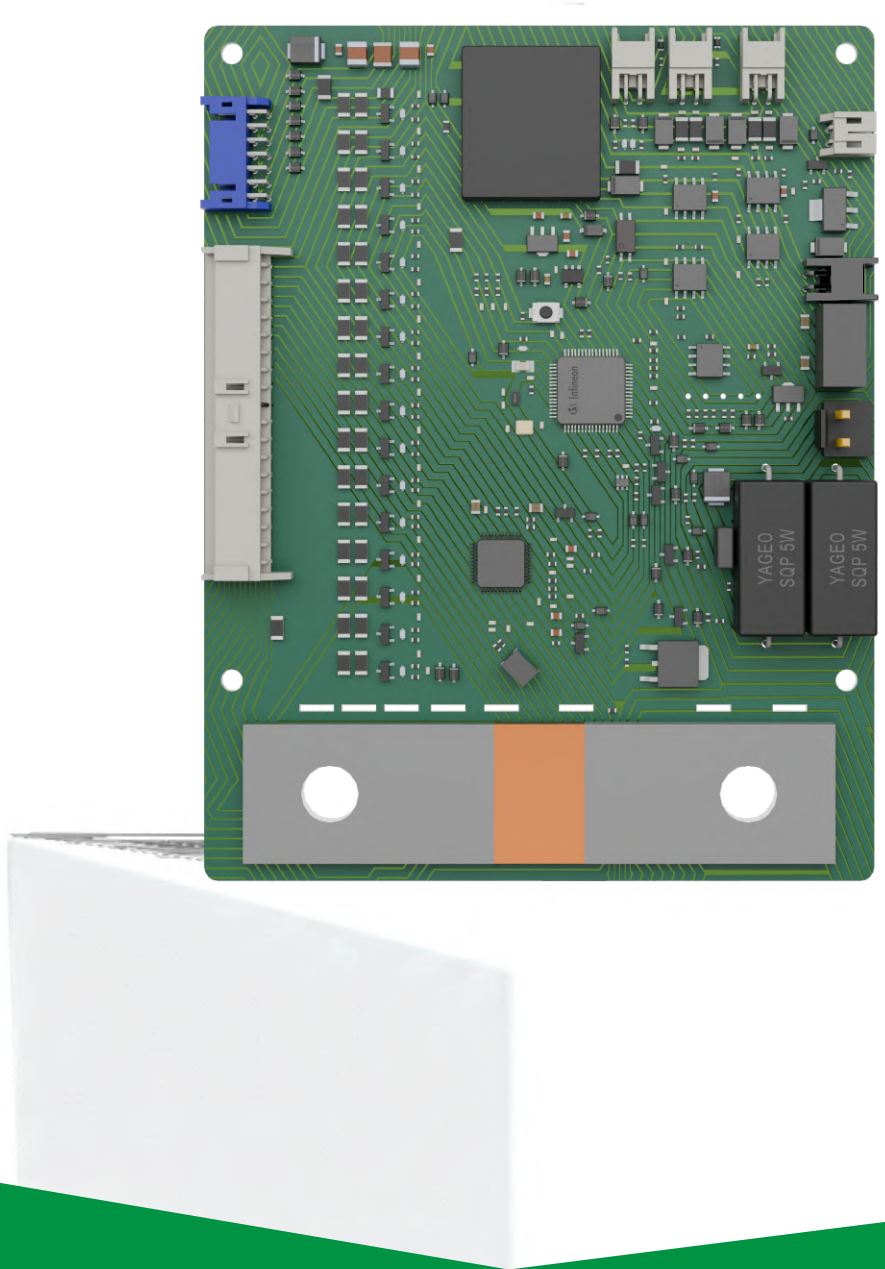
C16 BMS
SPECIFICATION SHEET



C16 BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	4-16
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	68V (16S)
Cell Voltage Sensing Accuracy	±1.8mV
Dimension (Excluding Contactor	97 mm x 124 mm x 11 mm
Current Consumption in Active Mode	5 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Balancing type	Passive
Balancing Current @3.4V	upto 200mA
Number of NTCs for Cell Zones	4 Qty (Upto 7)
Temperature Range	-20°C to 85°C
Architecture	Low side
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Precharging	Available, 25 Ω
Communication	CAN 2.0B/RS485/UART (x2) and BLE(add-on)
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	UDS, J1939 and custom support
Supports Number of Contactors	4 Qty

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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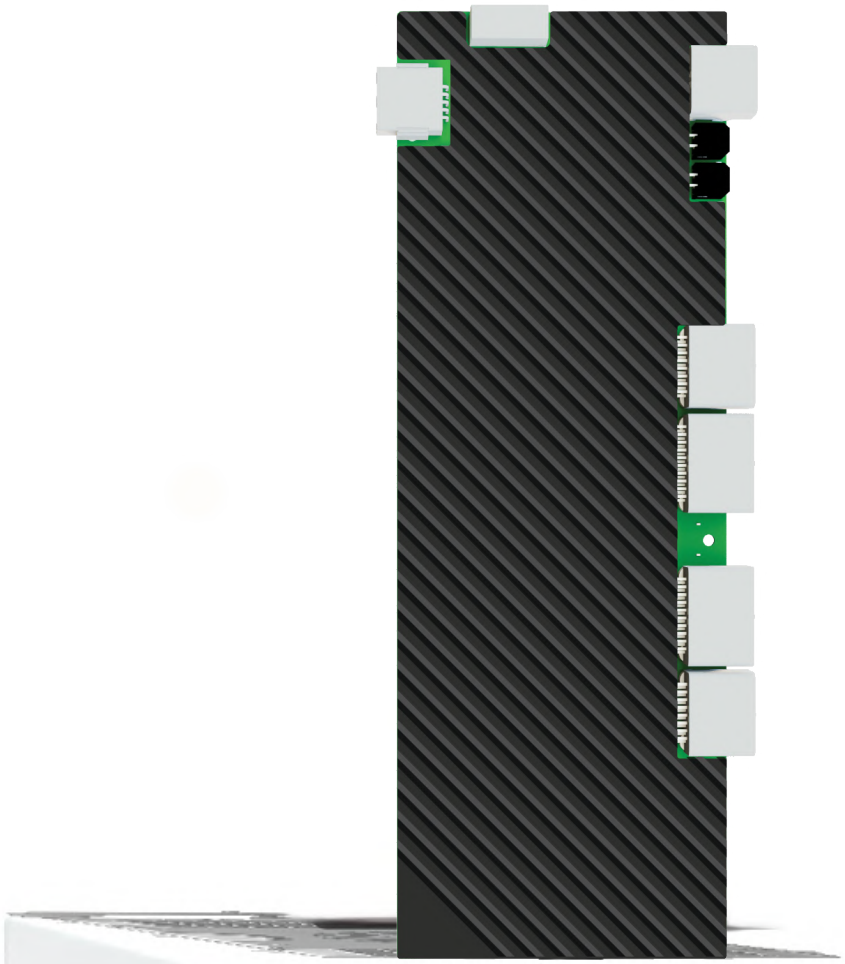
AB 32 BMS
SPECIFICATION SHEET



AB 32 BMS

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	32S
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	153V (16S)
Cell Voltage Sensing Accuracy	±1.2mV
Dimension (Excluding Contactors)	273 mm x 96 mm x 11mm
Wake-up	Key based, Charger based
Balancing type	Active
Balancing Current	upto 5A
Number of NTCs for Cell Zones	16 QTY
Balancing Current	upto 5A
Number of NTCs for Cell Zones	16 QTY
Architecture	Contactor Based
Current Sensing	Shunt based
Microcontroller	ASIL D Grade
Precharging	External Pre-charging Resistor
Communication	CAN 2.0B (x2)
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN	Yes
CAN Protocols supported	UDS, J1939 and custom support
Supports Number of Contactor	4 Qty

*Audio-visual daughter board need to be attached separately to the BMS.

**Depends on the number of parameters on frequency.

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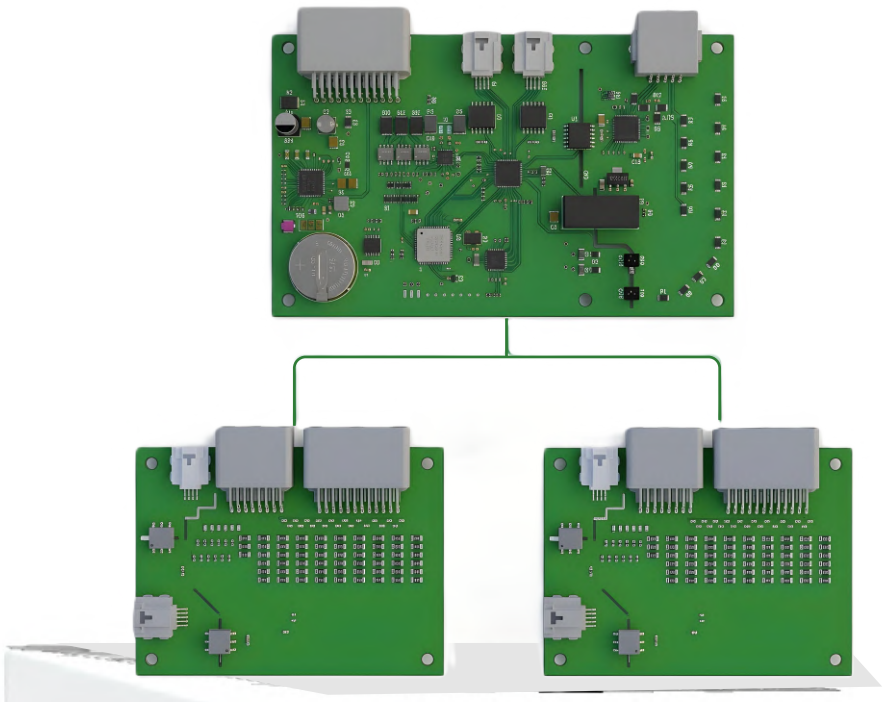
VT-HVMS
SPECIFICATION SHEET



VT-HVMS

VECMOCON TECHNOLOGIES

MASTER TECHNICAL SPECIFICATIONS

Parameter	Specifications
Dimension	140 mm x 85 mm x 18 mm
Current Sensing	External Shunt
Microcontroller	ASIL D Grade
Precharging	External Pre-charging Resistor
Communication	CAN 2.0B
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN	Yes
CAN Protocols supported	UDS, J1939 and custom support
RTC	Yes
Supports Number of Contactors	4 Qty
Number of NTCs	4 Qty
Supports HVIL	Yes
Supports IMD	Yes
Master Architecture	Contactor Based
Supports Number of Slave	60

SLAVE TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	6-18
Cell Voltage Sensing Range	1.6 - 4.5V
Cell Voltage Sensing Accuracy (0°C - 60°C)	±1.2 mV
Dimension	95 mm x 70 mm x 18 mm
Balancing type	Passive
Balancing Current	350mA
Number of NTCs for Cell Zones	6 Qty
Temperature Range	-40°C to 85°C
Architecture	Master - Slave BMS Architecture

**Depends on the number of parameters on frequency.

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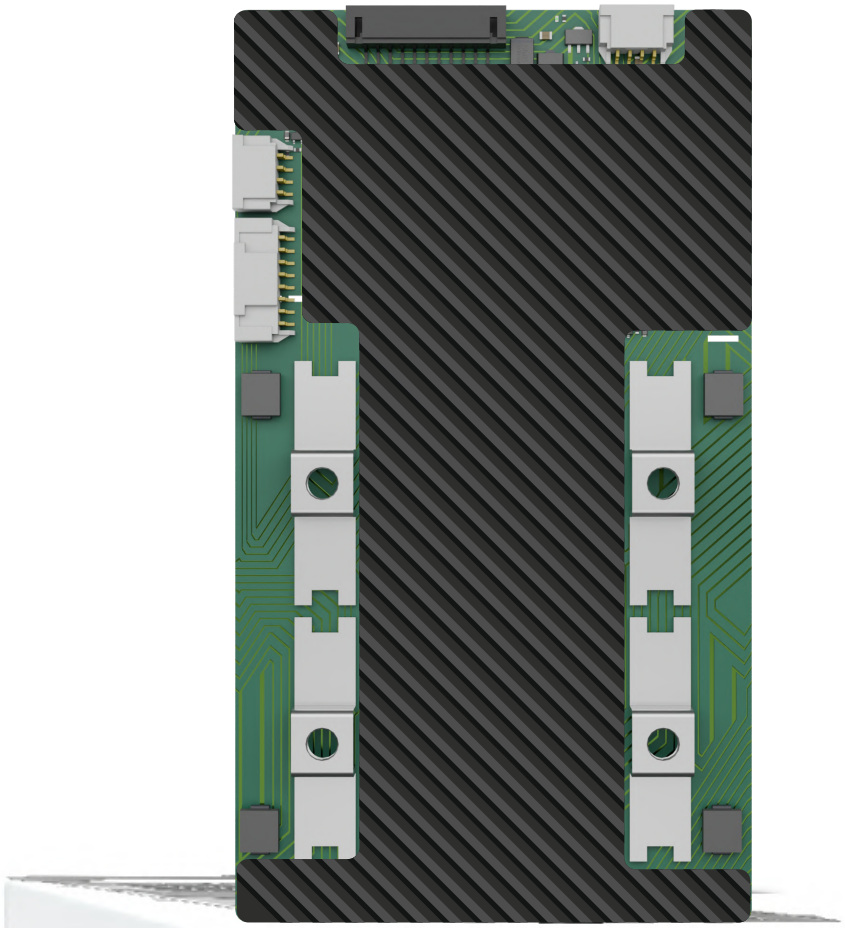
L8 BMS
SPECIFICATION SHEET



L8 BMS

VECMOCON TECHNOLOGIES

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	3S-8S
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	34V (8S)
Cell Voltage Sensing Accuracy	±4 mV
Dimension	150 mm x 85 mm x 17 mm
Continuous Discharge/Charge Current	100 A
Peak Discharge/Charge/Regeneration Current	120 A (for 30 seconds)
Balancing type	Passive
Balancing Current	200mA
Number of NTCs for Cell Zones	4 Qty
Temperature Range	-20°C to 85°C
Architecture	Low Side Switching
Current Sensing	Shunt based
Communication	BLE, UART, CAN2.0B/RS485
Data Logging	30 Days**
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	J1939 and custom support

**Depends on the number of parameters on frequency.

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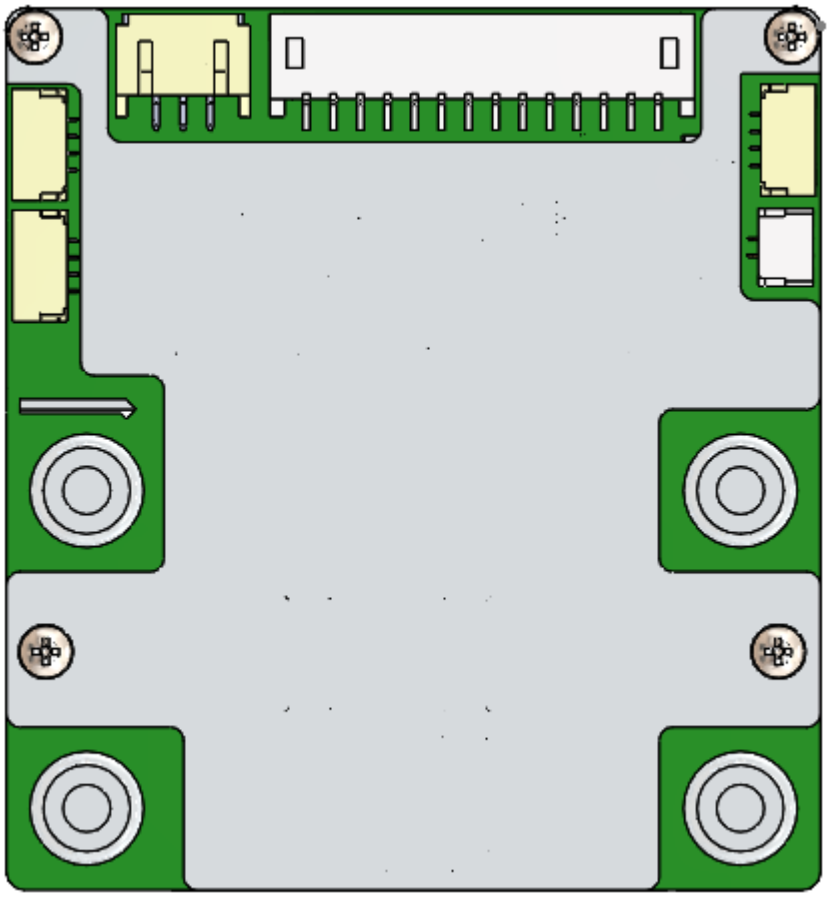
M16 LITE BMS SPECIFICATION SHEET



M 16 LITE BMS

TECHNICAL SPECIFICATIONS

Parameter	Specifications
Number of cells in series	4-16
Cell Voltage Sensing Range	1.6 - 4.5V
Peak Battery Terminal Voltage	68V (16S)
Cell Voltage Sensing Accuracy	±1.8mV
Dimension	66 mm x 61 mm x 11mm
Current Consumption in Active Mode	5 mA
Current Consumption in Low power Mode	1mA
Current Consumption in Shutdown Mode	10µA
Wake-up	Key based, Charger based
Continuous Discharge/Charge Current	35 A
Peak Discharge/Charge/Regeneration Current	45 A (for 10 seconds)
Balancing type	Passive
Balancing Current	100mA
Number of NTCs for Cell Zones	4 Qty
Temperature Range	-20°C to 85°C
Architecture	High-Side Switching
Current Sensing	Shunt based
Microcontroller	Automotive Grade Microcontroller
Communication	CAN 2.0B
Data Logging	30 Days**
Supports AIS156 Phase 2	Yes
Memory Read via CAN	Yes
Parameter configuration via CAN and BLE	Yes
CAN Protocols supported	J1939 and custom support

**Depends on the number of parameters on frequency.