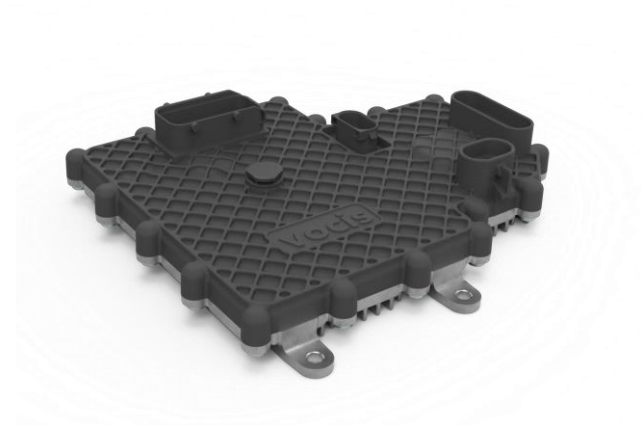


# Technical Specification

## VMC: Vocis Modular Controller



### Environmental

Designed for use in vehicles or test rigs

Power supply designed for 6V to 32 V input voltages

-40°C to 120°C ambient temperature

Enclosure is IP6K9 capable

Flexibility for 0, 1 or 2 BLDC motor drives

High power outputs are on separate modules, known as wings

Wings need not be on the same plane as the main PCB

Each wing has a high current power and ground connection

Production intent design, suitable for safety critical applications

NXP SafeAssure™ system core consisting of MPC5744P microprocessor and MC33908 System-Basis Chip

### Digital Inputs

3 Speed inputs suitable for 'current input' speed sensor type

With voltage monitoring

4 High speed digital inputs, per wing, to support sensored motors

- for the BLDC drive, or
- additional speed or PWM position inputs

1 Ignition input

Open-collector type sensor compatible

.....continued

## Analogue Inputs

D4 analogue inputs with standard 0..5V

Pull-up or pull-down

Monitored 300mA sensor power supply available for powering external devices

## Automotive communications

3 CAN bus up to 1Mbit/s, 1 channel has wake-on-CAN capability

1 LIN Transceiver

1 Flexray Transceiver (wake-on-FR capable)

## Outputs

2 high current digital (on/off) valve drive outputs,

- 3A maximum
- Suitable for hydraulic solenoids
- PWM – open loop

2 high current PWM valve drives with current feedback

- 0...3A maximum
- Suitable for hydraulic solenoids
- PWM – closed loop current controller

High current 3-phase BLDC motor drives (Wings)

- Modular design, supporting 0, 1 or 2 BLDC drives depending on requirements
- Designed to be capable of supplying 50A per phase

Further wing options include drive for 8x coils and high power BLDC (48V / >500A)

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