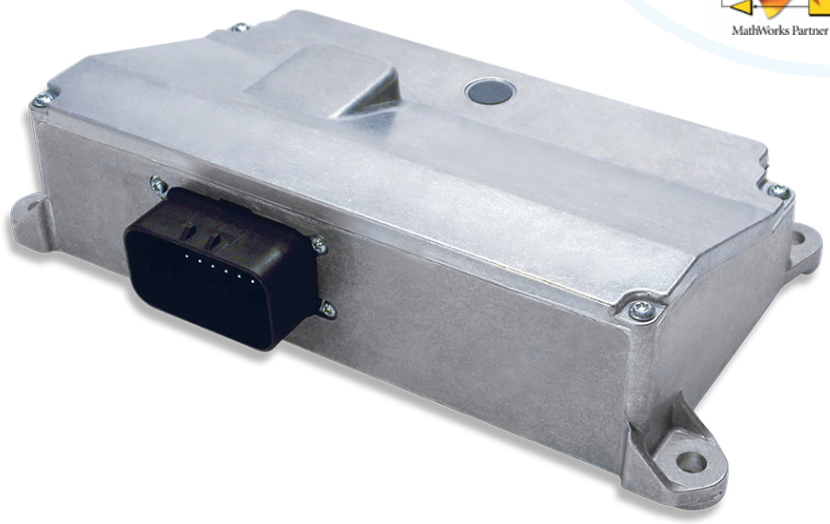
DANA OPEN ECU™ EMBEDDED CONTROL

M360
OpenECU™ High Current Control Applications

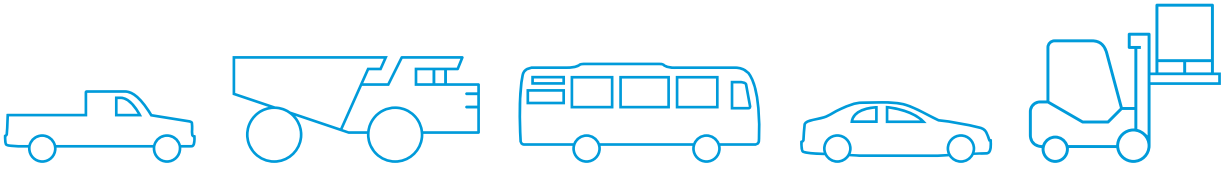
Features

- Favorable architecture for ISO 26262 ASIL-D applications
- High transient current characteristics on H-Bridges
- Open application-independent Simulink® development environment

MATLAB Enabled
MathWorks Partner



Ideal for light, commercial and off-highway vehicles.



M360
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High Performance

- Powerful dual micro-processor architecture with inter-micro serial comms for program flow monitoring and 1x shared external CAN channel from both micros
- 2x H-bridges for high current outputs (10A continuous, 50A transient for 100ms)
- Comprehensive fault diagnosis supporting functional safety as well as OBD requirements
- High level diagnostics fault reporting resident in platform software
- Platform SW supports light-duty J1979/KWP2000/UDS 14229 and Heavy-duty J1939 service tool interfaces

Capable

- Designed for high current brushed-DC motor control applications
- Adopted in functional safety and high transient current applications such as Electronic Park Brake
- Supports common calibration tools such as ATI Vision, ETAS INCA, and Vector CANape via CCP
- Proven hardware for prototyping, pre-production and volume production

Capabilities	
Microprocessor	
Processor	MPC5746B
Clock Rate	160 MHz
Code Space	2302KiB
RAM Space	384KiB
Calibration Space	128KiB
Secondary Processor	SPC560P34
Clock Rate	64MHz
Total Flash Space	192KiB Up to 64KiB additional for EEPROM emulation
Calibration Space	Up to 20KiB*
Inputs	
Digital Inputs	None
Analog Inputs	3 (redundant-read by both micros)
Applications	
Location	Chassis/Passenger Compartment
Supply Voltage	8V to 18V**

*Contact Dana for availability
**Designed for 12 V

I/O Summary	
Sensor Supplies	None
Input Pins	3 analog inputs
Output Pins	4 (2x H-Bridges)
External Communication	1x CAN (for both micros have independent interface to the CAN bus)
Outputs	
H-Bridges	Continuous: 2x (10 A), Transient: 2x (50 A) for 100 ms
Current Monitors	2x current monitors per H-bridge for circuit, rationality and unintended actuation diagnostics - read by both micros
Voltage Monitors	2x voltage monitors (one on each arm) per H-Bridge for circuit and rationality diagnostics - read by both micros
Physical	
Dimensions	207mm x 104mm x 45mm (W x D x H)
EMC	Designed for DIN/ISO 11452, ISO 7637-2 and CISPR 25
Enclosure	Aluminum
Weight	0.54kg
Connectors	IEC 60068-2-64
Vibration	ISO 11452-2
Environmental Protection	IP69K & IPx8 Sealed/Gore vent

The M360 is designed to support the most demanding high current control applications with a favorable functional safety architecture.

A primary and a secondary microprocessor provide redundancy architecture for use in safety critical applications. Development of application with M360, can use independent toolchains and build environment to establish independence with enhanced failure protection. Safety critical inputs can be read by both microprocessors and safety critical outputs can be controlled by both primary and secondary microprocessors. With these fundamental building blocks available, M360 has the capability to achieve ASIL-D.*

M360 has Dual H-bridges which can be used for high current applications such as DC Motors.

Some example application areas for M360

- Electronic Park Brake
- Electronic Park Booster
- HEV start-stop system
- HVAC

The M360 is based on the proven OpenECU™ hardware and software. It features developer-friendly Simulink application interface and C-API for rapid prototyping of tailored mobility applications.

*Contact Dana for more information on how this can be used in Functional Safety applications

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