DANA OPEN ECU™ EMBEDDED CONTROL

DLC-12
OpenECU™ Driveline Controller

Enabled by MATLAB® & SIMULINK® MathWorks

Key Features

- Powerful Infineon Aurix microcontroller
- Designed to meet ISO 26262 ASIL C for BLDC Motor Position
- Developed according to ISO 21434 with integrated HSM(I) to support latest cybersecurity requirements
- Comprehensive fault diagnosis supporting functional safety as well as OBD requirements
- OpenECU Simulink and C-code development environments available
- Enables custom application software written by customers

Versatile & Unique

- 2x 50A BLDC drives (peak), 20A continuous using Hall effect sensor feedback
- 3x CAN-FD w/ wake on CAN capability, protected against STB/STG, ISO11898-2
- 2x 5V external sensor power supplies – fully protected OC, STB, STG
- 4x high speed digital inputs (PWM capable, OC monitoring capable)
- 6x analog sensor inputs (Temperature / Pressure sensing configurable)
- 3x Safety Switches – independent control
- PWM speed sensor inputs
- 8x half bridge drives
- 2x SENT input channels

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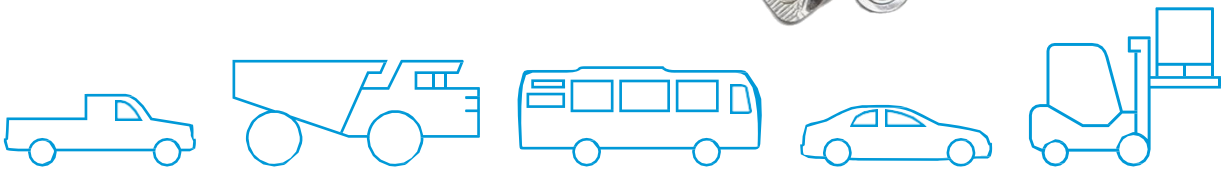
Ideal for light, commercial, and off-highway vehicles.



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OpenECU™ Driveline Controller

Capable

- Designed for BLDC control applications: transmission controller, thermal management, differential control, medical applications such as wheelchairs or beds, pantograph operation
- High-quality rugged hardware designed for EV chassis mount
- Supports common calibration tools such as ATI Vision, and Vector CANape via CCP as well as Dana calibration tool OpenECU Calibrator™
- Same proven hardware used for development can be used for volume production

Capabilities			
Highlights		**I/O Summary**	
Processor	TC364	**Sensor Supplies**	4x 5V @ 150mA each 3x 5V @ 50mA each
Clock Rate	300 MHz	**Input Pins**	22 (up to 29[III])
Code Space	up to 4MB	**Output Pins**	23
RAM Space	up to 672kB	**External Communication**	Up to 3x CAN-FD
Calibration Space	up to 128kB		
Inputs [II]		**Outputs [II]**	
Digital Inputs (sampled)	Up to 5	**H-Bridges (can be used as half bridges, current feedback)**	2x 3A 2x 7A (PWM)[III]
Digital Inputs (frequency)	Up to 9		
Analog Inputs (12bit, 5V)	Up to 6	**High-Side Out**	2x 100mA switched battery
SENT input	Up to 2	**BLDC Drives**	2x 50A peak, 20A continuous
Internal Features		**Physical**	
Partial Networking	Wake on CAN (3 channels)	**Dimensions**	2580x194x41mm (WxDxH)
		Material	Aluminum
		Weight	1.3kg
Application		**Connectors**	Molex 84-pin (3x28)
Location	Chassis/Passenger Compartment	**Vibration**	ISO 16750 chassis mount
Supply Voltage	9 - 32V; -40° to 125°C	**Environmental Protection**	IP6k9k Rated

Notes:

I. Full feature set of base software to allow vehicle manufacturers to satisfy UN R155 and R156. Base software compliant with ISO 21434. Offering Secure Boot, Code Signing, Enhanced Security Lifecycle, HSM Secure Firmware Update, Secure Keystore, Security Access, Secure Logging, etc.

II. Inputs are highly configurable. See pinout template and technical specifications for details. Output diagnostic signals can be used as inputs if output channels are not used.

III. Optional content can be populated upon request