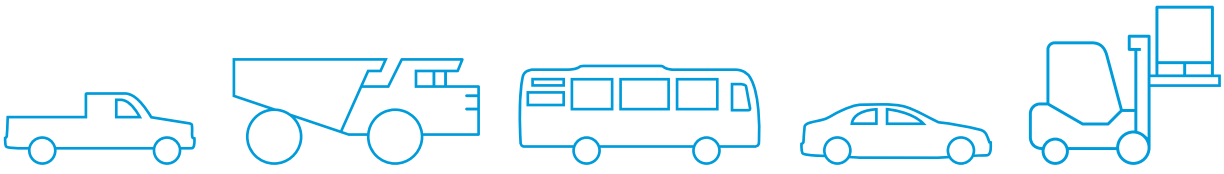
DANA OPEN ECU™ EMBEDDED CONTROL

M580-24V
OpenECU™ EV Supervisory Control

Versatile

- Designed to meet ISO 26262 ASIL D functional safety requirements
- 112 pins of flexible I/O
- Integrated charging interface circuitry
- Truly open application-independent Simulink® development environment

Ideal for light, commercial and off-highway vehicles.



M580-24V
OpenECU™ EV Supervisory Control

High Performance

- Powerful NXP SPC5746 microprocessor and 4x CAN 2.0 channels
- Multiple H-bridges, low side drives and high side outputs
- Comprehensive fault diagnosis supporting functional safety as well as OBD requirements
- High level diagnostics fault reporting resident in platform software

Capable

- Designed for complex hybrid and EV applications
- High-quality rugged hardware designed for engine compartment mount
- Supports common calibration tools such as ATI Vision, ETAS INCA, and Vector CANape via CCP
- Same proven hardware used for development can be used for volume production
- ISO 15118

Capabilities			
Highlights		**I/O Summary**	
Processor	SPC5746	**Sensor Supplies**	2x 5V @ 200mA
Clock Rate	160 MHz	**Input Pins**	40
Code Space	up to 3MB	**Output Pins**	44
RAM Space	up to 256kB	**External Communication**	4 x CAN 2.0 to main micro, 1x CAN to Secondary
Calibration Space	up to 256kB		
Secondary Processor	SPC560P34	**Outputs**	
Clock Rate	64MHz	**H-Bridges**	1x 10A, 2x 5A, 1x 3.2A
Total Flash Space	up to 192KiB	**Low Current Low Side Drives**	10x 100mA, 3x 400mA, 14x 700mA, 2x 1A
Total RAM Space	up to 12kB		
Inputs		**High Current Low Side Drives**	4x 2.2A, 1x 3.2A
Digital Inputs	9x switched, 3x PWM	**High Side Outputs**	2x 700mA
Analog Inputs	28	**Physical**	
Internal Features		**Dimensions**	225x205x45mm (WxDxH)
Partial Networking		**Material**	Aluminum
Wake on CAN (2 channels)		**Weight**	1.1kg
Wake on digital/PWM input		**Connectors**	Molex 112pin (1x48, 2x32)
Pilot and CC2 pins		**Vibration**	ISO 16750 chassis mount
Application		**Environmental Protection**	IP69K Sealed / Gore Vent
Location	Chassis/Passenger Compartment		
Supply Voltage	6.5 - 32V		

The M580 OpenECU is designed to support the most demanding EV supervisory control applications. Since most supervisory controls demand the highest level of functional safety, the M580 was developed using ISO 26262 processes.

The high performance SPC5746 microprocessor supported by the powerful 32-bit SPC560P34 secondary microprocessor provides for sophisticated, high-bandwidth rationality checking and system safety monitoring of full-authority vehicle control applications.

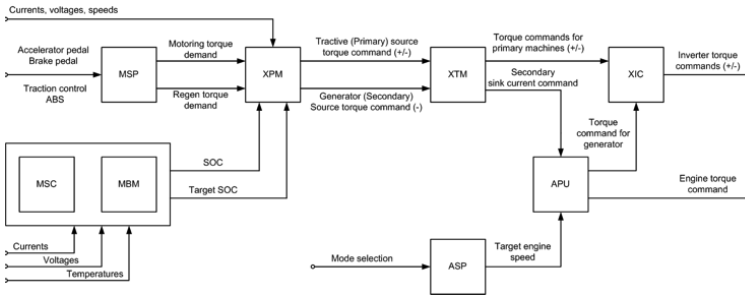
The M580 is designed to support EV supervisory control applications worldwide, the integrated charging circuitry eliminates the need for a separate charger interface module (Charging interface control application software not included.)

Due to its high quantity of customizable I/O, advanced microprocessor, safety oriented architecture and user friendly OpenECU™ Simulink application interface, the M580 is a great rapid prototyping platform for a broad range of applications.

Dana also offers a full set of model based strategies suitable to support most EV / NEV architectures allowing it to be taken all the way into production. Dana systems, controls and software engineers are available to support application implementations from prototype to production.

All 4 major charging interfaces supported
CCS Type 1 (SAE J1772)USA
CCS Type 2 (IEC 61851-1)EURO
GB/T AC & DC (18487.1_2015 and 20234_2015)China
CHAdeMO – JEVS G105-1993Japan

Strategy Control Structure



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Application Policy
Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Dana; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.

Dana Plymouth Technology Center
47047 West Five Mile Road
Plymouth, MI 48170
Tel: +1 (734) 656 0140 Fax: +1 (734) 656-0141
OpenECU.com

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