ECM196

Production Engine Control Module
P/N: ECM-1793-196-1503

As one of the fastest modules in our lineup due to its Infineon Tricore processor, the ECM196 is up to an eight-cylinder engine control module with 3 CAN buses and 1 LIN bus, and a large, diverse variety of I/O. A safety ASIC is designed into the module making it capable of safety critical applications.

The ECM196 is one of the Raptor™ rugged production controllers that use a software development process based upon MATLAB/Simulink and Raptor-Dev which significantly speeds up algorithm development by using automatic integration and code generation. In addition, developers can quickly test application software using simulation and automated testing.

- MATLAB/Simulink Programmable
- Processor
  - Infineon Tricore TC1793
  - 200/260MHz
- Memory
  - 4MB Flash
  - 96KB EEPROM
  - 256 KB Internal RAM
- ASIL B Capable
- 50 Inputs
  - 39 Analog Inputs
  - 8 Digital Inputs
  - 10 Frequency Inputs
  - 1 Emergency Stop
- 84 Outputs
  - 48 Low Side Drivers
  - 3 H-Bridges
  - 1 High Side Driver
  - 1 Main Power Relay Driver
- 6-16 V Operating Voltage
- Communication
  - 3 CAN 2.0B
  - 1 LIN
- Environmental
  - -40°C to +105°C Operating Temp
  - Mechanical Shock 500m/s2, 6 ms, half-sine wave 10x/axis
  - CISPR25(2002-08), ISO 11452-2 (2004-11), 11452-4 (2005-04), 10605 (2001-12), 7637-2 (2004-06), 7637-3 (2007-07)
  - IP6k9k Compliant
- Required Compiler
  - Hitech Compiler v3.4.5.11
- Aluminum Construction

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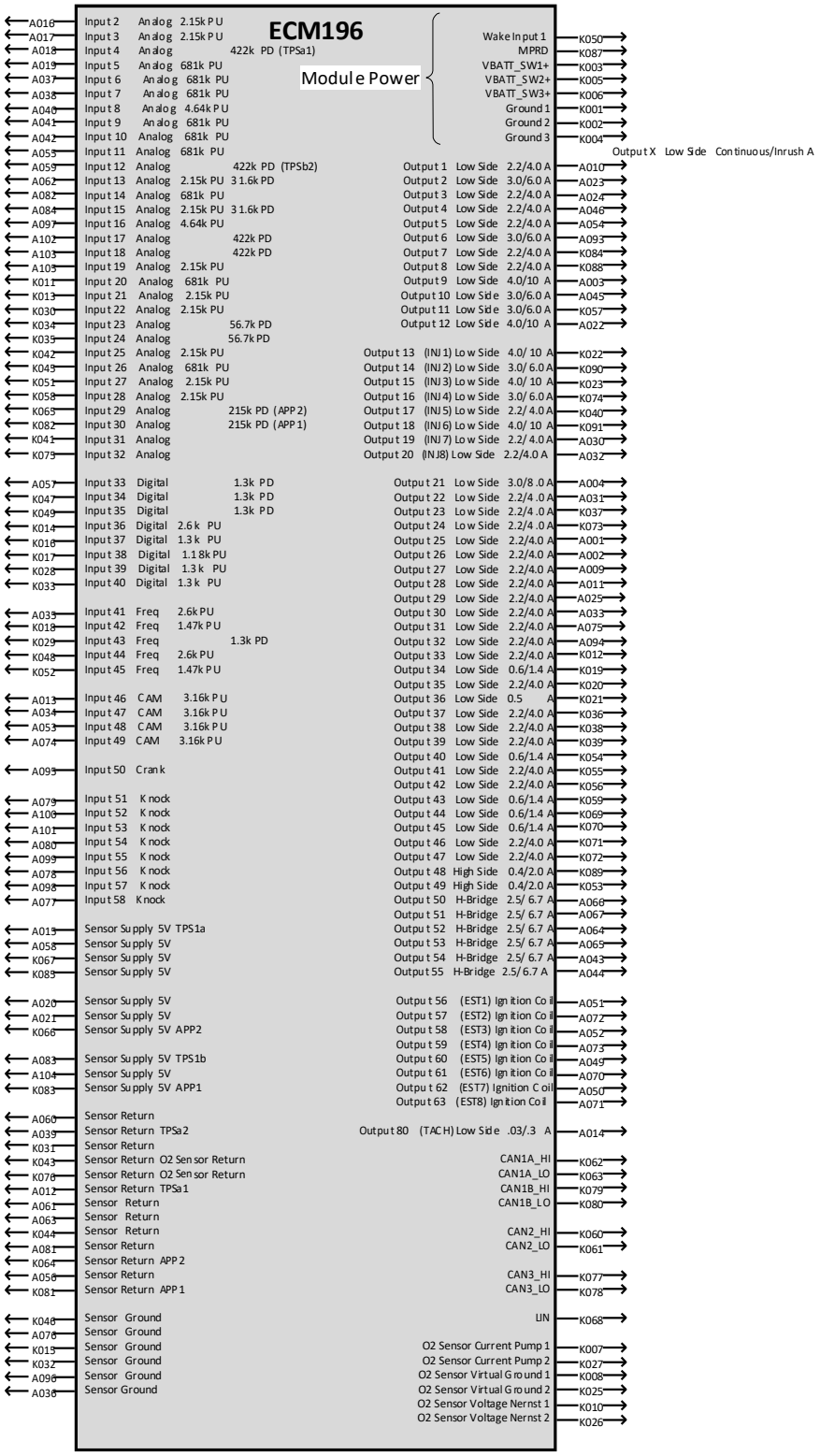
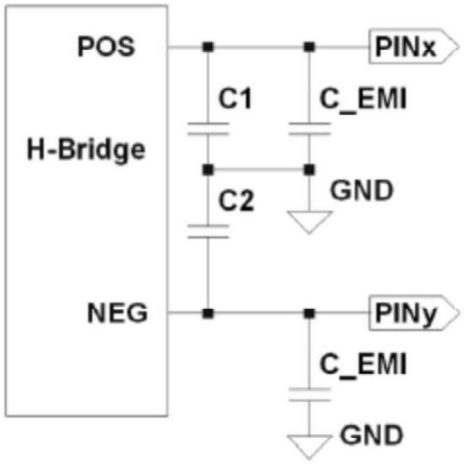
sous le numéro B 452 806 813
code APE : 7490B

Block Diagram



Half Bridges (Outputs 50 & 51, 52 & 53, 54 & 55)



	Min	Nom	Max	Units
Output Current (RMS)	-2.5		2.5	Arms
Output Current (DC)	-7.6		7.6	A
Short Circuit Detection Current Threshold	-11.1		11.1	A
Frequency	306		40,000	Hz

OUTPUTS 50,51,52,53,54,55

Characteristics	Conditions	Rem.	Minimum	Maximum	Unit
C_EMI	referenced to GND		3.76	5.64	nF
C_IO		1.)	15.1	22.6	nF
R_Out	to case / Vbat-, power stage active			540	mOhm
I_Out		2.)	-2.5	2.5	A
I_Out_Lim		3.)	5.6	7.6	A
I_Out_SC		3.)	6.7	11.1	A
I_Out_Leakage			-200	200	µA
V_Out	to case / Vbat-		0 V	Vbat+	V

INPUT 50&51
1.) between Pin A066 and Pin A067
2.) I_Out is the rms value
3.) absolute value, current can flow in both directions

INPUT 52&53
1.) between Pin A064 and Pin A065
2.) I_Out is the rms value
3.) absolute value, current can flow in both directions

INPUT 54&55
1.) between Pin A043 and Pin A044
2.) I_Out is the rms value
3.) absolute value, current can flow in both directions