

MBC-1793

32-bit Universal Mobile Controller

The MBC-1793 is a mobile controller device powered by an Infineon Tricore TC1793 microcontroller. The device features a broad range of user-configurable inputs and outputs for various kind of peripheral sensors and actuators available on an 112-pin IP 67 ECU connector. The MBC-1793 may be used as stand-alone controller as well as a sub-component in decentralized control structures.

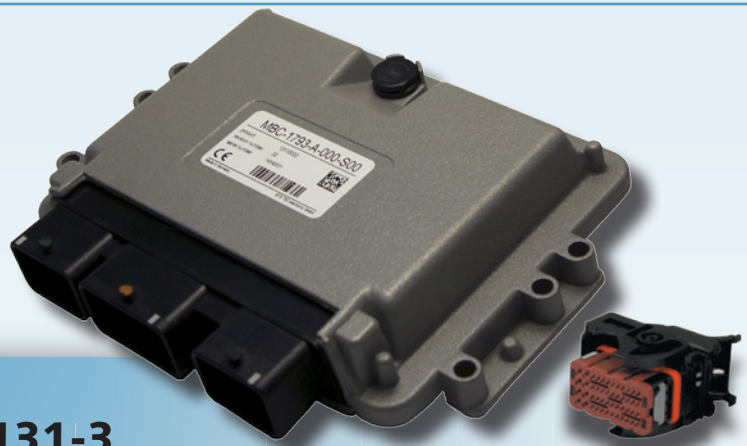
Infineon Tricore TC1793 Microcontroller with 270MHz

IEC 61131-3 or C/C++ programmable

50 multi-function inputs and outputs

Integrated CiA 302 CANopen Manager

Rugged IP67 housing with 112-pin ECU connector



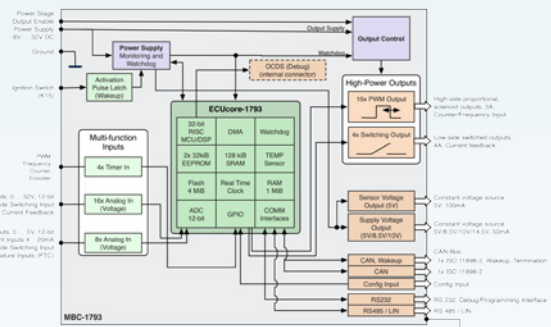
IEC 61131-3

In order to stand out from competing products machine manufacturers need to offer new advanced functionality at reasonable cost. Efficiency, rentability and usability become the first and foremost criterias for making a buying decision.

The MBC-1793 is a compact 32-bit high-performance controller for use in mobile off-road machines designed to offer a variety of industry-specific I/O at reasonable cost. Users may choose to implement their applications in C/C++ or IEC 61131-3 compliant languages. Ready-to-use reference projects are available for application development in C/C++ and IEC 61131-3. The device provides sufficient memory for large user applications. Two CAN interfaces with CANopen protocol support are available. User-defined CAN protocols can be implemented in IEC 61131-3 and/or C/C++ level to support proprietary CAN devices. In addition the user may choose between using a LIN-bus or RS 485 interface.

SYS TEC electronic offers brand-labelling and customization services based on the MBC-1793 controller. This range of services include customized enclosure solutions, I/O modifications and integration of special functions. SYS TEC electronic also offers serial production of the hardware. OEM may purchase the controller in with their specific housing, product label and/or software configurations pre-installed on the devices.

In the complete design material of the MBC-1793 is made available to OEM for own license production or second development based on the MBC-1793 design.



About SYS TEC electronic

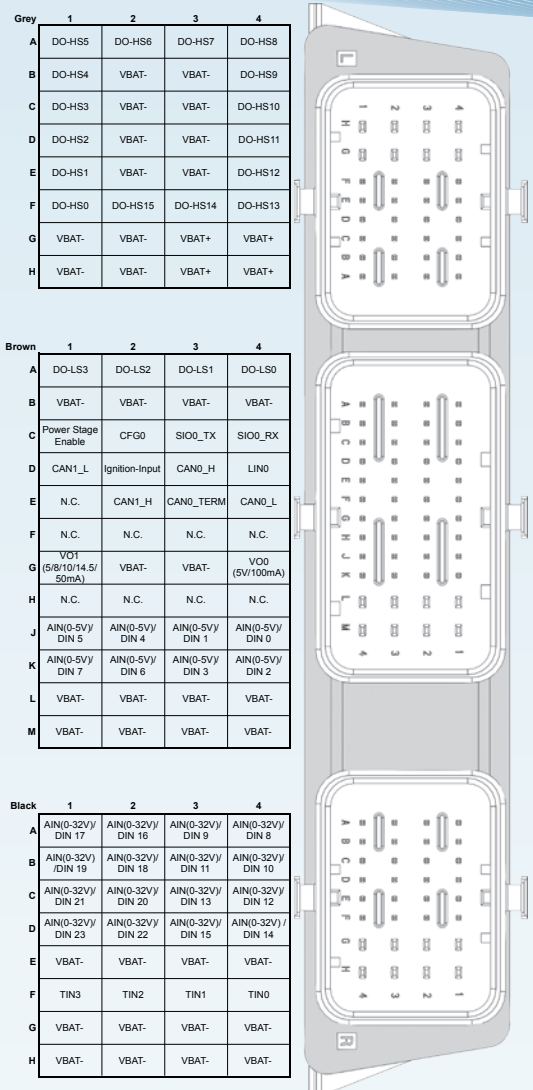
SYS TEC electronic is a system house for distributed automation technology. We provide comprehensive services; from consulting to OEM integration.

Founded in 1990 in Germany SYS TEC electronic has more than 20 years experience in customized development of microcontroller systems and industrial communication.

Feature Overview

CPU	Infinion Tricore TC1793, 270 MHz system clock
Supply Voltage	8V .. 32V DC, suitable vor 12/24V systems
Current Consumption	4W (without load) 40A max. load
Protection Measures	Short circuit protected against VBAT and Ground Over-temperature (outputs) Reverse polarity on power supply/battery
Diagnostic capabilities	Cable break and short circuit for analog inputs and digital outputs, load current measurement for PWM On-board temperature sensor
Other Signals	Ignition signal input (K15) External Power Stage Enable Signal Input Software independent watchdog
Programming/ Software Support	Application programming in IEC 61131-3 or C/C++ CANopen Manager integrated in IEC 61131-3 PID control function blocks available in IEC 61131-3
Memory	4MiB Flash, 1MiB RAM, 32kiB error history, 32kiB retain data ¹⁾
Operating Temperature	-40°C ... +85°C (depending on load)
Communication Interfaces	2x ISO 11898-1/2 compliant CAN channels 1 CAN channel with wake-up function 11/29-bit identifiers (standard/extended frames) CAN protocol support: CANopen (CiA 302, Manager or Slave) CAN-Layer 2 (user-implemented, J1939) 1x RS 232, 1x LIN/K-Line or alternatively RS485 (half-duplex)
Enclosure	Aluminium diecast, IP67 according to EN 60529
Conformity	CE acc.to 2004/104/EC
Environmental testing	Vibration, shock, transport: IEC 60068-2-64 , 31 , 27 Temperature: IEC 60068-2-1 , 2 , 14 Humidity, salt mist: IEC 60068-2-11 , 30

Connector Pinout



I/O Configuration

Amount	Digital Inputs		Timer Inputs (0...50kHz)					Analog Inputs (12-bit)					Digital Outputs ²⁾				Analog Output	
	High Side Switching	Low Side Switching	PWM	Frequency	Counter (0 ... 32V)	Counter (7 ... 14mA)	Quadrature Encoder	0..5V	0..32V	0..20mA	Resistive (PTC, Potentiometer)	Current Feedback	PWM/ Switching, 3A	Switching High Side, 3A	Switching Low Side, 4A	5V Sensor Output	5 / 8.5 / 14.5 V Sensor Output	
1																		
1																	P	
16	P	A						P	P		A							
8		A						P		A	A							
4			A	A	P	A	A											
16				A	A								A	P				
4												P			A			

P → Primary Function, A → Alternative Function
¹⁾ Alternative memory configurations up to 128kiB available upon request.
²⁾ The total power consumption must not exceed 40A.

Mating Plugs (Molex):
 64319-1218 32-way, gray
 64319-3211 32-way, black
 64320-3319 48-way, brown



Ordering Information

13134000 MBC-1793 Reference Hardware

For quotations please contact us:
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