





Precision Race Services Inc. Is your OBR North American Dealer



Generic OBR Control Systems Inc Engine Management Systems

	Euro-4	Euro-8	Euro-5
			
Hardware			
Injection Drivers			
On-Off / max optional / Peak&Hold	8 / 8 / No	8 / 16 / No	4 / 4 / Yes
DI drivers (configurable boot voltage / current profile)	Via external module	Via external module	4 / Yes / Yes
Programmable firing order	Yes	Yes	Yes
Ignition Drivers			
Internal power stage	4	8	4
Logic level driven (coil integrated power stage)	4	8	4
Programmable firing order	Yes	Yes	Yes
Trigger / Speed / Position			
Hall effect (DHE)	4 (hardware)	4	4
Variable reluctance (VRS)	4 (hardware)	4	4
Custom configurable trigger patterns	Yes	Yes	Yes
Max Number of Engine Cylinders			
Full sequential / semi sequential	4 / 8	8 / 12	4
General I/O			
Analogue inputs	15	15	15
Digital inputs (total excl DHE)	7	13	11
PWM	7	13	11
Digital outputs (total)	8	20	17
PWM	4	16	13
H-bridge drivers (full bridge)	1	2	2
Half bridge drivers	-	2	2
Stepper motor	1	(using full bridge)	(using full bridge)
DI pump driver	Via external module	Via external module	1
Import data via SENT protocol	-	Yes	Yes
Dedicated I/O			
Wide band lambda (UEGO) input/CAN	1 / +3 via CAN	2 / +8 via CAN	1 / +3 via CAN
Lambda control using wide band sensor	Yes	Yes	Yes
Lambda self mapping using wide band sensor	Yes	Yes	Yes
Knock sensor input	2	2	2
Thermocouple (K-type)	Via external module	Via external module	Via external module
Resistance temperature sensors (NTC)	4	5	5
Internal Data Logger			
Memory	8 Mb	128 Mb	128 Mb
Maximum logging rate Hz	200	200	200
Maximum logging channels	32	64	64
Analysis software Stack / 2D	Yes	Yes	Yes
Track mapping	Yes	Yes	Yes
General			
I/O expandable via CAN	Yes	Yes	Yes
Stand alone capability / Full access	Yes/Yes	Yes/Yes	Yes/Yes
Compact design / portable	Yes	Yes	Yes
Interfaces			
CAN	2	3	3
Import data via CAN	Yes	Yes	Yes
Export data via CAN	Yes	Yes	Yes
ASAM MCD3 (ASAP3)	Yes	Yes	Yes
Ethernet	-	1	1
Software			
Application system	own	own (others on request)	own (others on request)
Custom configurable control strategy	(sup)	(sup)	(sup)
Generic gasoline control strategy available	Yes	Yes	Yes
Required software	ECT DN	ECT DN	ECT DN
Annual software license fee	No	No	No
Communication PC<->ECU	CAN	CAN / Ethernet	CAN / Ethernet
Advanced Software Strategies			
Alternator control	Yes	Yes	-
Boost control - closed loop with solenoid / DC motor	Yes / Yes	Yes / Yes	Yes / Yes
Boost control - anti turbo lag control	Yes	Yes	Yes
Drive by wire control	1	2	1
Fan control	Yes	Yes	Yes
Gear shift - full throttle shift strategy	Yes	Yes	Yes
Gear shift - semi automatic paddle shift	Yes	Yes	Yes
Gear shift - gear detection / gear engaged	Yes	Yes	Yes
Knock control	Yes	Yes	Yes
Lambda fuel control and self mapping	Yes	Yes	Yes
Launch control	Yes	Yes	Yes
Pit speed mode	Yes	Yes	Yes
Programmable RPM limiter	Yes	Yes	Yes
Programmable RPM limiter conditions	Yes	Yes	Yes
Quick start strategy	Yes	Yes	Yes
Traction control	Yes	Yes	Yes
Variable camshaft timing, up to 4 cams	Yes	Yes	Yes
Notes			
Full access to all software features incl logger (sup)	Yes	Yes	Yes
		Support from OBR	Support from OBR



EURO-4 ECU

Much more than just an engine management system....

Euro-4 is the latest generation engine management system from OBR Control Systems. It is one of the smallest and yet one of the most powerful ECU's for use on engines with up to 8 cylinders. Based on a modern production car ECU, Euro-4 is built to conform to the latest high automotive technology standards. The ECU is designed to form the centre of an integrated electronic system in a modern racing car and offers an extraordinary high level of features at an attractive price.

The price of the ECU includes full-option software specifications. All features and strategies are available to the user at no extra cost.

Features

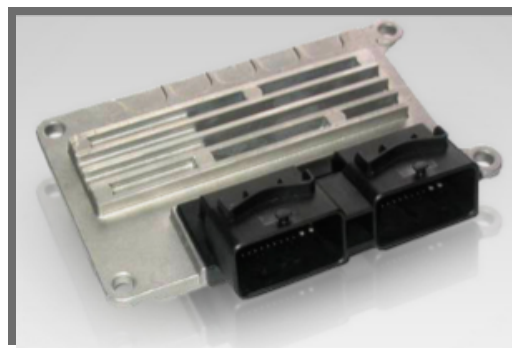
Euro-4 can control normally aspirated, turbo charged and super charged engines. Additionally, the ECU can control a drive-by-wire operated throttle body, including safety features recognised from production cars.

It has built-in ignition drivers for both inductive and logically operated ignition coils and can control engines with up to 8 cylinders in full sequential fuel injection – or using staged injection in 4-cylinder mode.

It accepts up to 4 crankshaft and camshaft sensors, being either inductive or Hall effect. The ECU can control many bespoke variable camshaft timing systems found on modern engines.

Euro-4 has a total of 22 analogue and 13 digital sensor inputs. The advanced software allows the user to configure the ECU to accept inputs from many different sensors.

Euro-4 is also capable of running Direct Injection gasoline engines. DI software strategies allow control of both Bosch & Hitachi high pressure pumps with GM Ecotec & VW TFSI engine types software selectable. Other DI engine types will require scope traces of Crank, Cam & pump lobes to be submitted.



System Overview

- PowerPC microprocessor
- Up to 4 cylinders in full sequential mode;
- 6 and 8 cylinders in full sequential injection and wasted spark mode
- Ignition coil drivers for both inductive and logic operated coils, including plug-top coils
- Drive-by-Wire throttle PID control
- On-board data logging with 8 Mb memory
- Automatic fuel mapping
- Closed loop lambda control
- Closed loop boost control
- Variable camshaft timing with PID control strategy
- Idle speed control
- 2 selectable engine maps
- Control of direct injection engines with Hitachi and Bosch HDP5 fuel pumps.

General

- Very small and flat die cast aluminium enclosure
- 2 automotive main connectors with high pin density; 96 pins in total
- Dimensions 165 x 95 x 21 mm
- Weight **386 Grams**

Inputs

- 4 inductive or Hall effect engine speed and synchronisation sensor inputs
- 4 Hall effect wheel speed sensors
- 3 spare Hall effect / digital switch inputs
- 2 knock sensor inputs
- 1 direct NTK UEGO lambda sensor input
- 20 analogue 0..5 Volts external sensor inputs (can also be used as switch inputs)
- 1 built-in barometric air pressure sensor
- 8 spare analogue sensor inputs via CAN
- 4 Hall effect wheel speed sensors

Communication

- 2 x CAN 2.0B interfaces
- Standard EFI Technology or user defined CANdata export and import
- 16 CAN identifiers available for data export
- 2 CAN identifiers available for data import

Outputs

- 8 on-off fuel injector drivers
- 4 inductive ignition coil drivers
- 4 logic ignition coil drivers
- 8 multipurpose switches and PWM's
- 1 lambda sensor heater
- 1 H-bridge drive-by-wire throttle controller
- 1 four-phase stepper motor drive
- 4 independent 5.0 V sensor power supplies

Special Features

- Up to 4 wide band sensors can be used for closed loop fuel control
- Special engine type configurations including several motorcycle engines
- Control strategy for paddle shift and air compressor
- Control strategy for sequential gear change
- Traction control with target slip map
- Pit lane, launch and adjustable manual limiter
- Programmable firing order
- Comprehensive CAN features
- Special version available with fully encrypted software
- Special version homologated for use in S2000 rally cars
- Special version homologated for use in world touring cars

Conditions for use

- Temperature range -40...+125 degrees C
- Power supply 7..16 volts



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EURO 5 ECU

Euro-5 is a brand new, all-in-one ECU developed predominantly for use on 4-cylinder direct injection engines. The Euro-5 ECU has 4 on-board direct injection driver stages plus 4 additional injector drivers for combined port/direct fuel injection applications. The intuitive software allows for full programmability of injector voltages, current settings, plus current control of the high pressure fuel spill valve providing ultimate flexibility. Euro-5 can handle direct injection engines that feature either Bosch or Hitachi high pressure fuel pumps, driven off a camshaft with up to 4 pump lobes.

All our ECU's for motorsport are derived from OEM road car systems. This ensures they are built to the highest specifications required by today's high tech automotive industry. The knock on effect also means that the software strategies for drive-by-wire, variable camshaft timing, knock control, direct fuel injection and high pressure fuel control continuously deliver accurate and reliable functionality.

OBR's first installation on a direct fuel injection engine was almost 20 years ago. Ever since we have been supplying systems for direct injection engines within the automotive development, durability and testing sectors alongside on track motorsport activities.

Euro-5 features sync-less quick start from 1 or 2 crankshaft speed sensors. Cam and crank sensors can be VR or Hall effect type sensors and can support and control most types of modern ignition coils. Almost all standard OEM crank trigger patterns are supported, including the most common 60-2 tooth arrangement.

Furthermore, with its 128Mb on-board data logger memory capacity and 64 logged channel upper limit, it makes the Euro5 ECU one of the most versatile and robust aftermarket engine management solutions for direct injection racing engines available.

Special software/hardware encrypted versions are available. These can limit functionality and offer security to give total peace of mind for not only Championship organisers but other competitors as well.

APPLICATION

Processor type	PowerPC family
Engine Layout	4 cylinder N/A or turbo charged
Engine Type	Direct injection + Port injection
Control Strategy	MAF, MAP or TPS
Injector Drivers	4 x DI and 4 x port
Ignition Drivers	4 x power drivers plus 4 x logic drivers
Fuel Pump Control	Bosch or Hitachi
Lambda Sensor	1 x NTK UEGO
Knock Control	2 channels
Firing Order	Programmable
Data Exchange	3 x CAN ports
Communication	CAN plus 10/100 Mbit/s Ethernet
Data Logging	On-board 128 Mb
Dimensions (mm)	177 x 165 x 36
Weight	825 grams

Features

- ASAP3 link and boost control with anti-lag
- Bosch and Hitachi pump control
- Programming of injector voltage and current levels
- Closed loop and self-learn lambda control
- Data import from Bosch and Teves ABS
- Drive-by-wire throttle control
- Gear dependent traction control with PID regulation
- Knock control with 1 or 2 sensors
- Max RPM >15,000 RPM in DI mode
- Paddle shift control strategy
- Variable camshaft timing
- VTEC for Honda engines
- 1 built-in barometric sensor
- 2 extra half bridge drivers
- 2 selectable crankshaft sensor inputs
- 5 selectable engine maps
- 19 digital sensor inputs (plus an additional 17 spare)
- 19 analogue sensor inputs



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EURO-8 ECU

The Next Generation Engine Management System.

Euro-8 is the latest generation engine management system from OBR Control Systems. It is one of the smallest and yet one of the most powerful ECU's specially developed for use on 6, 8, 10 and 12 cylinder engines.

Based on a modern Power-PC processor, Euro-8 is built to conform to the latest high automotive technology standards.

The ECU is designed to form the centre of an integrated electronic system in a modern racing car and offers an extraordinary high level of features at an attractive price.

The price of the ECU includes full-option software specifications. All features and strategies are available to the user at no extra cost.

Features

Euro-8 can control normally aspirated, turbo charged and super charged engines, including controlling strategies for direct injection engines. Engine load can be expressed as manifold air pressure, mass air flow or throttle position. Additionally, the ECU can control two drive-by-wire operated throttle bodies, including safety features recognised from production cars.

Having 8 built-in ignition drivers for plug top logically operated ignition coils and 8 injector drivers it can control engines with up to 8 cylinders in full sequential mode. 10 and 12 cylinder engines are controlled having full sequential injection and wasted spark ignition mode.

It has inputs for 2 crankshaft speed sensors and up to 4 camshaft sensors, being either inductive or Hall effect. The ECU can control many bespoke variable camshaft timing systems found on modern engines.

Euro-8 has a total of 42 analogue and digital sensor inputs. The advanced software allows the user to configure the ECU to accept inputs from many different sensors.

Data Recording

Data can be recorded using Euro-8's internal 16 Mb internal data logger. As well as ECU and sensor data channels, Euro-8 can record data from other systems, such as external CAN modules, the OBR PCM and membrane switch panel. Data is downloaded via the ECU's Ethernet link.

CAN Communication


Its extensive CAN (Controller Area Network) capabilities, having 3 individual CAN ports, ensures a simplified electrical installation combined with very advanced features. The data export includes a user-defined CAN configuration with 16 available CAN identifiers. Data from 8 additional sensors and commands from other CAN bus systems in the car can be imported via CAN.

Special Features

The ECU comes with a software package including advanced features, for example:

- Gear dependent traction control using target slip Maps with user controls.
- Programmable flat shift strategy.
- Paddle shift and air compressor control.
- Dual channel knock control.
- Inputs for 2 NTK calibrated wide band lambda sensors.
- Driver adjustable launch control.
- Intelligent closed loop lambda fuel control.
- Variable camshaft timing.
- 6 selectable engine maps.
- Dual drive-by-wire throttle body control.
- 2 spare half bridge drivers.
- Programmable RPM limiter cut patterns.
- Control of direct injection engines with Hitachi and Bosch HDP5 fuel pumps.
- Available with fully encrypted software.

Generic OBR Control Systems Inc Power Control Systems

Product	PCM AC	PCM LITE	PCM2-34	PCM2-48
Status	Active	Active	Active	Active
				
Picture		Awaiting Image		
Hardware				
Outputs				
Total number of high side switches	8	34	34	48
Low Current High Side Switches				
Number of outputs	8	22	20	26
Maximum inrush current (A)	100	75	75	75
Maximum continuous current draw (A)	25	25	25	25
Flash function all outputs / Max frequency (Hz)	Yes / 300 Hz	Yes / 300	Yes / 300	Yes / 300
Low Current PWM High/Low Side Switches				
Number of outputs	-	2	2	4
Maximum inrush current (A)	-	75	75	75
Maximum continuous current draw (A)	-	25	25	25
Select as low or high side output	-	Yes	Yes	Yes
Digital or frequency output	-	Programmable	Programmable	Programmable
Flash function all outputs / Max frequency (kHz)	-	Yes / 25	Yes / 25	Yes / 25
Low Current High Side Wiper Switches				
Number of outputs	-	2	2	2
Maximum inrush current (A)	-	75	75	75
Maximum continuous current draw (A)	-	25	25	25
Self parking wiper event	-	Yes	Yes	Yes
Flash function all outputs / Max frequency (Hz)	-	Yes / 300	Yes / 300	Yes / 300
High Current High Side Switches				
Number of outputs	-	8	8	12
Maximum inrush current (A)	-	100	100	100
Maximum continuous current draw (A)	-	50	50	50
Flash function all outputs / Max frequency (Hz)	-	Yes / 300	Yes / 300	Yes / 300
High Current PWM High/Low Switches				
Number of outputs	-	-	2	2
Maximum inrush current (A)	-	-	150	150
Maximum continuous current draw (A)	-	-	50	50
Select as low or high side output	-	-	Yes	Yes
Digital or frequency output	-	-	Programmable	Programmable
Flash function all outputs / Max frequency (kHz)	-	-	Yes / 25	Yes / 25
Very High Current High Side Switches				
Number of outputs	-	-	-	2
Maximum inrush current (A)	-	-	-	150
Maximum continuous current draw (A)	-	-	-	75
Flash function all outputs / Max frequency (Hz)	-	-	-	Yes / 300
Tri-State Triggers				
Number of outputs	-	-	4	4
Use as ECU trigger channels only / Max current (mA)	-	-	Yes / 50	Yes / 50
Output status	-	-	0V – 2.5V – 5V	0V – 2.5V – 5V
5V Reference Voltage for Sensors				
Number of stabilised VREF outputs	1	3	3	3
Maximum current draw (mA)	500	100	1,000	1,000
Fault Warning Light and Reset				
External warning light for overload	Yes	Yes	Yes	Yes
Use reset of channels in fault mode	Yes	Yes	Yes	Yes
Automatic retry for output overload	Yes	Yes	Yes	Yes
General I/O				
Analogue inputs	8	8	8	16
Accuracy of analogue inputs, typical value	1 mV	1 mV	1 mV	1 mV
Selectable pull-up resistors on analogue inputs	Fixed 47 kOhm	Fixed 47 kOhm	Yes / None – 3.16 – 47 kOhm	Yes / None – 3.16 – 47 kOhm
Digital inputs	8	8	8	14
Trigger level for digital inputs	Low – High – Open	Low – High – Open	Low – High – Open	Low – High – Open
Individual CAN ports / Terminate in software	2 / Yes	2 / Yes	4 / Yes	4 / Yes
Maximum number of CAN import addresses	64	64	64	64
Maximum number of CAN export addresses	64	64	64	64
Communication Interfaces				
CAN	Yes	Yes	Yes	Yes
USB	-	Yes	-	-
RS232	Yes	Yes	Yes	Yes
LIN	-	-	Yes	Yes
Software				
Custom configurable control strategy	User defined events	User defined events	User defined events	User defined events
Required software	PCM2 Tool	PCM2 Tool	PCM2 Tool	PCM2 Tool
Annual software license fee	No	No	No	No
Communication PC<->PCM	CAN	CAN / USB	CAN	CAN
Advanced Software Strategies				
Configuration of digital triggers	Low / High / Open	Low / High / Open	Low / High / Open	Low / High / Open
Analogue inputs pull-up resistors	None / 3.16 k / 47 k Ohm	None / 3.16 k / 47 k Ohm	None / 3.16 k / 47 k Ohm	None / 3.16 k / 47 k Ohm
Analogue input refresh rate (Hz)	100	100	100	100
Individual scaling of analogue sensor values	Yes	Yes	Yes	Yes
Maximum CAN input channels	64	64	64	64
CAN addresses limited	Unlimited	Unlimited	Unlimited	Unlimited
CAN messages and instructions as	Bits / bytes / words	Bits / bytes / words	Bits / bytes / words	Bits / bytes / words
Individual scaling of CAN channels	Yes	Yes	Yes	Yes
Individual termination in software of CAN bus	Yes	Yes	Yes	Yes
Individual CAN bus baud rates	10 kbits/s...1 Mbit/s	10 kbits/s...1 Mbit/s	10 kbits/s...1 Mbit/s	10 kbits/s...1 Mbit/s
Maximum CAN export channels	64	64	64	64
CAN routing possible	Yes	Yes	Yes	Yes
CAN bus monitor	Yes	Yes	Yes	Yes
Software fuse levels for outputs	In steps of 1 mA	In steps of 1 mA	In steps of 1 mA	In steps of 1 mA
Individual software settings for in-rush current	Yes, 2 levels	Yes, 2 levels	Yes, 2 levels	Yes, 2 levels
Timer for overload detection for each output	Yes	Yes	Yes	Yes
Automatic reset of outputs in error status	Yes	Yes	Yes	Yes
User levels with individual password settings	5	5	5	5
Special function ON for any selected event	Yes	Yes	Yes	Yes
Special function OFF for any selected event	Yes	Yes	Yes	Yes
Counter function	Yes	Yes	Yes	Yes
Real time clock	-	Optional	Yes	Yes
Status and diagnostic data for inputs and outputs	Yes	Yes	Yes	Yes

OBR

Control Systems

POWER CONTROL MODULE 2 AC A NEW HORIZON IN POWER MANAGEMENT



A new horizon in power management

OBR's PCM2_AC thrusts the concept of intelligent power management to new pinnacles. It provides a freely programmable, open and unique system upon which to build total control of a racing car's electrical system.

Based on the competitive success, knowledge and experience gleaned from OBR's PCM2, PCM2_AC is the most technologically advanced, powerful and flexible unit ever seen in this compact measure.

PCM2_AC has unrivalled high current handling and measuring abilities spread across its 8 individual power output channels, each of which can be controlled by any number and type of input or trigger. All power outputs have self-recovery features suitable for use with motors and resistive and inductive loads. Outputs handle peak currents up to 75A.

The PCM2_AC effortlessly exchanges data with other modules in the car primarily over its multiple CAN ports. This means that every value and data packet that is exchanged, recorded or seen e.g. current draw and channel status can be exported and shared over all of the PCM2_AC open CAN network. The PCM2_AC also supports CAN routing meaning data can be exchanged from one bus to another bus freely, exported to wherever the user defines.

All CAN data channels are completely free for the user to configure, there are no limitations to CAN address or how the protocol is configured. The PCM2_AC will therefore interface easily with any other CAN based product found on the market.

In addition to the free CAN structure, the PCM2_AC has 8 analogue sensor inputs and 8 digital inputs. Analogue inputs can be paired individually to become differential inputs.

PCM2_AC is also equipped with a real time clock and data recording capabilities.

Software

The PC Tool used to configure the PCM2_AC has been logically laid out and is simple to use.

A special feature of the PC Tool is the graphic visualizer which makes calibration, modification and fault finding of the unit's configuration near to effortless.

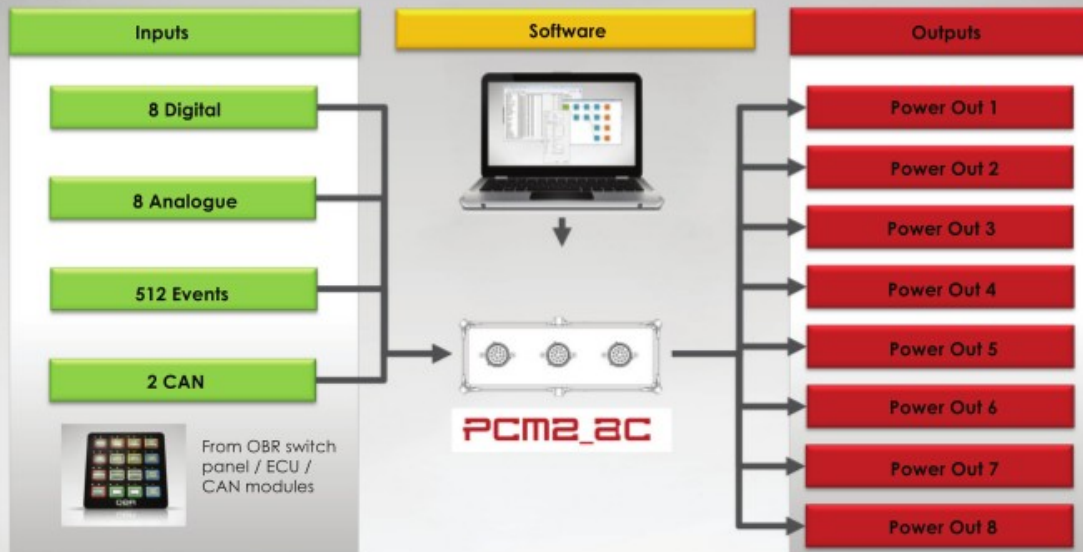
Event based handling

PCM2_AC is controlled by configurable software events. Events are used to define and create specific conditions, simple as well as complex, which then controls an output or other events. Multiple events can be placed within other events, creating almost unlimited control conditions.

POWER CONTROL MODULE 2 AC

A NEW HORIZON IN POWER MANAGEMENT

Flow Overview



General Specifications

- 8 Power outputs
- 8 Digital inputs
- 8 Analogue sensor inputs
- 64 Individually programmable CAN inputs, 11 or 29 bit identifiers, with bit operator
- 2 Individually programmable CAN bus with **No limitation on CAN id's**
- RS232 Link
- VREF sensor supply
- Fault warning light
- CNC machined and anodized enclosure (O-ring sealed)
- Deutsch Autosport connectors

Electrical Specifications

- Supply voltage 6 to 30 volts
- Maximum operating temperature $\leq 85^{\circ}\text{C}$
- Maximum recommended continuous output current 100A
- In-rush current capability 500A

Software Specifications

- 512 individually programmable events
- Automatic and user-defined pre-set channel shutdown protection
- Programmable inrush current levels and inrush times
- Programmable fuse thresholds, retries and retry time intervals
- Manual reset function for all overloaded channels
- Current draw and channel status diagnostics
- Compatible with OBR's range of membrane switch panels (software selectable)

POWER CONTROL MODULE 2



A new horizon in power management

OBR's Power Control Module 2 thrusts the concept of intelligent power management to new pinnacles. It provides a freely programmable, open and unique system upon which to build total control of a racing car's electrical system.

Based on the competitive success, knowledge and experience gleaned from OBR's first PCM incarnation, PCM2 is the most technologically advanced, powerful and flexible unit ever seen. It acts as a complete electronic central nervous system.

PCM2 has unrivalled high current handling and measuring abilities spread across its 48 individual power output channels, each of which can be controlled by any number and type of input or trigger. All power outputs have self-recovery features suitable for use with motors and resistive and inductive loads. Some outputs handle peak currents in excess of 300A.

The PCM2 effortlessly exchanges data with other modules in the car primarily over its multiple CAN ports. This means that every value and data packet that is exchanged, recorded or seen e.g. current draw and channel status can be exported and shared over all of the PCM2's open CAN network. The PCM2 also supports CAN routing meaning data can be exchanged from one bus to another bus freely, exported to wherever the user defines.

All CAN data channels are completely free for the user to configure, there are no limitations to CAN address or how the protocol is configured. The PCM2 will therefore interface easily with any other CAN based product found on the market.

In addition to the free CAN structure, the PCM2 has 16 analogue sensor inputs and 14 digital inputs. Analogue inputs can be paired individually to become differential inputs.

PCM2 is also equipped with a real time clock and data recording capabilities.

Software

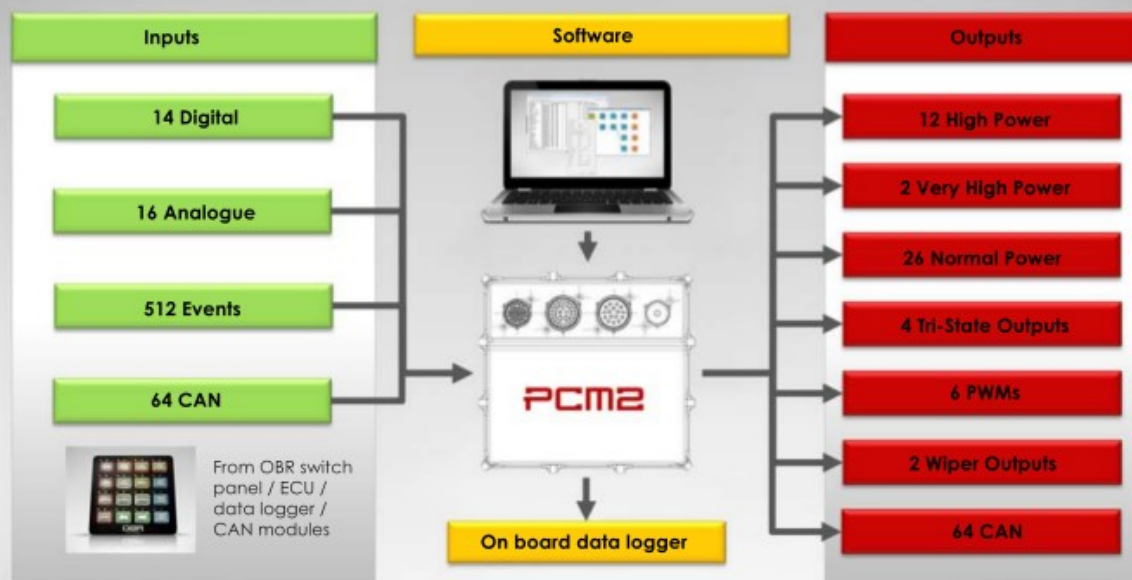
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Event based handling

PCM2 is controlled by configurable software events. Events are used to define and create specific conditions, simple as well as complex, which then controls an output or other events. Multiple events can be placed within other events, creating almost unlimited control conditions.

Flow Overview



General Specifications

- 48 Power outputs
- 14 Digital inputs
- 16 Analogue sensor inputs
- 64 Individually programmable CAN inputs, 11 or 29 bit identifiers, with bit operator
- 4 Individually programmable CAN bus with **No limitation on CAN id's**
- 1 LIN Bus
- Ethernet Connection
- Real Time Clock
- RS232 Link
- 4 Tri-state outputs (a tri-state output is only for use as an ECU trigger)
- 3 VREF sensor supplies
- Fault warning light
- CNC machined and anodized enclosure (O-ring sealed)
- Deutsch Autosport connectors
- Weight 1190 grams

Electrical Specifications

- Supply voltage 6 to 30 volts
- Maximum operating temperature $\leq 85^{\circ}\text{C}$
- Typical temperature rise over ambient $< 25^{\circ}\text{C}$ @ 140A; 30 minutes
- Maximum recommended continuous output current 300A
- In-rush current capability 1000A

Software Specifications

- 512 individually programmable events
- Automatic and user-defined pre-set channel shutdown protection
- Programmable inrush current levels and inrush times
- Programmable fuse thresholds, retries and retry time intervals
- Manual reset function for all overloaded channels
- Current draw and channel status diagnostics
- Compatible with OBR's range of membrane switch panels (software selectable)

OBR
Control Systems