Electronic Control Systems
Vansco Controllers

Catalog HY33-5000/US
North American Product Offering

Parker

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Electronic Controls Division
Winnipeg, Manitoba, Canada

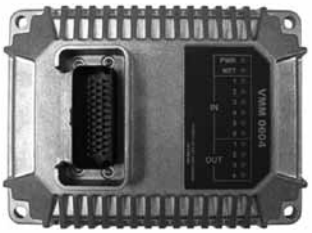
VMM (Vansco Multiplexing Modules)

The VMM modules are general purpose controllers for vehicle and other applications. All VMM modules are 100% compatible with other Parker Vansco multiplexing modules.

VMM modules communicate with other VMM modules, or may communicate with an IQAN master, over a CAN bus using J1939 protocol.

The VMM modules are auto-programming when placed in a compatible existing system, and have status LEDs that indicate the condition of inputs, outputs, power, and network activity.

The VMM modules monitor their outputs continuously for fault information. Detected faults include short circuits (to ground or power), over currents and open load. In the event of a fault, the units will disable the output(s) that are faulted.

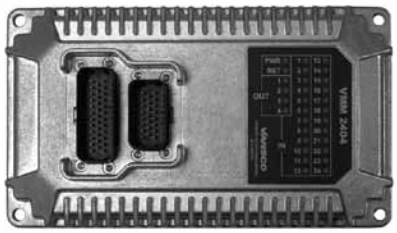


VMM0604

The VMM0604 has 6 general purpose inputs capable of being configured for active high or active low signals. Additionally they may be used for reading analog voltages, or as 6 frequency inputs (2 AC coupled and 4 DC coupled).

The VMM0604 has 4 high-side outputs with a max current of 2.5A and max PWM frequency of 500 Hz. There are 4 low-side outputs capable of current sensing. Outputs can drive any type of vehicle load including relays, solenoids, fans, etc.

Description	Ordering PN
VMM0604	0836001ECD

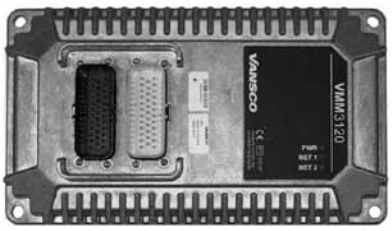


VMM2404

The VMM2404 is available in 2 versions. The unit has 15 general purpose inputs capable of being configured for active high or active low signals. The inputs may also be used for reading analog voltages in 4 programmable ranges. The 0837001 is capable of a 0-32 Vdc analog range. It can be used with 0-5 Vdc input signals, but will have low resolution. The 0837002 is capable of a 0-16 Vdc analog range and provides high resolution of 0-5 Vdc input signals. Additionally, these inputs may be configured as 15 frequency inputs (2 AC coupled and 13 DC coupled). The unit also has 9 dedicated digital inputs.

The VMM2404 has 4 high-side outputs with a max current of 2.5A and max PWM frequency of 500 Hz. There are 4 low-side outputs capable of current sensing. Outputs can drive any type of vehicle load.

Description	Ordering PN
VMM2404	0837001ECD
VMM2404	0837002ECD



VMM3120

The VMM3120 has 17 digital inputs. The digital inputs are used for reading active high signals. Two of the inputs may be used for power control. In addition, it has 10 inputs capable of reading analog voltages, and 4 frequency inputs (2 AC coupled and 2 DC coupled).

The VMM3120 has 16 high-side outputs with a max current of 2.5A and max PWM frequency of 500 Hz. There are 4 low-side outputs capable of current sensing. Outputs can drive any type of vehicle load including relays, solenoids, fans, etc.

Description	Ordering PN
VMM3120	0916014ECD

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VMM (Vansco Multiplexing Modules)

VMM1210

The VMM1210 has 8 programmable digital inputs, all of which are capable of doing power control, and reading active high, or active low inputs. In addition, it has 4 inputs capable of reading analog voltages, frequency values or digital active low inputs.

The VMM1210 has 8 high current (10 A max) high-side outputs. It also has two low current (3 A max) outputs capable of driving either high-side or low-side loads, and that can also be arranged in an H-Bridge configuration. Outputs can drive any type of vehicle load including lights, relays, solenoids, fans, etc.

Description	Ordering PN
VMM1210	0736007ECD

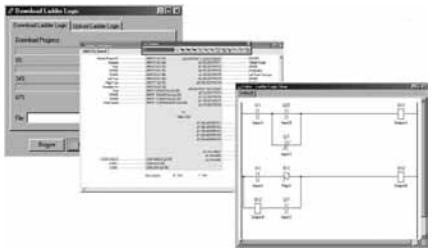
VMM1615

The VMM1615 has Wake on CAN. It has 7 digital inputs; 5 of the inputs are used for reading active high/low signals, 1 input is used for reading active high signals, and 1 input is used for active high power control. In addition, it has 8 inputs capable of reading analog voltages, and 1 DC coupled frequency input.

The VMM1615 has 12 high-side outputs. 6 are high current (10 A max) outputs, 4 of the high-side outputs are capable of accurate current sensing. It also has 1 low-side output that is capable of current sensing and 2 solid state relay outputs. These outputs can drive a variety of load types.

Description	Ordering PN
VMM1615	0935021ECD

VMMS ladder logic software



VMMS

VMMS is a ladder-logic based programming tool that allows users to define the logic for their VMM system as well as perform real-time diagnostics.

The installation files are available from our website, along with the registration and request forms needed to obtain a licence, which will be keyed to your specific customer ID.

VMMS ladder logic software is available in 3 versions.

Creative

Creative level provides full access to create and edit ladder logic applications.

Description	Ordering PN
Creative level	ECD736618ECD

Productive

Productive level has advanced diagnostics, log access, I/O forcing, viewing, printing, and upload/download capabilities.

Description	Ordering PN
Productive level	ECD736617ECD

Active

Active level has basic diagnostics, viewing, and upload/download capabilities.

Description	Ordering PN
Active level	ECD736616ECD

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CM (Controller Modules), J1939 Slave Units

CM0410

The CM0410 is a general purpose input / output controller that includes a single CAN interface, 4 inputs, 1 high side current measurement pass-through, and 10 high-side outputs. The outputs have open circuit strobes and digital feedback for error checking. The main function of the product is to provide a means of controlling relays through J1939 messages on the CAN bus.

A current sense pass thru supports open bulb detection and 5 of the outputs have some limited solenoid PWM control.

The CM0410 is a CAN slave module only and supports no standalone operation. A PC based configuration tool allows you to specify things like input configurations and update rates for the messages presented on the CAN bus.

Description	Ordering PN
CM0410	1014001ECD

CM2904

The CM2904 is a small CAN slave module that has standard pre-loaded software for a J1939 network (with proprietary CAN messages) for expanding the system I/O.

The module can take measuring data from buttons, switches, potentiometers and/or joysticks.

The CM2904 outputs can control proportional valves using current mode (current closed-loop) or PWM mode (voltage open-loop) signals. The analog inputs accept 0-8V signals from input devices or sensors. There are 2 sensor supply circuits; 1 is 5 Vdc and the other is 8 Vdc.

The CM2904 is recommended for in-cab applications in tractors, forest machines, and construction equipment.

Description	Ordering PN
CM2904	88CM2904

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CM (Controller Modules), Master Units

The CM modules are general purpose controllers for vehicle and other applications.

CM modules may communicate with other CM modules, VMM modules, or may communicate with an IQAN master over a CAN bus using J1939 protocol.

The CM modules are programmed using C or Matlab simulink tools. Most CM modules have status LEDs that indicate the condition of inputs, outputs, power, and network activity.

The CM modules monitor their outputs continuously for fault information. Detected faults include short circuits (to ground or power), over currents and open load. In the event of a fault, the units can disable the output(s) that are faulted.

CM0711

The CM0711 is a rugged CAN controller. Several modules in the system can be identified using addressing IDtag inputs built into the wire harness.

The CM0711 is able to control proportional valves using current mode (current closed-loop) or PWM mode (voltage open-loop) signals. The module has 7 high-side outputs with error detection, and 4 low-side outputs. The analog inputs accept 0-5V signals from input devices or sensors. Digital inputs can also be configured to measure 2 frequency or 1 directional frequency inputs. High-side outputs may alternatively be used as digital inputs for switches.

The CM0711 has a software development kit (SDK) that allows customers to develop their own software.

Description	Ordering PN
CM0711	88CM0711

CM2115

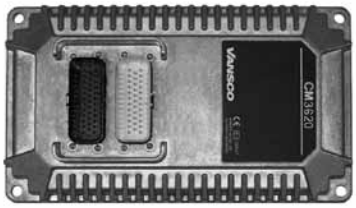
The CM2115 is an input/output controller that can be used to monitor system sensors and drive system loads. It can be used in any systems where hydraulic control, lighting control, or general electrical control is required.

The CM2115 can monitor up to 21 multi-purpose inputs; 2 of which are able to be configured as frequency inputs. The CM2115 can control up to 15 outputs;12 high-side outputs (6 capable of 10A), 1 low-side output and 2 SSR outputs.

The CM2115 has two CAN ports for communication through a J1939-based Controller Area Network (CAN). By creating custom CAN messaging in software the CM2115 can be used in any CAN 2.0B application.

The CM2115 has four Deutsch 12 pin DT series connectors for interfacing with system wire harnesses.

Description	Ordering PN
CM2115	0935024ECD



CM3620

The CM3620 is an input/output controller that monitors digital, analog, and frequency inputs, and controls solid-state switched outputs.

The CM3620 can monitor up to 36 inputs; 22 digital inputs, 10 analog inputs and 4 frequency inputs. The CM3620 can control up to 20 outputs; 16 high-side outputs and 4 low-side outputs.

The analog inputs, frequency inputs, and high-side outputs can be configured to function as digital inputs.

The CM3620 is designed to communicate through a J1939-based Controller Area Network (CAN). By creating custom CAN messaging in software the CM3620 can be used in any CAN 2.0B application.

The CM3620 has two 35-pin Ampseal connectors that are used to interface with the inputs, outputs, and CAN communication.

Description	Ordering PN
CM3620	0916021ECD

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CM (Controller Modules), Master Units

CM3626

The CM3626 is a general purpose input / output controller that can be used to monitor system sensors and drive system loads. It can be used in any systems where hydraulic control, lighting control, or general electrical control is required.

The CM3626 can monitor up to 36 multi-purpose inputs; 4 of which are able to be configured as frequency inputs. The CM3626 can control up to 26 outputs;18 high-side outputs and 8 low-side outputs.

The CM3626 has two CAN ports for communication through a J1939-based Controller Area Network (CAN). By creating custom CAN messaging in software the CM3626 can be used in any CAN 2.0B application.

The CM3626 has five Deutsch 18 pin DT series connectors for interfacing with system wire harnesses.

Description	Ordering PN
CM3626	0991001ECD

Accessories, Communication

USB-DLA

The Data Link Adapter (DLA) provides the link between a PC and the controller network. Information from the engine and transmission is converted and transferred from vehicle ports (J1939, J1708) to computer port (USB). The USB-DLA kit is supplied in a high density polyethylene, blow-molded case. The kit includes cables to interface with either J1939, or J1587/1708 diagnostic ports. There are also cables for Deutsch or Cannon connector types used in vehicle communication buses, 2 “Y” adapters, a CAN bus terminator, and a USB cable to connect the DLA to your laptop computer.

Description	Ordering PN
USB-DLA kit	0779A06ECD

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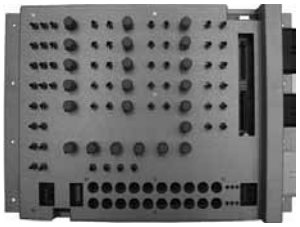
Accessories, Controller I/O Board



Controller I/O board

The Controller I/O Board (CIOB) is a general-purpose simulation board that is used to test logic. The CIOB has various connectors that connect to inputs, outputs, power, and CAN. It has 20 bulbs and 6 LEDs that (through application software) can indicate if your application simulations are working.

Description	Ordering PN
CIOB kit	0913003ECD

Overlays

Parker has module specific overlays that can be used on the CIOB to identify channels.

Controller I/O overlays

Description	Ordering PN
VMM0604 overlay	0913505ECD
VMM2404 overlay	0913506ECD
VMM3120/ CM3620 overlay	0913504ECD
VMM1210 overlay	0913501ECD
VMM1615/ CM2115 overlay	0913509ECD
CM0711 overlay	1019501ECD
CM3626 overlay A	0974516ECD
CM3626 overlay B	0974517ECD

Cables

Parker has cables and harnesses for all VMM and CM modules.

Development cables

Description	Ordering PN
VMM0604 cable	0836701ECD
VMM2404 cables	0837701ECD
VMM3120/ CM3620 cables	0885707ECD
VMM1210 cables	0736003ECD
VMM1615/ CM2115 cables	0913708ECD
CM2904 cables	88JCM2904K1
CM0711 C1 cable	5030217
CM0711 C2 cable	5030218
CM3626 cables	0974727ECD

Controller I/O harnesses

Description	Ordering PN
VMM0604 I/O hrns	0913704ECD
VMM2404 I/O hrns	0913705ECD
VMM3120/ CM3620 I/O hrns	0913703ECD
VMM1210 I/O hrns	0913700ECD
VMM1615/ CM2115 I/O hrns	0913709ECD
CM0711 I/O hrns	88JCM0711K1
CM3626 I/O hrns (for use with 2x CIOB units)	0974726ECD

Connectors

Parker has connectors for all VMM and CM modules.

Connectors

Description	Ordering PN
VMM0604/VMM2404/VMM3120/ CM3620 kit*	0916022ECD
VMM1210 kit	0736004ECD
VMM1615/ CM2115 kit	0935023ECD
CM0410 kit	1014010ECD
CM2904 kit	88JCM2904K2
CM0711 kit	88JCM0711K2
CM3626 kit	0974010ECD

**- Universal kit includes:*
1x 23 pin housing (black)
1x 35 pin housing (white)
1x 35 pin housing (black)
93 contacts

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Notes

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Products: means the Goods, Services and/or Software as described in a Quote provided by the Seller.
Quote: means the offer or proposal made by Seller to Buyer for the supply of Products.
Seller: means Parker-Hannifin Corporation, including all divisions and businesses thereof.
Services: means any services to be supplied by the Seller.
Software: means any software related to the Products, whether embedded or separately downloaded.
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17. Termination. Seller may terminate any agreement governed by or arising from these Terms for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate, in writing, if Buyer: (a) breaches any provision of these Terms (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or one if filed by a third party (d) makes an assignment for the benefit of creditors; or (e) dissolves its business or liquidates all or a majority of its assets.

18. Ownership of Software. Seller retains ownership of all Software supplied to Buyer hereunder. In no event shall Buyer obtain any greater right in and to the Software than a right in the nature of a license limited to the use thereof and subject to compliance with any other terms provided with the Software.

19. Indemnity for Infringement of Intellectual Property Rights. Seller is not liable for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights ("Intellectual Property Rights") except as provided in this Section. Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on a third party claim that one or more of the Products sold hereunder infringes the Intellectual Property Rights of a third party in the country of delivery of the Products by the Seller to the Buyer. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the defense of the claim including all negotiations for settlement or compromise. If one or more Products sold hereunder is subject to such a claim, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Products, replace or modify the Products so as to render them non-infringing, or offer to accept return of the Products and refund the purchase price less a reasonable allowance for depreciation. Seller has no obligation or liability for any claim of infringement: (i) arising from information provided by Buyer; or (ii) directed to any Products provided hereunder for which the designs are specified in whole or part by Buyer; or (iii) resulting from the modification, combination or use in a system of any Products provided hereunder. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for such claims of infringement of Intellectual Property Rights.

20. Governing Law. These Terms and the sale and delivery of all Products are deemed to have taken place in, and shall be governed and construed in accordance with, the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to the sale and delivery of the Products.

21. Entire Agreement. These Terms, along with the terms set forth in the main body of any Quote, forms the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. In the event of a conflict between any term set forth in the main body of a Quote and these Terms, the terms set forth in the main body of the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter shall have no effect. These Terms may not be modified unless in writing and signed by an authorized representative of Seller.

22. Compliance with Laws. Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards, including those of the United States of America, and the country or countries in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act"), U.S. and E.U. export control and sanctions laws ("Export Laws"), the U.S. Food Drug and Cosmetic Act ("FDCA"), and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), each as currently amended. Buyer agrees to indemnify, defend, and hold harmless Seller from the consequences of any violation of such laws, regulations and standards by Buyer, its employees or agents. Buyer acknowledges that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FDCA and the FDA and certifies that Buyer will adhere to the requirements thereof and not take any action that would make Seller violate such requirements. Buyer represents and agrees that Buyer will not make any payment or give anything of value, directly or indirectly, to any governmental official, foreign political party or official thereof, candidate for foreign political office, or commercial entity or person, for any improper purpose, including the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller. Buyer further represents and agrees that it will not receive, use, service, transfer or ship any Product from Seller in a manner or for a purpose that violates Export Laws or would cause Seller to be in violation of Export Laws.

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