

Parker Valve Controller VC1

General Information

Parker is proud to announce the VC1, the new electrohydraulic valve controller option for the mobile VA-Series.

The VC1 is a CAN bus driver for sectional valves controlled by a Valve Control Master, VCM1, connected to the customer's CAN system.

It includes multiple sensors for:

- Pressure
- Spool position
- Currents
- Temperature

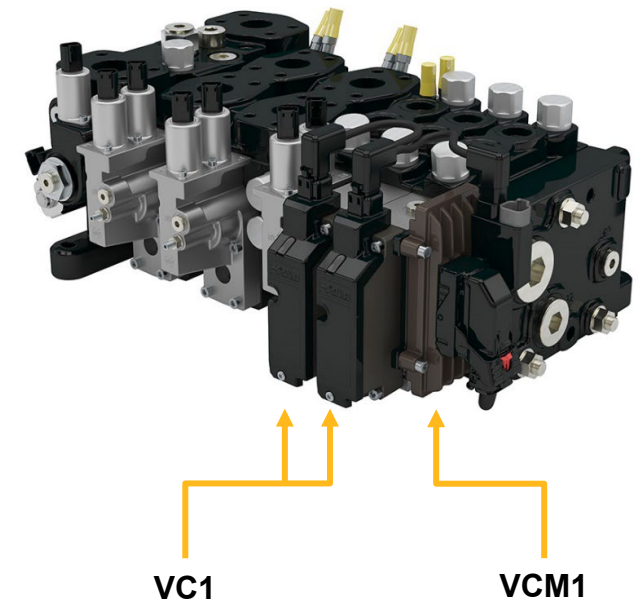
Which all enables general diagnostics for an increased performance.

The VC1 has an integrated identification in the harness, allowing for easy interchangeable units. No need for handling parameters between VC1 controllers. Parameters and software options are stored in the VCM1, meaning that the VC1 units can be changed independently of each other.

The VC1 receives commands and sends diagnostics to the VCM1 through the CAN FD [2 Mbit/s] bus. This permits fast closed-loop controls and diagnostics from multiple VC1 controllers.

This new digitalized technology opens the possibilities of Smart & Connected Valves by utilizing advanced algorithms. This will enable planned maintenance to further enhance system reliability. The CAN bus system minimizes wiring, ensuring simplified and timesaving installation.

Engineered with robustness and software flexibility in mind, components have been carefully selected with emphasis on durability and sustainability.



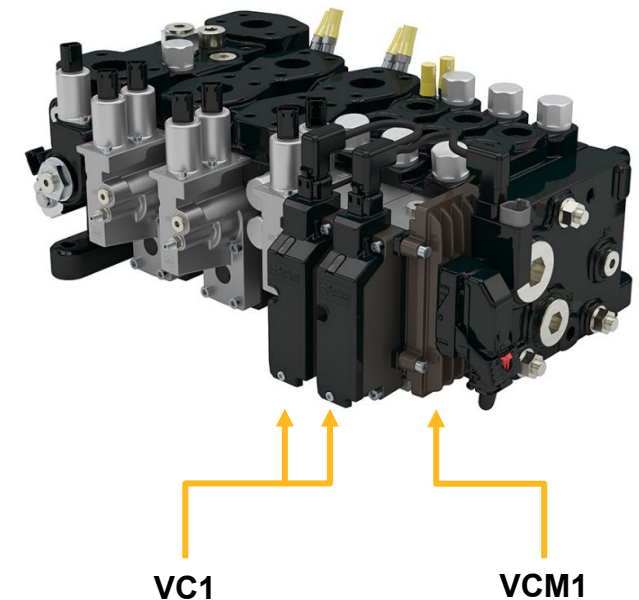
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Features

This valve controller option will give the customer several benefits, for example:

- CAN communication, simplified harness and installation
- Improved valve performance through software features
- Prepared for connectivity and diagnostics

HARDWARE FEATURES	VC1	ECWP	EC
Dual Pilot Valves	✓	●	●
Integrated Current Controller	✓		
Spool Position Sensor	✓	●	●
Pressure Sensor workport	✓	●	
Temperature Sensor	✓		
Integrated Harness	✓		
SOFTWARE FEATURES			
Pre-calibrated Valve, Flow and Current	✓		
Active Damping	✓		
Float Mode	✓		
Electric LS*	✓		
DIAGNOSTICS			
Sensor Fault Detection	✓		
PTS – Parker Tracking System	✓		
IoT Ready**	✓		
SYSTEM ROBUSTNESS			
Limp Home Mode	✓		
Reduced Installation Time	✓		
Functional Safety Ready**	✓		



- ✓ Integrated in VC1
- Externally solvable

* All section must have VC1 units
 **Prepared for integration



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Customer Values

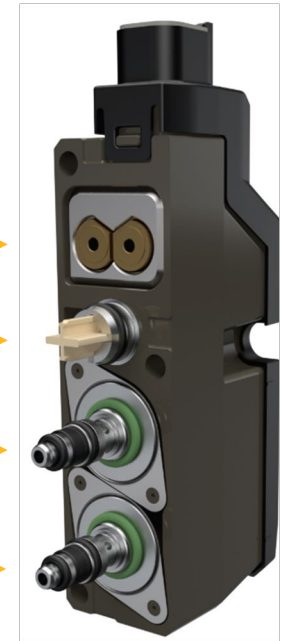
Software features	Value for customer
Pre-calibrated valve parameters	Reduced tuning- and installation time
Integrated sensors	No need for additional sensors
Custom configured parameters	Possible to tune valve characteristics
Integrated identification in harness	Possible to swap units and does not require parameter handling
CAN-Bus diagnostics	Detailed system diagnostics and monitoring
Hardware features	
LED indicator on unit	Fast diagnostic of system functions
Compact valve harness	Space optimized and compact harness installation
Supports 12/24V systems	Applicable for all mobile markets
Dual integrated pilot valves	Integrated pilot valve with optimized current controller for spool actuation
Modularized valve Section Design	Possible to combine with standard spool actuator in VA-Series valves.
System Robustness	
Limp Home mode	Possibility to manually control hydraulic application in a safe way in case of harness or VCM1 failure
Ready for functional safety	Increased possibility for advanced functionality IEC 61508 SIL2
Spool position sensor	Fault detection of application functions

Pressure and temperature sensor B/A

Spool position sensor

Pilot valve B

Pilot valve A

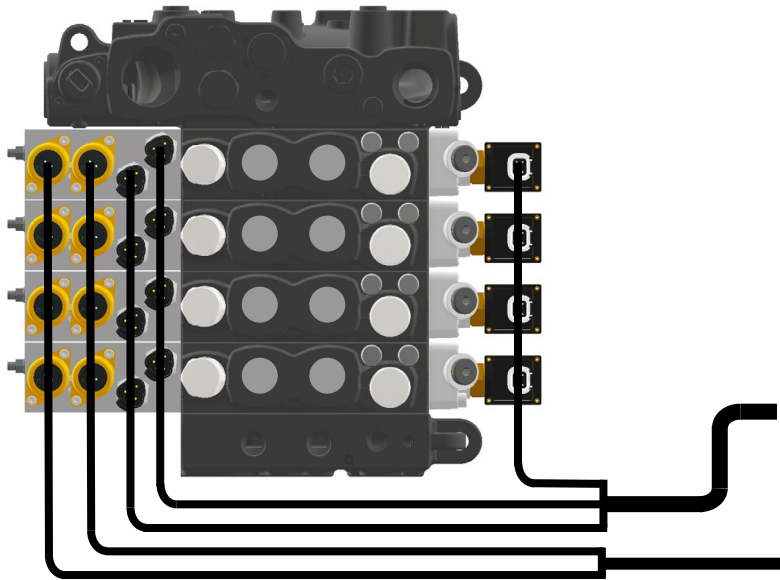


Integration Savings

Save Calibration and Installation Time

VA300 ECWP VALVE
4 SECTIONS

VA300 VC1 VALVE
4 SECTIONS



20 CABLES

VS

1 CABLE

56 WIRES

VS

4 WIRES

12 INPUTS

VS

CAN INPUT

8 OUTPUTS

VS

CAN OUTPUT

CALIBRATED AT
CUSTOMER

VS

CALIBRATED AT
PARKER

