

MVC 01-24

DATA SHEET

Description

The MVC 01-24 is a member of HEINZMANNs DARDANOS Electronic Fuel Injection (EFI) controller series



for industrial diesel, dual-fuel or gas engines or combinations of them. Additional to its primary purpose of speed control it provides features beneficial for engine performance, such as optimised fuel efficiency, increase of engine power or lower environmentally harmful emissions. Furthermore, it includes full functional redundancy capability.

The MVC 01-24 EFI control serves engines with up to 24 cylinders and is compatible with any solenoid based fuel injection system. It comprises precise injection control with up to seven injections per cylinder and stroke.

Continuous real-time monitoring of all measurable combustion parameters combined with deep integration into an engine control system benefits operational and maintenance costs.

For diesel common rail systems it can control the rail pressure of up to four separate high-pressure pumps. Besides that solenoids can be driven with flexible configurable voltage in a range of 24 ... 110 VDC. Configuration of current profiles is possible supplementing.

MVC 01-24 comes with a comprehensive number of inputs and outputs. These are entirely free configurable, independent of each other and offer a wide range of opportunities for adapting the control system to individual demands.

This EFI control offers up to three independent CAN bus lines with various protocols for communication. For configuration and adjustment HEINZMANNs communication software DcDesk can be applied advantageously. It provides all features required for configuration, commissioning, testing and servicing, integrated engine and sensor monitoring functions and also a solenoid click test tool for wiring check. Besides that it offers adjustment of connected device while the system is running and observation of the response directly. Additionally, it comprises a lot of graphical features and records of data.

Applications

- Electronic fuel injection at diesel engines, stationary and mobile
- Gas admission valves for gas or dual-fuel engines
- Combination of common rail and gas admission control

Features

Up to seven injections per cylinder and stroke

Cylinder pressure measurement and combustion control in operation

Convenient number of freely configurable I/Os for optimum engine operation and monitoring

Flexible voltage range of 24 ... 110 VDC to drive solenoids, configurable via software, configuration of current profiles possible

Actuators with digital or analogue feedback can be driven directly via 4× full bridge or 8× half bridge stage

Full functional redundancy capability

Integrated engine monitoring functions

Cylinder faults and sensor monitoring functions

Integrated barometric pressure sensor

Proven functionality for marine, generator, locomotive & vehicle applications

Compatible with any solenoid based fuel injection system

Up to three independent CAN bus lines (various protocols)

Technical data

General specification

Supply voltage	15 ... 33 VDC (nom. 24 VDC)
Injection boost current	max. 30 A/ hold 18 A
Degree of protection	IP6K9K
Ambient temperature	-40 ... +80 °C -40 ... +125 °C with cooling
Permissible ambient humidity	< 95 % at 55 °C
Vibration	10 ... 24 Hz < 2 mm 25 ... 64 Hz < 0.24 m/s 65 ... 2000 Hz < 9 g
Shock level	< 30 g, 11 ms - half sine wave
Weight	approx. 8.5 kg

I/O specification

Signal inputs	
5× frequency input	frequency, inductive pick-up, Hall-type pick-up
2× analogue input, insulated	0 ... 5 V, 4 ... 20 mA configurable
8× PWM input, insulated	1 Hz ... 1 kHz
6× universal input	0 ... 5 V, PTC, NTC or binary, configurable
24× universal input	0 ... 5 V, 0 ... 36 V, PTC, NTC, thermocouple J, K or binary, configurable
1× clamp 15	battery(+) from ignition switch
Signal outputs	
24× injector output	max. 33 A
4× analogue output	0 ... 5 V, 4 ... 20 mA, configurable
4× binary output	digital high-side outputs 2.5 A
4× binary output	digital low-side outputs 0.5 A
4× PWM output	high-side outputs 2.5 A
2× frequency output	looping through pick-up signal
4× full bridge or 8× half bridge	max. 5 A
Communication	3× CAN 2.0B (2× insulated), RS-232, RS-485, LAN interface (insulated)
Configuration and calibration	HEINZMANN DcDesk or via XCP-protocol
Wiring	plug TYCO 62-pin and 39-pin

Certificates

CE, DNV GL marine certification.
Others on request

Dimensions

