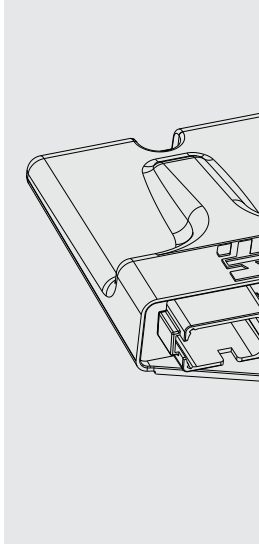


ECDR-0506A Electronic Driver, CAN Capable



DIAGNOSTIC FEATURES

Internal diagnostics make it possible to detect overvoltage and undervoltage conditions and coil failure conditions.

Outputs have short-circuit protection.

Supply voltage below 9 Vdc or above 32 Vdc will cause the controller to go to the safe mode of valve OFF and automatically resets.

The bi-color red/green LED provides quick status check.

APPLICATION NOTES

The ECDR-0506A controller can be used in a wide range of applications, including transmission controls, vehicle traction controls, joystick controls, and harvesting function controls.

It can be specified for applications previously using the HydraForce EVDR4, EVDR5 or EVDR7.

DESCRIPTION

The **ECDR-0506A** is a robust electronic driver for solenoid-operated proportional valves. Its 32-bit processor provides high calculating power. It has six inputs that are configurable to multiple settings ranging from digital to analog. Five outputs, including four PWM closed loop outputs and one PWM open loop output, have configurable frequency. A single CAN bus allows CANOpen and SAE J1939 communication protocols. The red/green LED signal provides quick status check. The molded enclosure has a scratch-resistant finish.

ECDR-0506A is configured with *HF-Impulse* software: an easy to use, web-accessible configuration tool available as a free download at www.hydraforce.com/electronics.

OPERATION

The controller accepts input from commonly available analog or SAE J1939 CAN/ CANOpen operator interface devices (joystick, potentiometer, sensors, etc.) The input signal drives the output current.

RATINGS

Power Requirements: 9 to 32 Vdc; **Maximum Total Amperage:** 10 Amps

Processor: ARM 32-bit Cortex™-M4 CPU, 72 MHz

Memory: Flash total 128 kB; RAM 32 kB

Operating Temperature: -40 to 85 °C (-40 to 185 °F)

Molded Enclosure Dimensions: 10.79 x 15.25 x 3.17 cm (4-1/4 in x 6 in. x 1-1/4 in)

Mating Connectors (2): Deutsch DT06-12SA and DT06-12SB

Control Inputs (4 Multi-Function Input)

Voltage: 0 to 5 or 0 to 10 Vdc

Current: 0 to 20 mA or 4 to 20 mA

Resistive: 0 to 6k ohms

Temperature: ERT 120 (HydraForce temperature sensor)

Digital: Switch to ground, switch to supply, floating

Control Inputs (2 Multi-Function Input)

Digital: Switch to ground, switch to supply

PWM: 0 to 100%, 60 to 5000 Hz

Frequency: 4 to 10,000 Hz

Communication/Interfaces (1): CAN 2.0 B

Control Outputs: (4 closed loop)

Current: sourcing, 2 amps continuous **PWM:** 40 to 400 Hz

Control Outputs: (1 open loop)

Current: sourcing, 2 amps continuous **PWM:** 40 to 400 Hz

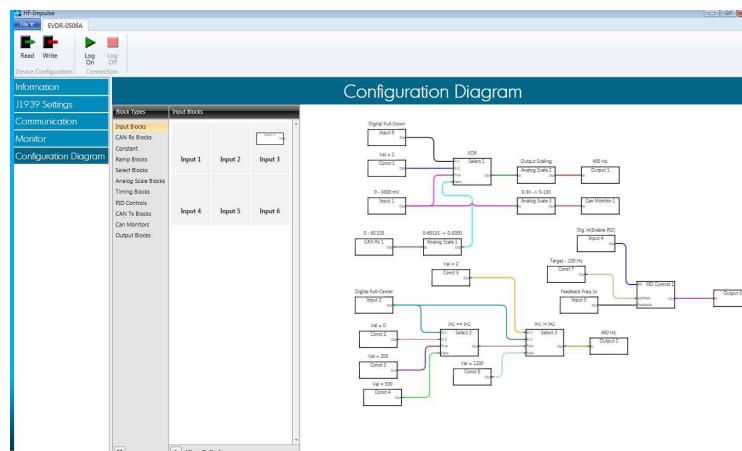
Sensor Power Supply: +5 V 200 mA

Sealing: IP67 rated

Housing: Noryl™ glass-filled PPE/PPO, filled with potting compound

Weight: 366 g (0.8 lb)

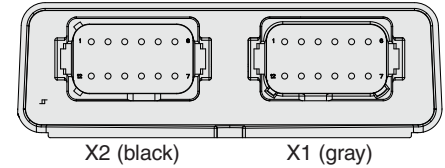
CONFIGURATION EXAMPLE



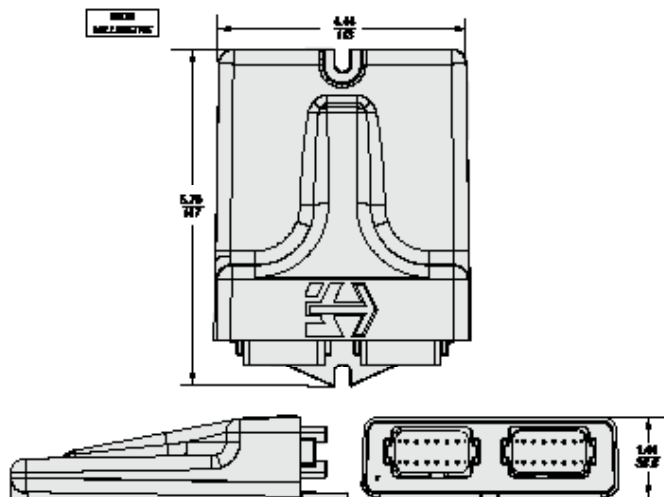
CONNECTIONS & WIRING

| Black plug - X2 | |
|-----------------|-------|
| Description | Pin |
| Output 3 - | X2.1 |
| Output 4 + | X2.2 |
| Output 4 - | X2.3 |
| Output 5 + | X2.4 |
| Output 5 - | X2.5 |
| Input 5 signal | X2.6 |
| Input 6 signal | X2.7 |
| Input 3 signal | X2.8 |
| Signal ground | X2.9 |
| Input 4 signal | X2.10 |
| Signal ground | X2.11 |
| Output 3 + | X2.12 |

| Gray plug - X1 | |
|-----------------------|-------|
| Description | Pin |
| Supply voltage | X1.1 |
| Signal ground | X1.2 |
| Output 1 + | X1.3 |
| Output 1 - | X1.4 |
| Output 2 + | X1.5 |
| Output 2 - | X1.6 |
| +5 V supply | X1.7 |
| CAN Low | X1.8 |
| CAN High | X1.9 |
| Input 1 signal | X1.10 |
| Input 2 signal | X1.11 |
| Supply voltage ground | X1.12 |



DIMENSIONS & MOUNTING



TO ORDER

Dual/Single Valve Driver Model ECDR-0506A — Part No. 4208560

ECDR-0506A Configuration Software - *HF-Impulse* - free download from www.hydraforce.com/electronics

Connector Kit - Gray Connector Part No. 4001956; Black Connector Part No. 4001965

Test Harnesses: X1 Harness Part No. 4000307; X2 Harness Part No. 4000308

USB-CAN Adaptor: Kvaser Leaf Light (Part No. 4000371)