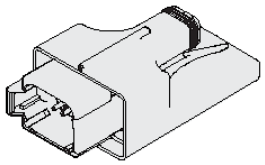
Overview



Description

A compact plug-in style, microprocessor based valve driver designed for use on hydraulic proportional valves for fan drive applications. Configurable to drive two coils using SAE J1939 CAN input or an independent signal. The**EFDR-0201A** proportionally controls one coil to a user-defined metering profile and provides reverse sequence control with the second coil providing fan direction. The profile provides either a straight-line or multi-sloped output that you configure with*HF-Impulse software*: an easy to use, configuration tool available as a free download atwww.hydraforce.com/electronics. Two output LEDs are located on the front.

Operation

The controller accepts inputs from commonly available sensors or SAE J1939 CAN input. The input signal drives the output current to the user-defined ramp rate, enabling accurate control of fan speed. Reverse sequence control is provided as well. The reverse sequence changes the direction of the fan to clear debris. A variety of methods can trigger the sequence (switch input, temperature sensor, J1939 message or periodic.) The timing sequence can control the fan speed as well as the fan direction to avoid abrupt reversals. Built-in diagnostics detect fault conditions that automatically deactivate the outputs. The controller has two LED output indicators.

Diagnostic Features

- Any supply voltage below 8.5 Vdc causes the controller to default to the valve-off mode.
- The driver output drops and holds at the inactive stand-by condition.

Any short or open circuit condition is automatically detected as an error.

- When the fault is corrected, the controller returns to standard operation.

Multiple Personalities

The EVDR controller is available in multiple configurations (personalities) to suit the needs of specialized applications. Choose the one that best fits your needs.
EVDR-0201A - General Purpose.
EDFR-0201A - Fan Control.
ECDR-0201A - Configurable.

Ratings

Electrical Parameters

Power requirements	9 to 32 Vdc
Output current	0 to 2000 mA **- Note:** Continuous

Processor and Memory

Processor	ARM 32-bit Cortexâ„¢-M3 CPU, 72 MHz
Flash memory	64 kB
RAM	20 kB

Properties

Mating connectors	Deutsch DT06-8SA **- Note:** Input DT04-2P **- Note:** Output
Output indicator	2 Red LEDs
Environmental rating	IP69K
Operating temperature	â€“40 to 85 °C (â€“40 to 185 °F)
Unit weight	0.079 kg (0.175 lb) **- Note:** without connectors

I/O

Number of inputs	1
Number of outputs	2

Control Inputs - Analog

Voltage	0 to 5 Vdc 0 to 10 Vdc
Current	0 to 20 mA 4 to 20 mA
Resistive	0 to 6000 Ohm
Temperature	ERT 120 (HydraForce temperature sensor)

Control Inputs - Digital

Switch	Switch to battery Switch to open Switch to ground
PWM	0 to 100% **- Note:** 60 to 5000 Hz
Frequency	60 to 10 000 Hz

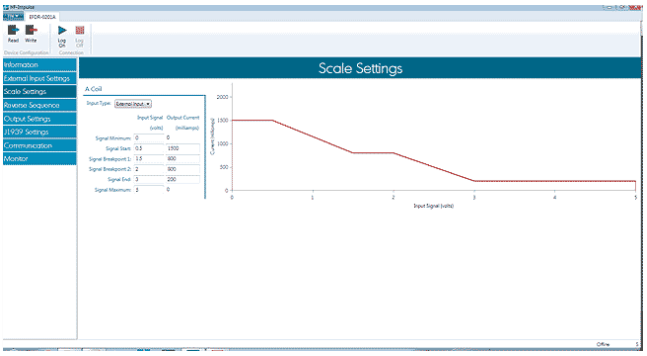
Outputs

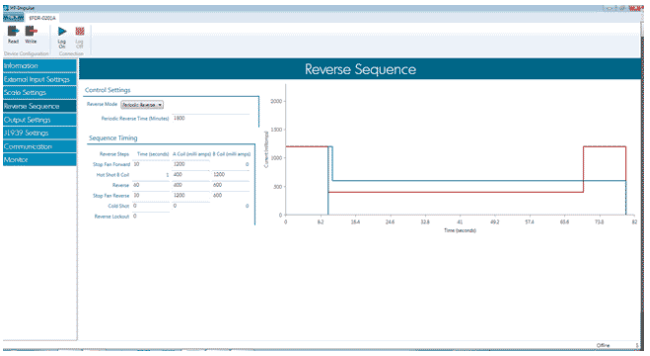
Current control	0 to 2000 mA
PWM control	0 to 100% **- Note:** Duty cycle
PWM frequency range	40 to 400 Hz

Communications

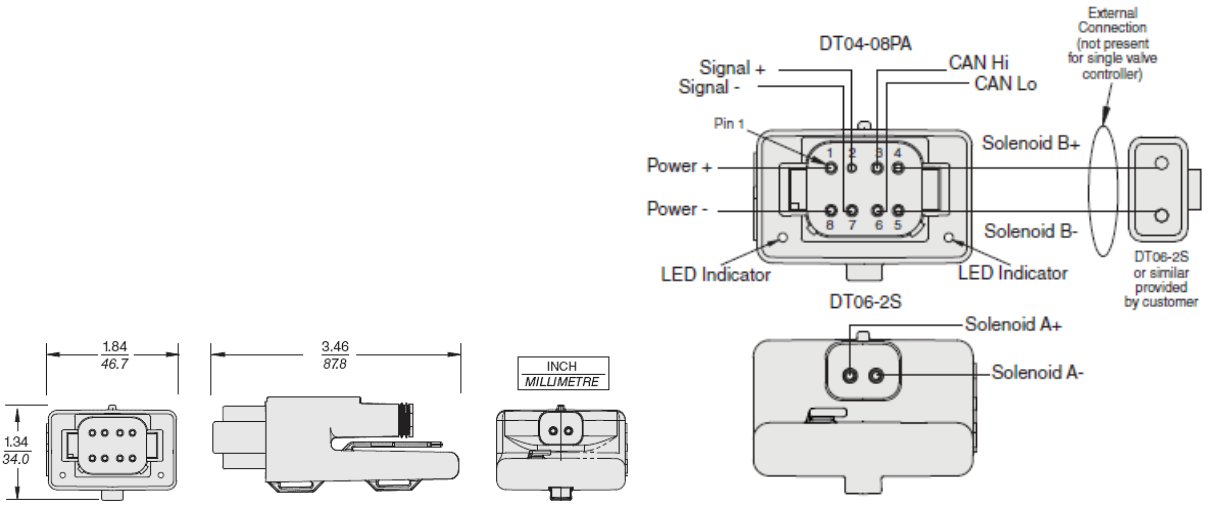
SAE J1939	PGNs 61440 to 65535

Configuration Example





Dimensions



To Order

Dual Valve Driver Model EFDR-0201A: Part No. 4204710
Configuration Software for EFDR-0101A â€" HF-Impulse: Free download from www.hydraforce.com/electronics.
Mating Connector Kit: Part No. 4001955
Test Harness: Part No. 4000304 (For testing and bench operation)
USB-CAN Programming Adapter: Kvaser Leaf Lite HS â€" Part No. 4000371, also available from www.kvaser.com
Temperature Sensor â€" ERT 120: Part No. 4206200
Mating Connector Kit for ERT 120 Temperature Sensor â€" Deutsch Model DTM06-2S: Part No. 4001970
Conversion Harness - to convert from EFDR1: Part No. 4000426
For remote mounting, use connectors: DT04-2P (Part No. 4001958) and DT06-2S (Part No. 4001417)