HydraForce
POWER FORWARD®

ELECTRONICS PRODUCT GUIDE



A rugged line of electronic valve drivers, control units, operator interfaces, and sensors designed specifically for the demanding mobile hydraulic equipment markets.

www.hydraforce.com

ExDR Family of Electronic Valve Drivers

ExDR Proportional Valve Drivers come in several preconfigured control personalities designed to perform specific tasks. They area available with a variety of I/O configurations including 1/1, 1/2, 3/2, and 6/5.
Personalities include:



- EVDR – Electronic Valve DRiver: Basic input/output scaling with one input and one or two outputs
- ETDR – Electronic Time-based DRiver: Time-based output scaling useful for applications such as hotshot, soft start, and transmission clutch control
- EGDR – Electronic Generator DRiver: Closed-loop control for generator and other applications
- ESDR – Electronic Servovalve DRiver: Closed-loop control for use with HydraForce LVDT position-sensing servovalve.
- EFDR – specifically designed for reversing fan drive control
- ECDR – completely configurable drivers you can program without writing a single line of code.

HF-Impulse™ software is used to set parameters for ExDR drivers, monitor output, function as a service tool, or to develop applications with ECDR configurable drivers.

EVDR-0101A, General Purpose Electronic Valve Driver Part No. 4204800

A compact, plug-in style, microprocessor-based valve driver designed for use in hydraulic proportional valve applications. The EVDR-0101A drives a single coil to a user-defined metering profile using an independent signal. The profile provides either a straight-line or multi-sloped output that you configure with HF-Impulse: an easy-to-use software tool available as a free download at www.hydraforce.com/electronics. An output LED indicator is located on the front.

Development cables: P/N 4000285, 4000286

EVDR-0201A, CAN Capable General Purpose Electronic Valve Driver Part No. 4204700

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

Development cables: P/N 4000304, 4000371

ETDR-0101A, Time-Based Transmission Valve Driver Part No. 4204810

A compact plug-in style, microprocessor-based valve driver designed for use in hydraulic proportional valve applications for clutch engagement, “hot shot” coil saver and soft start motor applications. It can also operate in timer-based applications (no input or input only to start a timer). The ETDR-0101A drives a single coil to a user-defined timing profile using a digital trigger. The profile provides a stepped output which you configure with HF-Impulse: an easy-to-use software tool available as a free download at www.hydraforce.com/electronics. An LED output indicator is located on the front.

Development cables: P/N 4000285, 4000286

EGDR-0101A, Closed-Loop (Generator) Valve Driver Part No. 4204850

A compact, plug-in style, microprocessor-based valve driver designed for use in hydraulic proportional valve applications. The EGDR-0101A drives a single coil in closed loop control using an independent signal. The control provides a timed ramp on startup and PID closed loop settings that you configure with HF-Impulse: an easy-to-use software tool available as a free download at www.hydraforce.com/electronics. An LED output indicator is located on the front.

Use with EACD-1: AC frequency detector P/N 4208010

Development cables: P/N 4000285, 4000286

EFDR-0201A, CAN Capable Fan Control Part No. 4204710

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 at www.hydraforce.com/electronics. Two output LEDs are located on the front.

Development cables: P/N 4000304, 4000371

ExDR-0101A Input/Output Table

Max. I/O Count	Digital In (SWG)	Digital In (SWB)	Pulse (PWM/freq)	Analog V/I/R	PWM (Source)	Digital Out (Source)
1					X	X
1	X	X	X	X		
2	1	1	1	1	1	1

ExDR-0201A Input/Output Table

Max. I/O Count	Digital In (SWG)	Digital In (SWB)	Pulse (PWM/freq)	Analog V/I/R	PWM (Source)	Digital Out (Source)
2					X	X
1	X	X	X	X		
3	1	1	1	1	2	2

NEW

ESDR-0201A, Closed-Loop Servovalve Driver
Part No. 4213200

A compact, plug-in style, microprocessor-based valve driver designed for use in hydraulic proportional valve applications. The ESDR-0201A drives a dual-coil proportional valve equipped with a linear variable displacement transformer (LVDT) configured as a position sensor. The control accepts a 0 to 5 V input signal from the LVDT and provides PID control to a setpoint received via CAN message from the main control unit. PID closed loop settings are available for tuning along with parameters for CAN communications including features such as error messaging. All configuration is accomplished using HF-Impulse: an easy-to-use software tool available as a free download at www.hydraforce.com/electronics. Two LED output indicators are located on the front.

Use with LVDT coil assembly: P/N 4213360

ECDR Configurable Valve Drivers are fully configurable to any hydraulic control application. Using *HF-Impulse*™ software, you can develop simple or complex control logic without writing code.

HF-Impulse software lets you build control schemes using modular function blocks in a drag-and-drop configuration environment. Macro blocks allow you to create reusable function libraries while simplifying the logic diagram. With CAN 2.0B networking, ECDR valve drivers can interface with other controllers in a distributed control architecture. The larger ECDR-0506A can control other CAN devices, such as the ECDR-0201A, to expand control options as needed.

ECDR-0101A, Configurable Electronic Single Valve Driver, Part No. 4204820

A compact plug-in style, microprocessor based valve driver designed for use in hydraulic proportional valve applications. Configurable to drive a single coil using an independent signal. The ECDR-0101A proportionally controls one coil to a user-defined metering profile. It is configured with HF-Impulse: an easy-to-use, web-accessible configuration tool available as a free download at www.hydraforce.com/electronics. An LED output indicator is located on the front.

Max. I/O Count	Digital In (SWG)	Digital In (SWB)	Pulse (PWM/freq)	Analog V/I/R	PWM (Source)	Digital Out (Source)
1					X	X
1	X	X	X	X		
2	1	1	1	1	1	1

Development cables: P/N 4000304, 4000371

ECDR-0201A, Configurable Electronic Dual Valve Driver, CAN Capable, Part No. 4204740

A compact plug-in style, microprocessor based valve driver designed for use in hydraulic proportional valve applications. Configurable to drive either one or two coils using SAE J1939 CAN or CAN Open input or an independent signal. The ECDR-0201A proportionally controls one or two coils to a user-defined metering profile. It is configured with HF-Impulse software; an easy-to-use, web-accessible configuration tool available as a free download at www.hydraforce.com/electronics.

Max. I/O Count	Digital In (SWG)	Digital In (SWB)	Pulse (PWM/freq)	Analog V/I/R	PWM (Source)	Digital Out (Source)
2					X	X
1	X	X	X	X		
3	1	1	1	1	2	2

Development cables: P/N 4000304, 4000371

ECDR-0203A, Configurable Electronic Valve Driver, CAN Capable, Part No. 4208230

The EVDR-0203A is a configurable valve driver with two outputs and three inputs that can be accepted from analog, CANopen or SAE J1939 operator interface devices. It has one LED indicator light for quick status check and fault detection.

Max. I/O Count	Digital In (SWG)	Digital In (SWB)	Pulse (PWM/freq)	Analog V/I/R	PWM (Source)	Digital Out (Source)
2					X	X
3	X	X	X	X		
5	3	3	3	3	2	2

Development cables: P/N 4000307, 4000371

ECDR-0506A, Configurable Electronic Valve Driver, CAN Capable, Part No. 4208560

The ECDR-0506A is a configurable valve driver with five PWM outputs, including four closed loop outputs and one open loop output. There are six configurable inputs. Communication capabilities include CANopen and SAE J1939. It has one LED indicator light for quick status check and fault detection.

Max. I/O Count	Digital In (SWG)	Digital In (SWB)	Pulse (PWM/freq)	Analog V/I/R	PWM (Source)	Digital Out (Source)
5					X	X
6	X	X	X	X		
11	6	6	6	6	5	5

Development cables: P/N 4000307, 4000308, 4000371