

Power.
Movement.
Dynamics.



Digital proportional amplifier EasyProp

Electrical amplifier
for proportional and switching valves
Operating voltage 8–35 V DC
Maximum current 3.2 A
Connector DIN EN 175301–803


WEBER-HYDRAULIK




CHARACTERISTICS

- Mounted directly on the valve
- Short-circuit protected, current-controlled output up to 3.2A
- Interfaces:
 - Adjustable analog input
 - CAN-Bus interface
 - Web interface for diagnostics and parameterization
- Adjustable dither (10-500Hz)
- Integrated control loop for external sensor
- Function generator for standalone operation
- Parameters can be imported via a parameter file

NOTE

The content of the data sheet may change as a result of further development.

For questions or inquiries about the product, please contact anfrage.dekw@weber-hydraulik.com

TECHNICAL DATA

Mechanical characteristics

Mounting:	Design for appliance socket DIN EN 175301-803
Ambient temperature:	-40°C to +70°C
Permissible orientation:	No restriction

Electrical characteristics

Connector:	Cable 5 x 0.34 mm ² M12, 5-pin A-coding
Operating voltage:	8 V – 35 V DC
Rated solenoid voltage:	6 V DC , 12 V DC, 24 V DC
Current output:	0 A to 3.2 A adjustable
Current control:	Adaptive current control with variable switching frequency PI current control with fixed switching frequency (1 Hz to 500 Hz adjustable) 0 – 10 V (RE = 100kΩ) 0 – 5 V (RE = 100kΩ) 1 – 9 V (RE = 100kΩ) 0.5 – 4.5 V (RE = 100kΩ) 0 – 20 mA (RE = 250Ω) 4 – 20 mA (RE = 250Ω)
Analog input signals (adjustable)	
CAN-Bus:	Individual CAN messages can be defined
Dither frequency:	10 Hz to 500 Hz, adjustable
Dither amplitude:	Adjustable
Ramp limitation:	0 s to 10 s, adjustable
PWM frequency:	0.1 kHz to 25 kHz, adjustable
Power consumption without output:	Wi-Fi inactive: 40mA @ 12V 20mA @ 24V Wi-Fi active: 60mA @ 12V 30mA @ 24V
Protection class:	IP 65
Fuse:	Overcurrent-protected power output Soldered SMD fuse (6A)

PIN ASSIGNMENT

Top view
of device



M12 plug connector,
5-pin, A-coded

Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
UB+	Analog input 1	GND	CAN-H / Analog input 2	CAN-L

FUNCTION

The digital proportional amplifier enables the control of a proportional or switching valve and is mounted directly on the solenoid of the valve.
The powerful 32-bit processor enables precise and dynamic current control.

The control signal can be specified either via the adjustable analog input, via the CAN bus interface or via the function generator integrated in the electronics. With this function generator, the amplifier can periodically control the valve in standalone mode with different current curves.

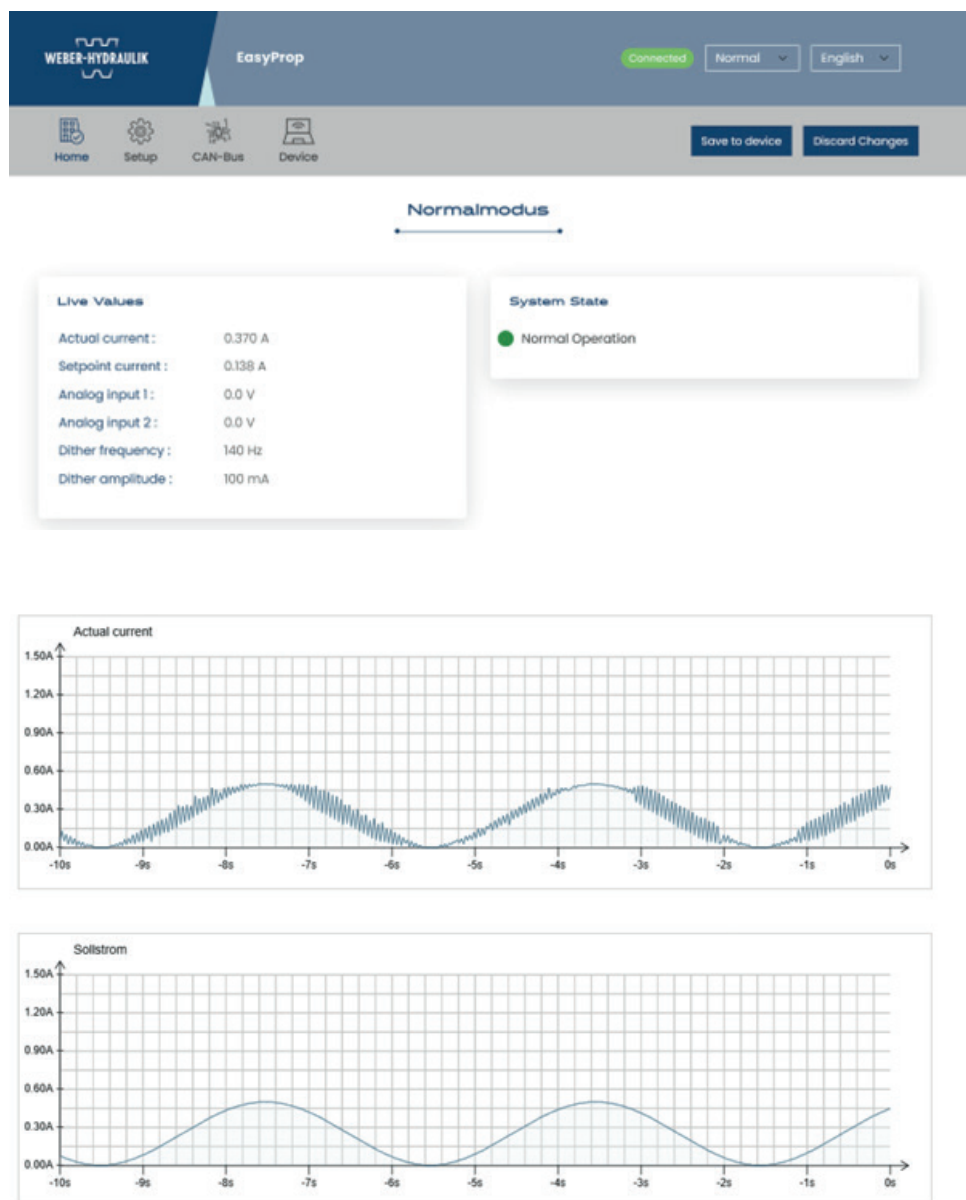
A dither signal is generated for the actuation of proportional valves in order to minimize the hysteresis of the valve. Both the frequency and the amplitude of the dither can be adjusted. Thanks to the innovative „true dither modulation“, a particularly small valve hysteresis is possible.
The integrated, freely adjustable PID controller can be used to implement closed control loops with an external system sensor (e.g. a pressure or volume flow sensor). In this operating mode, the proportional amplifier automatically regulates the valve flow depending on the setpoint and the sensor signal.

All parameters of the proportional amplifier can be set via the integrated web interface. For this purpose, the proportional amplifier generates its own Wi-Fi network, which can be accessed with any end device. The web interface is then called via the end device's browser. No additional app or Internet connection is required.

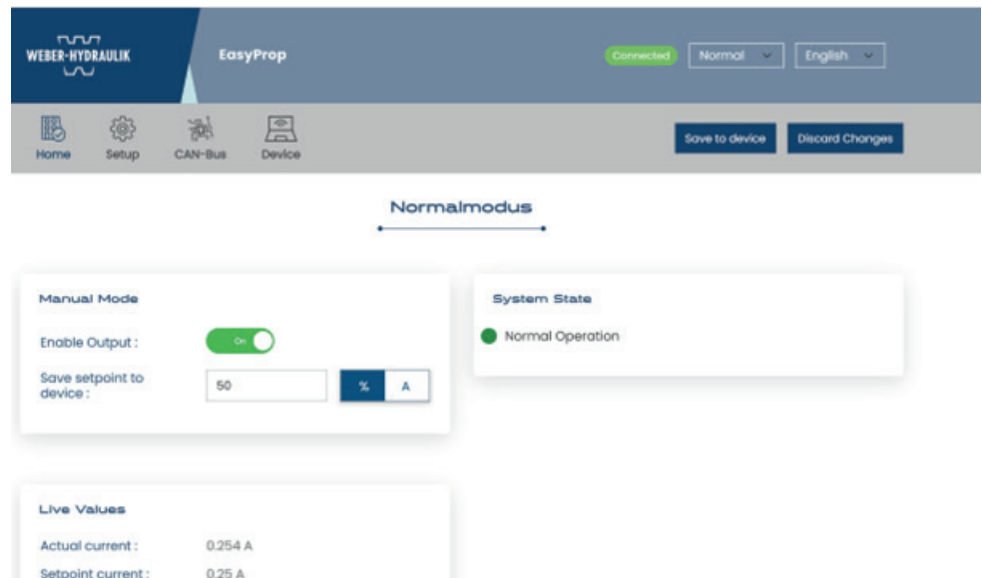
INTERFACE

HOME PAGE

The home page shows the live data and the system status of the valve control unit.



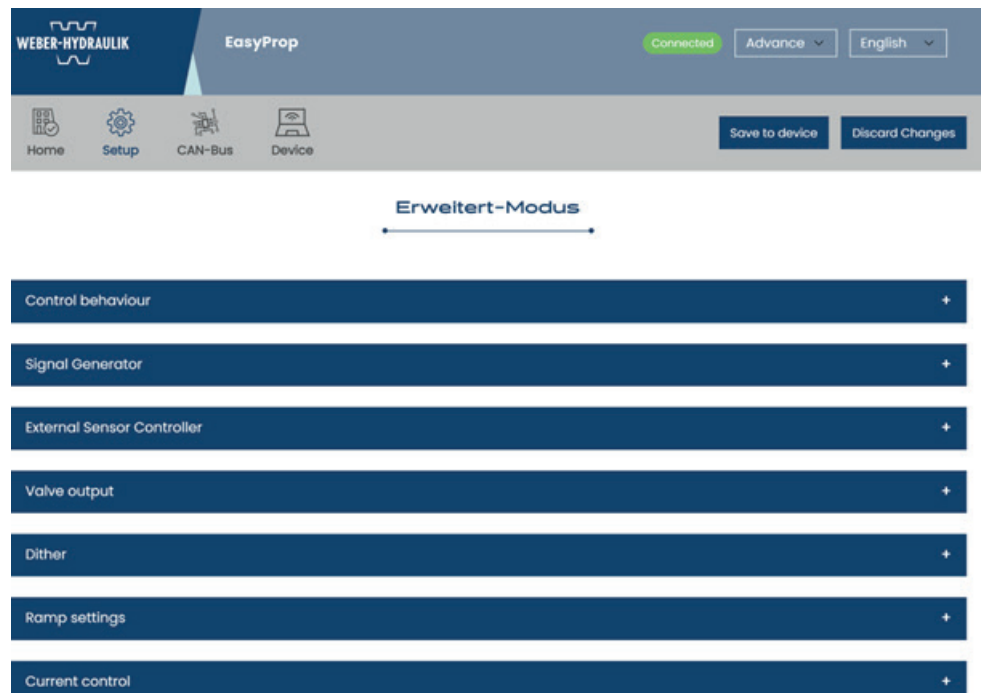
If the control unit is operated in manual mode, this can be operated via the home page.



SETUP

The control unit is parameterized via the setup menu.

Operating modes, inputs and outputs, signal generator, dither, ramps and the current control can be set.



CAN-BUS

The CAN settings are edited in the CAN bus menu.
Individual CAN messages can also be created.



Setting

Enable CAN-Bus: ☒

Baudrate:

Bus termination: ☒

Disclaimer

This page is directed at engineers, programmers, commissioning engineers, as well as maintenance and service personnel with relevant knowledge in automation technology, particularly in CAN bus systems. Before connecting the EasyProp to an active CAN bus system, appropriate presettings and parameter specifications must be made on the EasyProp, depending on the type and configuration of the CAN bus system and the method of connection. Connecting the EasyProp to an active CAN bus system with incorrect settings can lead to bus disturbances, bus crashes, malfunctions, and potentially even damage to machinery, equipment, and harm to personnel.

Messages Out

New Outgoing

ID	Signal		Signal		Signal		Signal		Cycle Time (ms)	Remove Message
	Offset	Factor	Offset	Factor	Offset	Factor	Offset	Factor		
1	Error State		Warning State		None		None		250 ms	Remove Message
	0	0	0	0	0	0	0	0		
2	Setpoint mA		Actual Current		Analog Input 1		Analog Input 2		250 ms	Remove Message
	0	0	0	0	0	0	0	0		
3	Electronics Temperature				Supply Voltage		None		250 ms	Remove Message
	0	0	0	0	0	0	0	0		

Messages In

New Incoming

ID	Signal		Signal		Signal		Signal		Expected Cycle Time (ms)	Remove Message
	Offset	Factor	Offset	Factor	Offset	Factor	Offset	Factor		
10	Reset Errors		None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
11	Set Setpoint		None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
12	Get Parameter		None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
13	Set Parameter		None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
14	Config CANMessages		None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
15	Set CAN Counter		None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
16							None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		
17			None		None		None		0 ms	Remove Message
	0	0	0	0	0	0	0	0		

DEVICE

In the device menu, the settings can be saved as a file on the connected device and parameter files can be uploaded. The device can also be reset to the initial settings. In addition, the error memory can be read out here, the software and hardware versions are listed and firmware updates can be installed via this page.

Error Memory

Entry	Occured errors
1	Output manually disabled
2	Output manually disabled
3	Output manually disabled
4	Undervoltage supply
5	Undervoltage supply
6	Undervoltage supply
7	Output manually disabled
8	Output manually disabled

Device information

Hardware version : EasiestProp Rev1.3
 Firmware version : 5.1
 Device ID : 64.e8.33.6a.78.d9

Device setup :

Firmware file : Keine Datei ausgewählt

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