

### VeSa

Flexible solenoid valve amplifier

- ▶ Flexible configuration of current profile
- ▶ Peak current: 25A
- ▶ Up to 6 channels
- ▶ Compatible with diesel- and gasoline-injectors



#### Overview

The electrical actuation of the solenoid valve injectors of gasoline and diesel fuel injection systems takes generally place over a Peak-and-Hold profile of current, which is specified by the injector producer. ECUs in the series-production are adjusted for a particular injector. To work with this injector at the injection and engine test bench, a special verified and flexible output stage is needed to drive various injectors. The verification of the behavior of the injection system, with a modified current profile, can be realized by **VeSa**. Also future solenoid valve injectors can be driven, because the current profile of the output stage can be programmed individually.

#### Variants

To meet the versatile requirements in the development of engines and injection valves there are two variants of **VeSa**. Variant A: closed loop control of the current profile. Variant B: open loop control of the current profile.

#### System and control

In both variants a power module is used which applies all required control voltages and the boost voltage. The setup of the required current profile takes place over the own developed Windows® terminal program. Separated power amplifier modules are driving the injectors. With a signal generator (e.g. **VEMAC VTC**) the signals (TTL) for injection and triggering can be sent to the inputs (BNC) placed on the front panel.

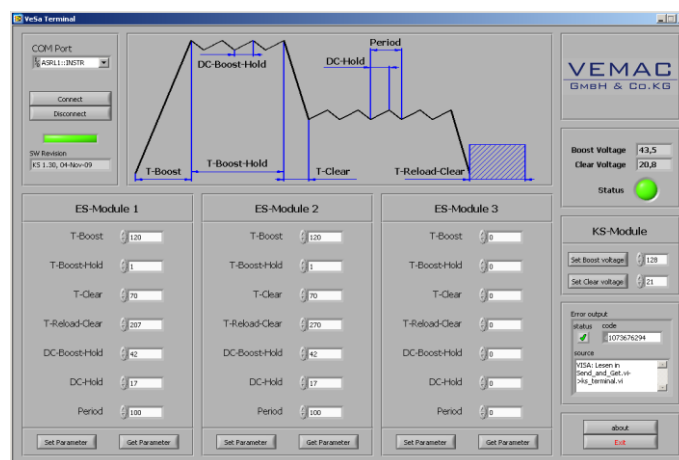
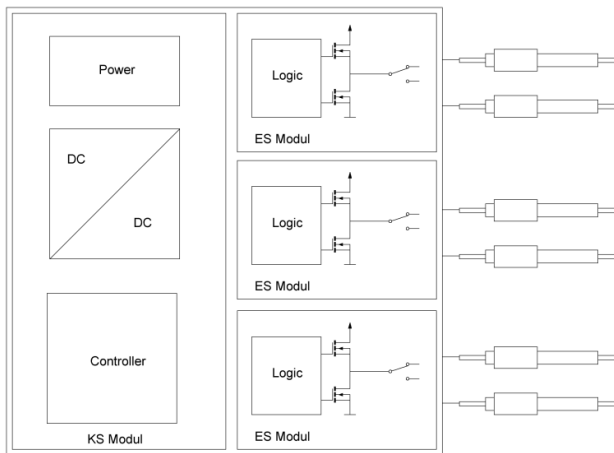
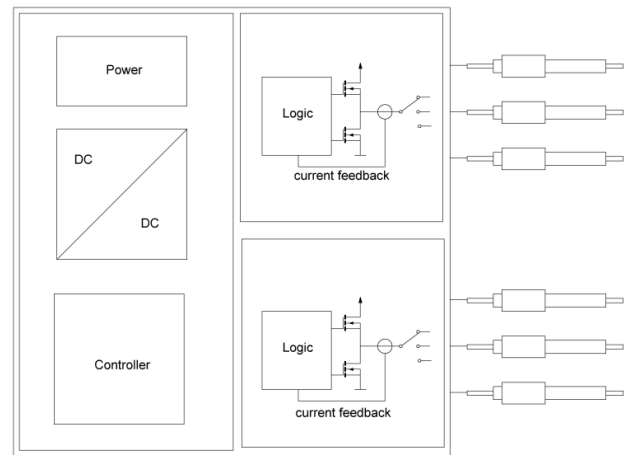


Figure 1: VeSa terminal



VeSa, open-loop control



VeSa, closed-loop control

Figure 2: VeSa (open loop control)

Figure 3: VeSa (closed loop control)

### Applications and options

Open loop control of current profile	Closed loop control of current profile
Driving of direct injection valves (diesel and gasoline engines)	
Compatible with 12V and 24V power systems	
Detection of the mechanical feedback (needle rise) in the current profile	Automatic balancing of the current profile caused by change of temperature and inductivity
Useful for development of solenoid injectors	Useful for tests of engines and injection systems

### Technical details

Hardware	Variant: open loop control	Variant: closed loop control
Power outputs	Max. 2 injectors per amplifier module Max. 3 amplifier modules per device	Max. 3 injectors per amplifier module Max. 2 amplifier modules per device
Injector current	Max. Peak 25 A	Max. Peak 25 A
Input signal	TTL level, 0..5V	TTL level, 0..5V
Boost voltage	Max 100 V	Max 100 V
Timing	Free configurable, Timing resolution 1µs	Free configurable, Timing resolution 1µs, adjustable control hysteresis
Dimension (W x H x D)	25 x 15 x 31 cm	33 x 13 x 39 cm
Weight	6 kg	4 kg
Power supply	13,8V / 24 V (DC) or 230V (AC) / 50Hz	13,8V / 24 V (DC) or 230V (AC) / 50Hz

Further customized options or enhancements of the above mentioned specifications are feasible.

### Kontakt

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Q2/2013