

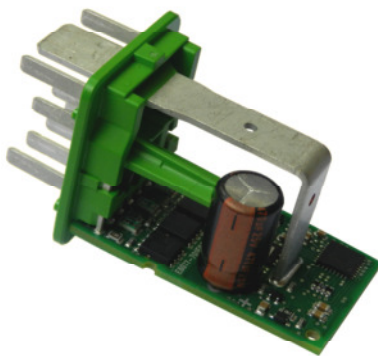


Glow Plug Controller

1. Application

Switching up to 4 steel- or ceramic glow plugs for Diesel vehicles.

PCB assembled



Version dry room for the assembly in the E-Box



Version wet room for the assembly in the motor room



2. Product description

With the glow plug controller (GZSG) it is possible to switch up to 4 steel- or ceramic glow plugs. The controller compensates supply- and ground offset voltage fluctuations. Therefore, supply- and ground offset displacement voltage fluctuation - as long the nominal value is smaller than this - have no influence to the output voltage. Mismatched steel- or ceramic glow plugs will be automatically recognized. Additionally to the channel selective glow circuit control, all glow circuits will be protected by thermal fuses. Hence, in case of an error, the motor will start anyway.

The PWM-output frequency is 32Hz, but it can be adapted to customer's requirements. From overcurrent monitoring to the recognition of an open glow circuit, all possible loads will be securely operated. Any detected error state will be reported to the engine control unit.

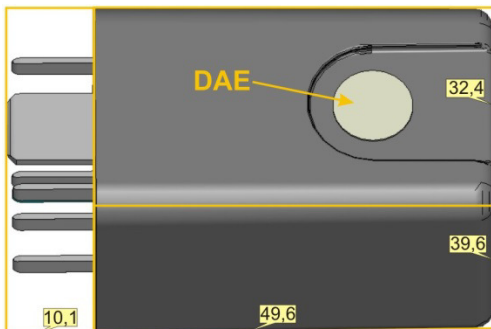
The communication occurs over a 2-wire PWM-interface (nominal value, diagnosis) or per LIN-Bus.

3. Technical Data

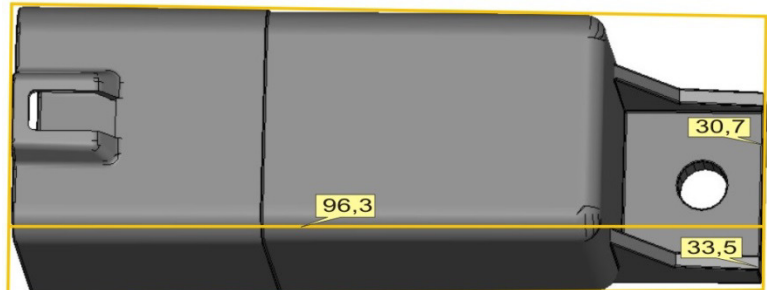
- Operating voltage range 6....16V
- Switch for up to 4 glow plugs
- Ground offset voltage compensation +/-2,9V
- 2-wire PWM-interface (nominal value, diagnosis) or LIN-Bus
- Ambient temperature range -40 °C to +115 °C (+125 °C on K130 contact)
- Active inverse-polarity protection
- Tight housing with pressure compensation element (DAE), tightness in accordance with IP-6K9K
- Weight <60g E-Box or motor room version



4. Dimensions



Outside dimensions dry room version



Outside dimensions wet room version

5. Functional description

- Controllable voltage source in accordance to different characteristic curves (as example: industrial motors)
- Compensation of voltage drop on the supply- and ground line
- Reduced current variation by optimized switching procedure
- Current limitation with glow power compensation
- Push phase-limitation for protection of glow plugs and GZSG
- Error recognition, error handling including error message
 - Recognition of open glow circuit (channel selective)
 - Over current recognition (channel selective)
 - Aging recognition for glow plugs
 - Glow plug type recognition
 - Reversible over temperature switch off
 - Irreversible – in hardware realized channel selective temperature protection by thermal fuses
 - Detection of internal errors such as monitoring charge pump, recognition of defect switching-FETs or defect thermal fuses

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