

起动机和发电机

功能强大的调节器 – 最大限度的提升发电机功能

Starter Motors and Generators

A wide range of regulator functions – for maximum generator performance



BOSCH

博世 科技成就生活之美



产品介绍

Product description

发电机可以使用多种调节器，这些调节器按照统一的标准生产。通过轴向、径向、切向接口，这些调节器可以应用在不同的车型。调节器可使发电机稳定地工作，同时和不同的控制单元持续地进行数据交换。

The generators are equipped with innovative voltage regulators (VR) available worldwide and manufactured to a uniform production concept. With their axial, radial or tangential plug connections they can be adapted to an extremely wide range of vehicle models. These voltage regulators afford that the generator functions reliably and that data is continuously exchanged between the existing control units.

通讯流畅

Developed for smooth communication

博世调节器有各种接口，LIN调节器为发电机智能控制系统的数据交换创造了前提条件。通过制动能量回收功能，油耗和二氧化碳的排放减少高达2%。

Bosch voltage regulators can be combined with a variety of interfaces. Thus the LIN (Local Inter connected Network) communication interface creates the precondition for data exchange with an intelligent generator control system. Via the recuperation of braking energy, this permits additional reductions in fuel consumption and CO₂ output of up to 2%.

调节器功能:

Drivetrain functions of the voltage regulator:

- ▶ 起动和行驶的负载响应功能 (在某些操作条件下会影响控制性能)
Load-response function for start and driving (influencing control behavior under certain operating conditions)
- ▶ 向发动机ECU输入发电机状态变量
Input to drivetrain ECU of generator state variables
- ▶ 发电机调节遵循设定值 (扭矩管理)
Generator regulation in line with set-point values (torque management)

汽车电气系统中调节器的功能:

Functions of the voltage regulator in the vehicle electrical system:

- ▶ 电压调节
Voltage regulation
- ▶ 显示发电机负载
Display of generator loading
- ▶ 故障诊断
Fault diagnosis

其他优势:

Further advantages:

- ▶ 稳定的电压
Stable voltage supply
- ▶ 低备用电流
Low standby current
- ▶ 耐高温
High temperature resistance
- ▶ 集成的EMC和ESD保护
Integrated EMC and ESD protection
- ▶ 通过模拟或总线接口与其他控制单元通讯
Communication with other control units via analog or bus interface
- ▶ 传动系和汽车电气系统之间的连接
Link between drivetrain and vehicle electrical system
- ▶ 优化车辆车载网络
Improved vehicle layout
- ▶ 优化发动机怠速
Improved engine idling

VR调节器

VR voltage regulator

博世的VR调节器有2种，可以满足客户的各种需求，支持不同的功能。VR1调节器可用于基本型发电机和高效型发电机。VR2调节器用于高比功型发电机。

The VR voltage regulators in two variants fulfill customer requirements and support a variety of functions. The VR1 voltage regulators are installed in the New Baseline generators and Efficiency Line generators. Due to the higher power density of the generator the VR2 voltage regulators are used for the Power Density Line generator.

VR1 调节器 | VR1 voltage regulator



VR2 调节器 | VR2 voltage regulator



调节器型号 Type of regulator	连接/通信 Connection/Communication		可能实现的功能 Possible functions			
	连接 Connection	接口 Interface	标准通信 Standard communication	舒适度 Comfort	能量回收* Recuperation*	扭矩管理* Torque management*
VR-MFR	2针脚/2-Pin	模拟/ analog(L,DFM)	X	—	—	—
VR-PWM	2针脚/2-Pin	模拟/ analog(L,DFM)	X	X	X	—
VR-LIN	1针脚/1-Pin	数字/ digital(L,DFM)	X	X	X	X

- ▶ DFM: 发电机磁场监测Dynamo Field Monitor
- ▶ EMC: 电磁兼容性/Electro-magnetic compatibility
- ▶ ESD: 防静电保护/Electro-static discharge
- ▶ L: 灯/Lamp
- ▶ LIN: LIN总线/Local Interconnected Network
- ▶ MFR: 多功能调节器/Multi-function regulator
- ▶ PWM: 脉宽调制/Pulse-width modulation
- ▶ *客户可选应用/OEM specific implementation

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