

HVR1000系列 数字电压调节器

DIGITAL VOLTAGE REGULATOR



● 简介

HVR1000 系列数字电压调节器用于调节无刷交流同步发电机励磁机的励磁电流。自动电压调节 (AVR)、励磁电流调节 (FCR)、无功功率调节 (VAR)、功率因数调节 (PF) 四种励磁调节模式。CAN BUS 接口遵循 SAE J1939-75 协议。

HVR1000 系列 4 个型号可选

HVR1000: 标准版本

HVR1000A: 增加独立电源供电

HVR1000-S01: 可适配 400Hz 发电机

HVR1000-S02: 无蓝牙功能

● 主要功能

- 四种励磁调节模式：自动电压调节(AVR)、励磁电流调节(FCR)、功率因数调节(PF)、无功功率调节(VAR)
- 过励限制、欠励限制、定子电流限制、伏频(U/F)限制
- 自动电压调节(AVR)和励磁电流调节(FCR)模式具有软启动功能
- 励磁调节采用 PID 算法，四种调节模式参数独立
- 开关量输入，模拟量电压输入、模拟量电阻输入、CAN通信可调整输出目标值
- 二次额定电流可设置为5A或1A
- 加载补偿功能(LCF)，下垂功能，传输线压降补偿功能
- 蓝牙通信接口，可通过手机APP软件进行参数读取配置和实时数据监控(HVR1000-S02取消蓝牙接口)
- 可检测发电电压谐波THDu，发电电流谐波THDi，1-31次谐波
- PC软件或手机APP通过蓝牙可进行实时数据曲线分析
- 电压、频率、电流和功率等保护检测及报警功能
- 运行数据记录，电压调节器在运行过程中1s记录一次运行数据，可记录8192条运行数据，通过PC软件可保存为CSV文件
- 实时时钟，历史记录功能，可循环记录999条事件
- 黑匣子功能，可循环记录5组故障报警数据，每组数据记录故障报警发生前50秒，发生后10秒的60条详细数据

Overview

HVR1000 series Digital Voltage Regulator are used to adjust the field current of brushless AC synchronous generator. It has four excitation regulation modes: automatic voltage regulation (AVR), field current regulation (FCR), reactive power regulation (VAR), power factor regulation (PF). It adopts CAN BUS interface and follows SAE J1939-75 protocol.

The HVR1000 series offers four models to choose from:

HVR1000: Standard version

HVR1000A: Adds a separate individual power input

HVR1000-S01: Match with 400Hz generators

HVR1000-S02: Bluetooth feature removed

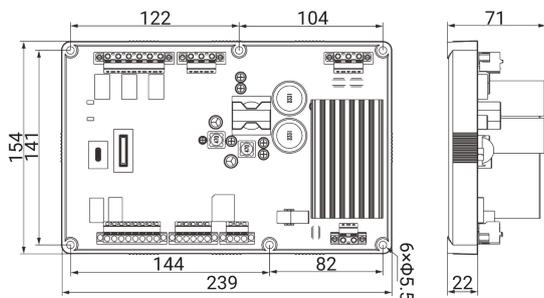
Main Functions

- Four excitation regulation modes: automatic voltage regulation (AVR), field current regulation (FCR), power factor regulation (PF), and reactive power regulation (VAR)
- Functions of over-excitation limit, under-excitation limit, stator current limit, U/F limit
- Soft start function is fitted for automatic voltage regulation (AVR) and field current regulation (FCR) modes
- PID algorithm for excitation regulation and parameters of four modes are independent
- Adjusting output target value via digital input, analog voltage input, analog resistance input, CAN communication
- The secondary rated current can be set as 5A or 1A
- load compensation function (LCF), droop function and transmission line drop function
- Bluetooth communication interface that can be used to conduct parameter read and configuration and real-time data monitoring via mobile APP;(HVR1000-S02: Bluetooth interface removed)
- Detect generator voltage harmonic THDu, generator current harmonic THDi, and 1st-31st harmonic
- Real-time data curve analysis can be realized by PC software or Bluetooth via mobile APP
- Protection, monitoring, and alarm functions for voltage, frequency, current, power, etc.
- With running data record function. Voltage regulator can record running data once per second and 8192 pieces in total that can be saved as CSV file via PC
- Event log, real-time clock, can loop record 999 events
- Black box function enables to loop record 5 groups of fault alarm data, each group includes 60 pieces of detailed data from 50s before and 10s after fault alarm occurs

工作电压范围 Working Voltage Input	DC(8~35)V(HVR1000A)	DC(8~35)V(HVR1000A)
励磁电源 Excitation Power	DC63V励磁系统: AC(100~139)V或DC125V 励磁电流7A时, 500W; 10A时, 720W DC125V励磁系统: AC(190~277)V单相, 三相AC(190~260)V或 DC250V 励磁电流7A时, 920W; 10A时, 1320W 频率: (50~500)Hz或DC	63VDC System: 100-139VAC or 125VDC 500W at 7A current, 720W at 10A current 125VDC System: Single phase for AC(190-277)V, three phases for AC(190-260)V or DC250V 920W at 7A current, 1320W at 10A current Frequency : (50-500)Hz or DC
交流采样 AC Sampling	交流电压 范围: AC(30~720)V(ph-ph) 分辨率: 0.1V 精度: 0.2% 交流频率 范围: (10~200)Hz, (10~400)Hz(HVR1000-S01) 分辨率: 0.01Hz 精度: 0.1Hz 交流电流 额定: 5A或1A 范围: (0~15)A(额定5A时)或(0~3)A(额定1A时) 分辨率: 0.1A 精度: 0.5%	AC Voltage Range: AC(30~720)V(ph-ph) Resolution: 0.1V Accuracy: 0.2% AC Frequency Range: (10~200)Hz, (10~400)Hz(HVR1000-S01) Resolution: 0.01Hz Accuracy: 0.1Hz AC Current Rated: 5A or 1A Range: (0~15)A (rated 5A) or (0~3)A (rated 1A) Resolution: 0.1A Accuracy: 0.5%
环境 Environment	工作温度: (-40~+70)°C 工作湿度: (20~93)%RH 贮存温度: (-40~+80)°C 防护等级: IP20	Working Temperature: (-40~+70)°C Working Humidity: (20~93)%RH Storage Temperature: (-40~+80)°C IP Rating: IP20
标准 Certificates	振动: (8~2000)Hz: 5g IEC 60068-2-6 碰撞: 20g _n /16ms, 半正弦 IEC 60255-21-2 冲击: 50g _n , 11ms, 半正弦 三个互相垂直方向的每一方向连续施加三次冲击, 即共18次 IEC 60068-2-27	Vibration: (18~2000)Hz: 5g (IEC 60068-2-6) Bump: 20g _n , 16ms, half-sine (IEC 60255-21-2) Shock: 50g _n , 11ms, half-sine apply shocks from three directions, and 18 shocks for the whole test (IEC 60068-2-27)

● 尺寸 Dimensions

单位(Unit): mm



● 端口 Ports

励磁输出 Excitation Output	CAN	开关量输入(4) Digital Input (4)	模拟量输入(2) Analog Input (2)	开关量输出(2) Digital Output (2)
USB		蓝牙 Bluetooth (HVR1000/HVR1000A/HVR1000-S01)		
励磁电源 Excitation Power	电压采样 Voltage Sample	电流采样 Current Sample	工作电源 (HVR1000A) Working Power	

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