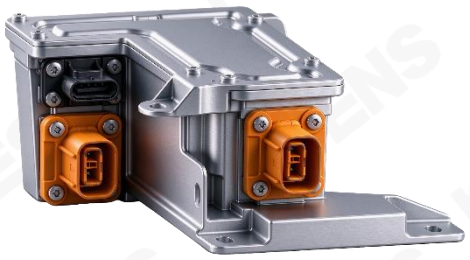
KESENS

高压电流传感器集成单元
High Voltage Current Sensor Box



产品介绍 Product Description

本产品是一款紧凑型电流传感器集成单元，专为精确测量400V高压直流驱动系统的供电电流而设计，能够实现可靠、稳健且高性价比的集成。

This product is a compact current sensor integrated unit, specifically designed to accurately measure the supply current of the 400V high-voltage DC drive system, enabling reliable, robust, and cost-effective integration.

产品特征及优势 Feature and Benefits

- 产品实时监测输送至400V高压直流驱动系统的供电电流.
  The product continuously monitors the supply current delivered to the 400V high-voltage DC drive system.
- 该产品根据输入电流输出对应电压，ECU结合电压信号与驱动系统运行参数，计算得出“虚拟里程”。
  The product outputs a corresponding voltage based on the input current. The ECU combines this voltage signal with the drive system operating parameters to derive the "virtual mileage".
- 产品内置高压互锁回路，通过监测互锁线路的通断状态，确保所有高压连接器均正确连接，起到安全保护作用。
  For safety, it integrates a high-voltage interlock line that ensures proper connection of all HV connectors by monitoring the continuity of the interlock circuit.
- 高精度电流传感解决方案，电路单元利用SMT 技术贴装。
  High-precision current sensing solution, with the circuit unit assembled using SMT technology.
- 高精度，高可靠性。
  High precision, high reliability.
- 激光打标以得到更好的追溯性。
  Laser marking is applied for better traceability.

产品应用 Application

高压电流传感器集成单元根据输入的电流产生对应的输出电压，ECU结合该电压信号与驱动系统运行参数，计算出驱动系统所消耗的能量，进而得出“虚拟里程”。

The high-voltage current sensor integrated unit generates a corresponding output voltage based on the input current. The ECU combines this voltage signal with the drive system operating parameters to calculate the energy consumed by the drive system, and then derives the "virtual mileage".

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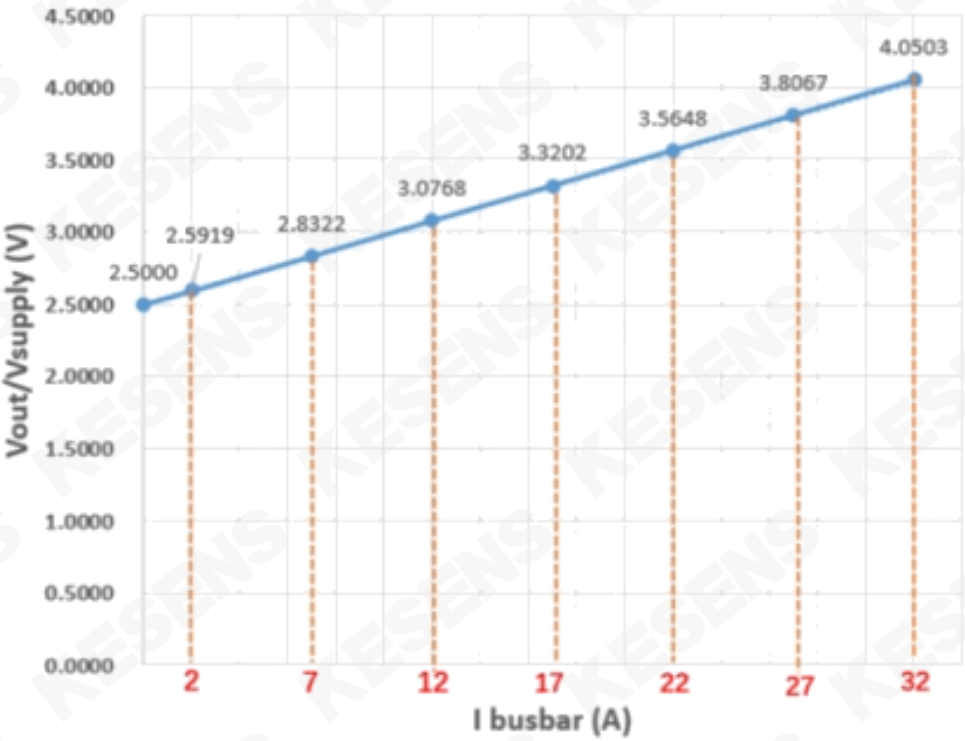
操作 Operation

基本原理 Basic Principle

基于霍尔效应，在垂直于电流的磁场作用下，导体横向产生电势差，电流传感器检测输入电流0-32A，通过内部芯片转换并输出对应的电压信号2.5V-4.05V，测量精度控制在±3%以内，供ECU进行后续能量计算。

Based on the Hall effect — where a potential difference is generated transversely across a conductor under a magnetic field perpendicular to the current — the current sensor detects the input current ranging from 0 to 32A. Through the internal chip, it converts and outputs a corresponding voltage signal between 2.5V and 4.05V, with a measurement accuracy within ±3%, providing data for the ECU to perform subsequent energy calculations.



连接选项 Connection Options

根据客户选择定制连接系统。

Customized to customer choice of connection system.

包装选项 Packaging Options

可提供定制包装以满足任何需要，请联系KESENS技术部了解详情。

Custom packaging can be provided to meet any need, please contact KESENS Engineering for details.

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技术参数 Functional Characteristics

参数PARAMETER	符号SYMBOL	最小值MIN.	额定值NOM.	最大值MAX.	单位UNITS
工作温度 TEMPERATURE RANGE	T	-30		85	℃
负载电流 LOAD CURRENT	I_L	15		30	mA
传感器供电电压 SENSOR USUPPLY	Vcc	4.9	5	5.1	V
母排电压 BUSBAR VOLTAGE	V	400		460	V
母排电流范围 BUSBAR CURRENT IN THE RANGE	I	0		32	A
电流消耗 CURRENT CONSUMPTION	I_C	1		150	mA
整体精度误差 OVERALL ACCURACY ERROR	Err	-3	0	3	%
输出电压 (50%, 0 A) OUT VOLTAGE (50%, 0 A)	V_O		2.5		V
输出电压 (90%, 41A) OUT VOLTAGE (90%, 41A)	V_O		4.5		V

可根据客户需求定制产品，如有需求请联系我们。
Customized products available upon request. Contact us for details.

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