Description
The Sendyne SFP102MOD is a shunt-based precision current measurement module. The 100-μΩ shunt with molded enclosure is provided by Vishay Dale. The module is designed around the Sendyne SFP102 IC and achieves an accuracy of ±1.0 % for current measurement over the whole operating temperature range of –40 °C to +125 °C.

The module simultaneously measures bi-directional DC current through the shunt, voltage, and temperature as well as incorporates separate charge, discharge and total Coulomb counters. The SFP102 IC provides automatic compensation for resistance dependence of the shunt on temperature.

Communication is achieved via a LIN-like serial interface.

Complete information about the Sendyne SFP102 IC is available in the corresponding data sheet. Please consult the SFP102 IC data sheet when using this product.

Features
– Turnkey solution for use in the field
– Achieves ±1.0 % for current measurement over the whole operating temperature range
– Achieves an offset error of less than 150 nanovolts
– Two 24-bit ΣΔ ADCs
– Accurate voltage measurement with flexible range
– Accurate internal IC temperature measurement
– Simple serial communication interface
– Automotive temperature range of –40 °C to +125 °C
– Low power consumption
– “High” or “Low” side current sensing and voltage sensing reference point with isolated front end
– Programmable to accommodate Full-scale current from 90 A to 1500 A (375 A default setting)
– Built-in calibration for current measurements
– Built-in compensation for resistance dependence of the shunt on temperature
– Built-in calibration for voltage measurements
– Temperature reporting in degrees Celsius
– Separate Charge, Discharge, and Total Coulomb counters

Applications
– Battery monitoring for industrial, railroad and utility scale storage
– Uninterruptible power supplies
– Photovoltaic arrays
– Current flow precision metering

Sendyne® Sensing Family
SFP102 Module
Turnkey, enclosed module for precision measurement of current, voltage and temperature, operating in the automotive temperature range of –40 °C to +125 °C

Sample of Measured Performance Data
Ordering Information

SFP102MOD   SFP102 Module
SFP102KIT   Kit contains the SFP102MOD, SFP0x0ASY adapter and connection cable
SFP102SFT   Evaluation Software, free download from www.sendyne.com
SFP1021ACPZ 32 pin current and voltage measurement IC

Product Documentation

SFP102MOD Datasheet
SFP102 IC Datasheet
SFP102SFT Software User's Guide

Detailed description of board functionality, measured performance data, theory of operations, schematics, communication protocol and usage guidelines, as well as operating instructions for evaluation kit control software.

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