Application Note

3105 Creekside Village Dr, Unit 801,
Kennesaw, GA 30144

Tel.: 800-879-6171
Email: info@sifamtinsley.com

Battery Backup System Monitoring using N32H

Overview

Battery bank systems are the most essential type of stand alone systems. One can effectively avoid the overcharging or under-charging of batteries to maintain uniformity among batteries and subsequently increase its shelf life.

Problem Statement

Monitoring of energy parameters to understand the battery health is of prime concern. The level of accumulated current indication was one of the key requirements for maintenance purposes. Further, backup systems need a minimum charge of 80% of total capacity for functioning.

Solution

Dedicated devices for monitoring the accumulated current (Ah) of the Battery Bank was used for this application. N32H continuously measures a voltage (rated) and a current (rated) and based on these measurements calculate the value of accumulated current (capacity), which quantifies the amount of charge transferred in Ah. The value of the capacity counter can be used to measure the transferred charge (for battery charging). The possible setup for this application is depicted in below figure. The output of the battery bank is supplied to the N32H via shunt.

Fig. 1 - Possible setup for Battery System monitoring

Further, there is provision for alarm output which is useful in case the battery level goes above/below its rated charging level. With this indication, a uniformity in the charging level of batteries can be maintained. This measurement value can also be supplied as analog output for further processes

Other applications

Can be used for measurement of

- DC current (via shunt) & voltage
- DC power, energy
- DC Energy

Benefits

- Effectively avoid the overcharging or under-charging of batteries
- Bidirectional voltage measurement
- Alarm indication on screen

Available features

- Two-line LCD display with high contrast and built-in backlighting
- Display of measured value and time simultaneously or an second measured value or unit
- Wide range of voltage measurement at the shunt input up to 1500 mv
- High sampling frequency of measured signals
- On site programmable via buttons or RS-485 interface and free e-con software
- 4 alarm outputs with signaling on led diodes, pulse output