

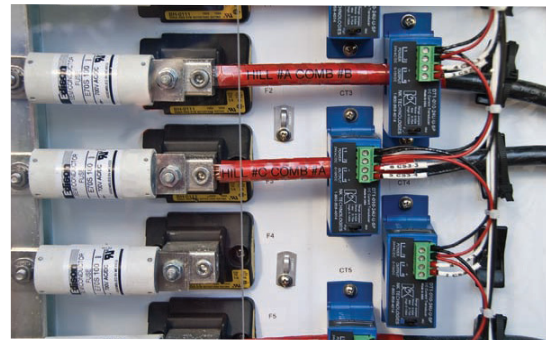
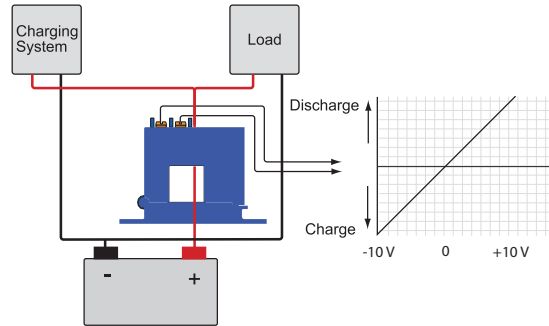
## DC Sensors in Bi-Directional Applications

Many catastrophes can be avoided by using current sensors to monitor critical loads. It is more challenging to monitor loads powered by DC current than AC current. By far the simplest and most accurate method is to use a bi-directional DC current sensor.

Bi-Directional transducers produce a positive voltage signal proportional to the DC current circulating in the primary direction and a negative voltage proportional to the DC current in opposite direction. Some applications include monitoring battery charge or discharge current magnitude, providing an indication DC motor rotational direction, and monitoring photovoltaic arrays.

### Common DC Load Applications

- Welders  
Measure output, duration and operation
- DC Powered Saws  
Monitor for proper operation
- Overhead Cranes  
Interlock drive with auxiliary equipment
- HV Switch gear  
Fail-safe magnetic interlock
- Electrolizers  
Monitor process conditions
- Water Purification  
Electrodeionization (EDI)
- Locomotives  
Positive indication of brake operation
- Trolleys  
Drive motor field loss protection
- Battery Charging  
Proportional signal to charge or discharge current
- Photovoltaic Arrays  
Indicates proper output and connection integrity



The photo above shows DC current sensors used in a photovoltaic array combiner box. The current produced by each PV string provides the facility manager with the data required to maintain the collectors and keep the system working at an optimal level.

## DC Series Current Switches and DT Series Current Transducers

NK Technologies' DT and DS series current sensor feature a Hall-based non-contact design that requires no cutting or terminating of the conductor; just pass the lead through the sensor or snap the sensor in place over the lead, and the sensor is ready to go.

DT transducers produce a signal to the control system proportional to the current in the conductor. The DS switches provide a contact, solid-state or electromechanical relay, which changes state at an adjustable current level.

NK Technologies can provide a cost effective method to monitor DC powered loads. Compare features with competitive methods; and your choice will be NK Technologies, the most accurate, reliable and responsive current sensing products available.

DS1 Series  
DC Current Switch



DT Series  
Temperature Compensated  
DC Current Transducer

