DC Systems Monitoring

Control and Modernise Your Existing Systems

Today, DC power is currently used in a variety of applications. System integrity and regulation requires monitoring of electrical current consumption. Current transformers can only be used for AC applications, what about DC applications ?

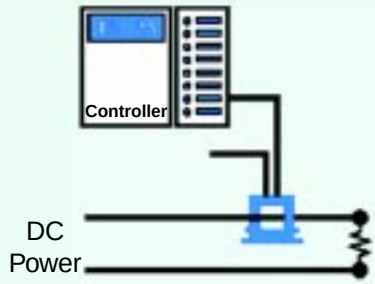
Applications

- **Battery Banks**
  - Monitors load current
  - Monitors charging current
- **Electric Heating Elements**
  Faster response than temperature sensors
- **Displays**
  Current consumption monitoring
- **Telecom :** Power monitoring of installations

Features

- DC current measurement
- Clamp on design
- Output signal in current or voltage
- Isolation up to 5kV
- variety of aperture sizes
- Selectable jumper (for DK series)
- Panel or DIN mounting (for DK series)
- Bus bar compatible (for HOP series)

DC power is frequently used in many industrial applications including, petro-chemical, tele-communications metals and computers. In these applications batteries are frequently used provide power back up to protect against power failure.
Monitoring and measurement of DC current is therefore critical for monitoring and regulating these DC systems. Current transformers cannot be used for these DC systems and shunts require supply disruption for installations and induce signal losses to the system (Joule effect), Hall effect transducers are therefore the solution.
With over 30 years experience of current measurement using Hall effect technology, LEM has now introduced a product range specifically to meet the requirements of the industrial environment. The products are easy to install and require minimal maintenence.
The DK-B, HTR & HOP series cover a wide range of current measurment (50A to 2000A), with a variety of physical sizes designed for fitting to cables and busbars. Voltage and current output options are available, ensuring compatability with control systems such as PLC's or DCS. Clamp-on design facilitates easy installation to cable or busbars making it an ideal solution to retro-fit into existing installations allowing moderniseation and monitoring without interuption of the supply.



DC CURRENT TRANSDUCERS: *DK-B, HTR and HOP*

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Application Note

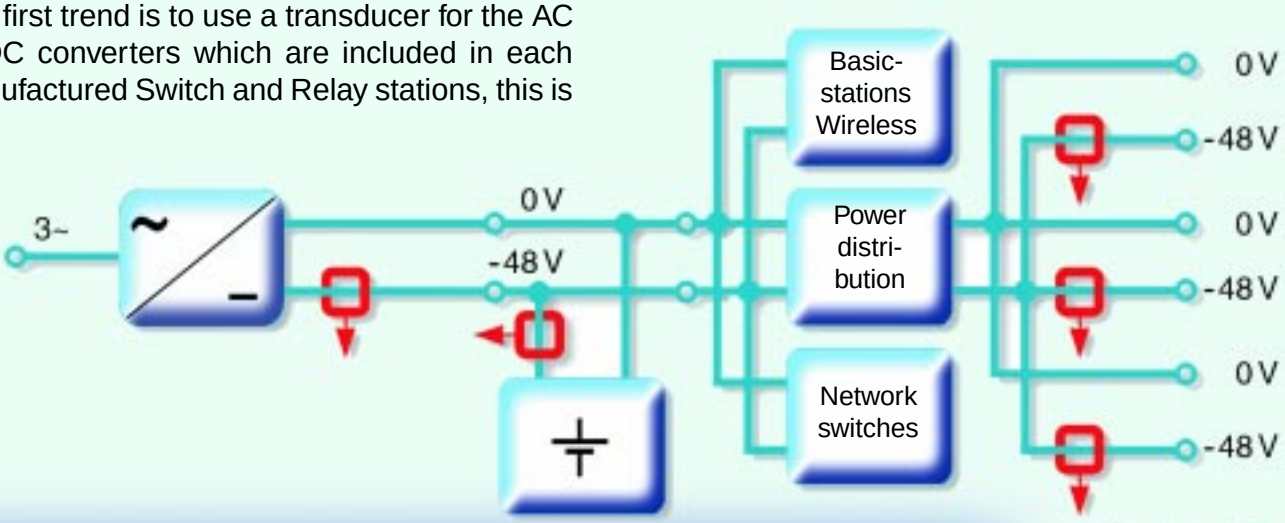
Industrial Electrical Heaters

Electric heaters are used to supply heat to manufactured products, storage systems and re-circulating material. If a heater fails, the batch or process may have to be scrapped. A real-time indication of heater status improves product quality and production efficiency.
Applying a current transducer to the heater lead and integrating the signal with your DCS will allow you to:
- monitor the heater's on/off status
- alarm the failure
- automatically switch on a back-up heater

Telecom Application

The TELECOM Network works according to four ways versus the type of calls (local calls, long distance call, international calls and mobile telephone network). some "cells" or substations such as transmitters/receivers of mobile phones are in the wilds.
To keep these units in good working order, manufacturers use devices (Energy Management System), which watch the network power supply and auxiliary batteries and activate an alarm in case of problem. In these devices, transducers are used for the current measurement.

1. The first trend is to use a transducer for the AC to DC converters which are included in each manufactured Switch and Relay stations, this is a conventional Power Supply Application and the transducer used can control the output current of the power plant going up to 10000 A.
2. The second opportunity is for the battery banks installed to backup the Switches. The banks' currents for charge and discharge (from 200 ... 1000 A) of the batteries are presently monitored with transducers.
3. And finally, LEM also plays a part in the current measurement at the TeleCom Power Distribution level where each output can be checked by a current transducer.



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