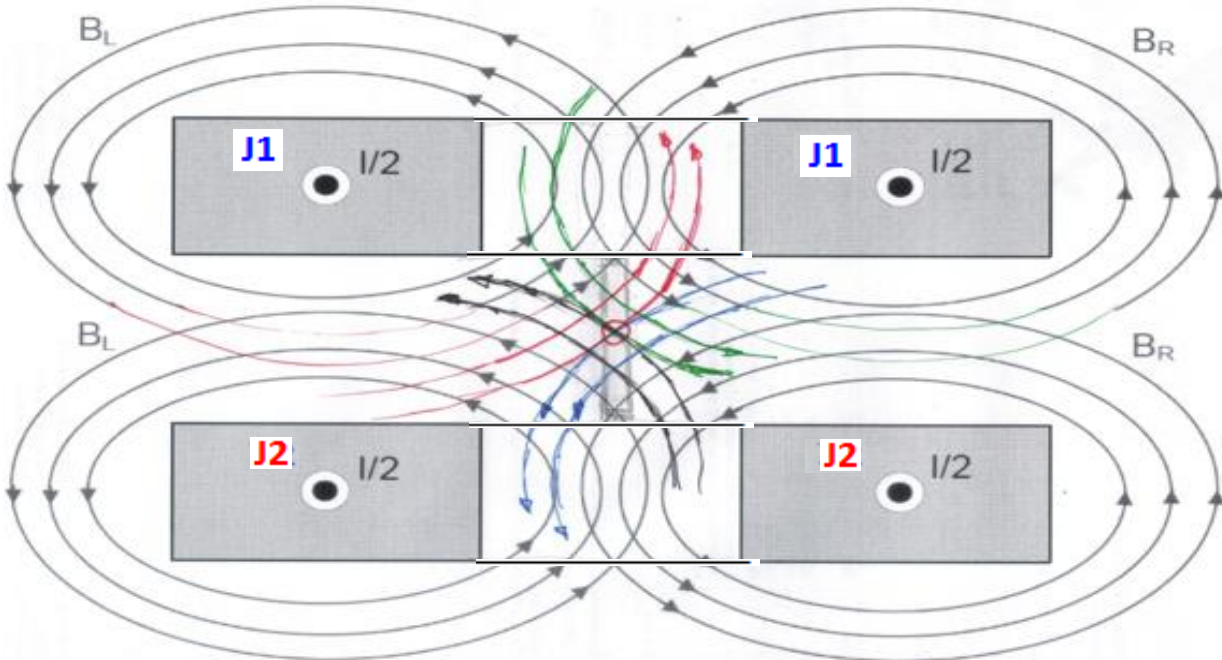


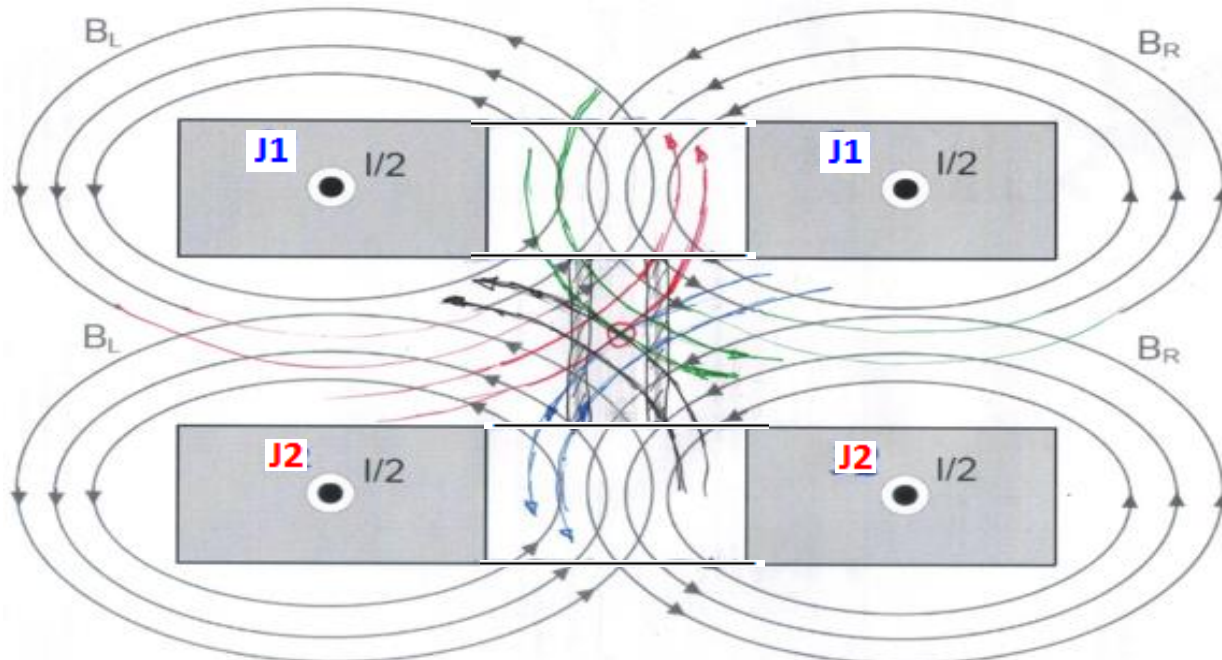
Position of DRV425 for Differential Current Measurement

Gerhard Roedel

Position of 1 Sensor in the middle of all:



Position of 2 Sensors DRV425:



Reason of Construction:

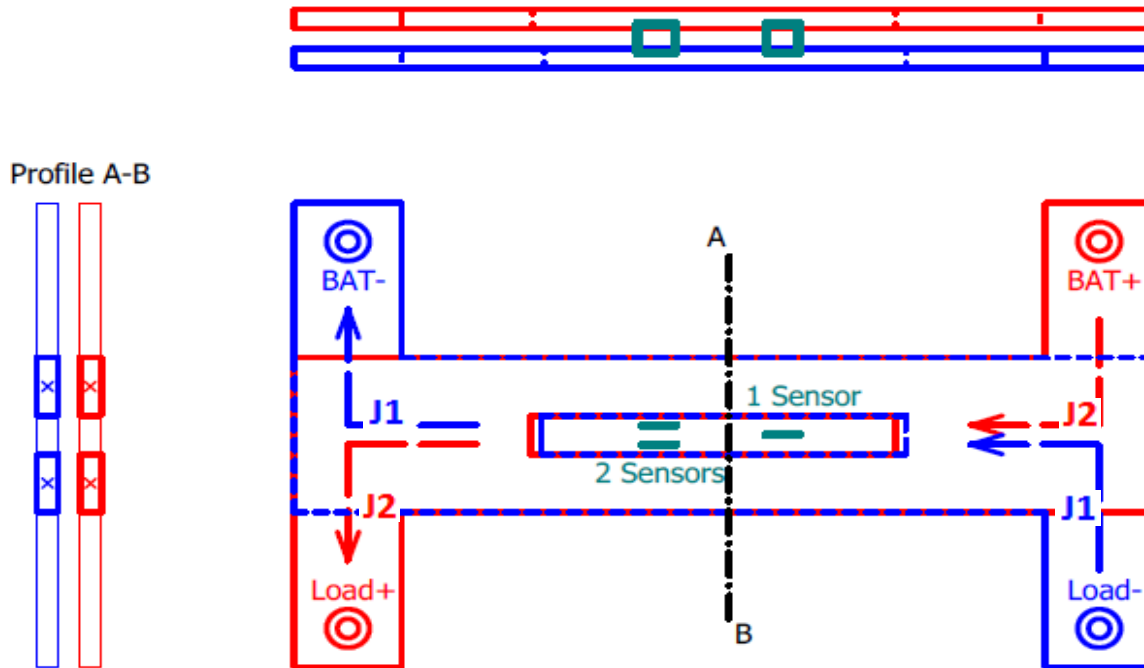
How to measure differential current between J1 and J2?

The currents J1 and J2 are very high (1,000A...2,000A) und must be identical.
To detect very low differential currents (e.g. <30mA), a measuring equipment is to design.

In the middle of this construction the magnetic fields in sum are zero (see red circle),
if the currents are absolutely equal.

In this case a very sensitive sensor with a high gain can be used.

Bus Bar:



The Question is, how to get the best result?

Using only 1 FLUXGATE Sensor DRV425 (or 2 of it, to make differential measurements and eliminate stray fields)? Or need 4 sensors?

It is known, that the mechanical exactness of x-y position is a very critical point for this measurement.

Is there a possibility for electrical compensation of little mechanical deviation?

How should be the dimensions for proper measurement (slot width, distance of bus bars, thickness of busbars)? Only proposals.

Or exists a "Bus Bar Application Magnetic Field Calculator" for this application?

-- If not, I have to calculate it by myself.

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