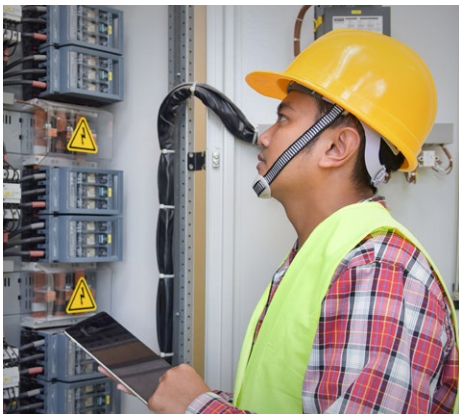
CUSTOMER STORIES

IPC-SERIES: DELTA-SIGMA MODULATION IN COMBINATION WITH SHUNT-BASED CURRENT SENSING



CHALLENGE

Commercial wind-generation, large electric machine drives, and solar array (PV) applications rely on frequency converters and inverters, which need to reliably communicate their operational status in real-time - without any noise from EMI in the output signal. Therefore a high frequent and yet reliable and accurate current sensing is required.

SOLUTION

Phase current sensors of the IPC-SERIES can be used for the input and output-side current measurement in frequency converters and inverters. Customers receive a calibrated and digitized 1-bit data stream output signal on a TTL or LVDS interface, which includes the measurement information. As the AD conversion is done directly in the module the risk of EMI disturbance is minimal. Customers use Field Programmable Gate Arrays (FPGA) to optimize between sync filter type, over sampling rate (OSR) and resolution and thus differentiate themselves from the competition.

Since the measurement modules of the IPC-SERIES are calibrated over the temperature range in the production process, users receive a temperature-independent accuracy with a particularly low offset.

APPLICATION

Accurate phase current measurement without the concern of electro magnetic interference