

LEM completes its surface mounted SO8 & SO16 isolated current transducers range with an integrated current conductor

Key points:

- **Open-loop Hall effect ASIC-based current transducers to measure from 4 A up to 30 A DC, AC or pulsed**
- **Cost effective, 2 x IC packaging for SMD automatic assembly**
- **Excellent immunity to external fields**
- **Good offset and gain drifts**
- **Wide operating temperature range from -40 to +125°C**
- **Up to 3000V_{RMS} isolation test voltage**

LEM expands its miniature, integrated circuit transducers range for AC and DC isolated current measurement up to 300 KHz with the introduction of the GO series. These new components offer full isolation, despite their small size, by integrating the primary conductor for nominal current measurements of 4 A, 6 A, 8 A, 10 A, 12 A, 16 A, 20 A or 30 A with a measurement span of 2.5 times the nominal current. Products in the GO series are able to support high overload currents up to 200 A peak for short durations (1 ms).

The transducers are mounted directly onto a printed circuit board as SO8 or SO16 SMD devices, reducing manufacturing costs and providing much needed space saving for space-constrained applications.

GO models are simple to use as they integrate low resistance primary conductors (minimising power losses) within a proprietary ASIC to allow direct current measurement and consistent insulation performance, while still providing high creepage and clearance distances.

Standard models provide an analogue voltage output with different sensitivity levels according to the models to achieve an output voltage of 800 mV @ I_{PN} for 5V versions and 500 mV @ I_{PN} for 3.3V versions. Ratiometric output is also an option though dedicated models.

GO transducers are not simple Open Loop Hall effect ASIC-based transducers; the series has been designed with unique primary integrated conductors for gradient measurement, to provide an excellent immunity against the external fields found in power electronic applications.

These dedicated designs combine field proven techniques such as spinning, programmable internal temperature compensation (EEPROM), which ensure high-performance accuracy over the full range of temperature, from -40 to +125°C with a maximum of 3.74 %. Absence of a magnetic circuit contributes to achieving this accuracy as that means that there is zero magnetic offset generated. The accuracy over temperature and response time have been greatly improved in



comparison to the previous generation. The GO series achieves a short response time of 2 us, which is very similar to the response time of a transducer with a magnetic circuit.

The SO16 package, provides two different Over-Current Detection (OCD) warning levels as a standard on 2 dedicated pins; one very fast, and the other slower but more accurate.

Some applications, particularly for motor drives, have the same need for speed but are less demanding of the current range and isolation levels while having strong pressure on price and dimensions. An example of this need is for white-goods, window shutters and air-conditioning, GO is the solution as it is low cost, and very small.

In these applications using AC drives, AC & DC inverters, supplies, servo-drives, GO brings a breath of fresh air. The GO series can easily compete against other traditional low cost current measurement solutions such as shunts, commonly used for cost reasons, but in addition to the usual benefits of a shunt, GO brings natural insulation.

The GO series conforms to latest industrial standards, as well as being covered by LEM's five-year warranty.

LEM – At the heart of power electronics

LEM is the market leader in providing innovative and high quality solutions for measuring electrical parameters. Its core products - current and voltage transducers - are used in a broad range of applications in drives & welding, renewable energies & power supplies, traction, high precision, conventional and green cars businesses. LEM's strategy is to exploit the intrinsic strengths of its core business, and to develop opportunities in existing and new markets with new applications. LEM is a mid-size, global company. It has production plants in Beijing (China), Geneva (Switzerland), Machida (Japan) and Sofia (Bulgaria). With its regional sales offices close to its clients' locations, the company offers a seamless service around the globe. LEM is listed on the SIX Swiss Exchange since 1986; the company's ticker symbol is LEHN

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