



PRESS INFORMATION

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LEM makes the voltage measurement more compact

Key points:

- **37.4cm³ total volume**
- **Fully-isolated nominal measurement of 1000 V DC, AC or pulsed**
- **Compact, light and robust package**
- **4.2kV as insulation test voltage**
- **Meets latest IRIS requirements for rail traction applications**

LEM introduces the DVC 1000-P model for insulated nominal voltage measurements in traction and industrial applications. This device measures a nominal voltage of 1000 V_{RMS} and incorporates isolating amplifier technology. Despite achieving very high levels of isolation with a safety insulation voltage of 4.2 kV, the DVC 1000-P transducer is really compact, measuring only 37 x 43 x 23.5mm and can be mounted on printed board for a total volume of only 37.4cm³. Typical sensors for the same nominal measurement using galvanic insulation are bulky whereas DVC 1000-P offers significant savings in terms of space. It also offers high levels of accuracy and temperature stability.

LEM developed the DVC 1000-P to be fully compliant with the International Railway Industry Standards (IRIS), providing engineers in the railway industry, who are working with both rolling stock and sub-stations, with a versatile new transducer that is equally applicable to measure DC link, an output voltage of inverter, input voltage of 4 quadrants converters, or a battery voltage. The features set of the DVC 1000-P voltage transducer also makes it an excellent fit for a broad range of small-to-medium voltage measurements in industrial markets.

DVC 1000-P transducer measures voltages by a direct connection on its primary side, through an internal resistor network and some components allowing the signal to feed an isolation amplifier. An isolated signal is recovered and then conditioned in order to supply a voltage at the transducer output connections, which is an exact representation of the primary voltage. No additional components are necessary for its use, it has just to be connected to the voltage to be measured. It delivers a great overall accuracy, of +/- 1 % at +25°C with a high stability in temperature leading an overall accuracy of +/- 1.5% from -40°C to +85°C as operating temperature range. Its measurement frequency bandwidth (-3dB point) is 47 kHz and the DVC 1000-P consumes only 35 mA at no primary voltage when power supplied under +5 VDC.



In its small outline, the model with a weight of only 22g is more than 60% lighter than transducers already in the market for similar voltage range. Other key features include compliance to a range of internationally-recognised safety standards in addition to its adherence to IRIS specifications. It also exhibits a fast response time of 10µs at 90% of nominal voltage.

Designed by LEM in accordance with the latest standards applicable for traction and industry, the DVC 1000-P utilises materials that comply with all relevant fire and smoke requirements, that are mandatory in railway applications. It is CE marked and is supplied with a five-year warranty, as are all LEM railway products.

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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