

## PRESS INFORMATION

### INNOTRANS 2016

### HALL 11.1 Stand 307

September 2016

## **LEM completes its range of high performance, compact, medium and high voltage transducers for the traction market with the DVM series**

#### **Key points:**

- **25% less bulky due to reduced power losses; Improved accuracy and temperature stability**
- **Fully-isolated nominal measurement of 600-4200V DC, AC or pulsed**
- **Compact, light and robust package**
- **Combines 12 kV insulation with unmatched immunity against electromagnetic disturbances**
- **Meets latest IRIS requirements for rail traction applications**

LEM introduces the DVM series for insulated nominal voltage measurements in traction applications. This family of devices spans the range from 600-4200  $V_{RMS}$  and incorporates LEM's proven and patented insulating technology. Despite achieving very high levels of isolation with a safety insulation voltage of 12 kV, the DVM transducer is compact, measuring only 138 x 63.4 x 69 mm.

It is fully compatible and out-performs the previous generation of transducers in terms of functions and performance with new improved levels of accuracy and temperature stability, thus greatly simplifying retrofits.

DVM is also suitable for base mounting, but with slightly different outline dimensions to take into consideration for primary and secondary connections locations for example. The DVM is 30% smaller in height, occupies 25% less volume and is 56% lighter! The reduction in size does not compromise the DVM's high immunity against the external surrounding perturbations or against the high voltage variations. The new size is also an advantage when confronted with size constraints in modern railway propulsion converters.

LEM developed the DVM 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 measuring network voltages, or the main converter DC link on-board trains. The feature set of the DVM voltage transducer also makes it an excellent fit for a broad range of medium to high voltage measurements in industrial markets.



DVM transducers measure voltages by a direct connection on their primary side, transfer the data across an internal isolation barrier and output a current from their secondary side; that is proportional to the measured voltage thanks to LEM's patented insulating digital technology. It delivers an improved typical accuracy, compared to existing products, of +/- 0.5 % at +25°C with a higher stability in temperature. The technology used provides very high levels of immunity to external magnetic fields (almost insensitive) and electromagnetic disturbances (unmatched level). Combined with a highly focused internal electronic design applied on the printed circuit as well as for mechanical design performance reached in common mode condition are exceptional: 0.5% of nominal voltage as error generated with a recovery time of less than 50µs against a voltage of 4200 V applied with a step of 6 kV/us.

Its measurement frequency bandwidth (-3dB point) is 12 kHz and the DVM consumes typically only 30 mA when power supplied under +/-24 VDC (power supply range from +/- 13.5 to +/- 26.4 V DC). 2 kinds of current output ranges are possible either +/- 50 mA, or the standard industrial current-loop range of 4 to 20 mA for unipolar current measurements and one voltage output at 10 V for nominal voltage.

Other key features include a high level of partial discharge extinction voltage (5 kV<sub>RMS</sub> @ 10 pC) ensuring product long life, and its compliance to a range of internationally-recognised safety standards in addition to its adherence to IRIS specifications. It also exhibits a fast response time. A range of connection configurations, on both the primary and secondary side, increases flexibility for the user.

Designed by LEM in accordance with the latest standards applicable for traction and industry, the DVM uses 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 transducers.

#### **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), and Machida (Japan). 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

**\*\*\*END\*\*\***

#### **For further information, please contact:**

Stéphane Rollier  
Product & MarComs Manager  
Tel: +41 22 706 1449  
E-Mail: [sro@lem.com](mailto:sro@lem.com)  
Website : [www.lem.com](http://www.lem.com)

Freya Ward  
Napier Partnership Limited  
Tel: 01243 531123  
E-Mail: [freya@napierb2b.com](mailto:freya@napierb2b.com)