ISSUE: April 2026

High-Precision DC And AC Current Transducer Comes In Clamp-On Form

Danisense's MK500ID is the company's first high-precision dc and ac current clamp-on and is designed for galvanically isolated measurements up to 500 Arms and dc. Accrding to the vendor, the MK500ID current clamp-on offers an industry-leading phase shift of just 0.05° at frequencies below 100 Hz—approximately twice as accurate as comparable products on the market. In addition, the device is said to offer significantly enhanced high-frequency bandwidth up to 1 MHz compared with competing solutions (Fig. 1).

Engineered for demanding measurement environments, the MK500ID clamp-on benefits from Danisense's ultra-stable closed-loop fluxgate technology to deliver exceptional accuracy and reliability. Designed with a Ø39-mm aperture and ergonomic handling, it accommodates a wide range of conductor sizes while maintaining a current measurement accuracy of ±0.1% (Fig. 2). Its high-frequency bandwidth supports advanced analysis requirements, complemented by a very low linearity error of just 20 ppm.

According to Loic Moreau, sales and marketing director at Danisense, the MK500ID was developed in response to customer requests for a clamp-on current sensor and for higher bandwidth to accommodate measurement of SiC and GaN devices. Moreau notes that existing current transducers are limited to a bandwidth of 200 kHz, so the MK500ID represents a 5x improvement. He adds that the higher bandwith was achieved by changing the winding process, reducing the capacitor effect.

Loic also explains that one of the challenges in developing a clamp-on transducer was that traditional fluxgate technology uses three cores and cutting them is hard for a clamp-on. To overcome this difficulty, the MK500ID employs just one core and two tiny fluxgates. He adds that the company will use this design in the future for solid-core transducers to simply them. (There's a detailed description of how fluxgate technology works on the company's website. See the link below.)

The unit is equipped with a 4-meter cable for flexible deployment and features a current output via D-sub-9 connector, with optional voltage output accessories available to support diverse system configurations (Fig. 3). Built for operation in harsh conditions, the clamp-on transducer performs consistently across an extended temperature range from –40°C to +85°C.

The MK500ID is well suited to a broad spectrum of applications, including EV battery testing, power measurement and inverter efficiency evaluation, as well as photovoltaic power generation and renewable energy systems such as wind and solar. Its clamp-on design makes it well suited for temporary installations, retrofit projects, and maintenance tasks, while also enabling precise calibration and in-field analysis. Additionally, it supports critical measurement needs across transmission and distribution networks, where accuracy and stability are paramount.

The MK500ID clamp-on is now available for order, with first shipments scheduled for the end of June 2026. Thereafter, the standard lead time will be four weeks, consistent with other Danisense products. For more information see the MK500ID product page. For more about fluxgate technology, see the fluxgate page .

- Current Range: 500Arms & 500ADC
- Linearity: 20ppm
- DC accuracy: 0,05%
- Phase shift <100Hz: 0,05°
- Bandwidth (-3dB): DC to 1 MHz
- Hole diameter: 39mm
- Connectors: DSUB
- Temperature range: -40°C to +85°C

Fig. 1. With the introduction of the MK500ID, the company offers its first current transducer in the clamp-on style. If also features very high bandwidth (1 MHz), a phase shift of just 0.05° at frequencies below 100 Hz and high linearity (20 ppm).

Fig. 2. The MK500ID employs a vertical translation mechanism that allows the customer to use the full diameter of the hole, allowing it to accomodate cable diameters up to 39 mm. Conveniently, it's also designed for one-hand operation.

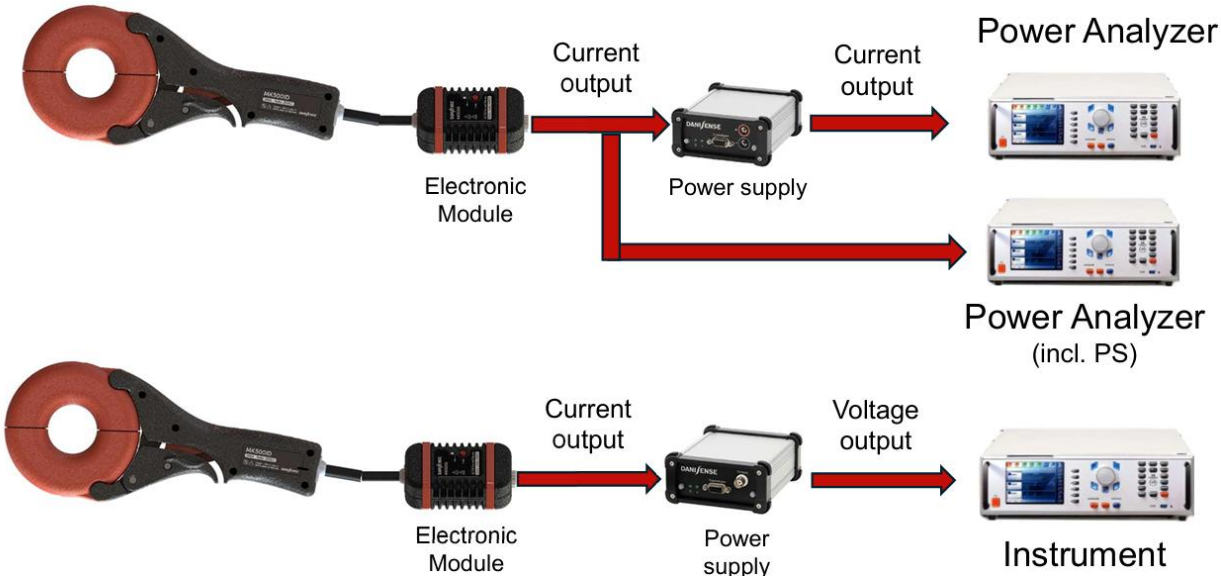

Fig. 3. Danisense's current transducers such as this new clamp-on can be configured for current or voltage output. The power supply shown here is an accessory.