**Electronics Industry Awards**

**– Test Measurement & Inspection Product of the Year**

*This accolade recognises a test, measurement and inspection product that has made a significant impact on the market. This product should demonstrate exceptional performance and innovation.*

**Fluke™ 393 FC CAT III 1500V true-RMS solar clamp meter**

**The new 393 FC from Fluke™ is the world’s first solar clamp meter to offer CAT III/1500V safety rating.**

The number of solar installations around the world is increasing rapidly as countries move towards net zero carbon emissions and look to make renewable energy their primary source of power. The very future of the planet could depend on some of the most stringent targets being met.

One problem with such substantial growth levels in renewable energy resources has been a similar increase in the risks that are associated with commissioning and installing photovoltaic (PV) systems. The very real dangers include shock or electrocution from energised conductors, arc faults that spark fires and arc flash that leads to explosions. For these reasons, the solar installations sector has found itself needing access to highly accurate hand-held devices that can carry out safe and reliable measurements in such environments. To meet this immediate and exacting demand, the Fluke 393 FC true-RMS solar clamp meter has been developed and is the world’s first to offer CAT III 1500V safety rating.

**Demanding insulation requirements**

The need for such a solution has come about because major manufacturers of inverters and solar modules have switched from 1000V DC systems to 1500V DC so that they could achieve significantly greater levels of efficiency with their equipment. For solar installations in particular, overvoltage category III 1500V systems are becoming much more common, which means there is a pressing need for CAT III and IV equipment for use with PV systems at high altitudes. The Fluke 393 FC is the only true-RMS solar clamp meter that can meet the demanding insulation requirements of these CAT III environments, with traditional meters only able to cope with 1000V DC systems. The new meter also offers CAT IV protection to 600V AC.

The Fluke 393 FC true-RMS solar clamp meter was designed with the specific aim of increasing safety levels for PV installation technicians and maintenance specialists who are tasked with working on high voltage utility scale, large industrial and commercial scale solar farms.

As well as measuring up to 1500V DC (showing readings in kVA), the meter can measure up to 1000V AC and 999.9A DC or AC using a specially designed jaw – 25 percent thinner than the jaws on previous Fluke clamp meters – which is ideal for the kind of cramped and restricted spaces that exist in solar combiner boxes or inverters that traditionally present problems when looking to attach a meter. The new jaw is not just thinner, it is also more durable, rugged and reliable than others on the market and meets the demanding CAT III requirement for creepage and clearance.

**Accidental miswiring**

When installing PV panels, one of the biggest dangers is accidental miswiring but the Fluke 393 FC true-RMS solar clamp meter incorporates an audio-visual polarity indicator that helps to minimise this problem. Whether it’s at the combiner box level or inverter level, being able to carry out these polarity checks is essential when a brand new site of solar panels has been commissioned. When technicians carry out a DC polarity check using the Fluke 393 FC, they find it a straightforward task to identify whether the polarity has been accidentally reversed, with an audio beep indicating correct PV polarity. This simple and speedy check helps to avoid the risk of fires at the combiner box as well as any danger to personnel and damage to the equipment.

Of course, having a powerful solar clamp meter is only as good as the data that it gathers and records with the greatest efficiency. That’s why Fluke has designed the new solar clamp meter to boost productivity by working with its Fluke Connect software for logging and reporting of all test results for up to two weeks.

**No more handwritten notes**

Engineers are now able to use a phone to take and save measurements – up to 65,000 data points – within a short timeframe, with the phone capable of recording for 10 minutes and sharing all readings with colleagues. Engineers are no longer required to make any handwritten notes, eliminating the possibility of human error and making recording and logging much more efficient.

For even greater versatility and ease-of-use, the Fluke 393 FC true-RMS solar clamp meter features a dual line display for simultaneous measurements and is supplied with an 18-inch iFlex flexible current probe for extended AC current measurements up to 2500 amps. At the same time, all test leads are also rated to CAT III 1500V DC.

A future that is based around greater use of renewable energy demands that equipment used in this expanding sector is able to keep engineers and technicians safe in the harshest of environments while minimising operational issues. Putting personnel as well as costly hardware at risk is simply not an option and the Fluke 393 FC true-RMS solar clamp meter has been designed with this very much in mind.

For more technical information on the Fluke 393 FC CAT III 1500V true-RMS solar clamp meter, see:

**Product overview**

<https://www.fluke.com/en-gb/product/electrical-testing/clamp-meters/fluke-393-fc-cat-iii-1500-v-true-rms-clamp-meter>

**Data sheet**

<https://www.fluke.com/en-gb/product/electrical-testing/clamp-meters/393-fc/ds>

**Safety sheet**

<https://dam-assets.fluke.com/s3fs-public/393fc___sseng0000.pdf?shkqCNNQThqfaf9jLphq1ooNaAjmx59q>

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