



Kyoshin Electric (KOPEL), FSS 4 Probe Bar

Changing PV cell architectures create a challenge for suppliers of testing equipment, with new metallization and cell interconnection strategies increasingly incompatible with cell testing equipment. Older pin type cell probes struggle to maintain a consistent and uniform contact with finer electrodes on cells, requiring a new approach.

Kyoshin electric's FSS4 probe bar relies on a flexible spring suspension mechanism to align and support approximately 200 contact strips. The solution features dual row configuration with a current probe and voltage probe in parallel with a microgap of 0.2mm – meaning the device is also able to measure four terminal devices. It can also measure cell sizes from M2 (157mm) to G12 (210mm), in various formats including full-size, half cut, and double half cut.

The device is already in use – both in laboratories and on production lines, the manufacturer says it has been proven to work for more than 10 million test cycles, and can be integrated into existing equipment with minimal modifications.

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AWARDS 2025

HIGHLY COMMENDED

industry & suppliers

The Jury

How far has it technical and business developer for electrical and solar energy at South Africa based quality assurance provider SCC with address began to cover as a testing sponsor of King Abdullah City for Science and Technology when he graduated to testing and monitoring to Solid Py director. He holds an MSc in Power and Energy engineering from the University of New South Wales (UNSW) in Australia.

Alison Ciesla is a Scientific Lecturer and University early career research fellow at the School of Photovoltaics and Renewable Energy Engineering at UNSW. She has extensive experience in managing technology transfer and industry collaborations with many large silicon, multi-junction and tandem technologies from Asia, Europe, and America.

Peter Fath is the CEO of RTC Solutions, which works closely with global academia, governments, and factories to establish integrated solar manufacturing facilities by providing extensive engineering services. He is a member of the Solar Equipment Association of Australia (SEA), a German member of the Solar Energy Association (SEEA) and a member of the International Association of RTC Technology.

Highly commended

Kyohsin Electric, PSS 4 Probe Bar

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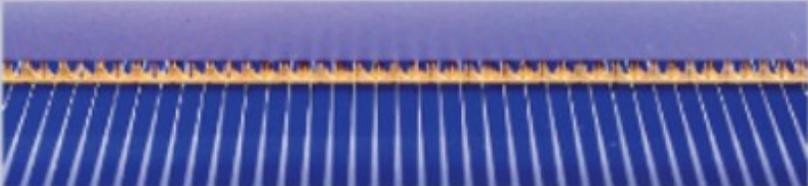
Kyohsin Electric's PSS4 probe bar relies on a flexible spring suspension mechanism to align and support approximately 200 contact strips. The solution features dual row configurations with a current probe and voltage probe in parallel with a tolerance of 0.2 mm – ensuring the device is able to measure four-terminal devices. It can also measure cell sizes from M2 (57 mm) to G12 (20 mm), in various formats including full-size, half cut, and double half cut.

The device is sturdy in use – both in laboratories and in production lines. The manufacturer says it has been proven to work for more than 10 million test cycles, and can be integrated into existing equipment with minimal modifications.

Jury comments

Peter Fath: This solution is a must. I cannot see the typical pin probes working anymore with tandem cells and zero busbar designs. It is a very technical and innovative product which solves a key problem in the industry.

Alison Ciesla: This is a huge issue right now. Busbars and fingers have got so tiny, and sometimes there are none at all, and you have no way to accurately match the cells in a module. Many companies are working on solutions to this, and this one is simple and functional compared to some contactless approaches I have seen.

Jury comments



Dr. Peter Fath
CEO of RTC Solutions

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Dr. Alison Ciesla
Senior Lecturer at UNSW Sydney

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Product Line-Up

- The FSS 4 can cope up with the standard size from **M2 157mm SQ** to **M12 210mm SQ** by increasing the number of the contacting strips.
- Customization for any design and size of cells is Possible!!

For Full Size cell

For M6 size (165mm)



165 mm

For M12 size (210mm)



210 mm

For Single Half Cut cell

For M12 Single Half Cut cell (99mm)



99 mm

For Double Half Cut cell or Full Size cell

For M12 Double Half Cut cell (99mm × 2channels)



99 mm (16 mm) 99 mm

※Flexible

Black Color Type



FSS 4 DOUBLE : 2 Channels for One Time Probing and Flash for double half cut cells simultaneously