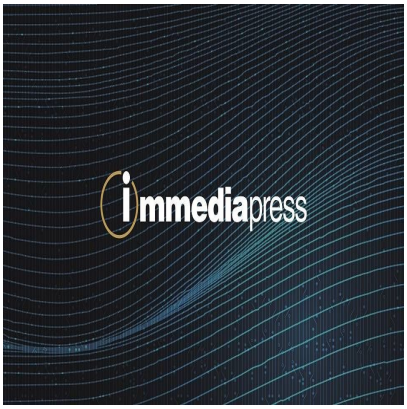

Tongweiâ??s TNC 2.0 FULLX G12R-48: A New Residential Solar Module Designed to Get More from Every Rooftop

Descrizione

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CHENGDU, China, Oct. 13, 2026 /PRNewswire/ â?? Tongwei Solar has introduced the TNC 2.0 FULLX G12R-48, a 48-cell residential solar module delivering up to 490 W at 24.5% efficiency in a compact 1,762 Ã? 1,134 Ã? 30 mm format. Available in Full Black and Black Frame versions, it combines high power output with strong energy generation, installation flexibility and a design suited to modern homes. Zander Yuan, Director of Product & Technology at Tongwei Solar, explains how the module helps homeowners get more from their available roof space.

What makes the TNC 2.0 FULLX G12R-48 stand out from other rooftop solar modules?

Residential rooftops often have limited space, so every module needs to deliver more. The TNC 2.0 FULLX G12R-48 reaches 490 W, around 30 W more than conventional TOPCon modules of a comparable format, helping homeowners install more capacity without increasing the number of modules.

A moduleâ??s rated power is only one measure of its performance. Under Tongweiâ??s test conditions, the module achieved an average 3.3% higher per-watt energy generation than copper-plated back-contact (BC) modules. This advantage is supported by lower leakage current and stronger low-light performance. Comparative testing shows that at an irradiance of 200 W/mÂ², a TNC module retains 19.42 W of an initial 100 W, compared with 18.60 W for a copper-plated BC module. By reducing leakage-related losses and performing better under weak sunlight, the module can make more effective use of available sunlight, particularly in the early morning and late afternoon.

How do these performance advantages translate into real value for homeowners?

What matters to homeowners is how much electricity their system generates over time, not just the power rating on the module. In tests conducted in Yancheng, the TNC module achieved 447.56

equivalent full-load hours, compared with 433.27 for copper-plated BC modules. Its generation advantage reached up to 12.32% during early morning and late afternoon under the tested conditions.

These gains can help households make better use of their rooftop systems, including during periods when electricity prices are higher. Higher generation per watt can also create opportunities to reduce upfront costs. Based on specific pricing assumptions, a 485 W TNC module could deliver comparable energy output to a 500 W copper-plated BC module, potentially saving more than â?¬400 in module costs for a 12-module system. Actual results and savings will depend on installation conditions, local electricity tariffs and product pricing.

How does the module adapt to different rooftops, and what about its appearance and durability?

Not every rooftop has an ideal orientation or remains free of dust. German-condition simulations showed lower low-light generation losses for the TNC module across different orientations than for the copper-plated BC module tested. It also recorded smaller power losses under light, moderate and heavy soiling conditions, helping maintain energy output when conditions are less than ideal.

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Appearance matters too, particularly for residential installations. The TNC 2.0 FULLX G12R-48 comes in Full Black and Black Frame versions to suit different roof designs. Its zero-cell-gap layout and concealed current-collection features create a clean, uniform look without sacrificing performance. The dual-glass construction and protective sealing are designed to support long-term reliability in outdoor environments.

How does the TNC 2.0 FULLX G12R-48 fit into Tongweiâ??s vision for residential solar?

Residential solar needs to balance power, energy generation, installation flexibility and appearance. A module that performs well on paper must also make sense for the roof it goes on and the people who live beneath it.

The TNC 2.0 FULLX G12R-48 brings these priorities together in a compact format. Its high power output helps maximise installed capacity, its energy-generation performance supports better use of available sunlight, and its two design options give homeowners greater choice.

Ultimately, the goal is to make residential solar more practical and valuable, helping homeowners get more from every rooftop.

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