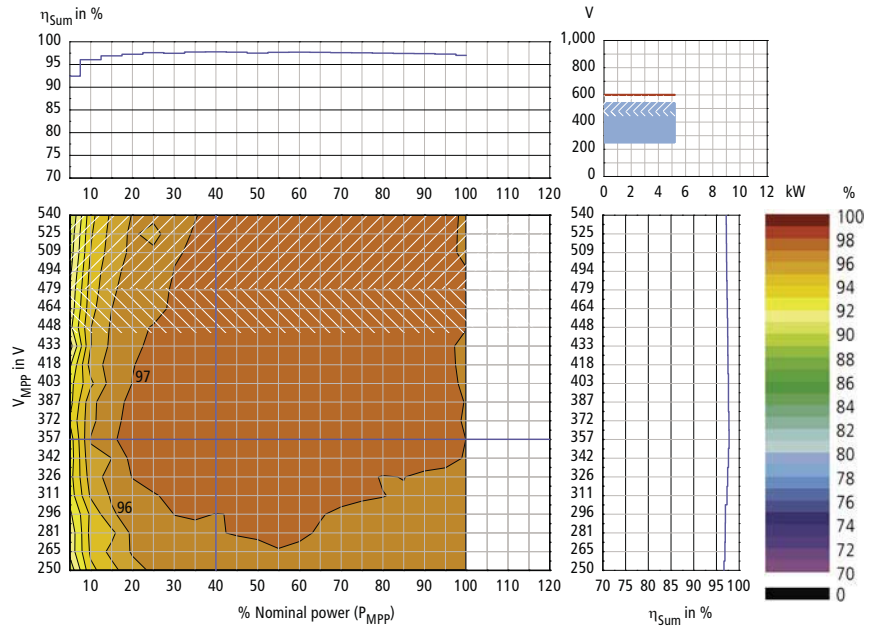
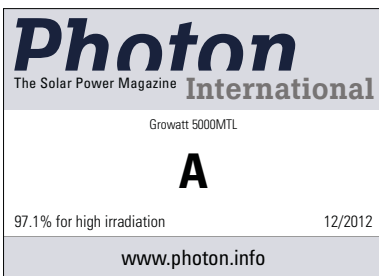


# Growatt 5000MTL



▲ Growatt has considerably improved its two-tracker device, the 5000MTL, by deploying new firmware.

▲ The conversion efficiency curve, which has also improved, and the very good MPP tracking result in an overall efficiency that totals 97 percent or more over a large area of the power and voltage range.



The original test report for the Growatt 5000MTL was published in PHOTON International this summer (see PI 7/2012, p. 98). After a few initial problems due to a defect, this transformerless, single-phase device with a nominal DC capacity of 5.2 kW delivered a perfectly acceptable performance. Its PHOTON efficiency of 96.2 percent for medium irradiation translated into a »B«, and when weighted for high irradiation, its 96.8 percent was enough to earn it an »A.« However, even before the test report appeared (the test itself was carried out at the start of the year), Growatt implemented a substantial improvement. The 5000MTL has been equipped with new firmware since February 2012. According to the manufacturer, the hardware has not been modified, and PHOTON Lab was also unable to identify any changes. A device with the new operating software, S.2.1, underwent testing again (another software for the display, S.1.8, remained unchanged), and this time a double »A« emerged: 96.8 percent for medium irradiation and 97.1 percent for high irradiation.

A multi-tracker device like the 5000MTL can be run in several different operating modes: with the MPPT trackers under symmetric or asymmetric load, or with the trackers connected in parallel. The inverter is, however, only graded according to symmetric load. The most important factor in its improvement is that the development of the conversion efficiency is significantly more harmonious under the new firmware, and above all the interplay of the two

trackers has improved. The MPPT adjustment efficiency is, apart from a few barely perceptible exceptions, consistently above 99 percent. A slight improvement can also be observed under asymmetric load. The older firmware did not give any cause for criticism when the trackers were connected in parallel.

There is also one small change to the MPP voltage range specified by the manufacturer, which now spans 250 to 540 V instead of 250 to 550 V. The distance to the maximum DC voltage of 600 V is therefore still far too small, and, even with crystalline modules, only the MPP voltage range of up to around 475 V can be utilized without limitations. ● hn, js

#### Further information

The full test results of the Growatt 5000MTL using firmware 5.2.0 were published in the PDF version of the July issue (see PI 7/2012, p. 198).

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