

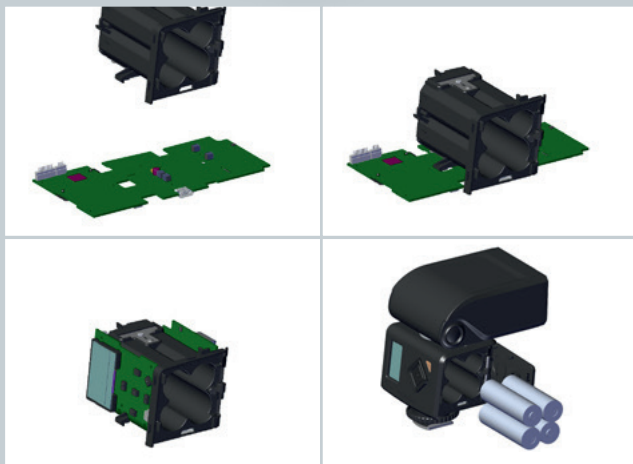
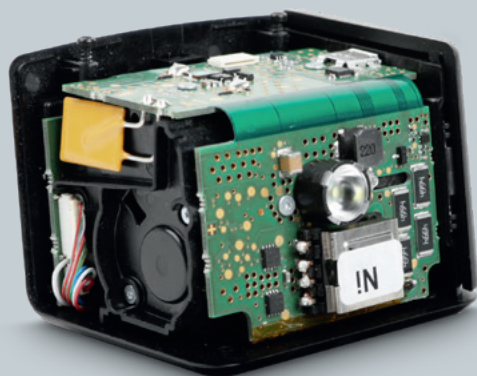


CUSTOMER
SUCCESS STORY
METZ FLASH DEVICE

WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

COMPACT AND YET POWERFUL

The requirements for new electronic systems are increasingly characterized by compactness combined with performance at the same time. Electronic systems are constantly faced with new challenges. They must become ever more compact and more capable. The foundation for the success of a product is laid in the concept and idea phase. The design and implementation of the circuit board for the Metz mecablitz M400 is a prime example of successful cooperation between PCB manufacturer and product development in terms of function integration and miniaturization.



REQUIREMENTS

The challenge of the project was to develop a system flash unit that is compact, easy to operate, light in weight and powerful at the same time. An upcoming trade show added additional time pressure. The goal was to create a new generation of compact system flash units, an all-rounder that was as small as possible. In addition, the required energy was to be supplied by batteries, which can be purchased at any gas station. The 4 AA cells were thus the regulating factor for the minimum size of the unit.

Now the task was to design the circuit board and the housing around the batteries in the most space-saving way possible while reducing the size of the flash unit to a minimum. Attention had to be paid to the high guide number of 40 and to features such as LED video light and OLED display. Another difficulty was the head. High voltages of around 8 KV are required over short periods for the flash tube. It was therefore important to maintain the necessary safety distances.

IMPLEMENTATION

Due to the task and the resulting challenges, the joint project team decided on SEMI.**flex** technology. Information about the technology on the Würth Elektronik website and participation in our webinars convinced Metz to request this project from us.

First came the initial stackup request. Then everything quickly became concrete: There was the first meeting of the project team at the customer's site. Competent support was provided by Andreas Schilpp, one of our product managers and a specialist for Flex solutions.

It was immediately clear that the 3D PCB solution, the bending radius and the bending cycles were the decisive parameters for this project and set the framework. In line with the objective, SEMI.**flex** technology also has an excellent price/performance ratio.

Compared to RIGID.**flex** technology, semi-flexible PCBs generate lower costs, both at PCB and system level. By consistently eliminating connecting elements such as connectors and cables, additional cost savings could be realized compared to modular technology. This brought further advantages.

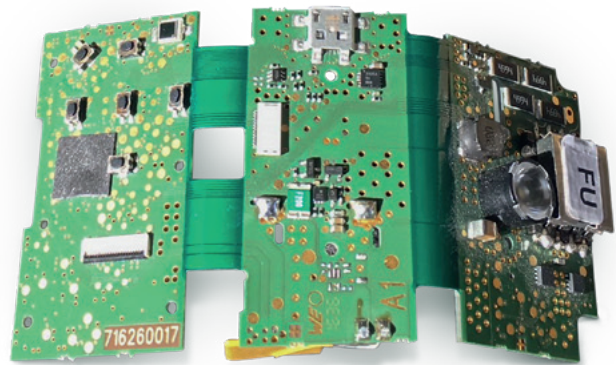
The use of SEMI.**flex** technology proved to be absolutely unproblematic in terms of assembly and installation. There are some things that have to be taken into account in PCB design, especially at the transitions between semi-flexible and rigid areas. This is exactly what the design rules from Würth Elektronik deal with in detail. 3D technology can save a lot of time, especially in PCB design, since the PCB layout engineer no longer has to divide the overall circuit into the individual sub-modules.

This also reduces the susceptibility to errors, because the interfaces between the individual modules do not have to be maintained at great expense. In particular, SEMI.**flex** technology has proven its worth in the production process because connections can no longer be mismatched. This makes assembly and testing much easier.

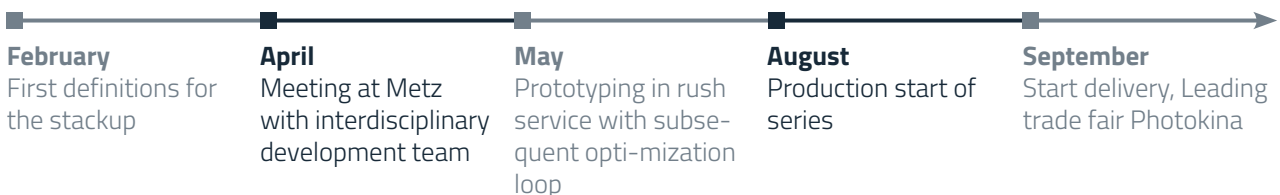
For more information on SEMI.**flex**, please visit our website: www.we-online.com/semiflex or attend one of our webinars: <https://youtu.be/RwXIPqnE3I>



SEMI.**flex** 1Ri-3Ri

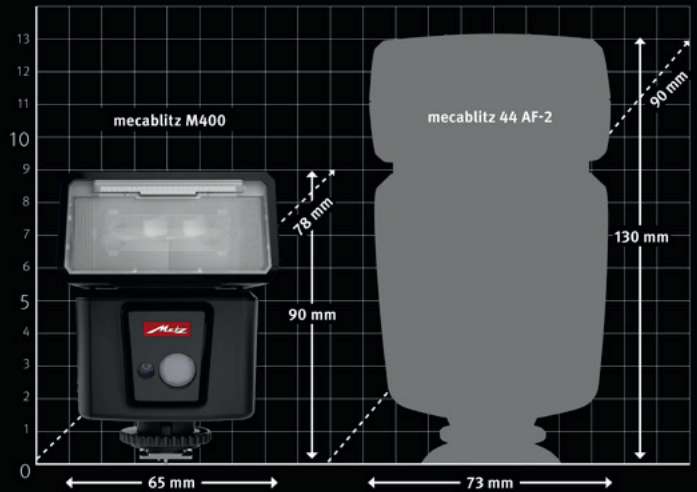


TIMETABLE



MINIATURIZATION

- A "blueprint" for miniaturized devices with high energy requirements
- Excellent price-performance ratio
- **Miniaturization:** Volume reduction of 30%
- **First-Time-Right:** Interdisciplinary collaboration and close cooperation with the PCB manufacturer
- **Time-to-market:** Rapid prototype service, very fast series transfer
- Short paths - fast solution



QUOTES FROM THE PROJECT TEAM

"The way I see it, we would work together like that again because it worked out great."

Michael Sperber, Project Manager Metz

"I agree with that. The advice and support were right. If we had any questions or problems, we always had a direct line from site to site. The coordination paths were short. Everything was fine."

Andreas Hofmann, Project Manager Metz

"For us, it was a very nice project, but such a final round was also important so that we can hear how the customer did, where we can improve and, of course, also talk about future projects in perspective."

Robert Tofan, Sales Würth Elektronik

"For me, it was also a concern to hear how what I 'instigated' at the time was judged. And with this great product, we also have a 'blueprint' for miniaturized devices with high energy requirements."

Andreas Schilpp, Product Manager Würth Elektronik



80 years of production experience

The traditional brand Metz mecatech stands for first-class products, excellent service and forward-looking innovations. In 2015, the plastics division, painting, electronics assembly (electron flash units developed in-house) and the SMD production line of the former Metz-Werke were taken over.

The new management continues the business of the Metz company at its traditional Franconian location in Zirndorf and is clearly committed to the "Made in Germany" philosophy that has always made Metz well-known and successful.

For decades, Metz has been manufacturing high-quality plastic parts for the production of flash units. In doing so, Metz accompanies its customers in every phase of a project, from the selection of suitable materials to product conception and prototype as well as mould construction to the start of series production. With early computer-aided simulation, the company optimizes product quality and process reliability for its customers.

INTEREST AROUSED?

For more information about our SEMI.flex technology, please visit www.we-online.com/semiflex or contact our flex solutions experts directly at **+49 7940 946-3539** or flex@we-online.com

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