

Technical article



HBM bets on Erska soldering technology

Results you can rely on!

...this is one of the mottos of the measuring technology specialist HBM. To convince a customer who has many years' experience in being precise has always been a challenge. HBM, head-

quartered in Darmstadt, are very particular when it comes to sensor technology, a trait that they extend to their production tools as well – a challenging task, gladly accepted by Erska.

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S-shaped force sensor from HBM – high precision, affordable price.

Hottinger Messtechnik was founded in 1950 by the engineer Karl Hottinger. At the beginning, the company located in the small Bavarian town of Vogtareuth, counted 10 employees. The first products were KWS amplifiers as well as an inductive displacement transducer with plunger. Today, HBM has 24 subsidiaries and sales/distribution offices in Europe, North- and South America and Asia as well as representative in 40 countries worldwide.



In addition to their head quarter in Darmstadt, HBM has R&D facilities and manufacturing plants located in the USA, Netherlands, Portugal and China. For all areas of industry, as well as for research and development, HBM offer measuring technology to electrically measure physical variables. The components and systems have multiple uses, for example in experimental stress analysis, production monitoring, dynamometers, short circuit proof, test drives, material and functional tests, calibration as well as industrial weighing technology systems.



UP FRONT: PRECISION AND RELIABILITY

Whenever reliability, performance, temperature stability, ease of handling and maintenance and running costs are relevant, the Ersa i-CON series is the first choice for industrial soldering tools. And for its soldering tasks, HBM expects these attributes. During 2012, HBM requested Ersa to present a station which would fulfill their demands. After thorough solder trials, the choice fell on the Ersa i-CON – surprisingly, since the company had, for many years, relied on the technology of a competitor. Since the decision to change had been made, large portions of HBM's production have since been shifted over to the Ersa i-CON soldering stations, which have proven to be particularly efficient in the manufacture of measurement technology systems.

THE TASK: PRECISION IN THE PRODUCTION

Reliability and temperature stability while delivering high power is an important criterion for HBM. One of the most important tasks is to form a reliable connection without thermally stressing the solder joint, and the i-CON - due to its 150 W - allows soldering with a substantially lowered top temperature, reducing the stress exerted on to the solder joint.

Top temperatures of 360° to 380° or even higher, commonly used and frequently responsible for the failure of the electronic, can be reduced with the i-CON to a moderate 300° to 340°, without losing out on performance. This is a critical point regarding the long-term functionality of the electronic of the finished sensor.





Ersa- i-CON 1

—○ ERSA I-CON – INNOVATIVE TOOL

For manual soldering with lead-free alloys, it is always a challenge to ensure the quality of the process. That is why users pose high demands on a modern hand soldering tool: it has to be small, light and ergonomic, and is not allowed to get too hot during the process. It has to deliver enough power to quickly heat up, and also have the efficiency and recover quickly the heat lost during the process. To exchange the tip should be easy and fast, and handling and programming the station must be simple and comfortable. The Ersa i-CON fulfills all these demands to the highest degree. Inexpensive tips and intelligent stand-by functions ensure low operating costs, economic efficiency and a substantial saving in energy.

With the 150 W i-CON, which exceeds its customers' expectations, Ersa brought to the market a powerful solder iron with inexpensive tips. Its high performance heating element is one of the many outstanding developments in the more than 90 years of Ersa history. Its fast heat-up and recovery performance, the light as a feather i-TOOL, its extensive range of tips as well as process window alarm, its energy power levels and automatic stand-by sensor provide its user a level of process control unheard of before.

THE MOST IMPORTANT ELEMENT AT HBM: QUALIFICATION OF ITS EMPLOYEES

In order to be able to implement the selected high technical manufacturing methods and solutions, HBM has taken an exemplary, rarely by anyone taken road: It trains and educates its employees, in theory and in practice, through in-house workshops and seminars.

Aside from practical soldering exercises, and how to deal correctly with the technology of soldering, important technical info pertaining to the products is being transferred and general theoretical questions are answered.

In the modern and fully equipped center of competence for soldering/ESD training and analysis, the employees are being prepared for their upcoming tasks in lead free soldering by Hugo Hirschmüller and Frank Tuppek. Great importance is placed on giving all employees that are involved in soldering the same training content. Also, two technical publications authored by Frank Tuppek - "Hand Soldering in Industry" and "Solder Joint Evaluation in Manual Soldering" - underline this high corporate standard in quality. Both publications can be obtained through HBM.

COMPETENCY ALSO IN CHINA

The same road to qualify employees is also taken at the Suzhou plant in China. Practical soldering exercises and how to deal correctly with the technology of soldering are taught, and technical product info and theoretical questions are dealt with – naturally using Ersa soldering technology. This ensures that the knowledge level is the same in both plants, and that a consistent high quality standard is being maintained.



Ersa gladly supports this HBM training strategy by supplying the technical means – the training facilities in China and in Germany are equipped such that they are able to satisfy the demands of HBM. Investment in high quality, long life and reliable technologies are always the best choice. This goes especially for products manufactured by HBM and Ersa. Both companies look forward to a continued good and for both sides profitable cooperation. ■

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