



Success Story Displays

TFT displays – reliable displays for harsh environments

Good legibility even in harsh environments and with a long running time – this is how small displays impress in a harsh industrial environment. Elektrosil has developed extremely resilient, customised TFT displays for an internationally leading industrial automation systems provider.

► The challenge

For the modernisation of his automation solution, the customer required two hard-wearing TFT displays to improve the performance of two PLC control modules. Elektrosil undertook a demanding task. The small displays for electrical cabinets had to be suitable for use in daylight, and have a high resolution and wide viewing angle.

The TFTs were tested under increased demands at 85° and for a duration of 504 hours in order to guarantee the later service life under harsh conditions of use.

► The solution

The Elektrosil team decided on a new development. The focus was on the sealing of the individually etched glass panels for the TFT displays. The expansion properties of conventional adhesives were not adequate. Under severe heating, they expanded more than the liquid-crystal-filled glass panels. This resulted in damage and failures.

In order to avoid the damaging effect, together with a production partner, Elektrosil first identified adhesive components whose properties approached those of the specification. The team then analysed the compound and used mathematical parameters to define the necessary adhesive.

The TFT displays were manufactured by the production partner. The quality of the displays was tested in a number of processes including climatic chamber, reliability and vibration tests.

► Advantages and benefits

The TFT displays provided the customer with temperature-resistant and resilient components for his innovative automation solutions, which also work reliably even when operating continuously in harsh environments. All standards as defined by the Corporate Social Responsibility Agreements were fulfilled in production. As well as cost advantages, Elektrosil also provided effective logistics with efficient stockholding and rapid delivery.

Project information

- Client: one of the world's largest electrical engineering and electronics companies
- Sector: General industries

Elektrosil's services

- Application advice, development supervision, design-in support
- Quality Assurance
- Engineering and production
- Completely customised applications



“We needed TFT displays which were also a match for the harshest conditions.
That’s when I called Elektrosil.”

With material expertise and creative interdisciplinarity, Elektrosil developed customised TFT displays which are an ideal addition to the customer’s automation systems and function smoothly in intensive industrial operation.

Are you looking for the right product for your application and need a development partner? Then give us a call.

+ Elektrosil’s strengths

For the customised TFT displays, Elektrosil drew upon the in-depth materials expertise of its engineers, who work closely with institutes and universities in this innovation-driving field. The team guided the development process to its conclusion with flexibility, an interdisciplinary approach and target-oriented project management.



TFT displays – reliable displays for harsh environments

