

A man in a blue denim shirt is leaning over a control panel in a factory setting. He is smiling and looking at the panel. The panel has many buttons and a rotary switch. In the background, there are colorful abstract paintings on the wall and industrial machinery.

ELMA
Your Solution Partner

Front Panel Center

SERVICES FOR YOUR FRONT PANEL

SYSTEM SOLUTIONS

ENCLOSURES & COMPONENTS

ROTARY SWITCHES

FRONT PANEL CENTER

PRODUCTS AND SERVICES

The control unit is the face of your device. The HMI (Human Machine Interface) stands for the connection to the device, the controller or the interface between electronics and human. Therefore, the characteristics of the front panel is an essential part for your device. In addition to the aesthetic aspects, a front panel as a control unit must fulfill technical and application-specific aspects, such as mechanical resistance or EMC protection.

STANDARD FRONT PANEL

19" systems have been characterized by their standardization for decades. According to IEC 60297-3 the sizes, fixings, handles, etc. are standardized.

Choose from our comprehensive range of standard front panels:

- › 19" front and back panels
- › EMV front panels
- › Flat front panels
- › Extruded front panels
- › Fan front panels
- › Front panel with mounting bolts
- › Heat sink front panels
- › Top, bottom and side hinged front panels
- › IEC front panels
- › IEEE front panels
- › FMC mezzanine front panels
- › PMC mezzanine front panels

Elma offers of course the appropriate accessories such as handles, mounting hardware or card holders for front panels.

DESIGN FRONT PANELS

Regardless of size and design, design front panels are used in many applications. Display and operation are just as important as the interfaces. Depending on the application, there are different requirements for the front panels. We advise and help you to find a design that exactly meets your requirements.

TYPICAL APPLICATIONS FOR DESIGN FRONT PANELS

- › **Device front plates:** Small and technical devices require operating units. As an enclosure manufacturer, Elma supports the customer from HMI design to the final test of the finished product.
- › **Control panels:** When production machines require the control function in a certain place, the control panel must fit into the machine design. Control panels are also used in other environments, for example as control units for railway security systems.
- › **Intercom panels:** In trains or at the bank counter you will find typical applications for intercom systems. Here Elma not only designs front panels, but also develops complete units.
- › **Part of a cockpit:** The use of touchscreens and displays in vehicles is increasing. During the revisions, driver's cabs are being modernized with new technologies. These display must fit into existing environments as plug-in units or assemblies.
- › **Plant representations:** The schematic representation of process controls helps the user to operate the correct control elements. Thanks to large panels, the user keeps track of everything in complex systems at any time. Such panels are used, for example, in traffic control systems.
- › **Display boards:** Signs and labels, such as in train toilets or airplane galleys, must be marked abrasion-resistant and additionally embossed in Braille. Special printing techniques allow this combination.

THANKS TO HIGH ADDED VALUE, YOU RECEIVE EVERYTHING FROM ONE SOURCE

- › Construction of the front panel according to your needs
- › Milling, drilling, punching and cutting the front panel from the raw material
- › Versatile finishing (e.g., sanding, brushing, anodizing (colorless or colored) or passivation)
- › Wide selection of printing methods ensures optimal labeling
- › Integration of press-fit nuts, threaded bolts or other fasteners
- › Cutting of adhesive masks or sealing mats, as well as their processing on the front panel
- › Assembly of all necessary installation components in the front panel and testing

OVERVIEW PRINTING METHODES

	THERMAL DIGITAL PRINTING	UV-DIGITAL PRINTING	ANODIZED DIGITAL PRINTING	SILK SCREEN	PAD PRINTING	ENGRAVING	LASER ENGRAVING
Color gradient	XXX	XXX	XXX				
Material covering	X	XX	X	XXX	X	X	X
Multi-colored	XXX	XXX	XXX	XX			
White printing		XXX		XXX	XX		
Color fidelity	XX	XX	X	XXX	XX		
Abrasion resistance	XX	X	XXX	X		XXX	XXX
Chemical resistance	XX	X	XXX	X	X	XXX	XXX
Full-surface printing	X	X	X	X			
Water resistance	X	XXX	XXX	XX	X	XX	XXX
Small quantities	XXX	XXX	XXX			X	XXX
Powder coated materials	XX	XXX		XX			
Relief printing		X					
Relocated materials							XXX





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