

Media Alert: Touchless Technologies for Displays and POS Systems

Munich, 16th March 2022

Touchless display technologies are not only impressive due to their simple and intuitive user interface, but also due to offering hygiene benefits. DATA MODUL presents two of these pioneering technology solutions in its current portfolio: the capacitive-based gesture control, which has already been selected for Product of the Year in the category Industry and IoT¹, as well as the camera-based gesture control, where an appropriate software solution converts hand movements into cursor movements. The two approaches differ in functionality and design, and depending on the application and the required size of the touch screen or system accordingly used.

In the case of capacitive gesture control, an in-house developed controller board based on GestIC^e technology is used, combining 2D-PCAP functionality with 3D gesture control. This ensures a seamless synchronisation between 2D PCAP Touch Scan and 3D Gesture Scan, and in addition to the usual touch input on the screen also enables touchless system input by means of simple hand movements (gestures). The amount of commands in the GUI software includes multiple gestures which are detected by the capacitive sensor and translated into the corresponding system commands. One that is well known and widely used is the so-called swiping gesture (flick/swipe), which can be used for both vertical (up/down) and horizontal (left/right) actions. Depending on the customer's requirements and the subsequent area of application, other gestures such as AirWheel (rotating gesture) can be implemented. One feature of this intuitive and capacitive-based gesture control is comparatively easy integration into an existing system. This is primarily used for diagonal sizes of 5 to 15.6 inches, as in this size range the gestures can be optimally detected by the surrounding transmitting and receiving electrodes.

On the other hand, for large format diagonals the camera-based touchless solution, which DATA MODUL has recently added to the portfolio, is better suited. With this technology, the user's hand movements are automatically detected by the software in this specially developed Plug&Play camera solution and converted into the corresponding screen cursor actions using a virtual model. Depending on the camera's recording angle, an interactive UI display screen area of up to 29 inches in portrait format, as well as up to 40 inches in landscape format, can be achieved in one time. The overall display diagonals can be individually adjusted to the customer's requirements and consequently may also be much larger than the actual UI interaction area. The camera-based touchless technology can also be integrated effortlessly into existing systems. If the existing system is not equipped with a special camera for a touchless UI display, this can be simply retrofitted by the display experts – as well as the software solution for the required gesture recognition performance.

Touchless display technologies such as capacitive-based or camera-based gesture control with their innovative Human Machine Interfaces are used in numerous application areas and are becoming increasingly popular. Both reliably combine very important aspects for today's world: intuitive and hygienic operation. A combination that is not only highly relevant for the medical field, but is also becoming increasingly important in the public sector and other industries. The advantages for information, registration, or ordering and payment terminals, or for the food industry, are obvious. They are also already being implemented successfully in the automotive and gaming sector. For example, by helping to maintain concentration on the driving process and interaction with the car, or to promote immersive virtual reality gaming experiences.

[You can find further information on our touch solutions here.](#)

¹ Product of the Year, Elektronik Magazin, WEKA Fachverlag, May 2021

About DATA MODUL

DATA MODUL AG is one of the world's leading specialist providers of display, touch, embedded, monitor and panel PC solutions. Since it was established in 1972, it has consistently pursued the objective of providing its customers with state-of-the-art, tailor-made and individually customised complete solutions for display technologies.

Many years of experience in the field of display, touch, embedded and system technologies enable the company to produce customer-specific value-added services for a variety of industries at its 45,000 m² production and logistics facilities. The extensive distribution portfolio of displays, touchscreens and embedded solutions and the increasingly innovative in-house developments complete the unique modular product portfolio.

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