

# DIGITAL SIGNAGE CASE STUDY – ZPN ENERGY

Case Study - 18.04.2023



## Background

ZPN Energy is a leading British energy technology provider who design, develop and produce infrastructure technologies that combat climate change, including energy storage and various electric vehicles (EV) charging solutions. It was a range of rapid EV charging stations that ZPN first approached one of our partners about in late 2019. They were in the process of developing pioneering public facing EV charging stations and wanted to partner with a screen manufacturer with a strong proven track record who would be able to supply them with commercial display screens; a crucial element of the charging station.

## Challenges

Given that the EV charging stations would be situated outside, the two major elements ZPN initially needed were small touch screen displays that were waterproof. Initially they tested our standard 22 Inch Outdoor Wall Mounted PCAP Touch Screen. ZPN were going to see if they could integrate one of the units into the enclosure of their charging station. However, the display area of this screen was deemed too large for their needs; it was at this point that ZPN concluded that there was no way they could get what they needed with an off the shelf solution and were going to need a bespoke solution. By taking this approach ZPN could customise and optimise the screen to their exact requirements.

As the 22 Inch Outdoor screen was deemed too large for their needs, ZPN provided us with drawings of their enclosure which gave us the available space, they also stipulated that the displays could have a maximum depth of 31mm. It was crucial to get the perfect fit due to needing to retain a high IP rating. ZPN wanted to utilise a reliable touch technology and were adamant on having an accurate solution and minimising the chances of ghost touches occurring.

The screen is just one element inside the charging stations, and ZPN wanted to ensure the screen would not emit any electromagnetic interference. This was very important as the EV charging stations were planned to be used in a variety of different locations, including residential and commercial districts, and needed to be safe to do so.

## Products

104 x 15" Bespoke Outdoor High Brightness Open Frame PCAP Touch Screens

Unlike traditional screens that have mounting holes designed for walls, they were going to need a special mounting system so that the screens could be easily and seamlessly integrated into their enclosure. In terms of AV inputs, the only port they needed for their solution was a HDMI in to run a third-party PC. ZPN had no specific requirement for the exact brightness of this screen but wanted it to be as bright as possible so that it would be viewable in direct sunlight. Smaller high brightness displays are very rare and are there are no standard panels available on the market.





## Solutions

For the exact requirements that ZPN had, we would have to manufacture a very bespoke solution for them. In order to fit the space they presented to us, we sourced a 15.6 Inch LCD panel with the depth of less than 31mm. We also integrated PCAP touch screen technology using a method we had perfected on our standard outdoor touch screen range to minimise ghost touch issues in wet weather conditions. We also made sure to that the display has the largest bezel possible around the panel to further reduce the chances of ghost touch issues occurring. As the screen was going to be integrated into an enclosure, we focussed on ensuring that the front of the panel was weatherproof, achieving an IP65 rating. This is the same rating our other standard ranges of outdoor digital signage displays feature, including the Outdoor Digital Advertising Displays and Outdoor Freestanding Digital Posters. This rating ensures the internal components are protected against wet weather conditions as well as airborne dust particles.

Since the screen was to be integrated into an enclosure, we developed an open frame mechanism for the display. This means the screen does not have a full housing, which is different from most of our off the shelf products that typically have VESA mounting holes that make it easier and more convenient to mount on a wall or floor stand.

We had been set the goal to get the panel as bright as we could to be sunlight readable and we wanted to ensure a brightness of at least  $1,000\text{cd}/\text{m}^2$ . Using our experience and R&D in developing smaller size window displays we were able to achieve a brightness level of  $1,500\text{cd}/\text{m}^2$ .

## Results

In July of 2020, an initial batch of four screens were manufactured, delivered and tested by ZPN so they could assess the integration into their bespoke EV charging station. They were delighted with the results and happy to proceed forward, so in February of 2021 they placed a starting order for 100 additional units. The first 25 of these were ordered on an expedited manufacturing and delivery timescale so they could start integrating the screens into the enclosures. To help meet their accelerated deadline of the end of March 2021, we were able to air freight this first batch over, with subsequent batches arriving recurrently after.

ZPN, in one of their first major projects with a large county, have started rolling out their ground breaking EV charging stations, now called 'Street Hubz', across Devon during the latter half of 2021. As the move towards Electric Vehicles continues, the need for these types of stations will increase exponentially. With a dedicated screen manufacturer as their partner, ZPN can be confident in delivering reliable and robust bespoke commercial display solutions.

