

Solar-Powered Portable Turnstiles for Stand-Alone Access Control



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Jesse James Moses Sr.
President and Founder
Outlaw Industries

Summary

Sensitive military and other installations – such as construction sites for hospitals along with fertilizer plants, solar array “farms,” and oil & gas facilities – require high-level security access control, even if in some cases on a temporary basis (such as construction sites). “Smart” turnstiles with electronic access control are often the best way to secure the premises, manage the entry and exit of authorized personnel, and prevent those unauthorized from entering. However, such high-security turnstiles are expensive to purchase and deploy, requiring significant cost and effort to install. And in temporary applications, removing them and transporting them to the next job can be cost-prohibitive. This challenge provided Outlaw Industries, an innovative newcomer to the field, with an opportunity to create a high-value solution: a portable, solar-powered turnstile using Morningstar products to offer a reliable, rapidly-deployable, and mobile solution to an expanding customer base.

Situation

Jesse James Moses, along with his son Jesse James Moses Jr., founded Outlaw Industries in 2017, leveraging their construction expertise to design, engineer, and manufacture an installer-friendly turnstile. Their unique tandem design includes a pre-assembled protective canopy and portable base. Typically, a deployment requires providing a crew on-site at the project to perform various installation tasks including mounting the turnstiles to the ground. Once that's accomplished, an electrician runs power lines while yet another vendor configures the access control system. This entire process is repeated to remove and reinstall the turnstiles on the next site.

Outlaw's model helps customers save the time, money, and effort incurred by having to hire multiple trades for setup and teardown. With Outlaw's solution, the pre-assembled, reusable turnstile simply connects to a power source for a relatively easy plug-and-play solution. Once the project is completed, users can just fold up the turnstile ramps and load the units on a truck for transport to the next location. "Instead of it being an expense to customers, it ends up being an asset," Jesse James Moses Jr. said.

There's also an option to outfit the turnstiles with solar electricity, an important feature considering that remote sites often need the highest access security possible to prevent theft, damage, and even sabotage. With a solar-powered model, three ~400W solar modules, six 100Ah batteries, and an inverter power both the turnstile and the point-to-point wireless communication devices needed for an independently-operating, stand-alone product.





Solution

Autonomy is critical for these high-security turnstiles. When Outlaw Industries turned to the solar components distributor Ameresco for a reliable charge controller, they were assured that the Morningstar ProStar MPPT was the ideal choice for their application. Jesse James Sr. noted, "Ameresco's support is great! We told them we needed a system with five days of autonomy, and their representative Adam Galia helped with the design we needed."

This mid-range Morningstar solar charge controller features TrakStar Technology™ which provides maximum power point tracking battery charging to maximize PV efficiency and energy harvest. Other ProStar advantages include a fanless design for increased efficiency (no parasitic fan load) and reliability (no fans to fail), as well as special battery features, including foldback circuitry for safe charging in extreme weather. With these advantages, the ProStar MPPT enables the turnstiles to autonomously operate without any solar production for up to five days.

Most important for Outlaw is the ProStar's remote monitoring and diagnostic capabilities. "The ProStar is super dependable, and if there is a problem with the system, it allows us to diagnose it remotely," Jesse James Moses Jr. explained. "That is a fantastic feature — if a customer anywhere is having issues, we can see the chain of events that led up to them and provide assistance from our offices in Colorado."

Outlaw's distributor TURNSTILES.us can also help customers integrate and program customizable controlled access systems so companies can allow designated workers access at specific times and account for everyone on site. This ability to accommodate specific customer needs brings added value.

Outlaw Industries has sent turnstiles to sites ranging from the heat of Arizona deserts to the freezing temperatures of Buffalo, New York (the company even offers a heater option for such cold extremes). One customer has 15 turnstiles that have provided dependable, secure access for 4,000 individuals for more than seven years. "We haven't had a single failure on any Morningstar product since our first deployment — they just work," Jesse James Moses Sr. said.

Outlaw is looking forward to expanding its solar product line and continuing to work with trusted partners like Morningstar, Ameresco, and TURNSTILES.us.