

## Case Study

### 'PLUG AND PLAY' PORTABLE CONVEYORS GET MOVING WITH OPTIDRIVE

**Portable conveyors used in a range of construction and industrial situations demand tough and reliable variable frequency drive technology**

Innovative portable conveyors used in a range of harsh environments, including construction and material handling management, required tough variable frequency drive (VFD) technology to accurately control their speed depending on the quantity and type of material being transported.

Conveyor specialist, InterQuip, based in the United States and United Kingdom, needed a VFD capable of withstanding the often tough environments they would operate in while ensuring operators could easily control the products motion.

The company's "plug and play" conveyors are used in confined spaces or areas where access is restricted, such as basements, trenches, backyards, and other areas. These can include construction, excavation, processing, unit handling, recycling and aggregates.

Its small portable conveyors, LINKIT, are used in construction and excavation, while its mid to larger modular systems, EASIKIT, require speed control in processing applications.

The conveyors link up in multiples depending on the site and distance required for transporting the materials. Their lengths can range from 10ft to 18ft and from 12 inches wide to 18 inches.

"This is where it's important for us to not only have inverters capable of withstanding the dust, water and temperatures they could be operating in, but also with accurate motion control to ensure each conveyor matches the same speed as each other or depending on the materials being conveyed," said Karl Davies, Managing Director of InterQuip.

The conveyors also have varying motor and power demands, from .55kW-4.8kW / 480V, 2.5-12A.

The company identified Invertek Drives Optidrive E3 with NEMA 4X / IP66 enclosures as a match for what they needed. The E3 is a compact, robust, and reliable drive that is easy to set up, commission, and use.

"A previous supplier recommended the product and straight away we appreciated the quality and customer service," added Karl. "The inverter also allows our customers to have the high three phase output power and torque without special power requirements."



The NEMA 4X / IP66 outdoor rated enclosure means it can be directly mounted on the conveyors, remaining dust and watertight. The company use frame sizes 1, 2, and 3 depending on the type of conveyor.

"We were impressed at the durability of the Optidrive E3, particularly with the outdoor rated enclosure. We must ensure our products are reliable and robust for our customers, so the components must match this."

"The E3 underwent successful testing and are now being used by customers in a range of applications," added Karl. "We've been very pleased with their reliability and durability."

Pete Roberts, National Sales Manager at Invertek Drives USA said the E3 was a perfect choice for the conveyor application.

"The E3 has an excellent track record for accurate motor control on conveyors used in everything from manufacturing and construction, mining and quarrying, to food and pharmaceutical industries.

"It's range of frame sizes, power ratings and the option of IP20 and NEMA 4X / IP66 enclosures ensure it is suitable for a wide range of industries and applications.

"This made it the obvious choice for InterQuip in terms of the power ratings required and durability. It also ensures their customers can rely on accurate and reliable motion control."

The Optidrive E3 is part of Invertek Drives range of easy to use and set-up VFDs. The E3 includes simple commissioning, with 14 parameter basic set-up, default settings, and up to 50 parameters available for flexible use.

It comes with an intuitive keypad and application macros for switching between industrial, pump, and fan modes, dependant on the application being controlled.

More details about the Optidrive range of VFDs can be found at [www.invertekdrives.com](http://www.invertekdrives.com).