Solutions

Issue 111

EMP TECHNICAL GROUP

17 Custom RFID Portals for Pharmaceutical Tracking

Challenge: A pharmaceutical manufacturer needed to track finished goods entering and exiting refrigerated storage, where products can only remain outside temperature-controlled areas for a limited time. Their software vendor's proposed RFID hardware also presented availability and lead-time challenges.





Solution: EMP built 17 custom RFID portals utilizing Zebra FX9600 RFID readers, flat-panel antennas, LiDAR sensors for directional detection, custom enclosures, and 3D-printed light pipes for external status visibility. The solution also incorporated Zebra TC53 mobile computers equipped with RFID sleds for handheld scanning.

Story: Tracking pharmaceutical products moving in and out of refrigerated storage requires more than simply knowing their location. It also means understanding when products enter and exit temperature-controlled environments.



After the customer's software vendor recommended RFID hardware with availability and lead-time challenges, EMP stepped in to evaluate alternatives. Following two rounds of on-site testing, our team recommended a Zebra-based solution and began building 17 customized RFID portals.
Each portal required additional engineering, including LiDAR sensors to detect the direction of product movement and a custom 3D-printed light pipe that makes the RFID reader's status lights visible outside the enclosure.From hardware evaluation and on-site testing to custom engineering and assembly, this project demonstrates EMP's ability to deliver solutions beyond standard, off-the-shelf equipment. It's another example of how our team's technical expertise and in-house customization capabilities help customers solve unique operational challenges.