



# TOWERIQ™

Potter Global Technologies



# Guardian Series

Public Safety Band Signal Amplifiers and Design Solutions

# WHAT IS ERCES? BDA? EWC? DAS? WHAT DOES IT ALL MEAN?

Emergency Responder Communications Enhancement Systems (ERCES) refer to a collection of technologies that enhance the communication capabilities of emergency responders, such as firefighters, police, and medical services. These systems are designed to ensure that emergency personnel can communicate effectively in all parts of a building, even in areas that traditionally have poor signal reception like basements, parking garages, stairwells, and more. This reliable communication is crucial during emergencies for coordinating efforts, providing real-time updates, and ultimately, saving lives.

Several different types of systems may fall under the umbrella term of ERCES, hence the different names. The most common are Bi-Directional Amplifier systems (BDA), Distributed Antenna Systems (DAS), and Emergency Wireless Communication (EWC).



## **Bi-Directional Amplifiers (BDA):**

BDAs are systems that boost or amplify signals in areas with poor reception. This is accomplished through the use of an external, high-gain antenna to receive a signal, an amplifier to boost the signal, and internal antennas to rebroadcast the improved signal within the building.



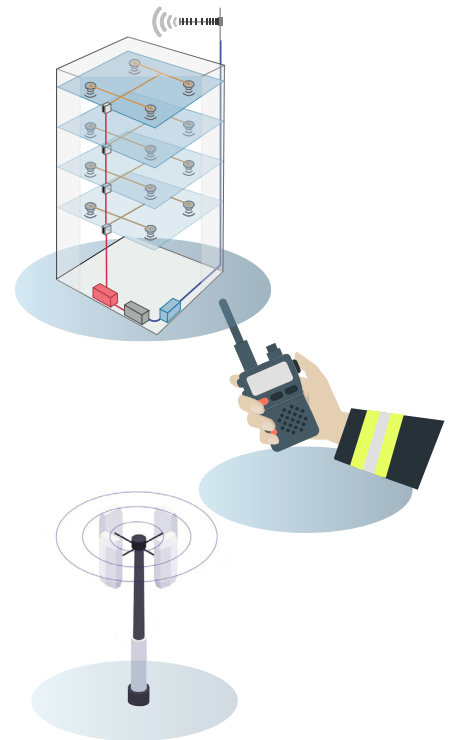
## **Emergency Wireless Communication (EWC):**

EWC is a more general term that refers to any wireless communication technology used by emergency responders. This can include anything from handheld radios to BDAs and DAS systems.



## **Distributed Antenna Systems (DAS):**

DAS is a network of antennas that are strategically placed throughout a building and are connected to a common source via a transport medium (typically fiber-optic cables).



## WHAT'S IN IT FOR ME?

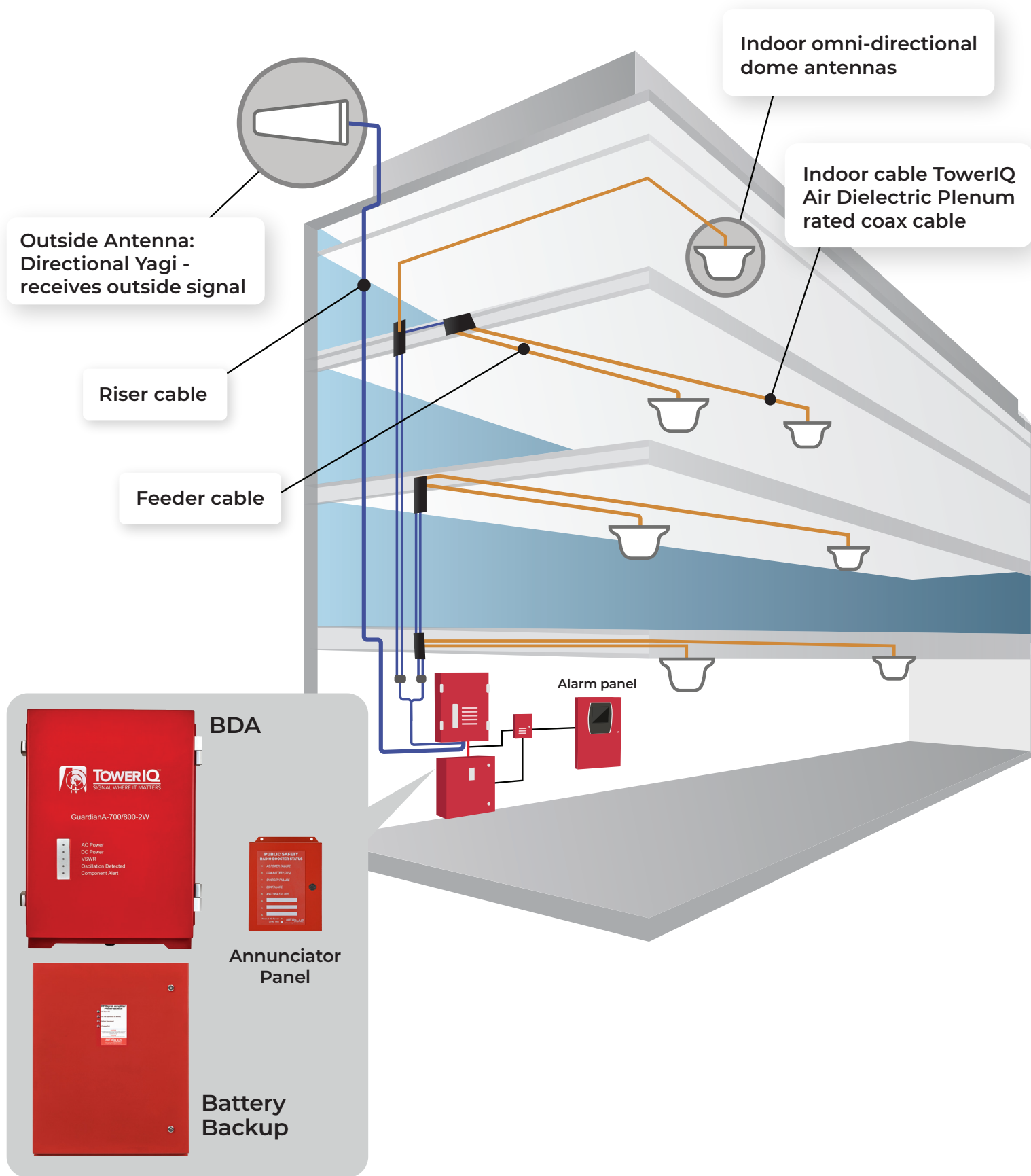
### Added Value

- ✓ Reduce the number of subcontractors managed by the general contractor
- ✓ Offer more efficient testing and maintenance packages to building owners by combining annual BDA and fire alarm testing, making it harder for customers to price shop these services
- ✓ Distinguish yourself from the competition with unique advantages

### Opportunities for Recurring Revenue

- ✓ NFPA Required Testing
  - Annual battery testing for the BBU
  - Annual output power and donor incoming signal testing for the BDA panel
  - 5-year full system recertification including alarm triggers, grid tests, and retransmission agreement renewal
- ✓ Additional central station monitoring required for BDA critical conditions

# TYPICAL INSTALLATION



# GUARDIAN DESIGN SOLUTIONS

COMPREHENSIVE SERVICE FOR BDA PROJECTS

Guardian Design Solutions includes a free, comprehensive pre-sale service designed to empower you to successfully and profitably win Guardian BDA projects. The service offers an extensive project budget estimation, detailing both pre-construction and post-construction costs and services. We apply the expertise and take the guesswork out of the process by ensuring that all potential costs are identified upfront and will meet the approval of the local jurisdiction.

The process is simple – visit [www.tower-iq.com/design](http://www.tower-iq.com/design) to submit your request with project parameters and you will promptly receive everything you need to bid the project. All inquiries are carefully managed by TowerIQ's dedicated ERCES Design Team, ensuring each inquiry is handled to your satisfaction.

Since winning the job is obviously the end goal, Guardian Design Solutions also makes it easy to manage the post-sale services and support to ensure you complete the project on time and within budget. All of these services are included in the initial estimate and can be purchased separately based on the client, project or internal needs.

Guardian Design Solutions makes growing your business in the BDA market easy and successful. Please reach out to your Regional Sales Manager for any support needed throughout the process and let's win these projects together!



**GET STARTED WITH  
GUARDIAN DESIGN  
SOLUTIONS BY VISITING:**

[TOWER-IQ.COM/DESIGN](http://TOWER-IQ.COM/DESIGN)



**VIEW OUR UPCOMING LIVE TRAINING AND WEBINARS**

[TOWER-IQ.COM/TRAINING](http://TOWER-IQ.COM/TRAINING)



# STEP-BY-STEP PROCESS

In order to successfully install an Emergency Responder Communication Enhancement System, there is a specific or nuanced process that you must go through. As long as you follow these processes, most of these potential hiccups and shortcomings that every job can have can be avoided.

- 1 NFPA/AHJ Compliance:** As with any of your jobs, the AHJ is the group that will approve any installation or give you guidance when you must deviate from the code. But what happens when the group that is supposed to give you direction has zero knowledge of the systems being installed? Guardian Design Solutions has the expertise to successfully guide you through the AHJ process in a way that makes it easy and efficient.

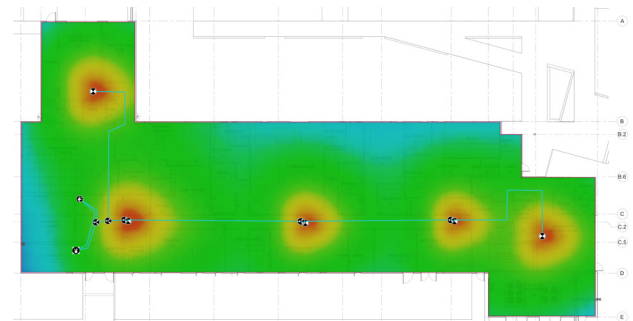


- 2 Phase 1 Pre-Construction Costs & Services:** During this step, for a nominal fee, we will conduct a physical walk of the site with a highly specialized piece of equipment that will help all parties understand what parts of the building truly need enhancement. Since we are identifying trouble areas through this test and not installing equipment throughout the entire facility, this can end up saving your customer a lot of money. During our pre-install grid test we also walk through the building to understand where a head-end location could be located, identify 2-hour rated pathways for an external donor antenna, and provide and try to identify any additional issues that could come up in the iBwave/Design phase that the AHJ could interpret as incorrect or misunderstood. This last step is aptly called DAS Discovery, or Feasibility.



- 3 Phase 2 Post-Construction Costs & Services:** Once we speak with the AHJ, conduct the pre-construction grid test and identify pathways and a head-end location, we now will know how we need to build the system to stay in compliance both locally and by NPFA/IFC national codes. This iBwave design is an important part of the process since this will be your guide to the field team on where to install the system, run cables, which splitters to use where and the locations of each antenna. iBwave is a highly specialized software that all AHJ's would accept as your design for a system.

The next part of phase 2 is Installation and Commissioning. This is where a lot of installers can get lost. Not only can commissioning be difficult but if you install a system without the right attenuation into the system you can actually hurt the larger metro system and put feedback into the macro network, potentially knocking out a tower and endangering First Responders in the area. Once the system has been properly commissioned, a Post-Construction Grid Test must be conducted. This is the final test to show that our system is now installed and working the way it was intended. The goal is to get a grid test with all green grids on it to be able to hand over to the AHJ and give them documentation proving that the system is in fact working.



Example Heat Map

Using Guardian Design Solutions takes many of the headaches out of the administrative and design side of integrating an ERCES into your project. We offer this service to increase your success rate in the ERCES market to 100% and to ensure the building gets their certificate of occupancy on time with as few speed bumps as possible. The most difficult project is always the first one, so let us help you navigate it. We'll successfully help bring your project **"Signal Where It Matters"**.

# GUARDIAN SERIES

TowerIQ's Guardian series are bi-directional signal amplifiers, amplifying multiple Public Safety frequency bands and enhancing in-building two-way radio communication for first responders.



## GUARDIAN A

TowerIQ's GuardianA Public Safety Band signal amplifier enhances in-building coverage for crucial communications, delivering consistent signal for First Responders and other public safety officials who rely on two-way radio communication inside large buildings.

GuardianA is a Class A, 2 Watt, bi-directional amplifier with a maximum gain of 90 dB supporting both the 700 and 800 MHz Public Safety frequency bands.

✓ UL2524 Listed    ✓ Part No. 3996113



## GUARDIAN B

TowerIQ's GuardianB Public Safety Band signal amplifier amplifies both 700 and 800 MHz bands as well as FirstNet for full coverage of the Public Safety frequencies.

The GuardianB is a Class B bi-directional amplifier available as either a .5 Watt or 2 Watt version. The maximum gain of the .5 Watt and 2 Watt version is 80 dB. Both bi-directional amplifiers support the 700 and 800 MHz Public Safety frequency bands including FirstNet.

✓ UL2524 Listed    ✓ Part No. 2W: 3996127 1/2W: 3996134



## GUARDIAN UHF

TowerIQ's Guardian UHF Public Safety Band signal amplifier enhances in-building coverage for crucial communications, delivering a consistent, high-quality signal for First Responders and other public safety officials who rely on two-way radio communication inside large buildings.

The Guardian UHF Class A, channelized 2.5W and 5W bi-directional amplifier has a maximum gain of 90 dB and supports 450-512 MHz Public Safety frequency bands

✓ UL2524 Listed    ✓ Contact us to help determine the appropriate Part#, as this is a custom unit



## GUARDIAN QR700

TowerIQ's Guardian QR700 Canada Public Safety Band signal amplifier enhances in-building coverage for crucial communications, delivering consistent signal for First Responders and other public safety officials who rely on two-way radio communication inside large buildings.

The QR700 is a Class B bi-directional amplifier that services the growing Public Safety 700 MHz bands for Canada. The Guardian QR700 meets Chapter 24 of NFPA 72 standards, improving weak First Responder signals for critical and non-critical areas within the building.

✓ Part No. 3996126

# ACCESSORIES

With a broad range of components and accessories, TowerIQ provides everything you need for a successful installation. We offer multiple types of cabling, connectors, and tools for any type of typical setup. Software solutions also allow you to directly configure your system.



## ANNUNCIATOR

- ✓ Alarm trigger display for both BBU and BDA
- ✓ UL2524 Listed
- ✓ Part No. 3996116



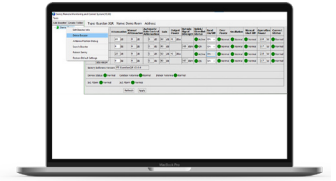
## BATTERY BACKUP UNIT

- In-building power and battery backup solution
- ✓ 24hr back up power for both Class A and B BDAs
- ✓ UL2524 Listed
- ✓ Part No. 3996090, 3996092, 3996094, 3996095



## PCTEL IBFLEX

- All-in-one site survey and commissioning tool.
- ✓ Includes tablet, scanner and software.
- ✓ Part No. 3997001



## SENTRY SOFTWARE

- ✓ BDA Digital Configuration and Channel Activation

## ALL THE CONNECTORS, CABLES, AND ANTENNAS NEEDED TO COMPLETE YOUR SYSTEM



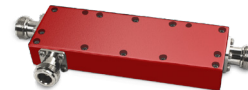
## ALL-IN-ONE CABLE PREP TOOL

- ✓ Drill attachment that easily prepares cable for connectors
- ✓ Part No. 3996131



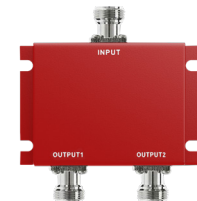
## CABLE CONNECTOR AIR DIELECTRIC CABLE

- ✓ N Male connector for 1/2" dielectric coaxial cable
- ✓ Part No. 3996130



## DIRECTIONAL COUPLER

- ✓ Allows for multiple broadcast antennas
- ✓ Part No. 6dB: 3996028, 10dB: 3996029



## WIDE BAND SPLITTER

- ✓ Wide Band 698-2700Mhz
- ✓ Part No. 2-Way: 399025, 3-Way: 3996026, 4-Way: 3996027



## 1/2" PLENUM COAXIAL CABLE

- ✓ Ultra-low loss air dielectric coaxial cable
- ✓ Part No. 3996168



## MULTI BAND DOME ANTENNA

- ✓ Ceiling mounted omni-directional broadcast antenna
- ✓ Part No. 3996045



## PREMIUM LOW-PROFILE ANTENNA

- ✓ Premium ceiling mounted omni-directional broadcast antenna with metal
- ✓ Part No. 3996140



## DIRECTIONAL DONOR ANTENNA

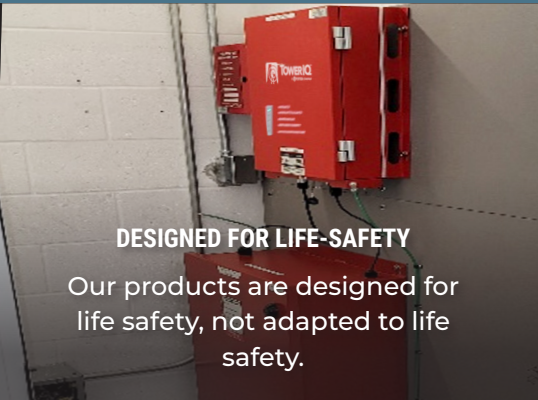
- ✓ Outdoor directional 8 dBi gain donor antenna
- ✓ Part No. 3996048



**TOWERIQ**<sup>TM</sup>  
Potter Global Technologies

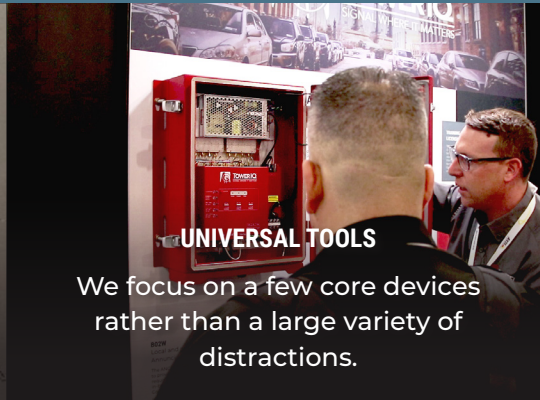
**Our Mission**

To deliver clear, reliable, enhanced in-building communication to first responders during an emergency. We do this by leveraging TowerIQ's innovative ERCES experience with Potter's legacy of dependable life-safety solutions. We are committed to the quality that only comes from a steadfast focus on in-building communications and who they serve.



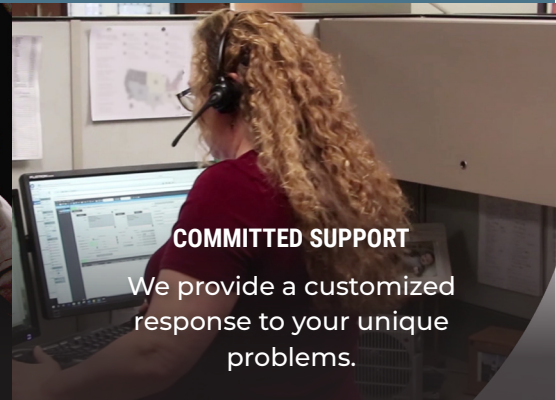
**DESIGNED FOR LIFE-SAFETY**

Our products are designed for life safety, not adapted to life safety.



**UNIVERSAL TOOLS**

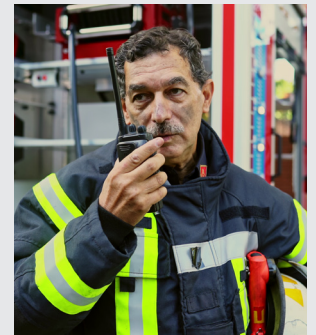
We focus on a few core devices rather than a large variety of distractions.



**COMMITTED SUPPORT**

We provide a customized response to your unique problems.

TowerIQ is honored to offer critical ERCES solutions first responders depend on to deliver in-building communication during emergencies. We are the pioneers in public safety radio communications. When the need for better emergency communications became obvious in New York City in 2001, TowerIQ was formed to develop robust and technologically advanced solutions to the problem. After years of experience managing the entire process from design to maintenance of ARCs systems in New York, we acquired the Guardian product line to expand to the rest of the country and bring what we have learned to the larger BDA market.



That pioneer spirit still runs through our organization and drives us to constantly innovate. Whether we're thinking up new product ideas or helping individual customers develop out of the box solutions to their problems, we pride ourselves on flexibility. However, with the backing of Potter Electric and its nearly 125 years of Fire Systems experience, we have learned quality control processes and the responsibility that comes with working within the life safety industry. With so much riding on our products, you need to know you can trust our designs.

Our entire business is about life safety and how to make sure first responders have one less thing to worry about during an emergency. You can always be sure that no matter the size of the building, TowerIQ will provide

**"Signal Where It Matters".**



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To learn more about our parent company Potter Electric, please visit [www.pottersignal.com](http://www.pottersignal.com)

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