



# Automating Reefer Monitoring in Terminals

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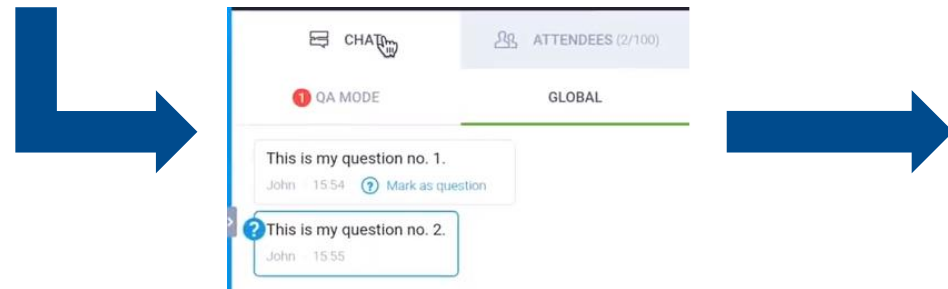
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**EMERSON**

# Agenda

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- **Introduction & Agenda**
- **Monitoring Process on Terminals Today**
- **Benefits of an Automated Monitoring Solution**
- **How can Emerson support your monitoring needs**
- **Q&A**
  - Please submit questions in the chat box in the lower right of you screen



**Lets Get Started!**

# Monitoring Process on Terminals Today

“Manual monitoring of reefer is our only option”

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## Managing a mixture of interfaces to get information

- ISO 10368 standard only covers  $\approx 20\%$  of the global reefer fleet
- No local monitoring standards for built in cellular modems
- Time consuming manual monitoring only viable option for sites to insure their responsibilities for the assets and its cargo
- Once/ Twice daily rounds; cargo risk exposure should critical alarm occur between monitoring rounds





# Benefits of an Automated Monitoring Solution

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## Crew:

- Focus on exception handling with improved reaction time on alarms
- Less movement around the terminal lowering, risk of accidents, and exposure to harsh weather conditions

## Terminal Management:

- Improve efficiency of the team
- Removing cargo claims where alarms were overlooked
- Offering premium service to shippers and offer sharing of reefer data

## Customer:

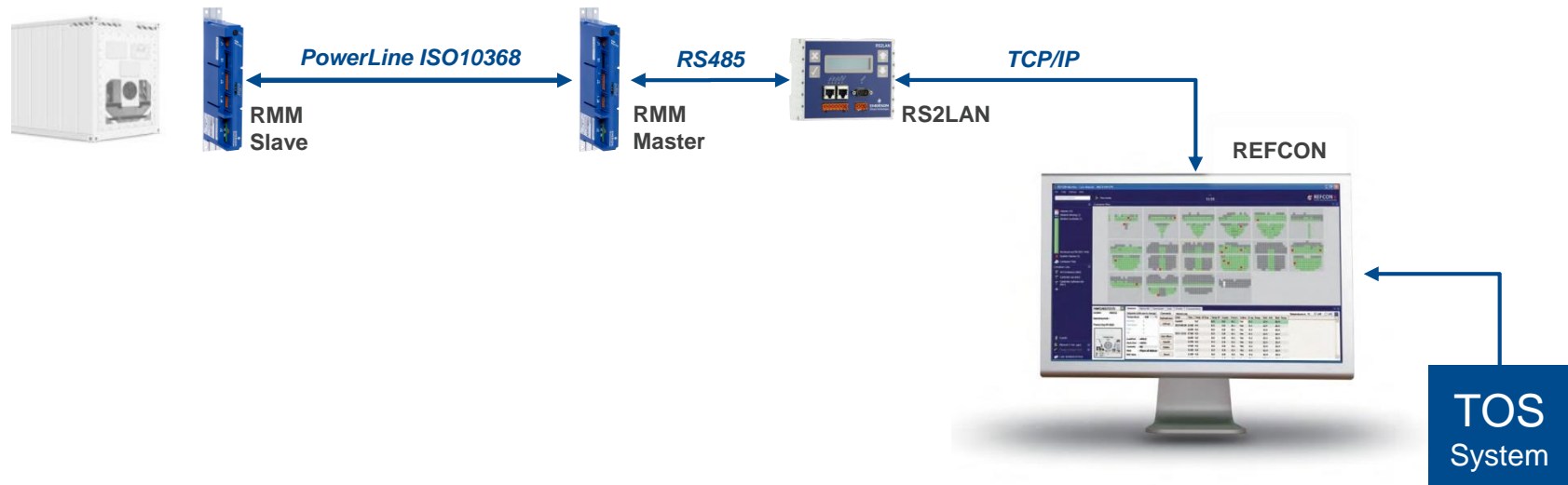
- Confidence & security that the asset and cargo is reliably monitored 24/7



# How can Emerson support your monitoring needs

## Original Powerline ISO10368 monitoring solution

- No terminal solution for full site coverage

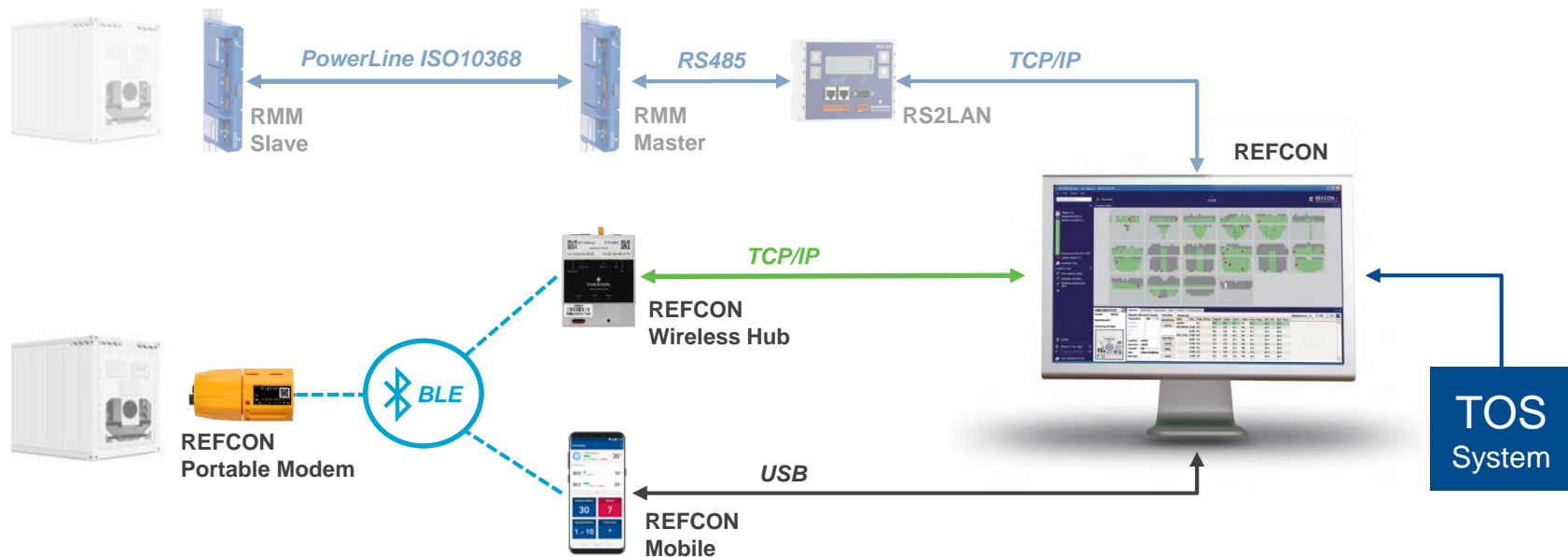


**Stable and Proven Reefer Monitoring Solution**

# How can Emerson support your monitoring needs

## REFCON Portable Modem enabling full site coverage

- Modem stays onsite and connects to the any reefer directly
- REFCON Wireless Hub added to stacks for automatic monitoring 24/7
- REFCON Mobile used to shorten monitoring time in areas not covered by Hubs



**Flexible Monitoring Solution with Full Site Coverage**

# REFCON Portable Modem



- ✓ Connects to all reefers in the market
- ✓ No battery
- ✓ Small and light weight
- ✓ Designed for direct connection to reefer or installed on stack
- ✓ Wireless range up to 100 meters
- ✓ Newest Bluetooth Low Energy 5 wireless technology



# REFCON Wireless Hub

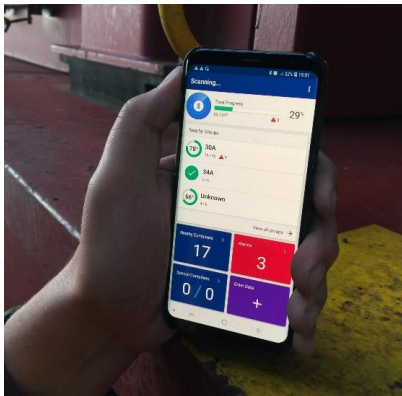
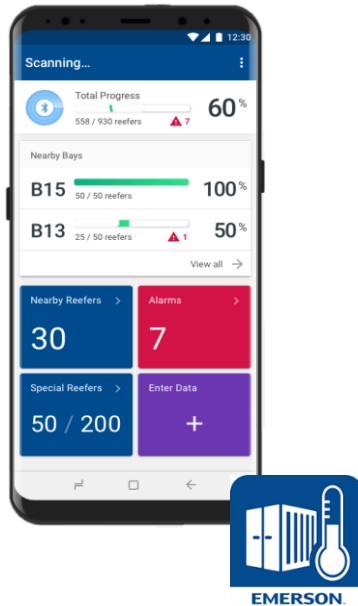


- ✔ Collecting data continuously
- ✔ One Wireless Hub per stack
- ✔ Wireless range up to 100 meters
- ✔ External Bluetooth antenna
- ✔ Connecting up to 300 devices per Wireless Hub
- ✔ Connects to existing TCP/IP infrastructure





# REFCON Mobile

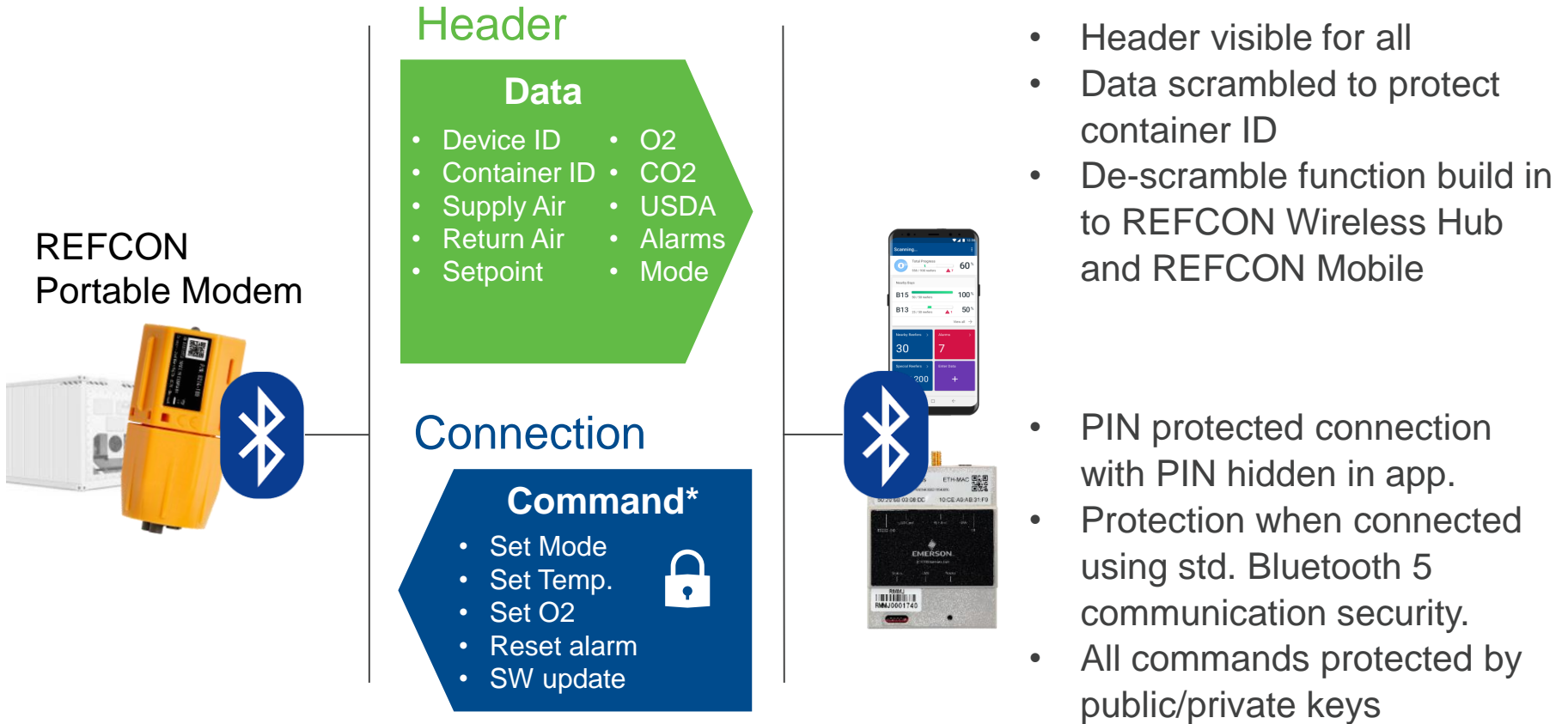


- ✔ Collecting current data during reefer inspections
- ✔ Range pending hardware (approx. 30 to 50 meters)
- ✔ Easy to use interface
- ✔ View collected data and alarms
- ✔ Enter data manually (RDC+)
- ✔ View all nearby reefers
- ✔ Export data to REFCON through USB connection

# Installation Options and Accessories

<h2>Magnet</h2> <p>Fixating modem between use or when extension cables are needed</p> 	<h2>Wall bracket</h2> <p>Installing modem on stack with extension cable to reefer</p> 	<h2>Breakaway Clip</h2> <p>Used together with spiral wire for optimal usability</p> 
<h2>Dust cover</h2> <p>Ensuring IP66 when Modem is not connected</p> 	<h2>Cables</h2> <p>Convertor and Extension cables for connectivity in any situation</p> 	<h2>Spiral Wire</h2> <p>Connecting stack and modem minimizing loss of modems</p> 

# Bluetooth Interface & Security



\*Supported by Wireless Hub



# Advantage by Using REFON Portable Modem



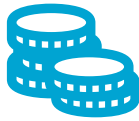
## Improve cargo quality

Alerts you of problems before potential cargo damage



## Improve documentation

Records reefer container data and generated reports automatically



## Reduce Operational cost

Optimizing operational productivity with reduced manual labor and maintenance due to battery less design



## Reduce human errors

Verifies planning parameters and alerts you of mismatch



## Improve personnel safety

Minimize time spent in reefer areas or bays





# Global Contact Persons

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**For more information and pricing please contact your regional sales representative**



Asia

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Thank You for Your Attention

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