Peerless FireConnect – Smart Fire Protection System Monitoring

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Fire Sprinkler International - Amsterdam
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WHAT IS FIRECONNECT?
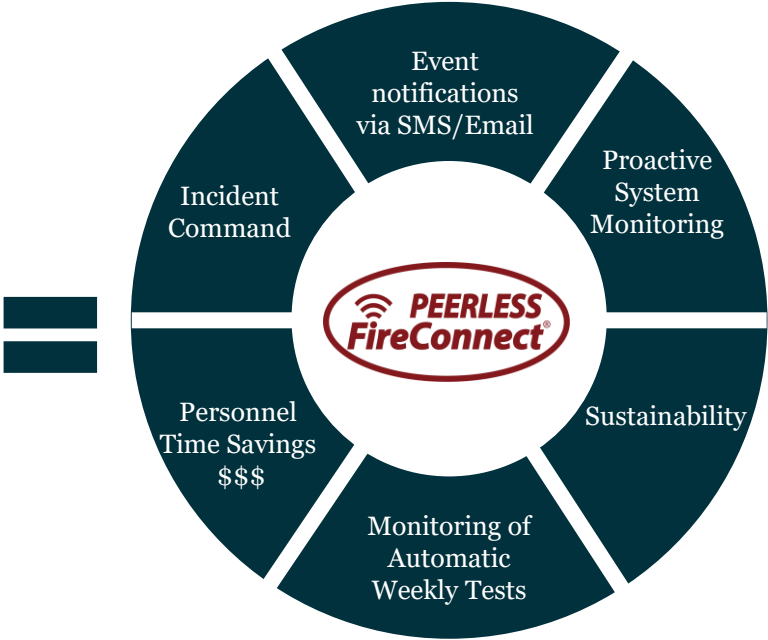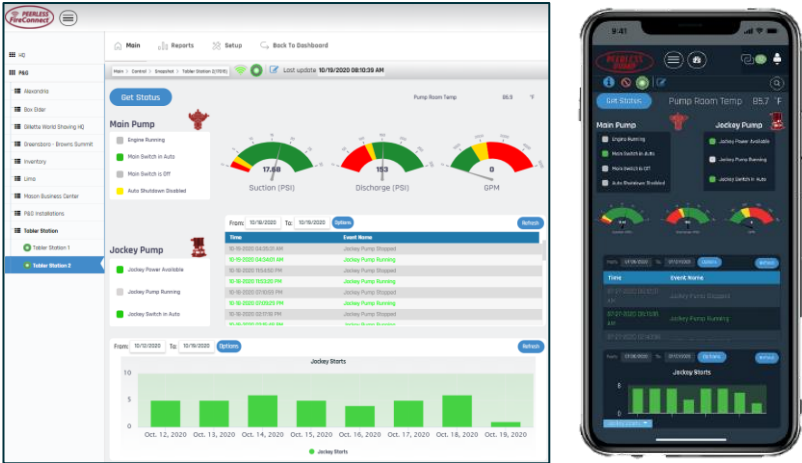
Smart Fire Pump System Connectivity via hardware and cloud-based software
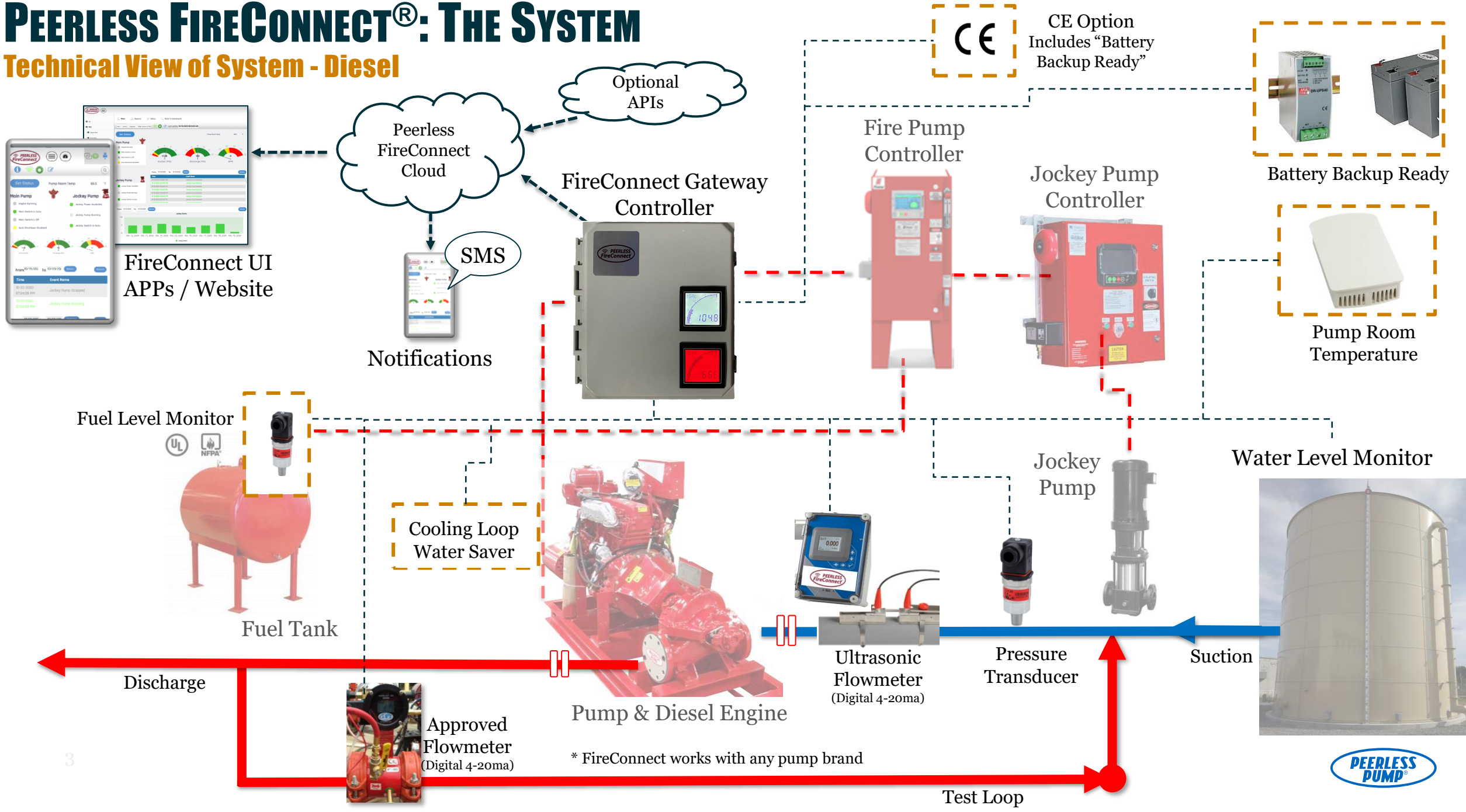
FireConnect Jockey Controller

Cloud-based Software

PEERLESS FIRECONNECT®: THE SYSTEM
Technical View of System - Diesel

CE Option
Includes "Battery Backup Ready"

Optional APIs

Peerless FireConnect Cloud

FireConnect UI APPs / Website

SMS

Notifications

FireConnect Gateway Controller

Fire Pump Controller

Jockey Pump Controller

Battery Backup Ready

Pump Room Temperature

Fuel Level Monitor

Cooling Loop Water Saver

Water Level Monitor

Jockey Pump

Fuel Tank

Pump & Diesel Engine

Ultrasonic Flowmeter
(Digital 4-20ma)

Pressure Transducer

Suction

Discharge

Approved Flowmeter
(Digital 4-20ma)

* FireConnect works with any pump brand

Test Loop

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TWO HARDWARE OPTIONS DEPENDING UPON SYSTEM CONFIGURATION

Suitable for retrofit and new installations

FireConnect Gateway Controller

FireConnect Jockey Controller

FireConnect SENTRY and FireConnect Guardian

Two User Interfaces

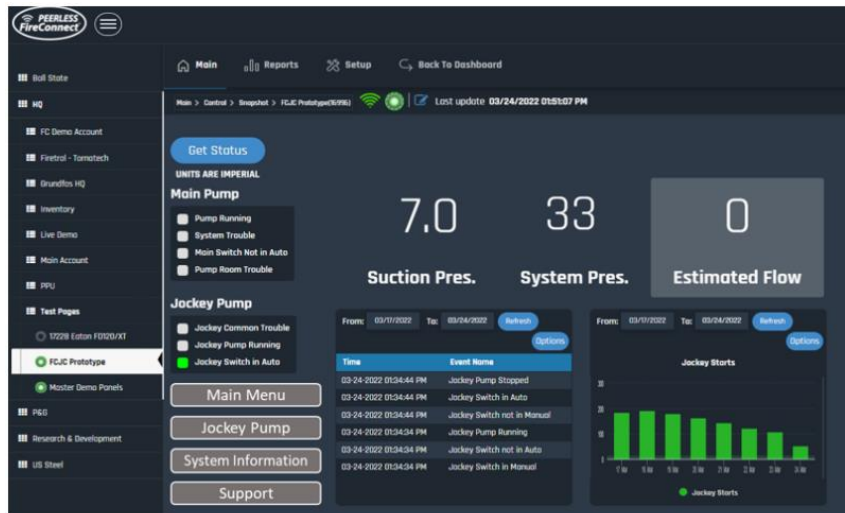| FireConnect SENTRY |
| :---: |
| Use existing non-Modbus Main Fire Pump Controller |

FireConnect SENTRY

Sentry User Interface powered by Modbus-enabled Jockey Pump Controller and non-Modbus Main Fire Pump Controller

Features and benefits include:

•Differential pressure and estimated flow monitoring

•Event logging, including Jockey Pump and Main Fire Pump Alarms

•Jockey Pump run history, useful for leak detection

•Pump Room Temperature

•Customizable alerts for condition changes via SMS & email

•System information and reporting

•Diesel fuel level monitoring

FireConnect GUARDIAN
For use with a Modbus-enabled Main Fire Pump Controller

FireConnect GUARDIAN

Guardian User Interface powered by Modbus-enabled Jockey Pump Controller and Modbus enabled Main Fire Pump Controller

Features and benefits include:

All Features from FireConnect Sentry, plus:

•40+ alerts and data for Diesel Controllers and 70+ for electrics

•Incident Command during fire scenarios including water storage tank supply and time to empty estimate plus optional non-listed flowmeter

•Weekly/Monthly System Test logging

•Options: Listed Flowmeter Test, Closed Cooling Loop, Diesel Fuel Level Monitoring, RiserConnect Monitoring, and iHydrant Monitoring

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CASE STUDIES

Fire Pump system monitoring ensures your system is in an always ready state to perform when needed, going beyond the standard code-mandated alarms

Fire pump remote monitoring gives peace of mind that the pump is ready

- Ensuring pump is ready, in 'auto' and not in 'hand/off'
- Diesel fuel tank level and water supply suction PSI is sufficient
- Jockey pump is running when needed
- Weekly/monthly churn tests are being completed as required
- Easy overview of multiple fire pumps without having to be in multiple places at one time
- Proactive vs reactive – data is available at any time, not just when an alarm sounds -> moving beyond the alarm
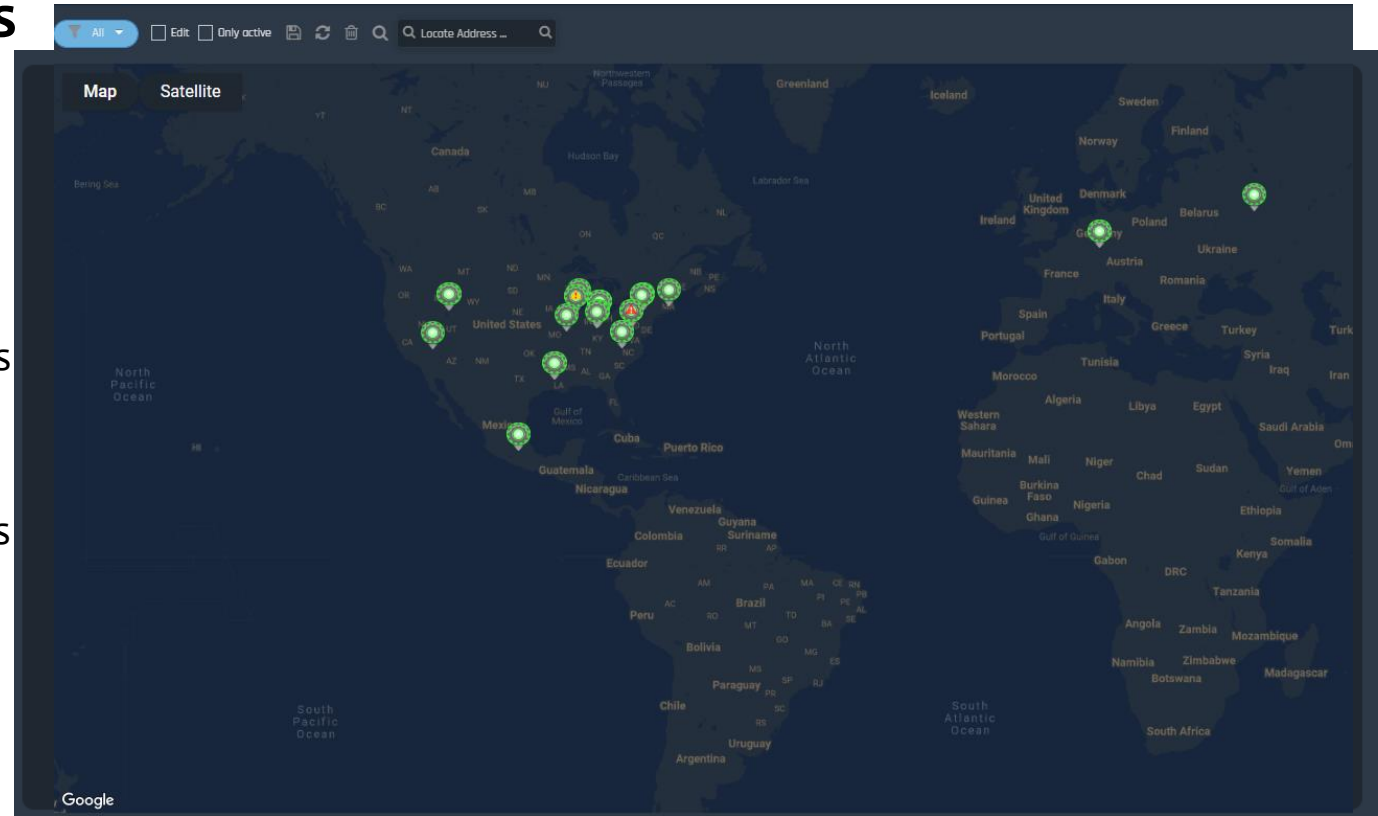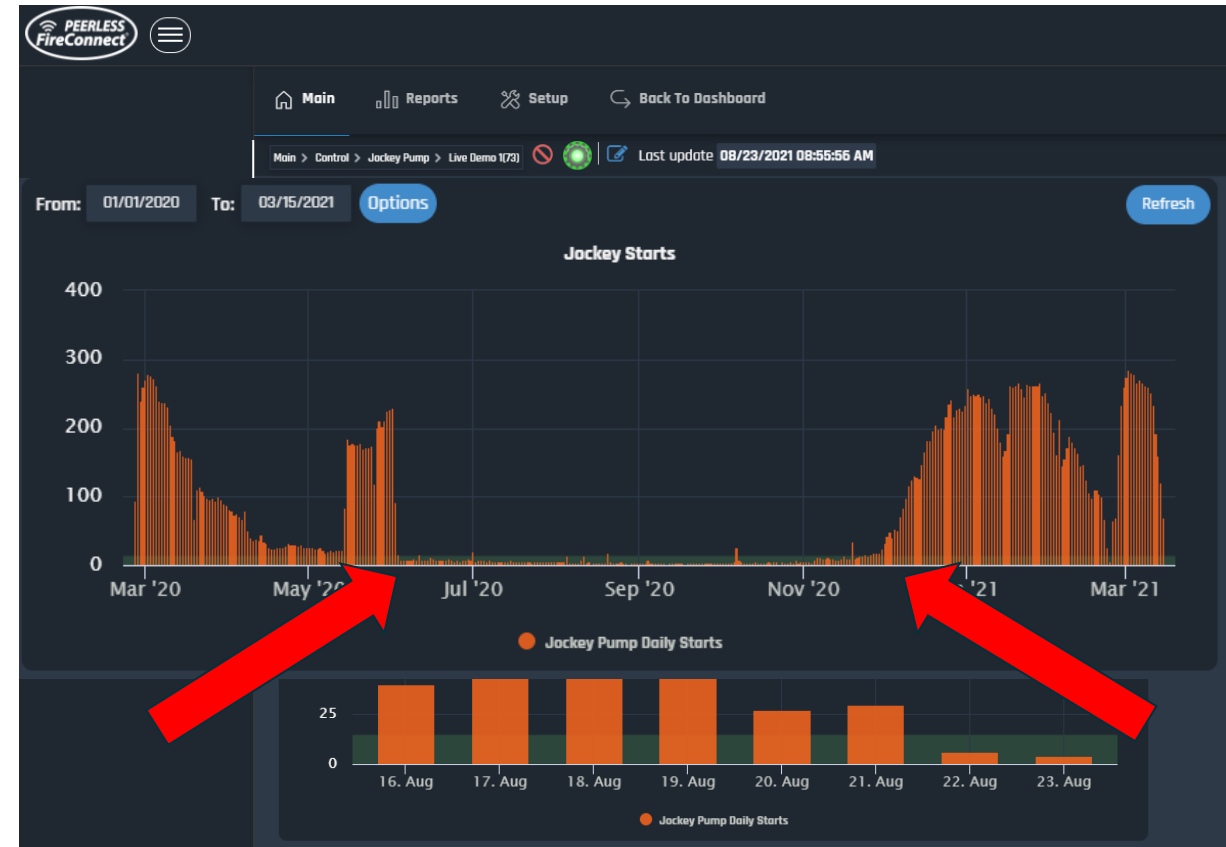
CASE STUDIES

Identify system leaks and water savings opportunities

Jockey pumps are a strong indicator of fire protection system health

- The more a jockey pump runs, the more water you're losing in a system
- Historically difficult to identify demand for the jockey pump
- Run time and cycles give an indication of when it's time to consider replacing jockey pump
- Smart systems can alert when status changes, i.e. when a jockey pump runs more than it historically has
- Example to the right shows the impacts of leaks and identifies when they start
- Estimates can be provided on daily water loss due to system leaks

CASE STUDIES

Prevent unattended fire pump systems from freezing

Low pump room temp alarms are typically picked up as a common or system trouble alarm

- Fire pump controllers can provide an alarm to the fire alarm panels when pump room temperature goes below a user-defined threshold

- If these alerts go unaddressed equipment in pump rooms can freeze leading to easily $100K+ damages plus an impaired fire pump

- Monitoring live temperature in the pump room along with early warning notifications can save a system before it becomes too late

- Many systems lost during the harsh winter in Houston last year

- Remote monitoring of the pump room saved a remote pump house at a West Virginia construction site during an unattended weekend period
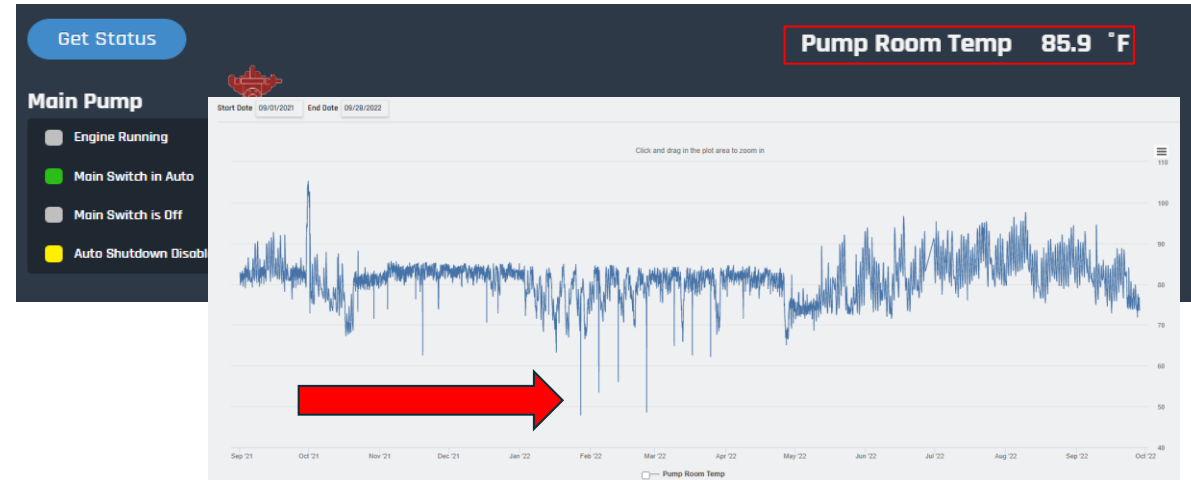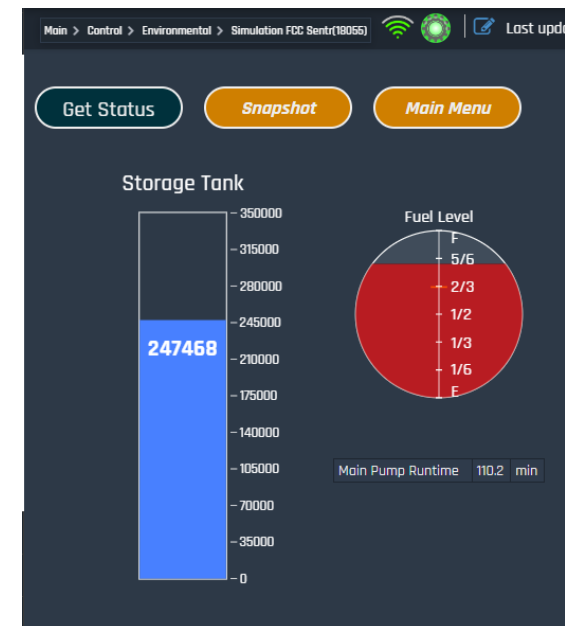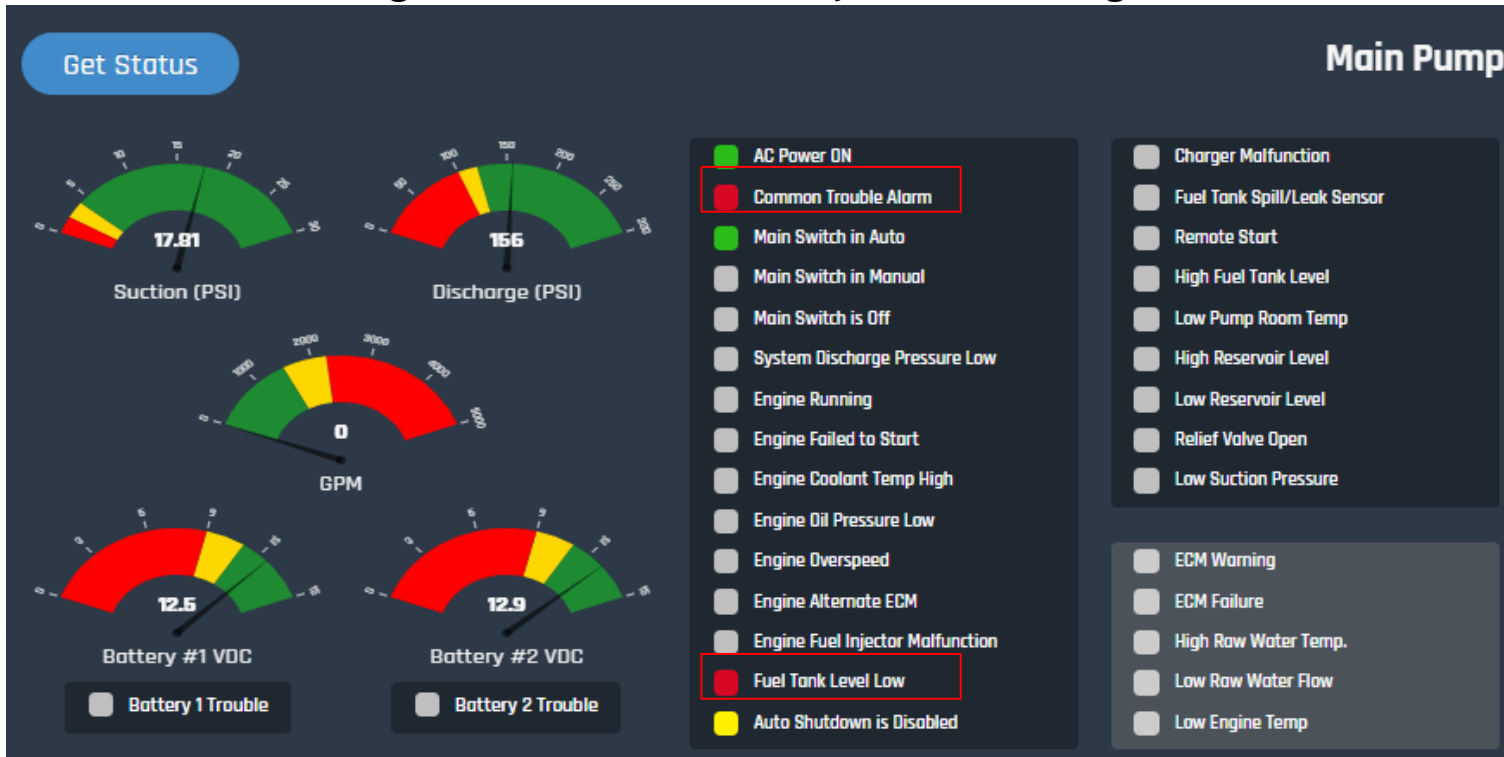
CASE STUDIES

Instead of calling the fire department, call the diesel fuel delivery truck

Fire Pump Controllers have a wealth of data available, but usually only basic alarms display in the fire alarm panel

- What does *Common Trouble* actually mean?
- *Fuel Tank Level Low*
- Head on-site to pump room to diagnose
- Remote monitoring can reduce visits to only critical and urgent items

CASE STUDIES

Diagnose to Dispatch instead of Dispatch to Diagnose

Reduce service visits by understanding system issues before arriving on site

- Issues arise, *Common Trouble alarm*

- Historically a technician is sent to figure out the problem and then often has to return after preparing the correct parts

- Instead, FireConnect and remote monitoring can tell you the issue before you're on site ensuring a more efficient visit
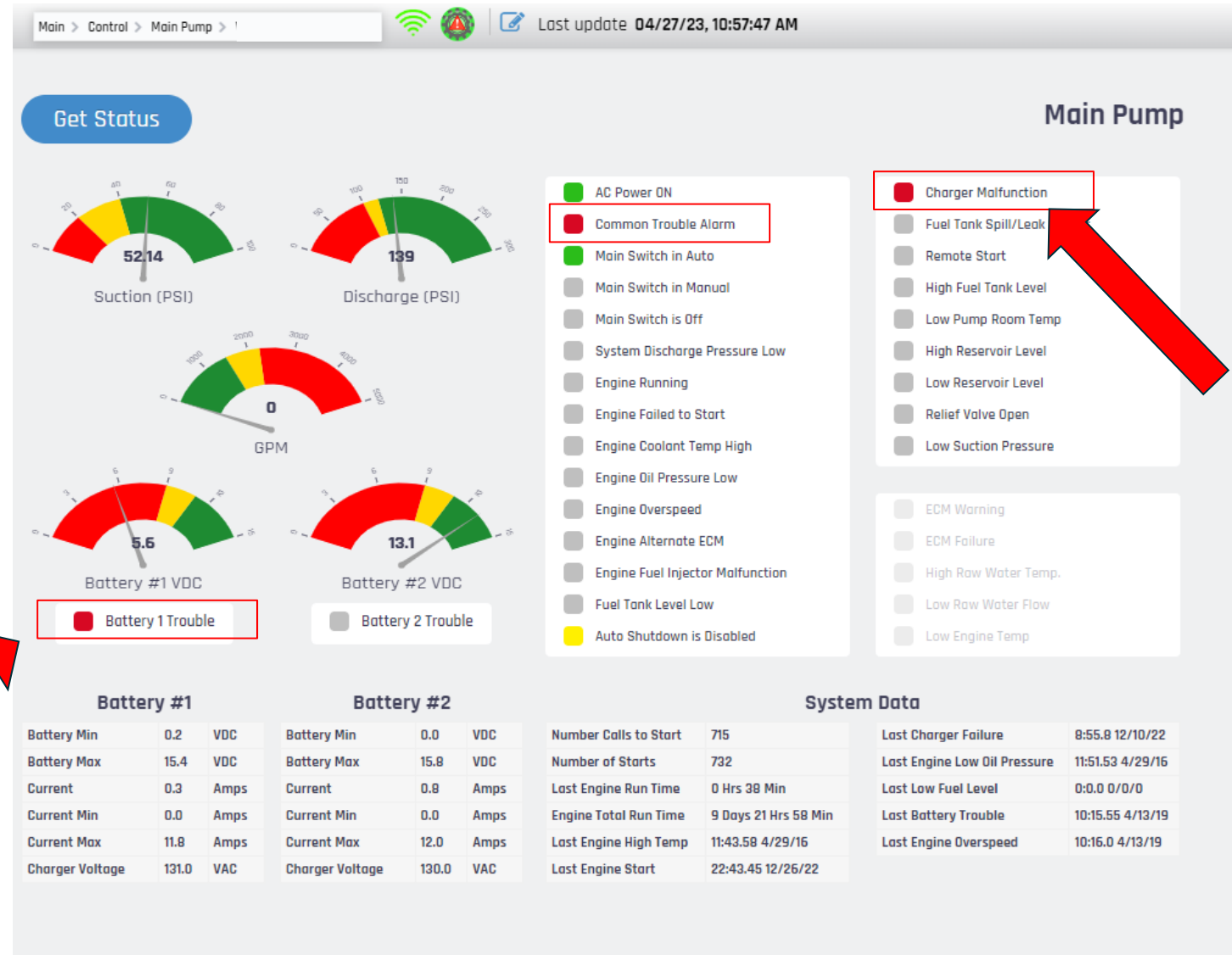
CASE STUDIES

Informed decision making during a live fire incident

Incident Command provides critical information during an event, enabling smarter fire fighting decisions

- An incident command dashboard is a one-stop tool providing critical fire pump performance information during a live event
- Pump is on, is it flowing water?
- FACP may show that sprinkler(s) have activated, but is water flow increasing or maintaining at a given flow for period of time
- Remaining water supply in a storage tank / maintaining adequate suction pressure on a city supply?
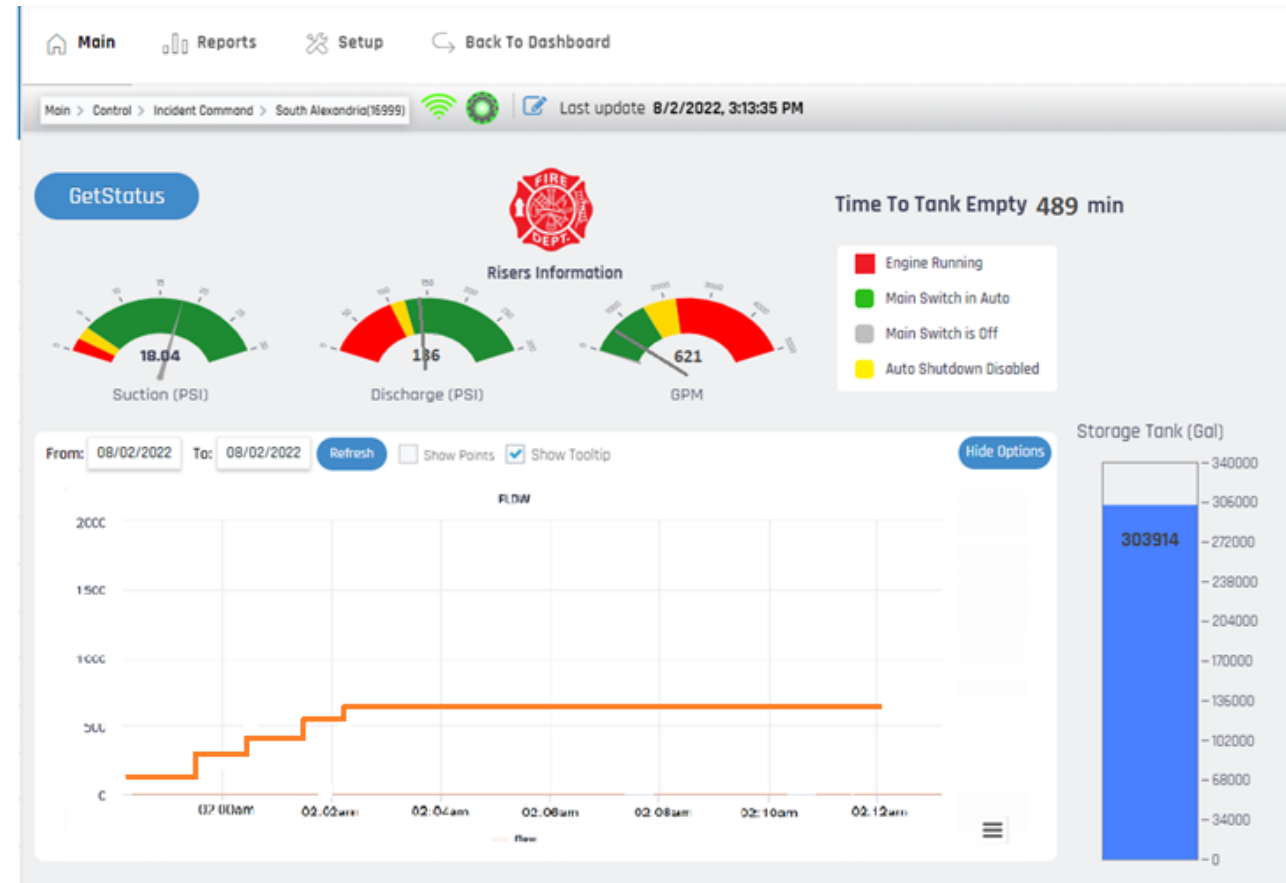
USING DATA TO IMPROVE LOSS PREVENTION & EMERGENCY RESPONSE

Overall fire protection picture improves readiness and safety

- Understanding risk level across multiple sites
  - Knowing when pumps are impaired / in-hand or off
  - Knowing critical data such as water and fuel supply
- Leak issues – alerts when leaks occur
- Proactive maintenance for repair and replacement parts
- Incident Command gives real performance data during a live event helping to improve decision making
- Ensuring compliance with code mandated weekly and monthly run tests
- Adding in other smart fire tech such as iHydrant and RiserConnect to view loop and riser data
- Future state uses AI to analyze equipment performance and to auto-order spare parts, make recommendations etc.
  - Moving further into proactive vs reactive
  - Diesel fuel as an example – automatically issue a PO for fuel delivery

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CODES AND STANDARDS DEVELOPMENT

Previous and Future Iterations of Codes and Standards point to the future of smart fire fighting

NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection - 2022 Edition

- 14.2.6.2: Automated Inspection and Testing Devices and Equipment Section
  - "Shall be proven to be as effective as a visual examination"
- Failures must present as a "Trouble Alarm"
- Annex C included "Fire Pump Room Connectivity" opening the door for further remote monitoring applications

NFPA 25 Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems - 2023 Edition

- Proposed change to response for qualified on-site personnel, **4 hours**
- Effectively opens the door for weekly/monthly automated testing of fire pumps (no flow)

COMING SOON:

NFPA 915 : Standard on Remote Inspections

- Coming Soon

Factory Mutual : FM1330 Fire Pump Monitoring and Automated Testing

- Draft Standard Released for comment
- Currently approving IOT enabled devices, as displayed at NFPA C&E 2022, Boston

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QUESTIONS?

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