
Ogauge

Application Note

IOT in Firefighting Systems



PRESSURE GAUGE | SWITCH | TRANSMITTER | DATALOGGER

IOT in Firefighting Systems

Preface

In view of the various news reports on outbreak of fire and many such similar incidents occurring time and again that result in serious loss of property, casualties and even loss of innocent lives, the recent unfortunate outbreak of fire at Tardeo in Mumbai has brought forth some serious points for immediate attention and actions pertaining to the present fire hazard management system.

We see such news time and again, but not much is done once the heat dies down. The recent Tardeo fire saw some serious deaths and loss to property.

The firefighting system, though present, was not operational due to absence of required water pressure needed to activate the system.

What is more, news paper reports says there were 1568 fire incidents reported in high rises in the past 10 years.

And, yet we do not have a systematic method of ensuring the working of the fire safety systems installed in such buildings.

Firefighting systems typically have a jockey pump, and one or more main pumps which will start in a cascading style if sufficient water pressure is not built up when fire breaks out.

However, there is a need to check if the jockey pump is working, that the water pipe is actually pressurised, and that there are no leaks in the pipeline.

Proposed system features

The proposed system should have all the features mentioned below :

- Four automatic relay switches to perform ON and OFF function to operate the jockey pump and other pumps well in time.
- Log the water pressure value in the pressurised pipe at regular and desired intervals.
- Provide the exact location where the fire safety system is not maintaining required water pressure and levels for the pumps to operate.
- Keep a real time check on the functionality of pumps of fire safety system that are already installed or will be installed in future at all industrial and residential buildings.
- Collect, record and transmit real time data to the users and the fire department.
- Provide real time notifications and timely alerts if adequate pressure and level is not maintained in water hoses of the safety system in building.
- Be password protected, completely tamper-proof and secured from possible unwanted human overriding and sabotage.
- Bring more awareness about fire safety and encourage the users and residents of such buildings to be more actively involved in preventive maintenance of their existing fire safety systems
- Finally, all this data can be supervised from any remote location through a cloudbased system as this data is maintained on cloud servers.

Proposed Solution

In order to prevent huge losses of property and innocent lives, the R&D team of Oguage has come up with unique solution that has been tested and has been proven to be accurate under necessary parameters to ensure all above mentioned points.

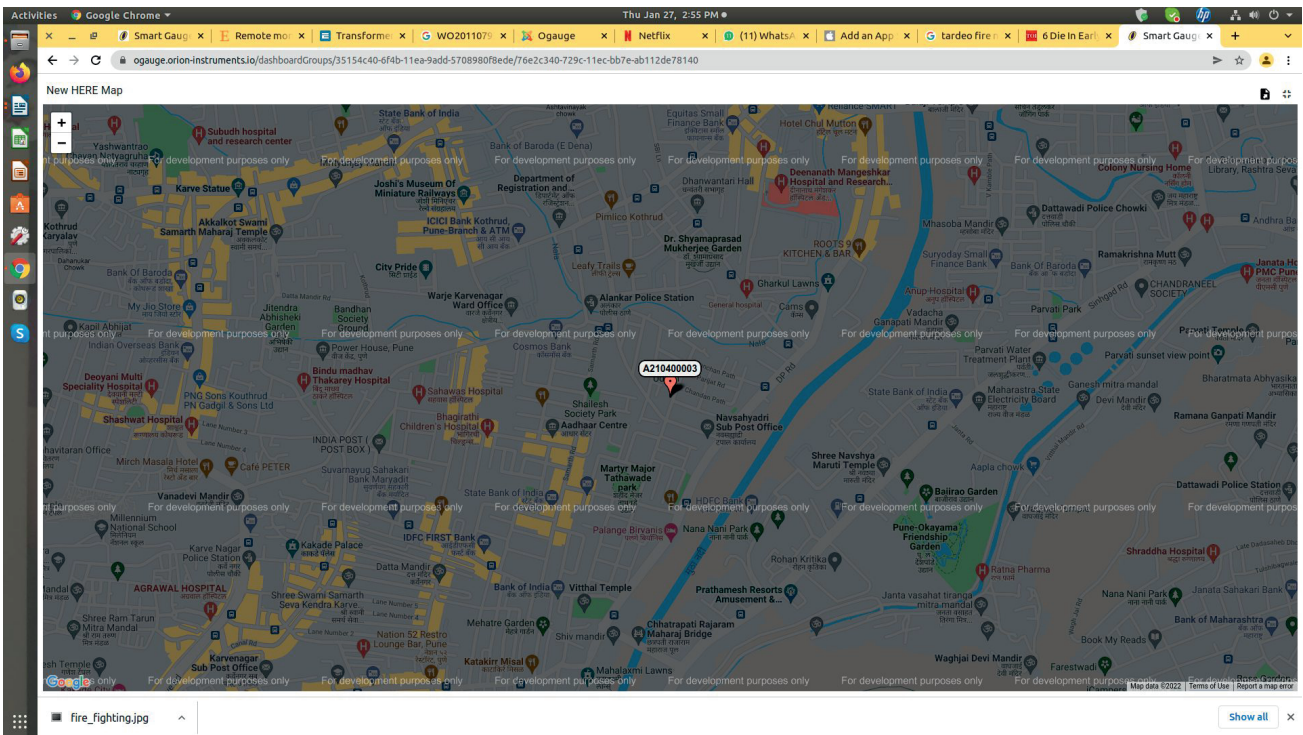
The Fire Department will be provided with a system, where it can monitor real time data of individual installations, and be able to access it's working in real time. Any fault will be indicated not only to the key residents or users of high-rise buildings, but also to the fire department via prompt notifications including the location of the installation, for timely action. The software solution provided on data centre will give an audit trail of the pressures in each installation, a real time compliance.

Implementation of the Ogauges will not only save loss

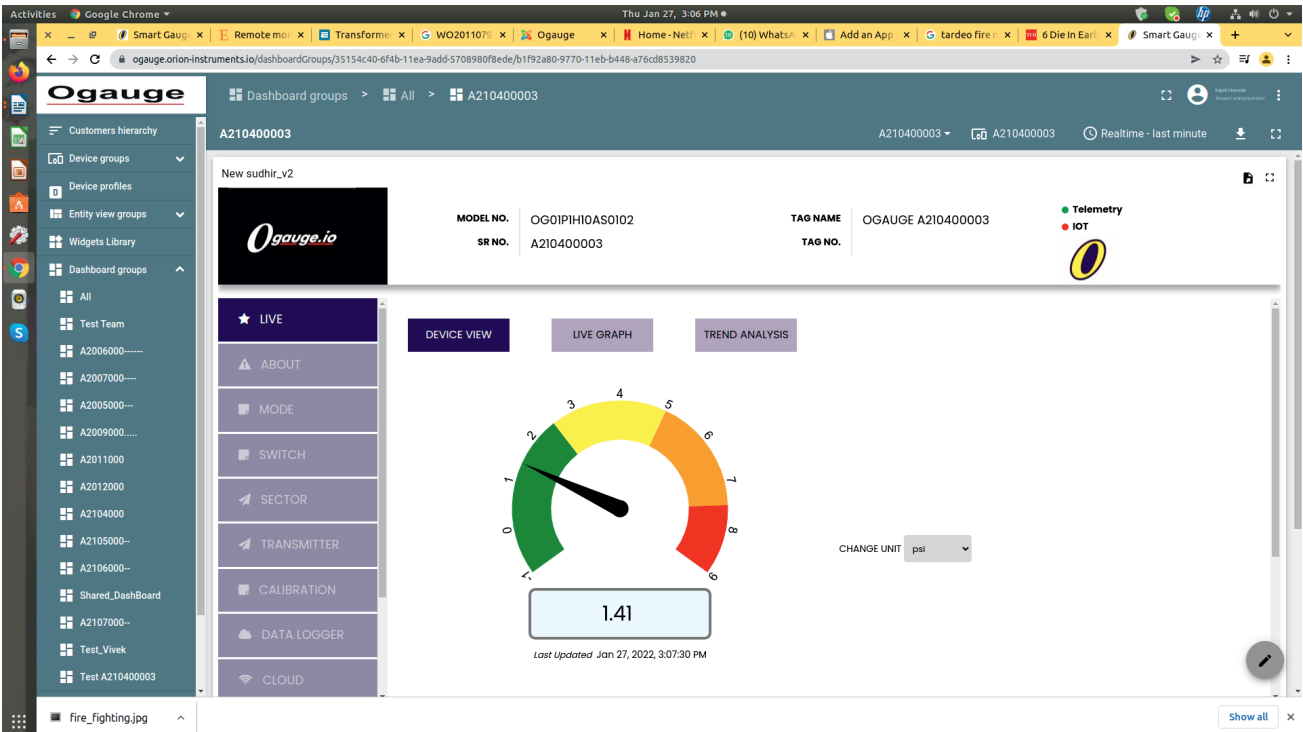


Some sample dashboards are given below :

Sample dashboard map for geolocation



Sample dashboard for live pressure



Sample dashboard for relay

The screenshot shows a web browser displaying the Ogaugue dashboard. The main content area is titled 'A210400003' and shows a 'New sudhir_v2' device. The device information includes Model No. OG01PIH0AS0102, SR No. A210400003, Tag Name OGAUGE A210400003, and Tag No. A210400003. The dashboard features a sidebar menu with options like LIVE, ABOUT, MODE, SWITCH, SECTOR, TRANSMITTER, CALIBRATION, DATA LOGGER, and CLOUD. The main configuration panel for 'RELAY 1' includes fields for Lower Limit (N), Lower Delay (N SEC), Upper Limit (N), and Upper Delay (N SEC), each with an 'Enter new value here.' input field. There is also a 'MANUAL RESET' toggle and an 'UPDATE' button. Below the configuration fields, there are sections for 'On achieving Lower Limit send email to', 'Lower Limit email text', and 'On achieving Upper Limit send email to', each with an email address input field.

Additional dashboards can be prepared based on requirements. Some part of it also can be made public.

Typically following events can be monitored :

1. If the pipeline is pressurised
2. How many times the jockey pump started in a given period
3. If the gauge is transmitting data or not. All main events will be logged for analysis later in audit trail, in the event of a fire.

The auditing of fire systems thus can be in real time, and not periodically.

This can be an advanced technological step for establishing a foolproof system for preventing fires and deaths.

Note : As efforts are made constantly to improve both design and method of manufacture, the apparatus supplied may differ in detail from illustration and data printed. Please check the specifications while ordering



Certificate No.: FM 72815

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