

Pi^π Technical Note 152

Remote Access - LIVE DATA

Introduction

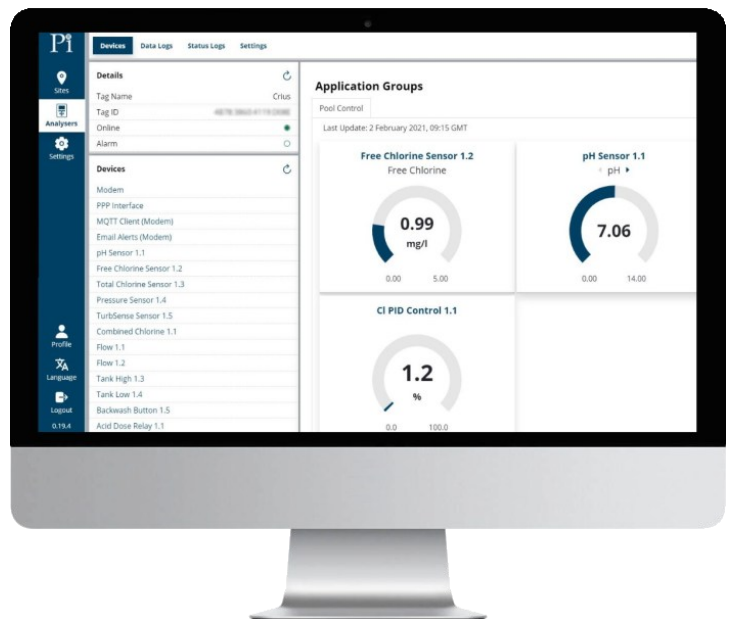
Process Instruments has always been a leader in developing new technology and has offered a cloud based remote access service for our CRIUS[®] analyser for over 15 years! The latest iteration of remote access, is called Control InSite[®] and is now a key part of our solution toolbox.

Control InSite[®] allows you to do everything you can do in front of the analyser, remotely. This has kept engineers safe during COVID. Customers have also seen the number of engineer callouts drastically reduce, saving them time and money.

Pi's sleek and modern remote access solution Control InSite[®] now utilises MQTT (an Internet of Things communications protocol)

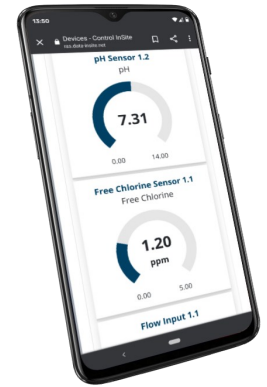
The CRIUS[®]4.0 is the first analyser in the world to utilise MQTT, allowing for real time data without a delay. Here are some of the other features of our remote access:

- **User interface** - a modern and intuitive user interface makes using Control InSite[®] simple. Anyone requiring training can now be trained remotely using remote access and Teams or Zoom.
- **Speed** - the service now runs around 50 times faster than its predecessors, allowing users to connect and download the current sensor values and settings in under 30 seconds (test performed on a CoagSense coagulation controller with 27 different devices such as sensors).
- **Reduced data costs** - by making the connection between the server and analyser more efficient, Pi has reduced the amount of data required for nearly all tasks thereby significantly reducing costs.
- **SIM card** - by utilising IoT protocols, CRIUS[®]4.0 remote access can use any data-enabled SIM card.
- **Customer branding** - on request, Pi can brand the remote access theme to promote a customer's brand.
- **Data analysis** - the graphical interface is a powerful and flexible tool for viewing your sensor data. The way we handle your analyser's data means that every single data point is stored in the cloud, allowing a user to download 3 months' worth of data with a single click.
- **Email and text alarms** - direct from the server, cheap and reliable to up to 5 SMS recipients and 5 email recipients.
- **Data limit** - users can now limit how much data each analyser can use per day, meaning no unexpected data costs.



So what can Control InSite® do for you?

The remote access service has always been designed to save you time and money by allowing you access to the analyser and its data from anywhere in the world. Now remote access can assist as a tool in doing a lot more:



- **Remotely checking and changing settings for customers who may not be confident in doing so or who may not have access to the analyser.**
- **Allowing Pi's service team to temporarily remotely connect to the analyser if customers have an issue and are unsure about how to solve it.**
- **Easily view when maintenance is required or due on analysers, allowing users to efficiently plan which sites to visit and when.**
- **Know when alarms activate on the unit within seconds by enabling text and/or email alerts direct from the analyser.**
- **Tune control values to optimise dosing without the need to visit the site.**
- **Analyse stored data to investigate incidents, explain issues or validate the process.**
- **Save money by reducing the number of callouts and the number of miles your engineers travel.**

But what about security?

MQTT is an encrypted 'Internet of Things' communications protocol designed to provide excellent security, so no worries there.

How does user access work?

Each user has their own username and password. This means that what they see and what they can do can be customised so only authorised users can make changes.

Conclusion

Using MQTT means that communication with the CRIUS®4.0 is quick, inexpensive, reliable and secure. The frequency of communication that MQTT allows means that the data you are looking at is effectively live. The size of the packets means that there is no increased data overhead so the costs are effectively the same or lower than other communications protocols that can't provide live data.

The way the communications works is that the CRIUS®4.0 is in communication to a cloud based 'broker'. It is then possible for other cloud based services to 'subscribe' to the data of that CRIUS®4.0. This means that at the same time the CRIUS®4.0 is talking to Control InSite®, it can be talking to a data storage and reporting portal like Data InSite® from Pi or another proprietary portal.

Control InSite® is cloud based meaning it is accessible from any internet enabled device anywhere in the world, meaning you can access it without even getting into your car or standing in front of the analyser. This feature is one of the biggest advantages of Control InSite® and has been particularly useful during COVID, a time when reducing the number of site visits has been of utmost importance.

We can provide demos of Control InSite® over Teams or Zoom. Please contact Pi to arrange a demonstration.