

Pi^π Technical Note 30

Remote Access by GPRS Modem SIM card requirements

Introduction

The Process Instruments remote access functionality is based on a 2G or 3G modem, available from Pi as an option, which will require a SIM card.

Alternatively, if your facility has a LAN (Local Area Network) and it can access the internet then you don't need a modem, just a LAN card available from Pi and integral to the CRIUS® controller, and therefore no SIM card.

In order for the cloud based Remote Access application to talk to the Pi controller, it needs to be able to uniquely identify the SIM card housed in the controller. There are two main possibilities for how this can work, all of which are open to Pi's customers.

Fixed (static) Public IP

This is a SIM card that has a publicly addressable IP address that doesn't change.

Pros

- Simple
- Secure
- Readily available
- Pi's new remote access will not accept spam data so no unexpected costs
- Low cost

Cons

- Not available in all countries (e.g. New Zealand, Ireland etc.)
- Only available from specialist suppliers

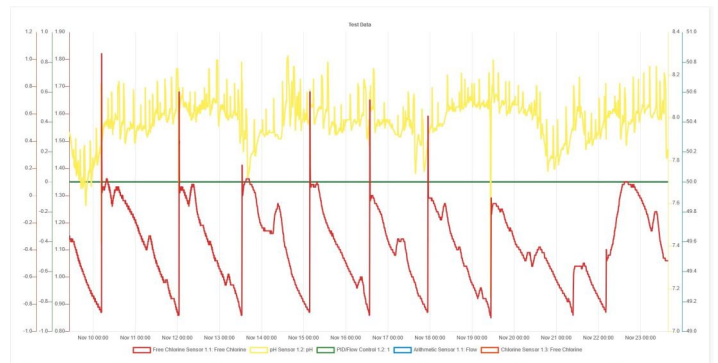
The fixed public IP SIM card offers the simplest, most cost effective method of SIM card enabled communication if it is available in your country.

Fixed (static) Private IP

This is a SIM card that can be assigned an IP address that can only be accessed behind a VPN (Virtual Private Network). A VPN can be set up by your mobile provider or you can take advantage of the Pi VPN (but this will require you to buy your SIM cards from Pi's supplier which may not be cost effective outside Europe).

Pros

- Most secure
- Readily available
- Immune to spam
- Future proof



ID	Type	Time	Message
2186	Status	2018/01/17 14:11:49 GMT	Free Chlorine Sensor 1.1 Free Chlorine calibration:Conversion is 16.68 mA
2185	Status	2018/01/17 14:11:49 GMT	Free Chlorine Sensor 1.1 Free Chlorine calibration:Value is 1.57 ppm
2184	Status	2018/01/17 14:11:23 GMT	PID Control (Cl) 1.1 mode changed from Manual to Automatic
2183	Status	2018/01/17 14:11:19 GMT	PID Control (Cl) 1.1 mode changed from Off to Manual
2182	Status	2018/01/17 14:11:03 GMT	Login by user Mike R
2181	Status	2018/01/17 14:10:55 GMT	Login attempt for user Wes A failed
2179	Status	2018/01/17 12:21:33 GMT	Free Chlorine Sensor 1.1 Free Chlorine error cleared:Alarm 1 active
2180	Status	2018/01/17 12:21:33 GMT	Free Chlorine Sensor 1.1 error cleared:Sensor data alarm active
2177	Status	2018/01/17 12:19:11 GMT	Free Chlorine Sensor 1.1 Free Chlorine error:Alarm 1 active
2178	Status	2018/01/17 12:19:11 GMT	Free Chlorine Sensor 1.1 error:Sensor data alarm active
2175	Status	2018/01/17 12:19:07 GMT	Free Chlorine Sensor 1.1 Free Chlorine error cleared:Alarm 1 active

Cons

- Requires a VPN
- Slightly higher cost
- Requires a cloud installation of the Pi remote access application on a server configured to use the VPN

If you only intend to ever operate a few instances of Pi's remote access then connecting via the Pi VPN is the simplest option. If you are to be a multi-user of Pi's remote access then it may be preferable to install your own instance of the Pi cloud application on your own cloud servers.

Conclusion

If you are able to access Fixed Public IP SIM cards then this is the best route to go. If you cannot then a private access Fixed IP SIM card behind a VPN is the best way to go.

If all this is very confusing then don't worry! The flow chart below can help you choose the communications option for you, or alternatively contact us or your local sales contact to check that you have the best solution.

