

Pi^π Technical Note 31

How To Specify A Pi Analyzer

Introduction

The full range of controllers from Process Instruments (CRONOS® and CRIUS®) are capable of a wide variety of measurement and control options that have been specifically designed to make process control as easy as possible. The controllers offer excellent flexibility for inputs and outputs allowing them to be connected to the majority of external hardware. The controllers also come packed with a whole host of communication capabilities designed to offer connectivity to other systems. This technical note outlines how to specify a Pi analyzer.

How To Specify A Pi Analyzer

1. Choose between a CRONOS® or a CRIUS®. This decision will depend upon the number of I/O you need and the functionality you need.

CRONOS®



The CRONOS Pi analyzer is a rugged, industrial-grade device with a blue front panel. It features a grayscale display showing various data points and a control panel with several buttons and a central joystick. The Pi logo is visible in the top left corner of the display area.

- High Quality - Lowest Cost
- Up to 2 sensors
- Up to 4 analogue outputs*
- Multilingual
- High resolution grayscale display (color display optional)
- 1 comms card (no remote access)
- Graphing and datalogging (downloadable data logs optional)
- Up to 8 relay outputs
- Up to 8 digital inputs

CRIUS®



The CRIUS Pi analyzer is a rugged, industrial-grade device with a blue front panel. It features a color display showing various data points and a control panel with several buttons and a central joystick. The Pi logo is visible in the top left corner of the display area.

- Highest Quality - Low Cost
- Up to 16 sensors
- Up to 32 analogue outputs*
- Multilingual
- High resolution color display
- Up to 3 comms cards (remote access)
- Graphing and datalogging (downloads)
- Up to 32 relay outputs
- Up to 32 digital inputs

For more information please see the individual brochures for CRONOS® and CRIUS®

**There are a maximum number of I/O slots in each unit. Up to half of them can be used to attach sensors. Any slots free can then be used for analogue outputs.*

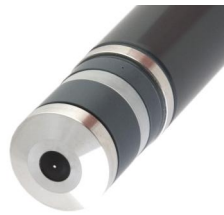
2. Choose your primary measurand, e.g. Conductivity. That means you are starting with a CRONOS® or a CRIUS® ConductiSense. (HaloSense is for chlorine, OxySense is for dissolved oxygen, OzoSense is for ozone etc). For a full list of

available measurands, please visit our website, www.processinstruments.net.

3. Choose any other inputs (sensor bundles) that you might want as well, e.g. pH or Free Chlorine etc. For a full list of available sensors, please visit our website, www.processinstruments.net.



pH Sensor



Chlorine Sensor



ORP Sensor

4. Choose any flow cells or autoflushes that you might need for your sensors.



Double Open Flow Cell

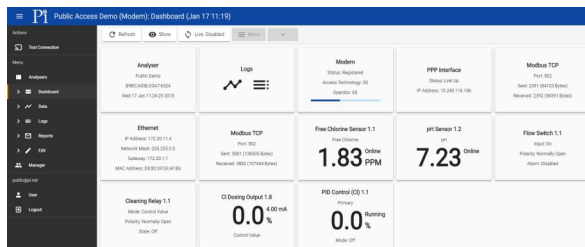


Autoflush Cell



Single Closed Flow Cell

5. Choose how many digital inputs (for things like flow or level switches) you will need.
6. Choose how many digital outputs (relays) you will need. Don't forget that a PID control will need either a relay or an analogue output to go with it.
7. Choose how many analogue outputs you will need to relay information or control a pump. Don't forget instruments and bundles don't come with these as standard. Also don't forget that a PID control will need either a relay or an analogue output to go with it.
8. Choose any extras you want like PID control (you will need one per measurand that you want to control).
9. Choose any communications options that you need, like Profibus or Modbus or Remote Access.

A screenshot of the Pi Public Access Demo (Ethernet) logs. It shows a table of system events with columns for ID, Type, Time, and Message. The logs include status updates for the Free Chlorine Sensor 1.1, PID Control (C1) 1.1 mode changes, and login attempts for user Mike R and user Wes A.

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 (C1) 1.1 mode changed from Manual to Automatic
2183	Status	2018/01/17 14:11:19 GMT	PID Control (C1) 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

Remote Access Screenshots

And you're done! Send all that to one of Pi's sales team in your country or direct to Head Office in the UK and we will send you your quote by return. For more information, visit www.processinstruments.net or contact us on +(44) 1282 422835 to speak to one of our team of application specialists.