# Landis & Gyr
# Powers System 600
# Device Driver Guide

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# 1. PS600 Device-Type

The Powers System 600 Controller, from Landis & Gyr, (now Siemens), is supported by the PS600 **Device Type** drivers in WebAccess.  The PS600 Device driver reads and writes directly to virtual IO Power 600 Controller Module, Protocol Type 2 (P/N 545 700) via the MMI port.  This uses and ASCII based protocol, which emulates commands normally used via HyperTerminal.

The current version of this driver (July 2005) is limited to reading and writing to virtuals, both Analog and Digital.  It has only been tested using virtuals, but it may be able to read and write IO.  It will automatically login using any user-defined password.  We have only tested with virtual points so we don't know if it can write to IO. There are many features that are not supported, like time, alarm, enable/disable, priority, etc.

The read and write capabilities of this driver are equivalent to the following SCU operator commands:

Command a Digital Point:          PCN ptname  
                                        PCO ptname

Command an analog point value:    PCV Value ptname

Login:                                H  
                                        Password

Log all points in cabinet:          PL

### IO Tags

A **Tag** reads only <u>one</u> **virtual** of a Controller Module (a cabinet).  WebAccess tag names can be up to 21 characters. (Note that the Controller module has tag names that are 6 characters. These will be the address of the WebAccess tags).

### Parameters

WebAccess supplies asset of parameters to use as a template for Tag configuration.

Two parameters are supplied for building tags. The parameter type must match that of the tag in the Controller (A for Analog Tags, D for Digital tags). User can create their own parameters, but the parameter type must match that of the tag in the controlled (analog = analog, discrete = digital).

| Parameter | Descrp | Part Number | Address | Start Bit | Length |
|-----------|--------|-------------|---------|-----------|--------|
| A | Analog Virtual | 545/700 | Ptname | 0 | 16 |
| D | Digital Virtual | 545/700 | Ptname | 0 | 1 |

**Blocks**

There are no pre-built Blocks for the PS600 Device Type.  A User could easily build a simple block.  It would be useful if he repeatedly used lots of IO Modules like it.  However, it might be just as easy to build IO tags instead, and more useful, since the tags could have individual tagnames but the same block name is used to reference all parameters of a block.

In the ADMIO, the **Block Offset should always be 0** if alphabetic characters are used in the ptnames of the controlle**r**. This is because the parameter addresses are sequenced by number.

# 1.1      Serial Connection

The PS600 device driver is designed to use a serial connection from the MMI Port on a Controller Module (Protocol 2).  The Landis & Gyr controller's MMI Port uses and RJ45 connection.

The SCADA node typically has as an RS232 connection.

USB to Serial converters are not supported.

## 1.1.1 Verify serial connection SCADA node to Controller Module

It is recommended to use HyperTerminal (a standard windows component) to verify connection between the SCADA node and Powers System 600 MMI port.

Note – be sure to stop HyperTerminal session before starting the WebAccess SCADA node.

1. Start HyperTerminal: Start -> All Programs -> HyperTerminal

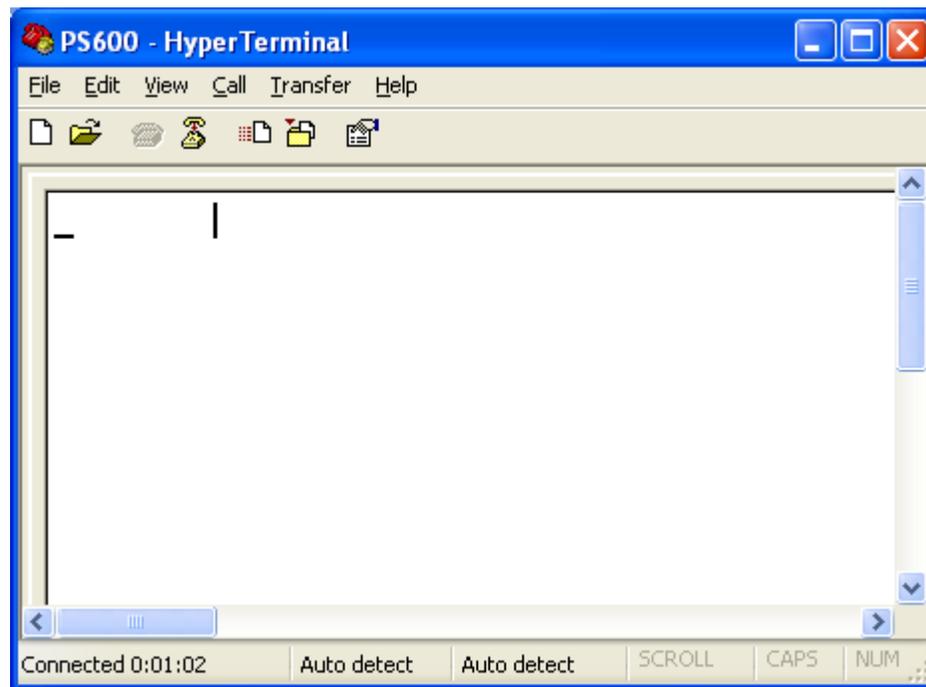2. Enter a name for the session

3. Select OK.

4. Confirm the COM port is correct (typically COM1).



5. Select OK.

6. Modify settings for Baud rate, stop bits, parity, and flow control. The tested device used: 9600, 8 bits, Parity None, 1 stop bit and XON/XOFF.
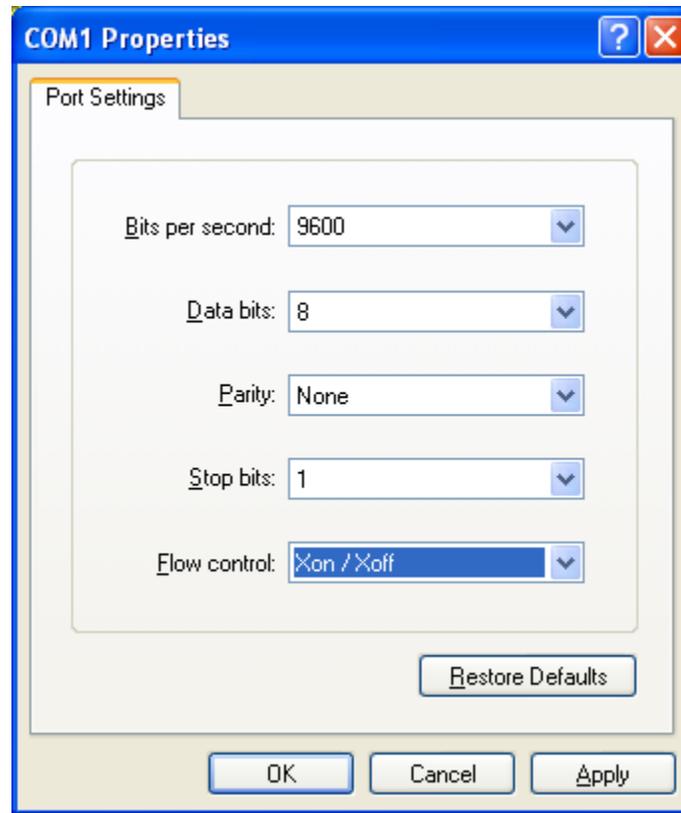
7. Select OK.

8. The HyperTerminal screen opens.

9. Hit Carriage return (ENTER).

```
PS600 - HyperTerminal                                                      _ □ X
File  Edit  View  Call  Transfer  Help

>Point, Time, Message, Cancel, Hello ?H
>Password?
14:14 25-Jul-2005 Welcome to Cabinet 2

>Point, pRogram, Time, Message, Cancel, hArdware, Setup, Bye ?P
>Log, Display, Command, Monitor, Trend, Operation, Subptlog, Edit, Alarm ?L
>Point name?
Command successful

Point Value Report            Name: *          All Cabinets 14:15 25-Jul-2005
------------------------------------------------------------------------------

AOTAG2 (ANALOG OUT 2) 18.67      PCT     -N-        P:OPER
AOTAG5 (ANALOG OUT  ) 18.67      PCT     -N-        P:OPER
AOTAG6 (ANALOG OUT 6) 18.67      PSIG    -N-        P:OPER
AOTAG7 (ANALOG OUT 7) 186.6      PCTOPN  -N-        P:OPER
ATAG1  (ANALOG IN 1 ) 1.0        DEGF    -N-        P:OPER
D      (            ) ON                 -N-        P:OPER
DITAG3 (D IN 3      ) ON                 -N-        P:OPER
DOTAG4 (D OUT       ) ON                 -N-        P:OPER

End of Report

>Point, pRogram, Time, Message, Cancel, hArdware, Setup, Bye ?_

Connected 0:03:40      Auto detect    9600 8-N-1    SCROLL   CAPS   NUM   Capture   Print echo
```

10. >Point, Time, Message, Cancel, Hello?

11. Enter an H.

12. >Password?

13. The password for the demo system is pangea.

14. >Point, pRogram, Time, Message, Cancel, hArdware, Setup, Bye ?

15. Enter P.

16. >Log, Display, Command, Monitor, Trend, Operation, Subptlog, Edit, Alarm ?

17. Enter L.

18. >Point name?

19. Press the ENTER key (Carriage Return). No entry will list all points in the controller.

20. The report should look like

```
Command successful


Point Value Report            Name: *          All Cabinets 13:34
25-Jul-2005

-----------------------------------------------------------------
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AOTAG2 (ANALOG OUT 2) 18.67    PCT    -N-      P:OPER

AOTAG5 (ANALOG OUT  ) 18.67    PCT    -N-      P:OPER

AOTAG6 (ANALOG OUT 6) 18.67    PSIG   -N-      P:OPER

AOTAG7 (ANALOG OUT 7) 186.6    PCTOPN -N-      P:OPER

ATAG1  (ANALOG IN 1 ) 1.0      DEGF   -N-      P:OPER

D      (            ) ON              -N-      P:OPER

DITAG3 (D IN 3      ) ON              -N-      P:OPER

DOTAG4 (D OUT       ) ON              -N-      P:OPER


End of Report
```

You should print out this report. The PtNames listed will be used as the address for WebAccess Tags.

If you see the above, he connection works. Otherwise you need to try different baud rates or passwords. Failing that, you should contact the hardware manufacturer's technical support.

# <span style="color:red">1.2</span>  Configure a PS600 Device

1. Open **Internet Explorer**.

2. Connect to **Project Node**.

3. Start **WebAccess Configuration**.

4. Select **Project**.

5. Select **SCADA Node**.

6. Select an **<u>Add Comport</u>**.

7. Enter the following settings:

8. The comport settings should match those used to test the connection using HyperTerminal.

9. Typical settings are 9600, 8,1,None.

10. The Scan time should be very slow since the interface is a serial one using ASCII characters.  4 seconds for 6 tags.

11. TimeOut should be long (2000 milliseconds).

12. Press Submit

13. Select the Comport (Port 1 in this example)

14. Select Add Device.

15. Select Device Type PS600.

16. Enter a name for the device.

17. Enter the Password to login to the Controller. This should be the password you used with HyperTerminal at the Hello? Prompt.

18. Press Submit.

## 1.2.1    Configure PS600 Analog Tag example

This example is to a tag to an Analog Input from a virtual of a PS600 Controller Module.

19. Select **Add Tag** from Device Properties page

20. From **Parameter** Pull Down List Select **A**.  This will configure an Analog Tag.  Wait for the Page to update.

21. Optionally, select **ALARM** from the ALARM pulldown list.  Wait for the Page to update with a PINK highlight around alarm (an additional Alarm Fields at bottom of page).

22.  Enter a **Tagname** users can use to identify this Analog Input measurement. For example, if this is a Pressure measurement, enter **Pressure1**.  This can be the same as the PtName in the Powers System 600 controller.

23.  Enter the ptname from the L&G Controller as the **Address**.  You should see have seen a list of these when you used HyperTerminal to check out the connection.

24.  Enter a **Description**. This will help identify this tag to Users and Operators. For example, enter Boiler #1 Steam Pressure.

25. Optionally enter, Scaling, Span Hi, Span Low, Engineering Units, and Alarms; enable data logging, etc.

26. Press **Submit**.

27. Press **Submit**

Congratulations! You have just configured an Analog Input or Output Measurement from a Landis & Gyr Powers System 600.

## 1.2.2          Configure PS600 Digital (Discrete) Tag example

Configuring a Digital Tag is similar to an Analog, except you must use a Discrete type Parameter. In the default driver, this is the D parameter.  AN example is shown below.
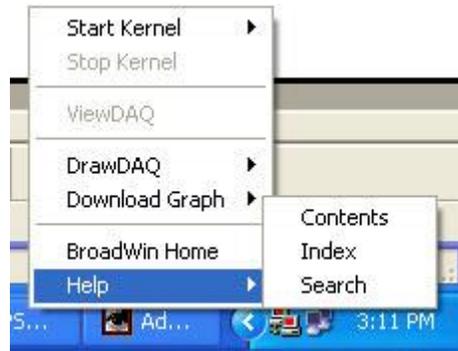
| Create New Tag | [Cancel] | Submit |
| --- | --- | --- |

| | |
| --- | --- |
| Parameter | D ▾ Point (discrete) |
| Alarm | No Alarm ▾ |
| Tag Name | DOTAG1 |
| Description | Discrete Tag |
| Scan Type | Constant Scan ▾ |
| Address | DOTAG |
| Conversion Code | AUTO ▾ |
| Start bit | 0 |
| Length | 1 |
| Signal Reverse | ○ Yes ◉ No |
| Log Data | ○ Yes ◉ No |
| Data Log Dead Band | 3 % |
| Write Action Log | ◉ Yes ○ No |
| Read Only | ○ Yes ◉ No |
| Keep Previous Value | ○ Yes ◉ No |
| Initial Value | 0 |
| Security area | 0 |
| Security level | 0 |
| State 0 | OFF |
| State 1 | ON |

For more information, see the WebAccess Engineering Manual, especially:

> Section 2.  Getting Started,
> Section 3.  IO & Device Communications,
> Section 4.  Tags.

The WebAccess Engineering Manual can be found:

- On the Help link at the top right of your project Manager,

- At **Help** on the WebAccess Network Service icon on your Project node

and

- on-line at [http://demo.broadwin.com/broadWeb/engman/engman.htm](http://demo.broadwin.com/broadWeb/engman/engman.htm)