



APSTAR

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GembusHub Getting Started

After unpacking your GembusHub, you will need to provide it with power. The device uses 12 to 24 V dc, you also need to connect the earth.

NOTE:

You can power the unit using a USB cable (A to B). This allows you to communicate to the device using a Modbus Master/Client, but it will not allow the Gemstart ports to be powered, so no Gemstart communications are possible. You can still configure settings within the GembusHub in this state.

Connect your GembusHub to your network. Using an ethernet patch lead connect to a suitable switch. It is recommended to keep the network as simple as possible, normally this consists of the GembusHub, the PLC or other controlling device, and a switch

IMPORTANT:

As supplied by Apstar the GembusHub will have an IP address set to:
192.168.1.101

You can of course change the IP address, or decide to have it set by a DHCP server. All data in the GembusHub is accessed using the Modbus protocol, so you can configure any of the units parameters using a Modbus Master/Client. To change the IP address ensure register 4x0113 is set to 1 (default as supplied) and then set registers 4x0114 to 4x0117 to the four bytes of the IP address. The following registers set the address of a router you may have in your setup, and sub net mask, refer to the Modbus Data map for full details.

NOTE:

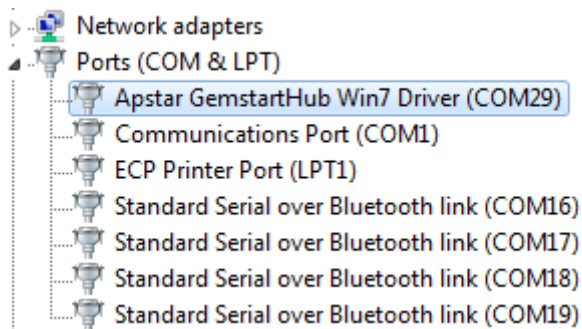
These settings are accessed using station address 16

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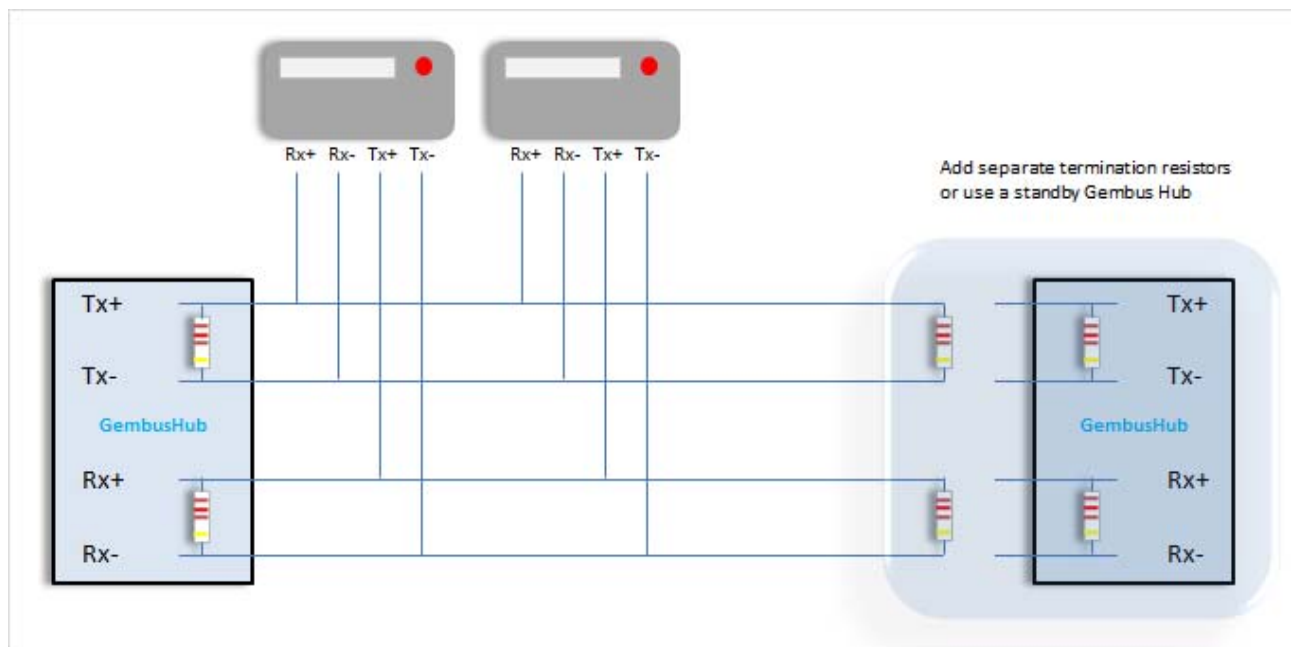
You can also connect to the GembusHub using the USB connector on the front of the unit. This allows windows based Modbus tools to be used with the unit. Any standard USB cable A to B can be used.

When first connecting a computer to the GembusHub you will need to supply a driver configuration file. These are present on the www.GembusHub.com/support.html web page for download. After this step has been completed the GembusHub will appear as a com port. Run device manager and if correctly installed it will appear under COM Ports, the COM port number is displayed here, make a note of it as you will need this to configure your Modbus master.

In the example below the GemstartHub has been allocated the port reference COM29, this allocation will vary of different computers.



Now connect one or more Gemstarts to the Unit:



NOTE:

The above example is for a dual redundant connection. You can just connect a single GembusHub if required. Refer to the appropriate Gemstart documentation for connection details.

Basic parameters that need to be configured.

There are a few parameters that the unit needs to have before it can communicate with the Gem starts, a group of parameters per Gemstart link. The content of the groups is identical for each link but they each have a different station number:

Link	Modbus Station address to use
1	17
2	18
3	19
4	20

Now the basic parameters to set:

Register	Description	Range	Comments
4x1001	Gemstart Link Number	0-15	The id used to confirm the link number to Gemstart
4x1002	Baud Rate / 100	3-1280	The baud rate divided by 100. Select 96 or 192 to begin with
4x1003	First Gemstart Address	0-99	Generally this will be 0
4x1004	Last Gemstart Address	0-99	Set to the last Gemstart address you have connected. Must be more that the first Gemstart address in the previous parameter
4x1005	Configuration Conflict Master	0-4	Usually set to 1
4x1006	No Reply Timeout	0-255	Usually 10, can be left at 0

IMPORTANT:

Normally the controlling device in a control system featuring a GembusHub should set these parameters, after a power up.

Now the Gemstart communications should begin. After which Gemstart data can be exchanged between the Modbus master/client and the GembusHub. Please refer to the Modbus data map for full details of the data elements that are available to access using your Modbus master/client.