

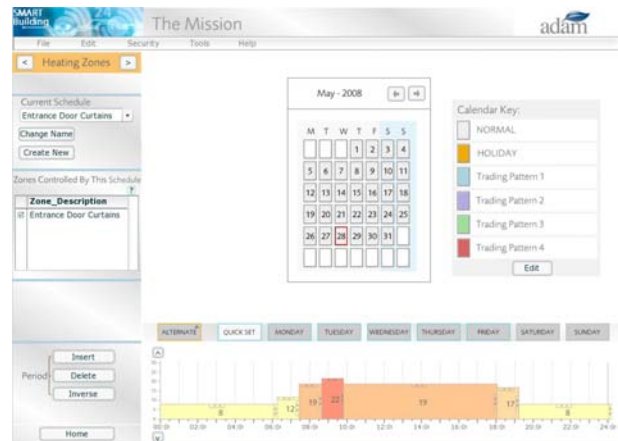
About the Adam SMARTbuilding Solution:

ADAM SMARTbuilding solutions are web enabled wireless building energy management systems that deliver best practice estates management, reducing energy consumption, maintenance costs and carbon emissions.

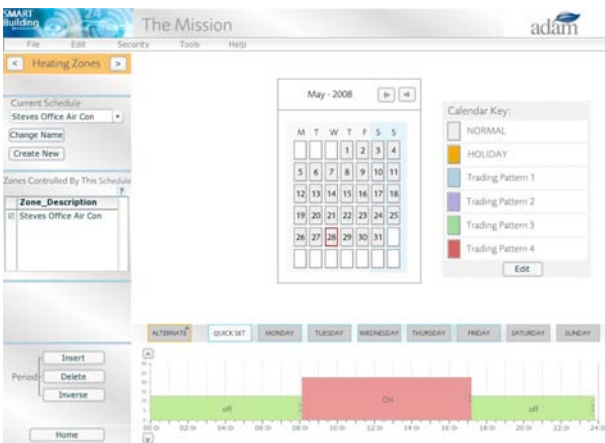
About the SMARTprogrammer:

The Adam SMARTprogrammer is the core of the Adam SMART system. Its embedded processor utilises the Linux operating system and uses the USB Wireless Adaptor to communicate with all other Adam wireless control and monitoring devices. It's dedicated Building Management Software is used to deliver cutting edge control and energy savings in a range of applications.

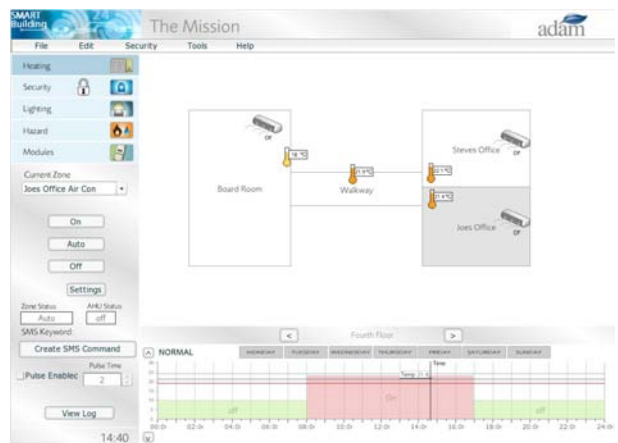
Key System Functions:



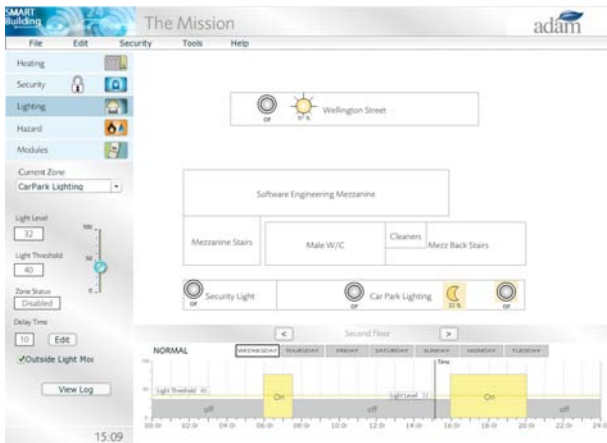
Variable Temperature Control



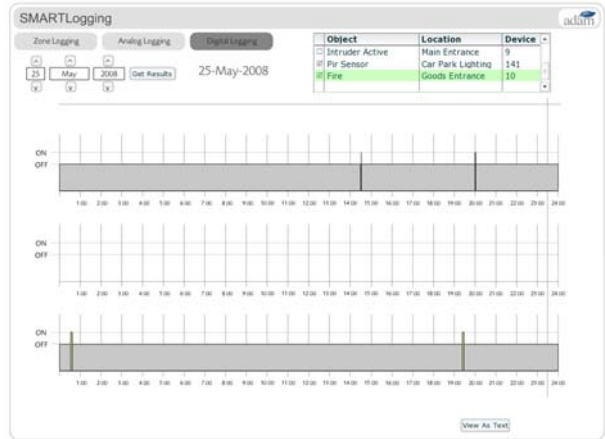
Time Control – 7 day week, holiday & 4 Trading Pattern Options



Heating/Cooling Time and Deadband Control



Light Level Control



Digital Input Logging



Temperature Zone Control Logging



Utility Metering



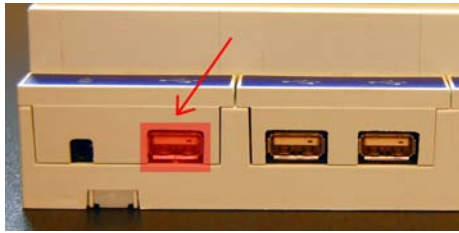
Temperature Logging



Energy Usage Threshold Alarming

Getting Started:

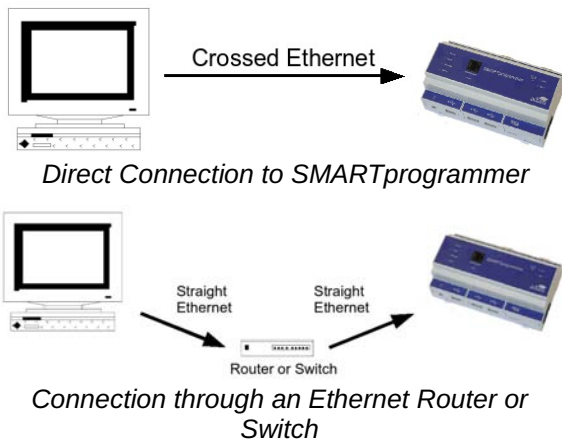
USB Wireless Module: The USB wireless module connects to the first USB port on the SMARTprogrammer using the supplied USB A to Mini-USB cable.



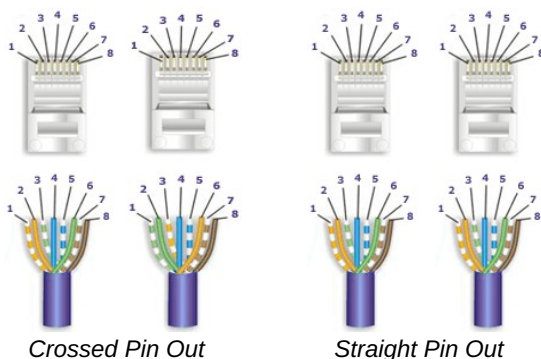
USB port for USB Wireless Module

Power: Power to the programmer is from a suitable 12V DC supply. The supply output will need to be wired into the terminals of the power connector supplied. Care should be taken to ensure the correct orientation of positive and negative terminals.

Ethernet:



Initially, in order to configure the SMARTprogrammer, a single computer will need to be connected to the SMARTprogrammer using a *crossed* ethernet cable.



The SMARTprogrammer ships with the following default IP settings:

IP Address: 192.168.1.111
 Subnet Mask: 255.255.255.0
 Default Gateway: 192.168.1.3

To connect directly to a SMARTprogrammer you need to configure the IP settings on your computer to match the default gateway configured in the SMARTprogrammer.

E.g. If the SMARTprogrammer is configured with default gateway 192.168.1.3, and IP Address of 192.168.1.111, you should configure your computer with the following settings:

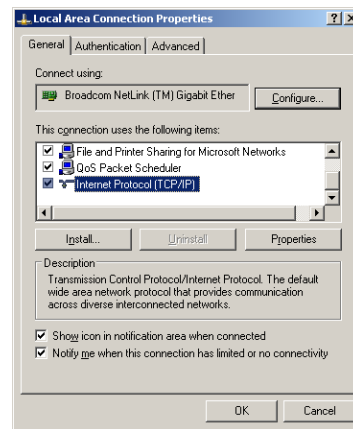
IP Address: 192.168.1.3
 Subnet Mask: 255.255.255.0
 Default Gateway: 192.168.1.111

To configure IP settings in Microsoft Windows XP:

Select 'Start' > 'Control Panel' > 'Network Connections'

This will show a window with your current network connections. Right-click on the icon for your ethernet connection and choose 'Properties'.

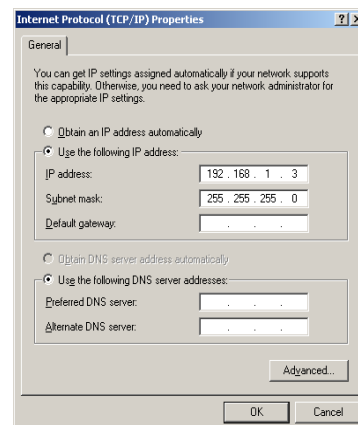
You should see the following window:



Windows Connection Properties

Click on 'Internet Protocol (TCP/IP)' then press the 'Properties' button.

You should then see the following window:



Windows TCP/IP Properties

Choose 'Use the following IP address' and enter the appropriate IP details.

When these have been entered, press OK and then OK again to save the changes.

Connecting to the SMARTprogrammer: To connect to the SMARTprogrammer, open up the web browser on your computer and enter the SMARTprogrammer's IP address. You should see a screen that asks you to choose between 'Advanced User' and 'Quick User'. Click on 'Advanced User'.

The next screen will ask you to enter a username and password. The default username and password for the SMARTprogrammer are 'adam' and 'admin'. These are both in lowercase.

Set the Time and Date: Once connected to the SMARTprogrammer's webpage, select 'Edit' > 'Time & Date' from the menu.



Setting the Time & Date

The window above will appear allowing you to change the time and date. Once finished, press 'Save' to save changes.

Change IP Settings: Once connected to the SMARTprogrammer's webpage, select 'Edit' > 'IP Settings' from the menu.



IP Settings

Status LEDs: There are 6 status LEDs on the SMARTprogrammer:

Power: When lit green, this indicates that the SMARTprogrammer has power

Fault: When lit red, this indicates a system fault

Wireless: When lit green this indicates that the SMARTprogrammer can communicate with the USB wireless module

When flashing orange, this indicates that the SMARTprogrammmer could not communicate with the USB wireless module

Alarm: When lit red, this indicates that there is a system alarm

Link: When lit orange, this indicates

ethernet connectivity

ACT: This flashes green to indicate ethernet link activity

Console Connection: On the front of the SMARTprogrammer, there is an additional RJ45 port for direct serial connection to the linux console. To connect to the console, a 9-Way D to RJ45 cable with the following pin-to-pin connections is required:

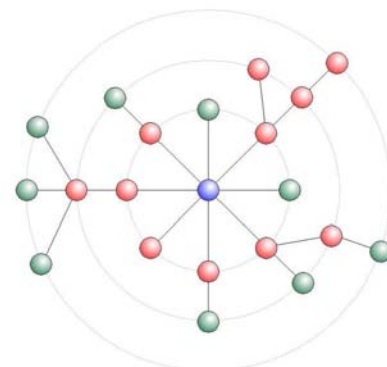
	9-Way D		RJ45
RxD	2	→	6
TxD	3	→	5
Gnd	5	→	4

With the cable connected, the console can be accessed using any standard terminal emulation software using the following parameters:

Baud Rate (bps):	115200
Data Bits:	8
Parity Bits:	N (none)
Stop Bits:	1

Wireless Communications Topology: The SMARTprogrammer is the hub of the wireless communications topology. The current system has a range of around 200m between devices, although if there are many obstructions between devices this can be reduced to around 50m..

To increase the range of the system, the wireless signals can be hopped through any of the mains powered wireless devices.



ADAM Wireless Network Topology

To obtain the best wireless coverage, it is recommended that the SMARTprogrammer is installed as high as possible. Aerial extensions are available to extend the aerial above any ducts, cabling or pipework that might otherwise reduce coverage. If the SMARTprogrammer is fitted in an enclosure with a metal backplate, it is recommended that the aerial be extended above the enclosure as the backplate will suppress wireless signals.