

SYX66x

The SYX 66x is an optimiser compensator controller which is designed to control simple heating circuits. It will control a single compensated heating zone via mixing valve or boiler modulation.

The SYX661-AQ2000 will modulate a raise/lower actuator to control the required flow temperature. It has a heating time schedule to drive setpoint changes and can also control the pump with additional option of room sensor influence. It can also control HWS with a tank sensor in independent or boiler linked mode.

Options for Night reduction and frost override are provided. These controllers have minimal settings and are ideal to replace older controllers such as the now obsolete DC1100 or Satchwell DC1400.

The simple backlit user screen is text based and provides easy access to all relevant information. The controllers also allow remote access via a web-browser.

The controllers can be easily configured through the options on the display or via the web-browser.



- Panel Mountable with 230Vac Power Supply
- Backlit user display with Info Button
- Designed to upgrade older control systems with ease
- Optional Colour Touchscreen for remote access
- Alarm Malfunction Display (e.g. sensor alarms)
- Built-in web-browser interface for remote access
- Sensor Logging and Display

Model Type Model Description

- SYX660-** Compact Heating Compensator using KP10 Sensors
- SYX661-** Compact Heating Compensator using NTC10 Sensors
- SYX663** - Compact Heating Compensator using DC1400 Sensors
- SYX664** - Compact Heating Compensator using DC1100 Sensors
- SYX664-RSU** - Compact Heating Compensator using DC1100 Sensors and Drayton Remote Setting Unit

Common Options

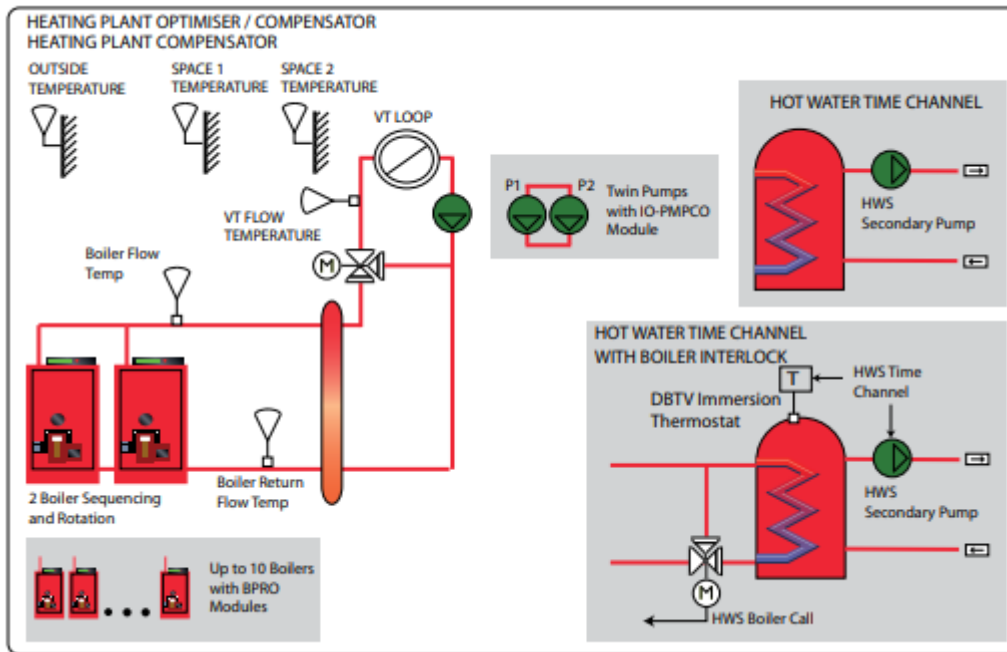
- TPC35** 3.5" Panel Mounting Colour Touch Screen
- TPC56** 5.6" Panel Mounting Colour Touch Screen

Technical Data	Power Supply 110-230 VAC +/-10%; 50/60Hz, 21VA Fuse Time Delayed Power Fuse, 1.25A
Sensors	Outside Temperature VT Flow Temperature Space Temperature Boiler flow Boiler Return HWS Flow
Inputs Digital Input	Normally Open Volt Free Connections for Overrides
Relay Outputs	250VAC 5(3)A Max Rated. Controller does not provide internal voltages. E.g. 24vAC to be supplied externally. Valve Open Valve Close Pump Enable Boiler 2 Enable Boiler 1 Enable
	Display Backlit Graphic Display, LED "messages" for malfunctions, LED "Hand" for User Plant Override status Operation Buttons SET selection knob, SELECT button, ESC button, INFO button, MESSAGES button, Alarm Acknowledge and Clear Button Ethernet Port 1x Ethernet 10/100 Base-T Operating Temp 0..50°C, max 95%rh non-condensing Power Failure Backup for Clock CR1225
	Enclosure IP20 (Controller) CE Approval EN61000-6-3: 2001 (Emissions) EN61000-6-2: 2001 (Immunity) Mounting DIN-rail Mounting Terminals Removable Terminal Blocks Dimensions W143.5 x H90 x D67mm (controller only) Weight 500g (Controller Only)

Description of Configuration

The SYX66x controllers are configured by the installer in the field to provide control of simple heating plant. A SYX66x is configured in Menu driven phases. The Menus are: Overrides, Heating, Hot Water, Boilers and Connections. . These options allow the controller to be easily adapted to match older and newer applications. The selection and behaviour of a menu is also further determined by the settings inside the menu itself. This allows a logical procedure through the controller configuration and fine tuning of specific sections in turn. The heating and hot water functions are independent of each other but may share some features such as the Boiler Output and Plant Overrides The control mode options that can be configured during set-up are:

- Optimised Start/Stop of a plant start signal with Space Frost Protection and High Limit Protection
- Optimiser Compensator of valve and/or Boiler(s) with Frost Protection
- Day Compensation of Valve and/or Boiler(s) with Night Reduced Heating for 24hr control
- Day Compensation of Valve and/or Boiler(s) with Night Frost Protection mode



On start-up, the settings been pre-configured to give sensible values suitable for an Optimised Radiator VT Heating System. All of the Heating Modes are available with an optional Hot Water Service output that offers the following choices:

- Boiler Linked with adjustable Primary Set point
- Boiler Linked with adjustable Primary Set point and HWS Demand control (via Pin 10)
- Independent Hot Water Heating Time Channel.

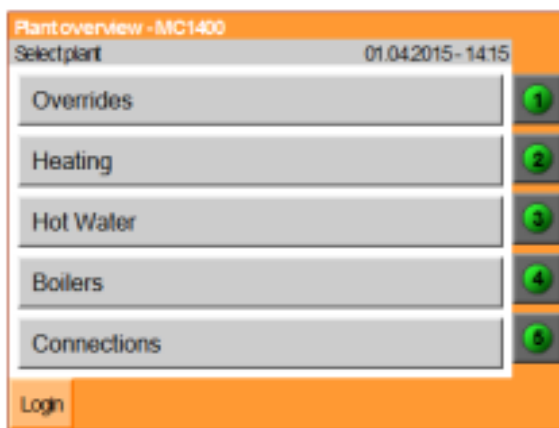
Controller Functions

The controller offers the following functions (please refer to the manual for detailed description) • Optimum Start and Stop; optimises the plant run on times based on the temperature required saving energy

- Day Economy; optimises the energy savings by switching the heating off during the day times if space temperature is close to the calculated heating set point.
- Three-stage frost protection; OUTSIDE FROST brings pump on and opens valve; BOILER RETURN FROST brings the heating on, SPACE TEMPERATURE FROST brings the system on in boost mode.
- Pump Run-On; dissipates the heat from the system, adjustable run-on time.
- Boiler Sequencing; up to 2 boilers are sequenced based on the demand, if more boilers required use sequencing modules
- Optional and Forced Lead Boiler Rotation; rotates the lead boiler
- Valve Exercise; prevents valve seizures and blockages in the heating system extending the equipment lifetime
- Pumps Exercise; prevent the pumps seizing up in unused periods
- Service Mode; provides full output for 30 minutes to facilitate plant servicing
- Heating Time Program; adjust the required occupation times via the LCD screen or via a web-browser; 4 periods per day
- Hot Water Time Channel; control hot water to the required times (adjustable via the LCD screen or web-browser)

- Hot Water Demand; allows boilers to run when there is true HWS demand
- Hot Water Priority Function; helps to heat the hot water cylinder faster
- Software Adjustable Heating and Hot Water Time Extensions via the backlit LCD screen or via web-browser
- Software Overrides interlocked with Time Schedules, so time runs on at end of period
- Possibility to use the external Time Extension modules such as LAP5
- Operating mode override; Auto/Summer/Continuous/Frost/Service via the LCD screen or via the web-browser
- External override input for frost or summer control (e.g. Holiday or summer switch)
- Alarm Messages with event times
- BACnet integration capability to the BMS systems
- Intelligent Sensor Monitoring to enable and disable Alarms and control features
- Three distinct User Levels with individual access codes

Users can connect via Web Browser:



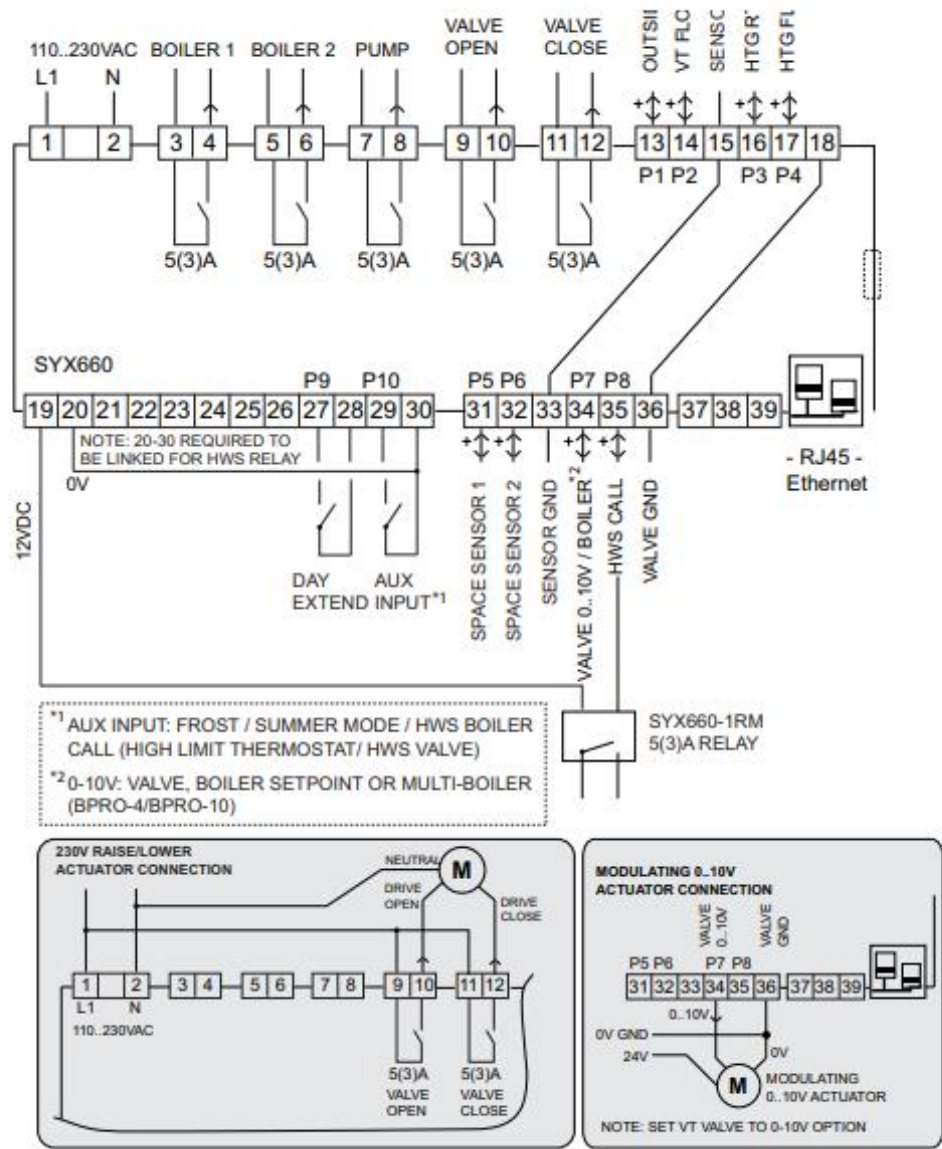
Recommended Cable Types:

- Sensors: Screened Twisted Pair
- Digital Inputs: Screened Twisted Pair
- Analogue Outputs: Screened Twisted Pair
- Digital Outputs: No specific requirements

When retrofitting older controllers:

Always test then try existing cables first, if sensor value oscillation occurs then cables will need to be upgraded to screened twisted pair

Wiring Diagram



Dimensions

