

eBuilding System Controller

The eBuilding System Controller is a facility level controller that delivers cost effective control capabilities for small building or HVAC subsystems.



- Flexible control logic enables optimum energy management solutions.
- IT-friendly implementation including XML over HTTP .
- Ethernet 10/100 LAN support.
- Available with integrated I/O .
- BACnet/IP peer-to-peer data exchange capability.
- BACnet MS/TP RS-485 device network support.
- Available with Modbus device network support.
- Supports remote update of control logic and firmware.
- Ready to mount package with conduit knockouts.

The System Controller of Choice

The eSC allows building managers to monitor and control a facility locally or via the internet. Data from multiple eSC controllers can be delivered to a single eBuilding Site Server and displayed on web pages. These pages can present a customized and user friendly view of a single building or an entire campus of buildings. Controllers within a campus can communicate using the BACnet/IP protocol to exchange information.

The eSC consists of a rugged metal enclosure with conduit knockouts, for convenient installation and wiring. The electronics and power supply assembly is a field replaceable unit to simplify servicing. All eSC models include an integral 10/100 Ethernet port supporting BACnet/IP and server communications. The serial port configuration of the eSC varies by model. All eSC models include a BACnet MS/TP serial port to support devices such as eTrac, SimpleSTATS and TLC controllers. Some eSC models include a second communication port to support Modbus RTU devices. Up to 32 channels of Internal I/O capability is available. Internal I/O capability configured as 8 universal inputs and 8 relay outputs, the Model 290 provides the communications capability of the 27x series models and includes an internal I/O capability consisting of 16 universal inputs, 8 analog outputs and 8 relay outputs. The front cover lifts off to allow easy access to terminals for wiring power and I/O. The I/O connections are removable to speed installation.

Focused on the Application

The combination of features packed into the eSC controller makes it ideal for supervisory building control and for managing air handlers and VAV boxes in larger facilities. The varieties of protocol interface options available are well-suited for retrofit as well as new construction applications.

Integration with Philips Teletrol's eBuilding System

The eSC has been designed to integer into Philips Teletrol's eBuilding facility automation system – a system that is:

- IT-Friendly
- BACnet enabled
- Internet-Powered

eBuilding is a scalable system designed to maximize the potential of the Information Technology infrastructure available in modern facilities. The eSC provides industry standard communications capabilities through its various built-in communications ports.

- 10/100Mbps Ethernet port – Supports TCP/IP network traffic as well as BACnet/IP, ensuring seamless connectivity with industry standard network infrastructures.
- BACnet MS/TP subnet port – designed to communicate with unitary controllers and intelligent sensors, including Teletrol's SimpleSTAT, TRC and TLC controllers.
- Modbus port – for connectivity to devices and subsystems supporting the Modbus RTU protocol.

Controller configuration data as well as point and alarm data is delivered using XML over HTTP, simplifying delivery of eBuilding data over virtually any corporate network. Delivered data is stored in an ODBC compliant SQL database. Ensuring easy integration of data with business operations and other enterprise level intelligence systems. These may include asset management, maintenance management, and business process management systems, as well as resource planning software packages.

Hardware Details

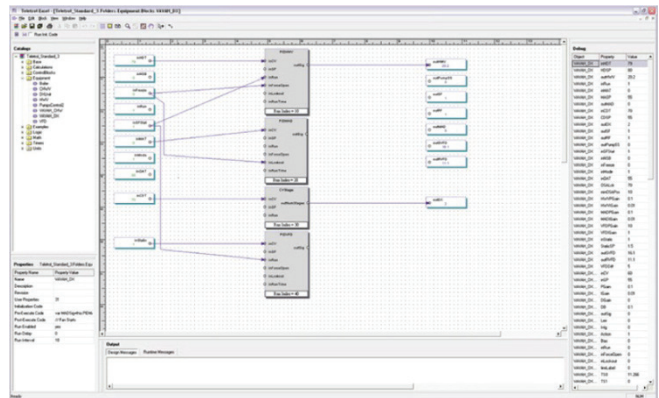
The eSC CPU board contains a 32-bit x86 compatible microprocessor and FLASH memory as well as an Ethernet port and support for up to two EIA-485 serial communication ports. The controller has diagnostic LEDs for indicating power, indicating that the communications ports are active, and indicating that the Ethernet port is connected and operating. The eSC controller can be configured by any PC running the Internet Explorer web browser. Access to the configuration web pages in the controller is password protected, and a default setup mode allows an installer to quickly restore the factory defaults.

Teletrol manufactures a number of BACnet MS/TP devices that are designed to work directly with an eSC. These devices include the eTRAC I/O system, an economical modular I/O: SimpleSTAT and TRC controllers, which are designed as 'smart' replacements to industry standard programmable thermostats; and TLC controllers, which are stand-alone dedicated application specific controllers.

Graphical Programming Language

Philips Teletrol's eBuilding programming software combines the simplicity of graphical programming with the robustness and efficiency of JavaScript programming. It is delivered with a library of math, logic and control blocks that the programmer can drag and drop onto the screen to graphically model the control strategy for a piece of HVAC equipment. These control strategies allow extensive sequences and are reusable, eliminating the need to recreate them for every project.

Optionally available with TSC protocol for migrating legacy integrator applications.



Philips Teletrol's Easel™ Graphical Programming Software

8 Input/Output Board Specifications

Inputs: 8 universal inputs, individually configurable for thermistor, 0-12Vdc input or 4-20mA. One input can be configured as a pulse counter with a 100ms resolution.

Outputs: 8 relay outputs, configured as form A dry contacts capable of switching up to 2A at 24Vac into a resistive load. Each output supports a local override switch. All outputs can also be used as pulsed outputs with 100ms pulse width. An LED indicator provides confirmation of 15V power to drive the outputs.

16 Input/Output Board Specifications

Inputs: 16 universal inputs, individually configurable for thermistor, 0-12Vdc input or 4-10mA. One input can be configured as a pulse counter with 100ms resolution.

Outputs: 8 binary (triac) outputs and 8 analog outputs. Triac outputs have a single isolated common and are capable of switching 500mA at 24Vac into a resistive load. They can also be used as pulsed outputs with 100ms pulse width. Each digital output has an LED indicator to display the state of the output. Analog outputs are capable of delivering 0-12Vdc at 10mA. Four of the analog outputs can be configured to drive 4-20mA current loops. An LED indicator provides confirmation of 15V power to drive the outputs.

Part #	Model	Description	eTrac Points Supported	MS/TP Devices Supported	Third-Party BACnet Bindings Supported	Modbus Points Supported
01-413	eSC 270	System Controller with no internal I/O	32	32	128	64
01-416	eSC 276	System Controller with no internal I/O	128	8	128	64
01-428	eSC 278	System Controller with no internal I/O	64	64	128	0
01-412	eSC 280	System Controller with 8 input/output	0	16	128	64
01-426	eSC 285	System Controller with 8 input/output	32	16	128	64
01-415	eSC 290	System Controller with 16 input/output	32	48	128	128

Notes:

1. Order by model number
2. When ordering without case, please add "-B" to the model number
3. When ordering an eSC with TSC network port, please add "-T" to the model number. Note that the TSC network port replaces the Modbus network port on units that have a Modbus port.

* For additional ordering information and technical specifications about all products, please refer to Philips Teletrol's price list and/or the respective installation manuals

Specifications:

POWER

100-240Vac 50/60Hz at 40VA

COMMUNICATIONS

Ethernet 10/100Mbps

10BASE-T and 10BASE-Tx

Two EIA-485 ports

USER INTERFACE

LEDs for communication activity and power status



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Specifications (Continued):

PROTOCOLS

BACnet/IP, HTTP,XML

BACnet MS/TP

Optional Modbus and TSC protocol support

ENCLOSURE

Galvanized steel with conduit knockouts to support stand-alone or panel mounting

AGENCY APPROVALS

FCC Class A, UL916

ENVIRONMENTAL

32 to 122°F non-condensing (0 to 50°C)

SIZE/WEIGHT

11" x 7" x 2.5"/6 lb.

(28cm x 18cm x 6cm/2.7kg)

MICROPROCESSOR

X86 compatible

MEMORY

128M DRAM, 256M FLASH

OPERATING SYSTEM

Microsoft™ Windows CE
