

ECY-S1000 Controller



Overview

The ECY-S1000 controller is sized to cost-effectively meet the requirements of any HVAC application from small to medium to large systems. The controller can be expanded to support up to 20 input/output (I/O) modules (up to 320 I/Os) while being able to adapt to new requirements as the need arises.

The ECY-S1000 Controller is powered by Eclipse Facilities and includes two years of Atrius Facilities - Organize.

A connecting cable is used to connect successive rows of modules within a controls' cabinet to provide power and communication.

Features & Benefits

- Support for a range of communication protocols such as BACnet MS/TP, BACnet/SC, BACnet I/P, MQTT, Modbus RTU, Modbus TCP, and M-Bus
- With the RESTful API, data can be accessed from different applications, such as energy dashboards, analytics tools, and mobile applications
- Integrates up to three RS-485 ports
- Available remote access to program, configure, or maintain the installation, reducing costs associated with on-site visits
- Terminal blocks are uniquely identified and color-coded for clarity and to prevent wiring mistakes
- Embedded alarms, trend log and schedule support allows for fully distributed data and logic
- Automatic email notifications for system status and alarms to ensure faster system servicing and response time
- Two Ethernet ports (100Mbps) that can be configured individually for easy daisy-chain installation
- Connectivity packs enable remote devices to be added to a connector in Eclipse Facilities. The connectivity packs along with optional I/O and expansion modules provide ultimate flexibility and expandability to customize your project needs.
- Readily supports Atrius Facilities that simplifies installation and maintenance of systems and increases the efficiency of building operations.

Model & Connectivity Selection

Model Selection

Example: ECY-**S1000-C0**

ECY-**S1000-48-C0**

ECY-**S1000-48-C5**

ECY-**S1000-C50**

Series	Description	Connectivity
ECY	-S1000: Connected building controller with Eclipse Facilities - Eclipse S-1000 with support of up to 320 I/O points (20 ECY I/O extension modules max). Maximum connectivity is 50 connections. Note: Supported subnet devices are limited to Allure EC-Smart-View and ECx-Display.	-C0: default model if no connectivity is required
	-S1000-48: Connected building controller with Eclipse Facilities - EclipseS1000 with support of up to 48 I/O points. Max connectivity is 50 connections. Note: Supported subnet devices are limited to Allure EC-Smart-View and ECx-Display.	-C1 C50: if connectivity is required (see table below)

Connectivity Packs

Connectivity packs enable remote devices to be added to a connector in Eclipse Facilities. A single pack adds x connections and x * 100 points of connectivity.

BACnet Network Values in EC-*gfx*Program are available without connectivity packs.

Connectivity		Device Ratios			
		1:1	2:1	8:1	100:1
Connectivity Pack	Connections (device loads)	BACnet Devices (IP or MS/TP)	Modbus devices (TCP/IP or RTU)	M-Bus devices ¹	Global point count
C1 ²	1	1	2	8	100
C3	3	3	6	24	300
C5	5	5	10	40	500
C10	10	10	20	60	1000
C25	25	25	50	60	2500
C50	50	50	100 ³	60	5000

¹The maximum number of physical M-Bus meters is 3 when the ECY-MBUS module is connected to the controller's USB port. The limit is 60 physical M-Bus meters when the module is connected to the HD15 port.

²Minimum Connectivity Pack required to enable BACnet routing, MS/TP "Client", integration, use of RS485 port

³Modbus RTU limited to 32 devices/RS-485 port, 96 devices total

Depending on the connector, a device can consume a whole connection or a fraction of a connection.

The device ratios are the following using a C5 connectivity pack (refer to table above):

- BACnet (1:1) = 5 BACnet with C5
- Modbus (2:1) = 10 Modbus with C5
- M-Bus¹ (8:1) = 40 M-Bus with C5

How to calculate connectivity

Connectivity packs are cumulative but only one pack can be ordered with a controller. More packs can be added afterwards in the field. The following shows how to calculate the connectivity needed:

$$6 \text{ BACnet} + (3 \text{ Modbus} \div 2) + (6 \text{ M-bus} \div 8) = 8.25$$

Select C10 (10 connections, 1000 points)

¹Some physical M-Bus meters can include more than 1 virtual M-Bus device. Since each virtual M-Bus device has its own M-Bus address on the M-Bus network, the Connectivity Pack will count the number of virtual devices, rather than the number of physical M-Bus meters. It is therefore recommended to check whether the M-Bus meters that will be connected to the controller include virtual M-Bus devices, and, if so, how many, before choosing a Connectivity Pack license.

To assist in calculating the required connectivity, contact your RSM for more details or refer to the price list if available.

Accessories

Eclipse Wi-Fi Adapter	Wi-Fi Adapter for Eclipse Connected Controllers.
Eclipse Open-To-Wireless™ Adapter	EnOcean communication protocol adapter for Eclipse Connected Controllers.
Eclipse HD15 Cable	6ft (1.8m) cable for multiple-row panel installations. An HD15 cable must always be followed by a power supply module. For more information, refer to the Hardware Installation Guide.
ECx-Subnet-Adapter	Required for daisy-chaining the ECx-Display or the EC-Multi-Sensor with other subnet devices

Product Specifications

Power Supply Input

Voltage	18VDC
Power Consumption	8.9W; external loads excluded

Communications

Ethernet Connection Speed	10/100 Mbps
Cable Type	Cat 5e, 8 conductor twisted pair (unshielded)
Addressing	IPv4 or Hostname
BACnet Profile	BACnet Building Controller (B-BC)
BACnet Listing	BTL (B-BC)
BACnet Interconnectivity	BBMD forwarding capabilities BACnet MS/TP to BACnet/IP and BACnet/SC routing
BACnet Transport Layer	IP, BACnet/SC (Node) & MS/TP (optional)
Web Server Protocol	HTML5
Web Server Application Interface	REST API
BACnet MS/TP or Modbus RTU	1 × RS-485 serial communications ports
RS-485 Wiring	1-pair + Common/shield
RS-485 EOL Resistor	Built-in
RS-485 Baud Rates	9600, 19 200, 38 400, or 76 800 bps
RS-485 Addressing	Controller's Web Configuration Interface
Modbus TCP	Devices must be on the same subnet
Wireless Adapter	Optional, USB Port Connection
Wi-Fi Communication Protocol	IEEE 802.11b/g/n
Wi-Fi Network Types	Client, Access Point, Hotspot

Subnetwork

Communication	RS-485
Cable Type	Cat 5e, 8 conductor twisted pair
Connector	RJ-45
Connection Topology	Daisy-chain
Maximum number of standard room devices supported per controller combined ¹	12

Allure EC-Smart-View Series ²	12
Allure EC-Smart-Comfort Series	6
Allure EC-Smart-Air Series ²	6
EC-Multi Sensor	4
ECx-Light-4 / ECx-Light-4D / ECx-Light-4DALI / ECx-Light-DALI-A	2
ECx-Blind-4 / ECx-Blind-4LV / ECx-Blind-4SMI / ECx-Blind-4SMI-LoVo	2
Maximum number of Bluetooth low energy room devices per controller combined ³	6
Allure Unitouch™	2
EC-Multi-Sensor-BLE	4

¹For more details about supported quantities, see the Product Selection Tool available in Builder: <https://builder.distech-controls.com>.

²A controller can support a maximum of 2 Allure sensor models equipped with a CO₂ sensor. Any remaining connected sensors must be without a CO₂ sensor.

³A mixed architecture with standard room devices and Bluetooth low energy enabled devices is not recommended.

Hardware

Processor	Sitara ARM processor
CPU Speed	1GHz
Memory	4GB Non-volatile Flash (applications & storage) 512MB RAM
Real Time Clock (RTC)	Real Time Clock with rechargeable battery Supports SNTP network time synchronization
RTC Battery	20 hours charge time, 20 days discharge time Up to 500 charge / discharge cycles
Cryptographic Module	FIPS 140-2 Level 1 Compliant
Ethernet	2 switched RJ-45 Ethernet ports (Supported Protocols: BACnet/IP, Modbus TCP, NTP, and REST)
USB Connections	2 × USB 2.0 Ports 1 × Micro-USB 2.0 Ports
RS-485 Serial Communications	Screw terminals (Supported Protocols: BACnet MS/TP or Modbus RTU)
Subnet	RJ-45

Green LED	Power status, Subnet TX, RS-485 TX, and Ethernet Traffic
Orange LED	Controller status, Subnet RX, RS-485 RX, and Ethernet Speed

Enclosure Rating¹ Plastic housing, UL94-V0 flammability rating

¹All materials and manufacturing processes comply with the RoHS directive and are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive

Open-to-Wireless Adapter

Communication Protocol	EnOcean wireless standard ¹
Connector Type	USB
Number of Wireless Inputs	Unlimited ²



¹Available when an optional external Eclipse Open-to-Wireless Adapter is connected to the controller. Refer to the Open-to-Wireless Application Guide for a list of supported EnOcean wireless modules.

²Wireless inputs will only be limited by physical distance between the EnOcean devices and the Eclipse Open-to-Wireless Adapter.

Environmental

Operating Temperature	32 to 122°F (0 to 50°C)
Storage Temperature	-22 to 158°F (-30 to 70°C),
Relative Humidity	0 to 90% non-condensing
Ingress Protection Rating	IP20
Nema Rating	1

Standards and Regulations

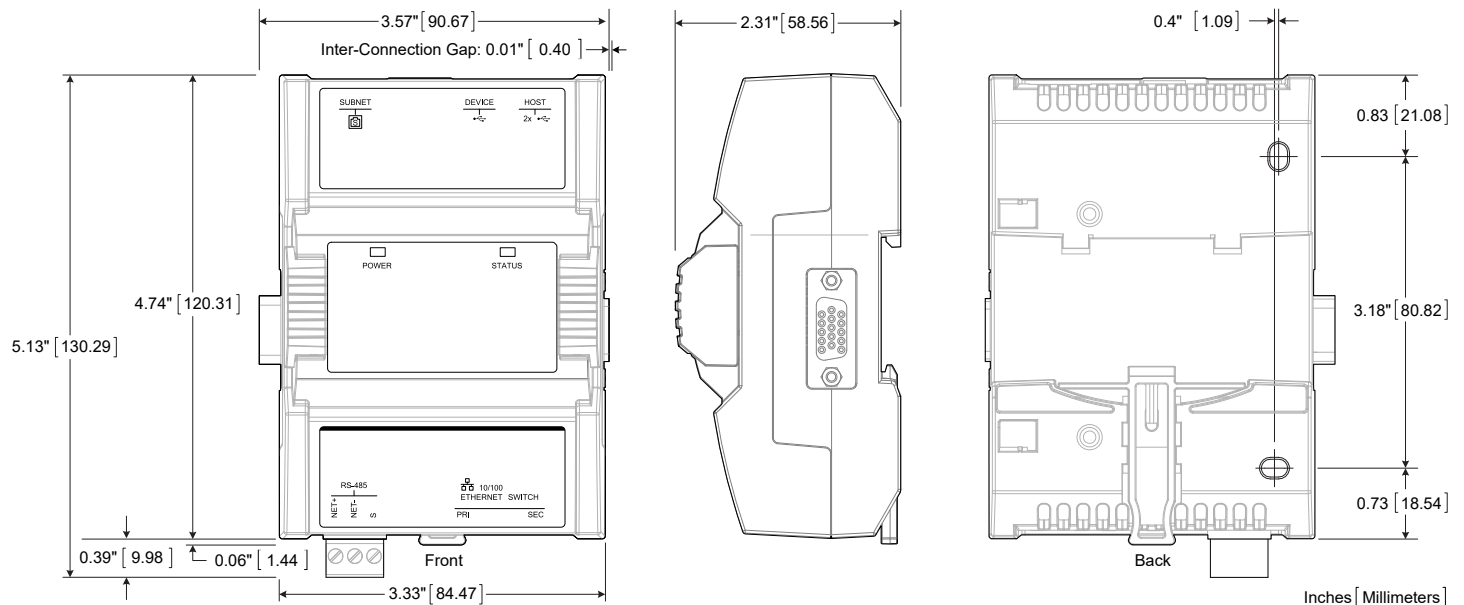
CE Emission	EN61000-6-3: 2007+A1:2011
CE Immunity	EN61000-6-1: 2007
FCC	Compliance with FCC rules part 15, subpart B, class B
UL Listed (CDN & US)	UL916 Energy management equipment

Mechanical

Dimensions (H × W × D)	4.74 × 3.57 × 2.31" (120.31 × 90.67 × 58.56mm)
Shipping weight	0.85lbs (0.39kg)
Mounting	DIN rail or screw mounting
Enclosure Material	FR/ABS



Dimensions



ECY-S1000 Dimensions

Specifications subject to change without notice.

Eclipse, Distech Controls, the Distech Controls logo, EC-Net, Allure, and Allure Unitouch are trademarks of Distech Controls Inc. BACnet is a registered trademark of ASHRAE; BTL is a registered trademark of the BACnet Manufacturers Association. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks is under license. All other trademarks are property of their respective owners.

©, Distech Controls Inc., 2025 All rights reserved.

Global Head Office - 4205 place de Java, Brossard, QC, Canada, J4Y 0C4EU Head Office - ZAC de Sacuny, 558 avenue Marcel Mériex, 69530 Brignais, France