

AUTOMATION AND CONTROL THAT'S EASY

Desigo Essentials

SIEMENS

Unleash the potential of automation and control across small to medium-sized buildings and new markets

Desigo family's latest member - Desigo Essentials controller - along with its extension modules helps upgrade small to medium-sized buildings to implement digital transformation, thus providing customers a brand-new experience of low-carbon, intelligent environments.

Desigo Essentials with its compact design is easy to install and fully meets the adaptation needs of various scenarios. With its reliable performance and efficient workflows, light and intelligent system solutions are created easily and quickly.

Desigo Essentials is used widely in small to medium-sized building automation and control as well as other environmental control scenarios.

Thanks to the flexible product offering and the efficient programming tool, buildings can be digitally transformed, enabling comprehensive energy management and device control while greatly enhancing work efficiency.

Seamlessly integrated in the Siemens IoT building management platform, Desigo Optic, it helps to achieve high energy efficiency and low energy consumption for indoor environments.



Use case: Hotel

Desigo Essentials allows for basic, low-cost automation and control while protecting your investments and preparing for future IoT and digitalization demands.

Use case: Intelligent agriculture

Desigo Essentials offers increased productivity by precisely controlling both environment and conditions, lowering labor costs substantially.



Desigo Essentials are widely used in traditional small to medium-sized buildings as well as the new markets.

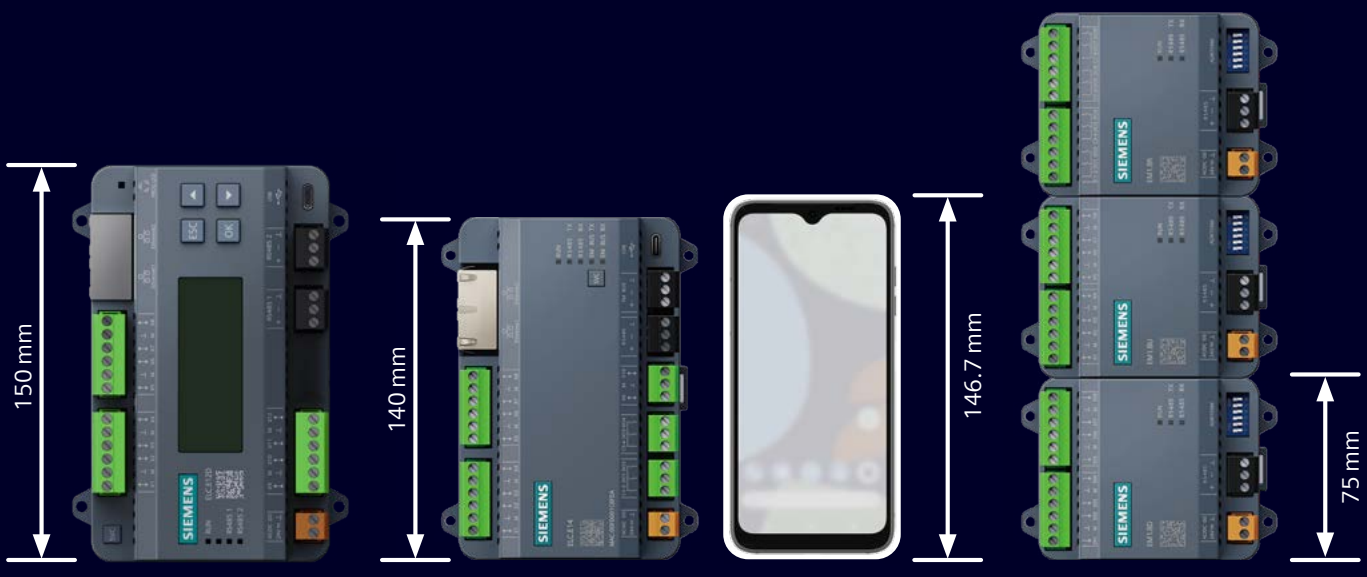
Supermarket | Budget hotel | School | Restaurant | Healthcare center | Intelligent agriculture | Distributed data center | Intelligent livestock breeding | Unattended pumping station | Distributed energy storage device

Enhanced flexibility to meet individual needs

Desigo Essentials offers enhanced flexibility making it the perfect fit for both new and retrofit projects. Additionally, it supports integration in various systems via Modbus.

Highlights

- With its compact design, Desigo Essentials seamlessly adapts to various control cabinets and can thus be used in a wide range of buildings.
- Different I/O types and I/O extensions to cover multiple applications.
- The universal I/O points provide enhanced flexibility in configuration.
- Both the controller and I/O modules support the Modbus protocol allowing for easy integration in the Desigo system or third-party systems.



ELC.E12D controller | ELC.E14 controller | Smartphone | I/O extention modules

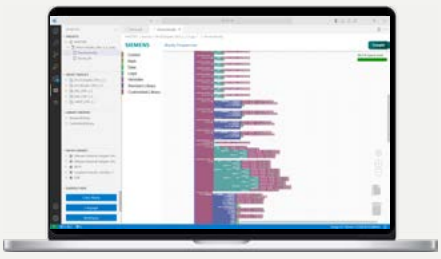


Logic Manager: Apply your programming power at effortless ease

With Logic Manager, say goodbye to additional costs as it is license-free, saving your valuable resources. Logic Manager offers user-friendly programming allowing you to focus on what really matters - achieving your goals efficiently and effectively.

Easy-to-use programming tool

- Experience the convenience of fast online installation and updates keeping you up-to-date with the latest features and enhancements.
- Intuitive function block simplifies programming, making it easy to learn and use without requiring extensive training.
- Enjoy fast and secure access without the hassle of passwords.



Dedicated application libraries and templates

- 16 standard application libraries
- 5 standard device templates
- Extensible library to meet growing demands
- Customization is possible any time



Streamline your engineering workflow: intuitive, efficient, and reliable

Experience a seamless engineering workflow with Logic Manager. Unlock the power of Logic Manager and experience instant access to comprehensive information, allowing you to achieve optimum performance at ease.

Highlights

- Just four simple engineering steps to save time and effort.
- Intuitive interface for simulation and commissioning, allowing you to visualize and fine-tune your project easily.
- The visual graphical commissioning interface further enhances usability, transforming complex tasks into simple tasks.



Step 1: Create project



Step 2: Add the devices based on the template



Step 3: Small modification



Step 4: Connect the device to download the project

- Enjoy the flexibility of online and offline simulation, enabling you to test and optimize your applications at your convenience.
- With Logic Manager's quick download process, you can swiftly access and deploy application files.
- Tag color feature enables you to easily distinguish data point signal types, facilitating fast diagnosis and improving working accuracy and reliability.





Seamless integration in Desigo Optic

Light system
- Use the IoT-based software architecture of Desigo Optic to support easy deployment both locally and in the cloud.
- Seamless integration in Desigo Optic.
- Suitable for small to medium-sized environmental control.

Easy deployment
- No need for servers, thus allowing for quick deployment.
- Support cloud deployment for convenient remote management.

Digital dual-carbon intelligent ecological system
- Compatible with multiple platforms and protocols.
- Supports MQTT and RESTful API.

Seamless Integration in Desigo Optic
- Automatic data mapping and graphic creation.
- No additional hardware or software required.
- Industry-specific application library available.
- Continuously extended library to meet ever-increasing demands.

One-stop system solution for different applications

Project implementation

- Compact, easy to install, and flexible to deploy.
- Dedicated application libraries for traditional small to medium-sized buildings or new markets.

System setup

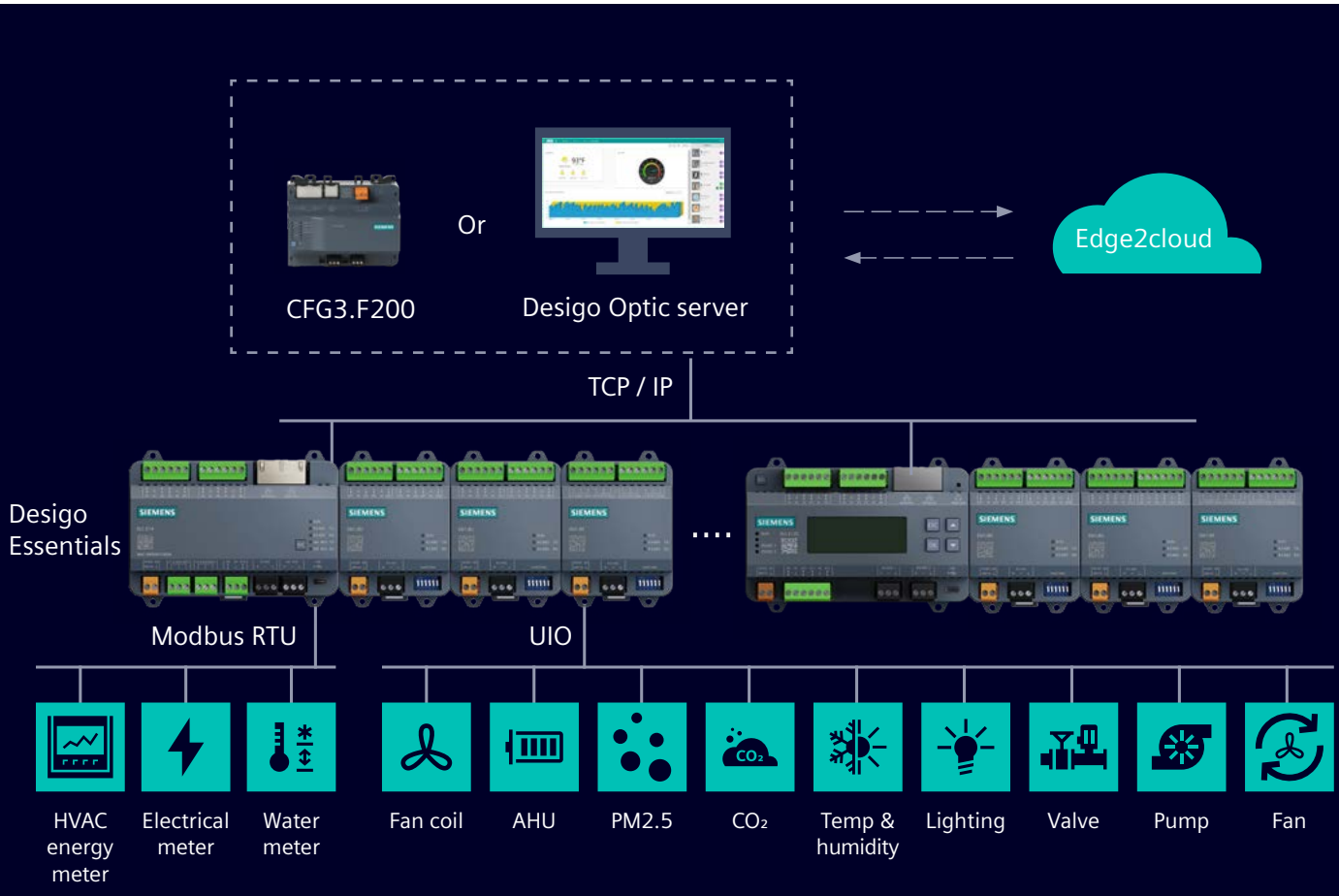
- Seamless integration in management software, offering flexible deployment options (embedded or server). Comprehensive device monitoring, trends, alarms, scheduling, and energy consumption management.
- Support cloud deployment for remote or multi-site management.

Technical Solution

- Flexible communication options (local or cloud) for diverse industrial applications.
- Compatible with multiple operating systems, easy to integrate in standard protocols, supporting seamless upgrades to cutting-edge technologies.

Operation and maintenance

- Easy-to-use, easy-to-maintain, and easy-to-operate.
- Different roles to ensure secure management.



Product overview

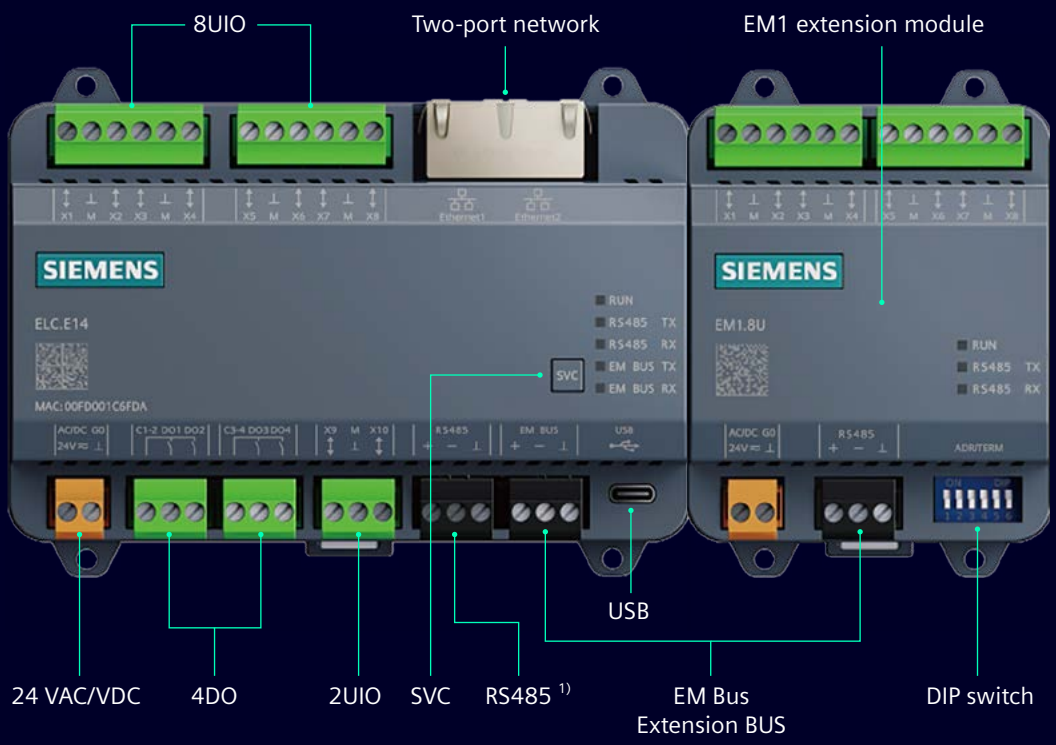
					
	ELC.E12D	**ELC.E14**	**EM1.8U**	**EM1.8D**	**EM1.8R**
	Controller	**Controller**	**I/O extension module**	**I/O extension module**	**I/O extension module**
Power supply	24 VAC/24 VDC	24 VAC/24 VDC	24 VAC/24 VDC	24 VAC/24 VDC	24 VAC/24 VDC
Onboard I/Os	12 UIO	10 UIO, 4 relays	8 UIO	8 DI	8 relays (24 V)
I/O extension modules	Max. 5	Max. 5	-	-	-
COM port (RS485)	2 (2 RS485, COM2 I/O extension)	2 (2 RS485, COM2 I/O extension)	1 (RS485)	1 (RS485)	1 (RS485)
Ethernet (RJ485)	2	2	-	-	-
Protocol	Modbus TCP, Modbus RTU	Modbus TCP, Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
USB connection	1[1)]	1[1)]	-	-	-
Addressing	Logic Manager combined with DIP switch	Logic Manager combined with DIP switch	DIP switch[2)]	DIP switch[2)]	DIP switch [2)]
Installation	DIN rail and wall mount	DIN rail and wall mount	DIN rail and wall mount	DIN rail and wall mount	DIN rail and wall mount
Dimensions: L × W × D (mm)	150 × 90 × 43	140 × 90 × 43	75 × 90 × 43	75 × 90 × 43	75 × 90 × 43
Signal types	**DI:** Maintained contact Pulse input (X9-X12, Max.50Hz) **AI:** 0-10 V Ni 1000 (LG) Pt 1000 (385) NTC 10 K Resistance input (700-1800 Ω) Resistance input (1.8K-100 KΩ) 0-20 mA 4-20 mA **AO:** 0-10 V **DO:** Passive electronic switch output (X9~X12)	**DI:** Maintained contact **AI:** 0-10 V Ni 1000 (LG) Pt 1000 (385) NTC 10K Resistance input (700-1800Ω) Resistance input (1.8 K-100 KΩ) 0-20 mA 4-20 mA (X5-X8 are available) **AO:** 0-10 V **DO:** Relay (24 V DO1-DO4)	**DI:** Maintained contact **AI:** 0-10 V Ni 1000 (LG) Pt 1000 (385) NTC 10K Resistance input (700-1800Ω) Resistance input (1.8 K-100 KΩ) 0-20 mA 4-20 mA (X1-X8 are available) **AO:** 0-10 V	**DI:** Maintained contact	**DO:** Relay (24 V)
Baud rate	**RS485:** Full range **EM or EM1 I/O expansion (COM2)**: 9600, 38400, 115200	**RS485:** Full range **EM or EM1 I/O expansion (COM2)**: 9600, 38400, 115200	**RS485:** Full range **EM1 I/O expansion (controller COM2):** 9600, 38400, 115200		

Note: [1)] Firmware update is supported by USB port and Ethernet port

[2)] Programming tool settings must be consistent with DIP switch settings

Desigo Essentials controller and I/O extension modules

The Desigo Essentials controller and its extension modules offer a high level of flexibility and configurability. They support multiple interfaces and communication protocols allowing for free programming. The easy extension of physical I/Os enables fast and accurate automation and control of the building or the environment. In addition, comprehensive solutions for building energy management, intelligent control, and security are an integral part of this package.

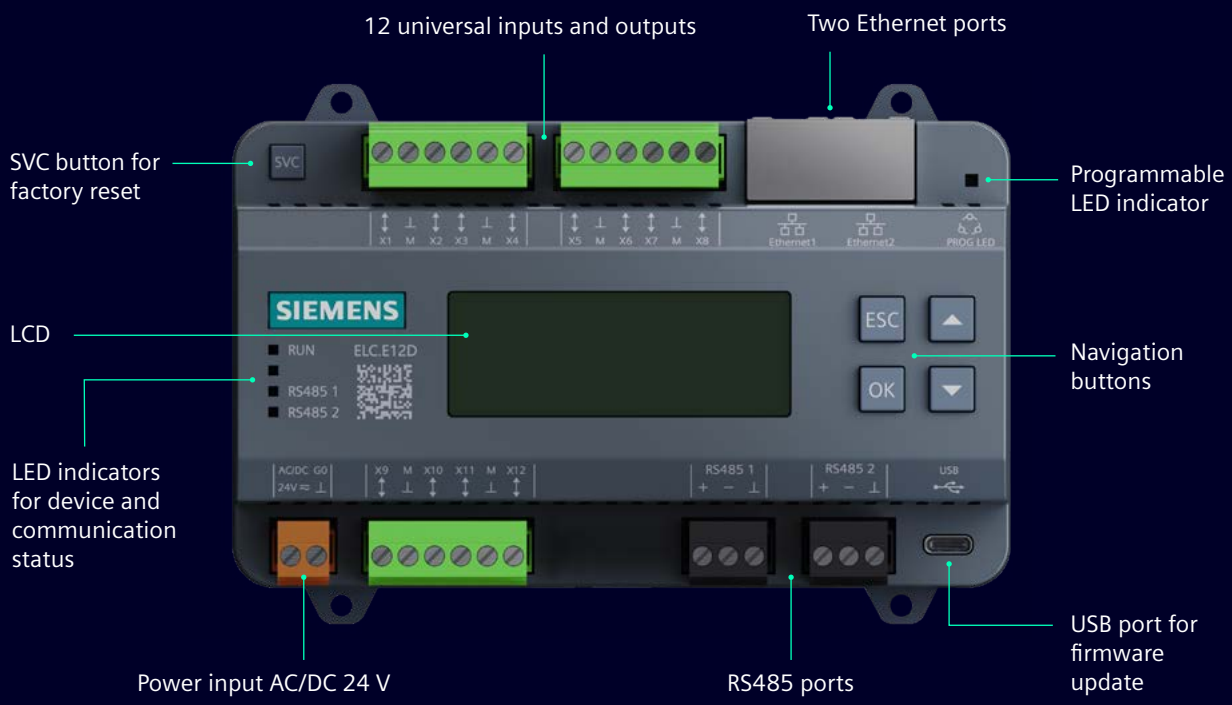


ELC.E14 and EM1.8U

Highlights

- 24 VAC / 24 VDC power supply
- Support for Modbus TCP and Modbus RTU protocols
- Dual Ethernet ports with a single IP address
- Free programming via Logic Manager
- Extension of physical I/Os via EM bus

1) Northbound & Southbound integration of Modbus RTU

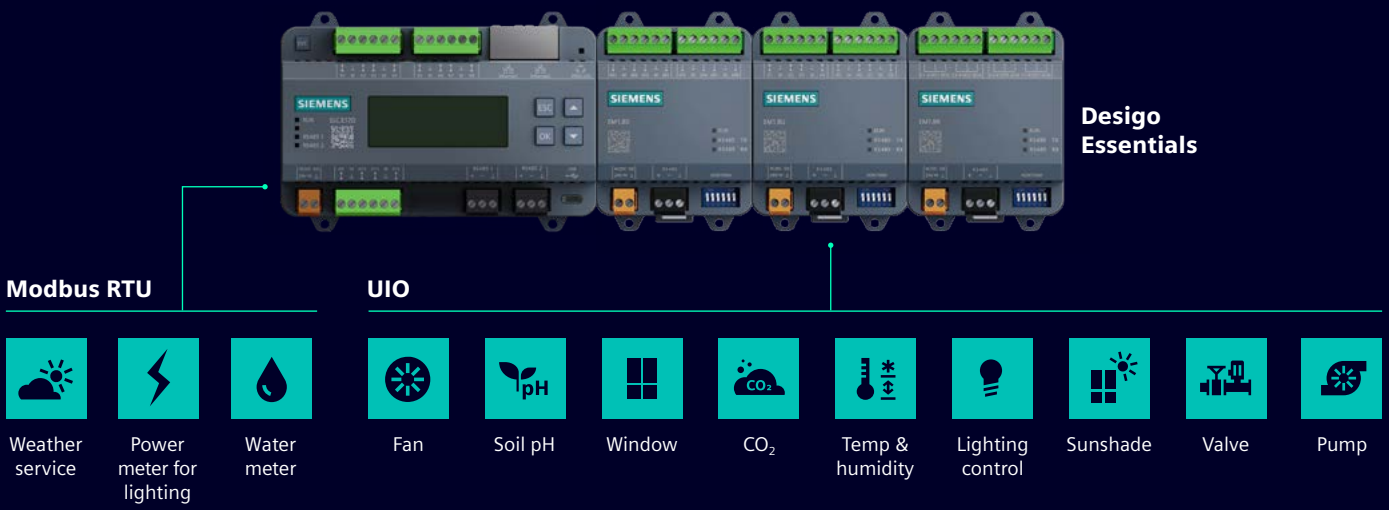


ELC.E12D

Highlights

- LCD screen and navigation buttons enable local data monitoring and schedule adjustments.
- User access is set by role with different permissions (view/read/write).
- Inbuilt local schedule function facilitates efficient and convenient local device control.
- The programmable LED indicator displays various statuses or alarm conditions, as programmed.
- 12 onboard universal I/O points provide exceptional flexibility and adaptability.

The LCD-equipped controller enables standalone control, idea for control applications where complex system integration is unnecessary, the focus is on basic local device control, requiring affordability and ease of use.



Smart Infrastructure combines the real and digital worlds across energy systems, buildings and industries, enhancing the way people live and work and significantly improving efficiency and sustainability.

We work together with customers and partners to create an ecosystem that both intuitively responds to the needs of people and helps customers achieve their business goals.

It helps our customers to thrive, communities to progress and supports sustainable development to protect our planet for the next generation.

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Published by
Siemens Switzerland Ltd

Smart Infrastructure
Global Headquarters
Theilerstrasse 1a
6300 Zug
Switzerland
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For the U.S. published by
Siemens Industry Inc.

800 North Point Parkway
Suite 450
Alpharetta, GA 30005
United States

(Status 11/2025)

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