easyE4
The fastest path to success

EA•TON

Powering Business Worldwide
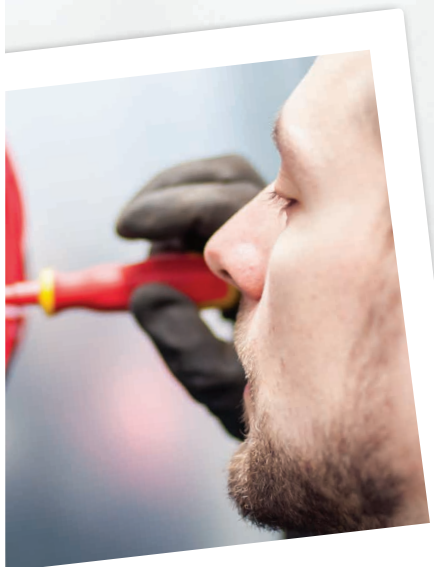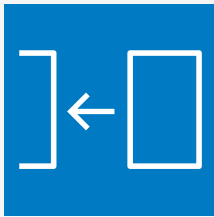
easyE4 control relay
More time for the really important things

Whether it's about temperature control in the food industry, simple control tasks in the machine building sector or lighting control in buildings—the easyE4 from the Moeller™ series, Eaton's next generation of control relays, makes implementing control tasks even easier, more convenient and faster. Experience the many advantages of this new technology, which allows you to free up valuable time for what's really important.
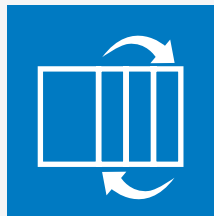
Offering maximum flexibility, with **up to 11 local expansion modules per base unit.**
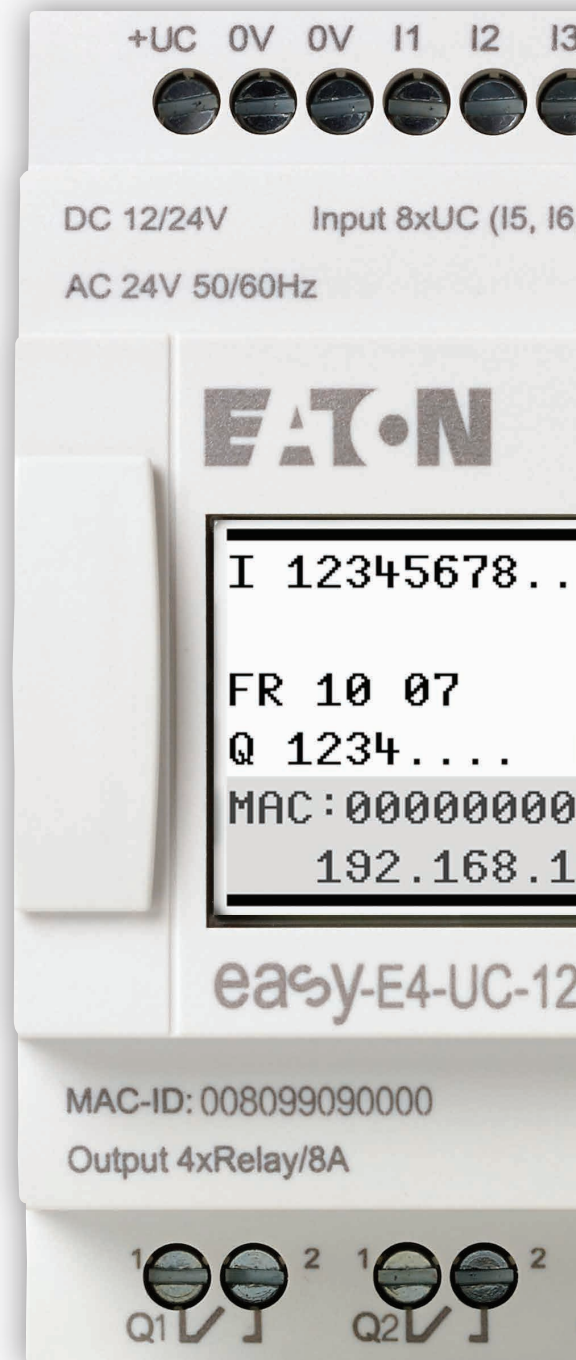
The **188 available inputs/outputs in one easyE4 system** provide coverage for a broad range of applications.

Mixed connection of AC/DC/UC modules allows flexibility in the application.

The virtually **unlimited combination options** of base units and expansion modules make the handling of the easyE4 devices extremely easy.

The **Ethernet connection** enables a wide range of enhanced communication options.

From planning to maintenance
Consistently simple

The easyE4 supports you every step of the way—starting with the planning phase, thanks to the optimized size of the assortment. Enjoy greater flexibility, more transparency and time savings that will allow you to devote yourself to other tasks.

Multifunctionality ensures simplified planning

The easy relay takes on various command and control tasks in a single device:
- Logic functions
- Timing relay and counter functions
- Time switch functions
- Arithmetic functions
- PID controller
- Operating and display functions.

This simplifies the planning process:
- Up to 11 expansions can be connected
- The AC, DC and UC expansions can be used together in any combination (12/24 V DC, 24 V AC, 100-240 V AC)

Programming options that are suited to your needs

The easyE4 offers flexible programming options, either directly on the device, or via the easySoft software:

- Circuit diagrams can be created directly on the base unit, using the input keypad and text display

- Programming the devices is highly user-friendly, thanks to the four available programming languages

- The display texts, background colors and start graphics can be individually designed, for example, by adding your company's own graphics.
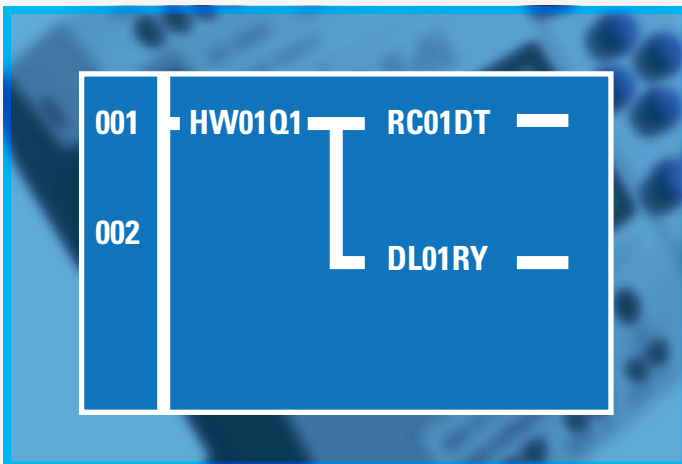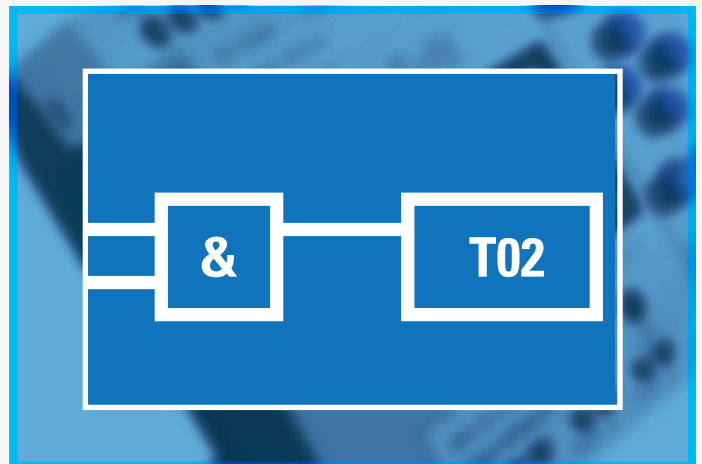
easySoft 7
Simple, intuitive and convenient

With the user-friendly easySoft software, programming the devices is quick and easy. Circuit diagrams can be easily created and adapted via a PC or directly on the device. The easy-to-navigate selection menus, as well as the simulation, online communications and documentation options, make easySoft the ideal companion for the easyE4 devices. Four different programming languages are available (ST, FBD, LD, EDP)—in other words, the right programming environment for all of your needs.

- **Ladder diagram (LD)** for transferring existing easySoft programs
- **easy programming (EDP)** enables the creation and adaptation of programs on the devices
- **Function block diagram (FBD)** provides a quick overview of the various features
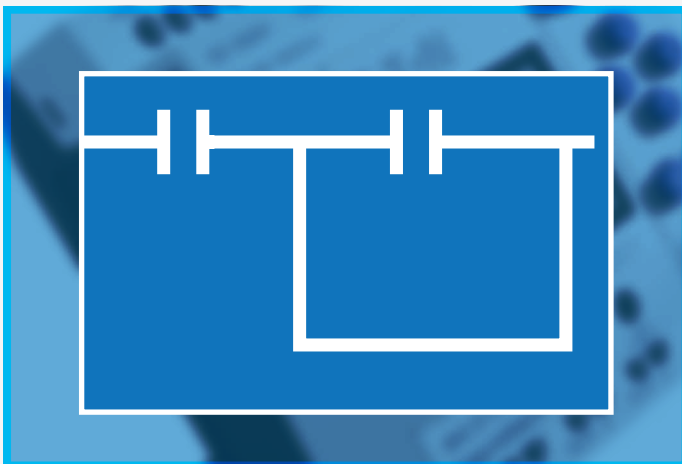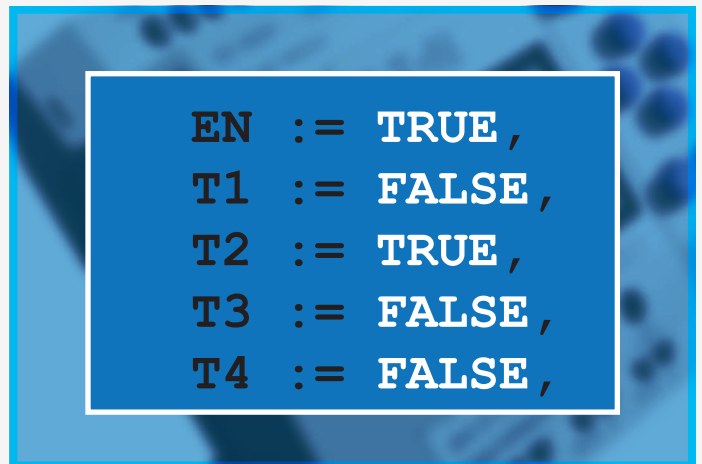- **Structured text (ST) for professionals,** to facilitate efficient programming
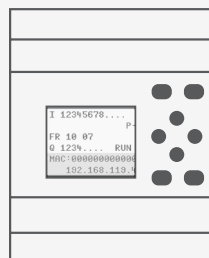
EDP

FBD

LD

ST

Visualization for every need

Simply versatile

The easyE4 also offers a variety of visualization options to optimally adapt the solution to your individual needs and requirements. Texts and data can be easily displayed or changed using the easyE4 base unit display. Thanks to the integrated web server, the data can also be accessed via all Internet-enabled devices, such as smartphones or tablets. In addition, visualization through HMIs is also possible. The access to the data can be individually defined.
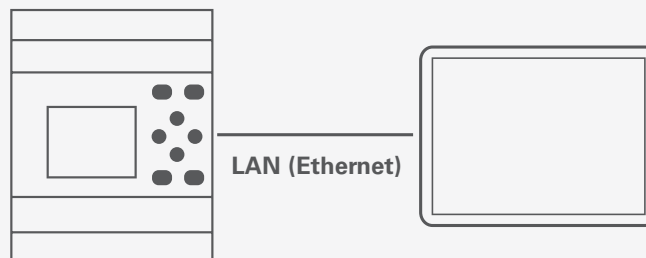
easyE4 display

Use the display of the basic unit for convenient visualization on site.


```
I 12345678....
              P
FR 10 07
Q 1234....  RUN
MMC:00000000000
      192.168.119.4
```
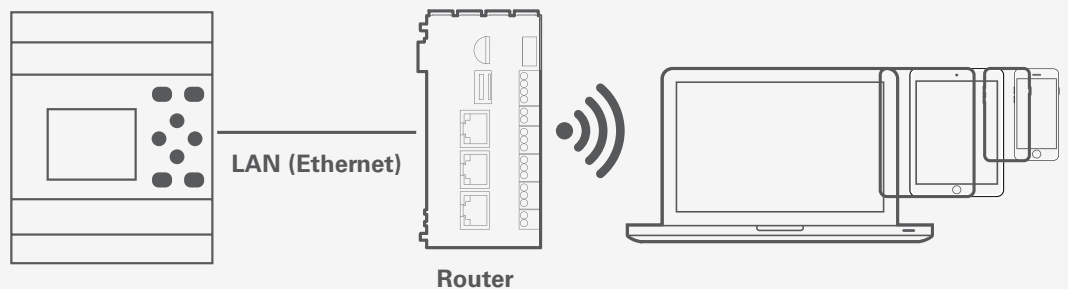
Visualization via Ethernet

Any HMI, like an XV100, can be connected to the easyE4, for example via Modbus TCP.

LAN (Ethernet)

Wireless visualization

Any standard browser can access the easyE4 web server via a WLAN router, a repeater or dLan.

LAN (Ethernet)

Router

easyE4 solutions
Ready for the future

The optimal design of your system architecture

LEVEL 1:
Eaton 'easy' stand-alone solution

The easyE4 allows for a wide range of clever applications of varying complexity. The control of simple tasks is performed by the base unit via the integrated inputs/outputs. The system can be tailored to the task at hand by means of the existing expansions. To this end, various expansion modules are available, which can be connected via a simple plug connector.

LEVEL 2
Eaton 'easy' system solution

For more complex tasks, additional devices can be connected to the base unit and the expansions via the

network. Via the Ethernet and NET interfaces, up to eight easyE4 devices can communicate with each other within the same network cluster.
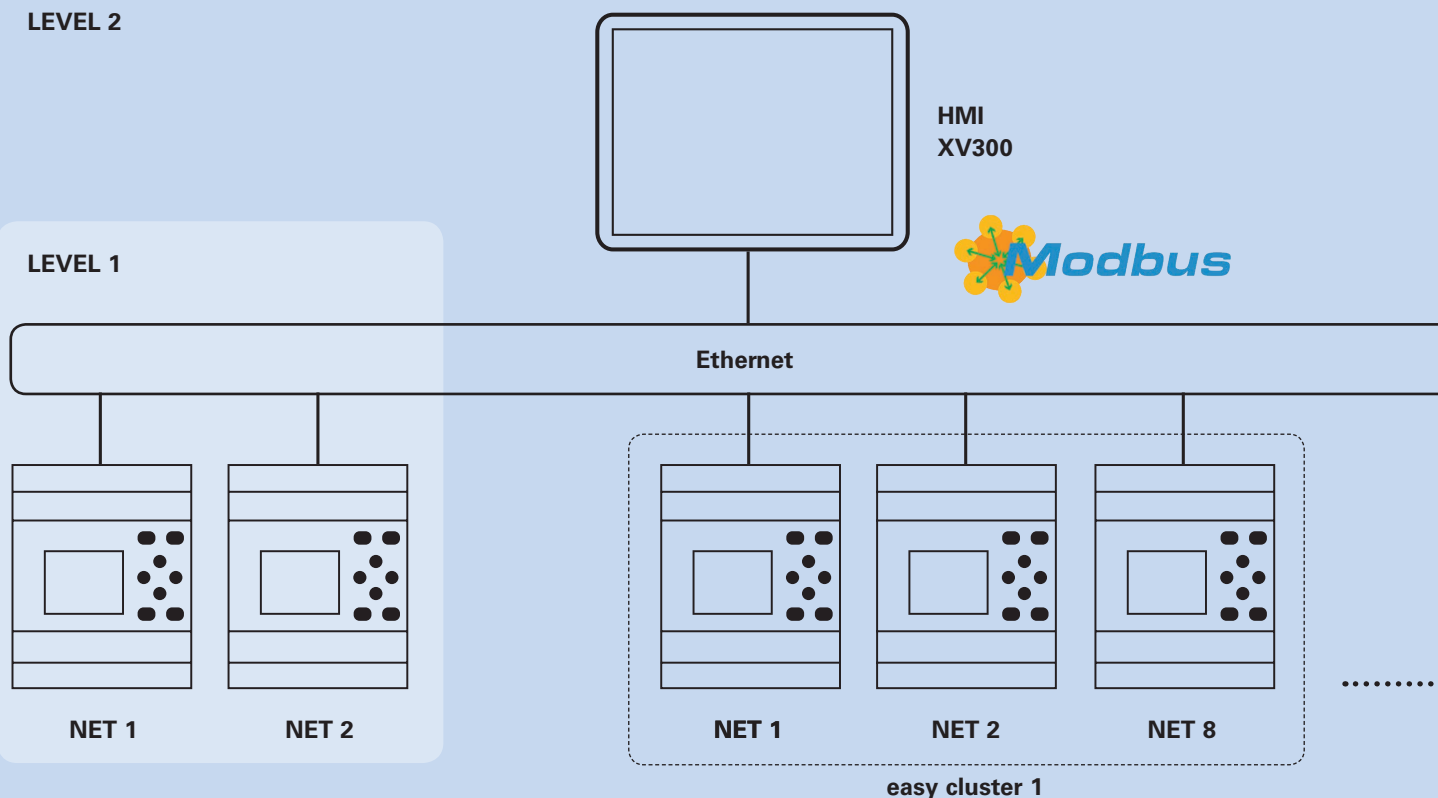
For larger networks, the easyE4 series offers the possibility of operating up to ten clusters—each with eight individual easyE4 devices—in parallel.

With the Modbus TCP protocol, it is even possible to use Eaton's XC300 as the central master-level control system for the easyE4 devices. And by connecting an Eaton HMI (e.g. the XV300), even the most demanding visualizations can be realized.

"I'm getting the advice and support I need to implement cutting-edge system solutions."

LEVEL 3

LEVEL 2

HMI
XV300

Modbus

LEVEL 1

Ethernet

NET 1   NET 2

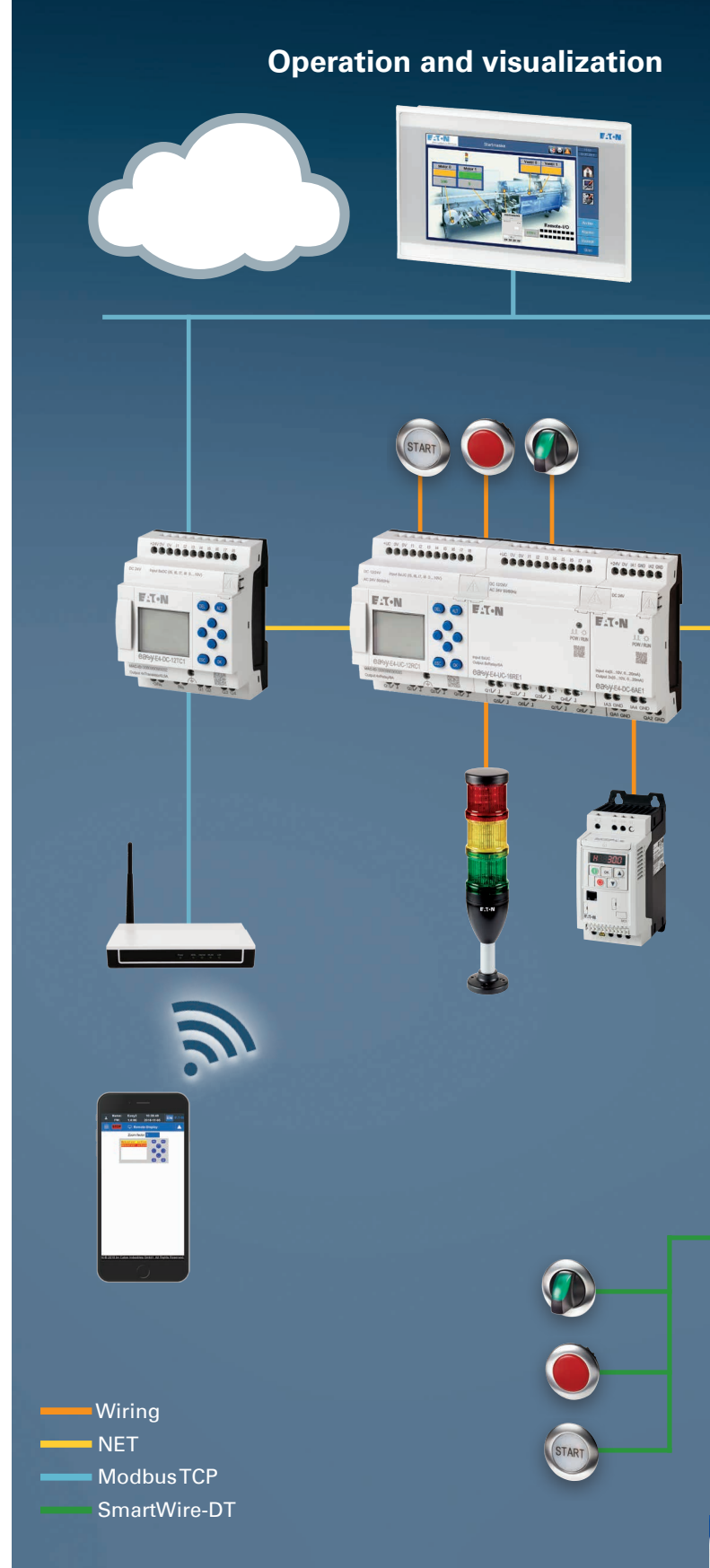NET 1   NET 2   NET 8

easy cluster 1

Implementing system architectures with Eaton's easyE4

The easyE4 control relays can be used within many different projects meeting your requirements for a flexible, modular system. If used in conjunction with the other components from the Eaton portfolio, such as our pilot devices or motor starters, the devices allow you to implement integrated system architectures that can be easily expanded.

Our example shows three different areas of application: Operation and visualization, motor start and controls, and sensor technology. The easyE4 control relay serves as an important interface between the individual components of the system architecture.

Since the in-/outputs in the easyE4 system can be easily extended, it is possible to integrate a wide variety of devices, such as those from our RMQ-Titan range. In addition, you can also connect motor starters, variable speed starters or sensors to the easyE4. The devices within each easyE4 network (cluster) communicate via NET. The XV100, which can be easily connected via Modbus TCP, is used for visualization.

A Modbus gateway is used to integrate additional modules, such as those from our SmartWire-DT range. Modbus TCP is also used to transmit the system-level data, which can then be visualized on a master-level control system using Codesys. With the easyE4, the operating status of the entire application can also be conveniently displayed on any mobile device.

Wiring
NET
Modbus TCP
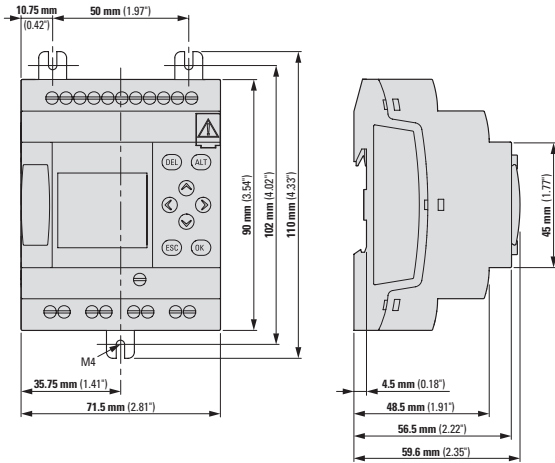SmartWire-DT

Flexible visualization options

In addition to HMI visualization via Modbus TCP, the easyE4's integrated web server also makes it possible to display the application content on tablets and smartphones. The web server is accessed by means of a wireless router. A number of built-in functions ensure secure access to the server.
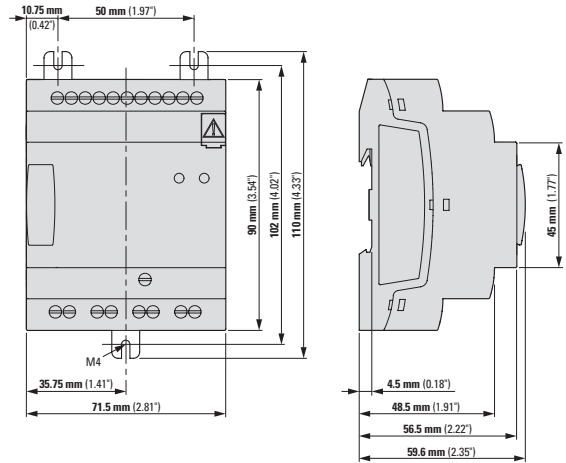
Technical data

Typ	EASY-E4-UC-12RC1	EASY-E4-UC-12RCX1	EASY-E4-UC-8RE1	EASY-E4-UC-16RE1	EASY-E4-DC-6AE1	EASY-E4-DC-12TC1	EASY-E4-DC-12TCX1	EASY-E4-DC-8TE1	EASY-E4-DC-16TE1
Article no.	197211	197212	197217	197218	197223	197213	197214	197219	197220
Type of device	Base unit	Base unit	Expansion unit	Expansion unit	Expansion unit	Base unit	Base unit	Expansion unit	Expansion unit

Inputs									
digital	8	8	4	8	-	8	8	4	8
can be used as analog inputs	4	4	-	-	6	4	4	-	-
Outputs									
Transistor	-	-	-	-	-	4	4	4	8
Relay	4	4	4	8	-	-	-	-	-
can be used as analog outputs	-	-	-	-	2	-	-	-	-
Display	with Display	without Display	without Display	without Display	without Display	with Display	without Display	without Display	without Display

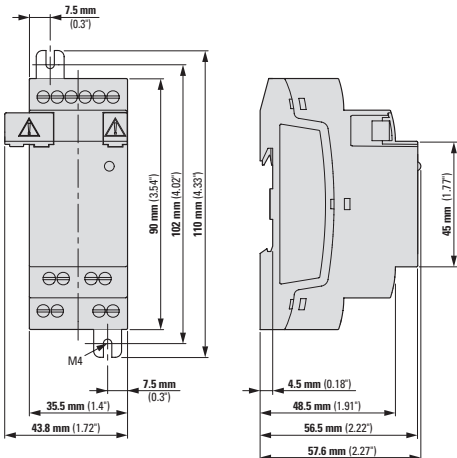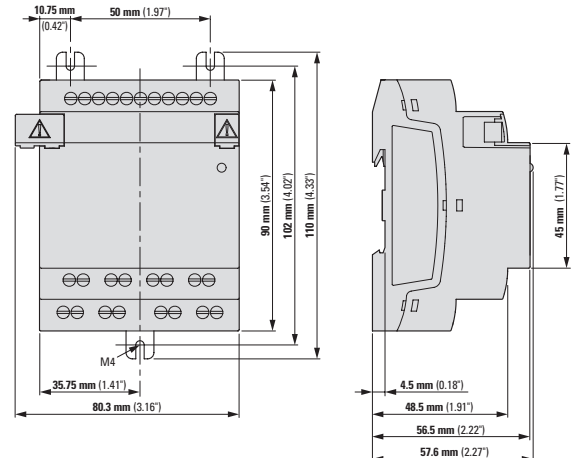|									
Rated operational voltage	12/24 V DC, 24 V AC					24 V DC			
Operating ambient temperature (°C)	-25 - +55					-25 - +55			
Dimensions (L x H x D)	71.5 x 90 x 58	35.5 x 90 x 58	71.5 x 90 x 58	35.5 x 90 x 58	71.5 x 90 x 58		35.5 x 90 x 58	71.5 x 90 x 58
Weight (kg)	0.2	0.2	0.2	0.2	0.2		0.2	0.2
Degree of protection	IP20								
Standards	EN 61000-6-2, EN 61000-6-3, IEC 60068-2-6, IEC 60068-2-27, IEC 60068-2-30, IEC 61131-2, EN 61010, EN 50178, cULus acc. to UL 61010, CSA C22.2 No.61010								

Dimensions

Basic device with display

Basic device without display

Slim expansion module

Large expansion module

At Eaton, we're energized by the challenge of powering a world that demands more. With over 100 years experience in electrical power management, we have the expertise to see beyond today. From groundbreaking products to turnkey design and engineering services, critical industries around the globe count on Eaton.

We power businesses with reliable, efficient and safe electrical power management solutions. Combined with our personal service, support and bold thinking, we are answering tomorrow's needs today. Follow the charge with Eaton. **Visit eaton.eu.**

To contact an Eaton salesperson or local distributor/agent, please visit www.eaton.eu/electrical/customersupport

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