

Programmable Relays



Product Overview

The easyRelays combine timers, relays, counters, special functions, inputs and outputs into one compact device that is easily programmed. The easyRelay family of products provides an exceptional level of flexibility together with a substantial savings of commissioning time and effort.

The easyRelays are available in more than 35 styles that support from 12 I/O up to a network of up to 320 I/O points, providing the ideal solution for lighting, energy management, industrial control, irrigation, pump control, HVAC and home automation.

Once easyRelays are installed, changes are easily accomplished through front panel programming, eliminating the need to change wiring and minimizing downtime.

The easy802/806 relays are even more powerful than the easy800 series and include an integrated SmartWire-DT gateway. Conventional hardwiring to pushbuttons, selector switches, pilot devices and contactors can now be eliminated, allowing for a dramatic increase in panel wiring productivity. For more information on SmartWire-DT and how it can increase productivity, go to www.eaton.com/smartywiredt.

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Application Description

The easyRelays excel in traditional applications where multiple relays, timers and pushbuttons are used. Applications span residential, commercial and industrial installations.

Typical control applications are:

- Lighting controls
- Duplex pump controls
- Water fountain controls
- Parking garage access controls
- Refrigeration control system
- Greenhouse temperature and ventilation controls
- Booster pump controls

See publication no. **AP05013001E** for the easyRelay application guide. Download from www.eaton.com/easyrelays.

easy500/700/800 Programmable Relays



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easy500/700/800 Programmable Relays

Product Description

Three families make up the easyRelay programmable relay product line. All models are available with and without displays. DIN rail mounted.

easy500—for controlling small applications with up to 12 input/output signals. Connectable to Ethernet.

easy700—for controlling medium-sized applications with 20 I/O points (expandable to 40 I/O points). Connectable to Ethernet and bus systems.

easy800—for controlling large-scale applications with 20 points, expandable to 40 points locally, and expandable using the easyNet network up to 320 I/O points. Connectable to Ethernet and bus systems.

The easyNet integrated network provides easy and inexpensive linking of up to eight easy800 devices over a distance of up to 1000 meters. Each easy800 device can run its own program, or be used as a distributed input/output module. Connect up to eight controllers with up to 40 I/O to obtain 320 I/O.

Standards

- CSA C22.2 No. 142-M1987
- CSA C22.2 No. 213-M1987
- EN 55011
- EN 50178
- EN 61131-2
- IEC EN 61000-4
- IEC 60068-2-6
- IEC 60068-2-27
- UL 508

Certifications

- UL
- CSA
- CE
- CSA Class I, Div. 2, Groups A, B, C, D; Temp. Code T3C
- C-Tick
- GOST-R
- Ukrain-GOST



Shipping Approvals

- Bureau Veritas
- Det Norske Veritas
- Germanischer Lloyd
- Lloyd's Register of Shipping

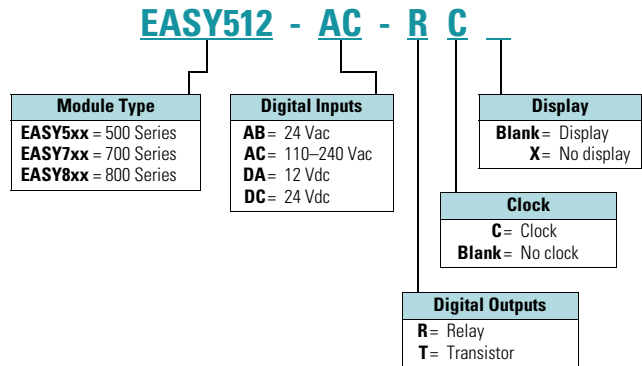
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Catalog Number Selection

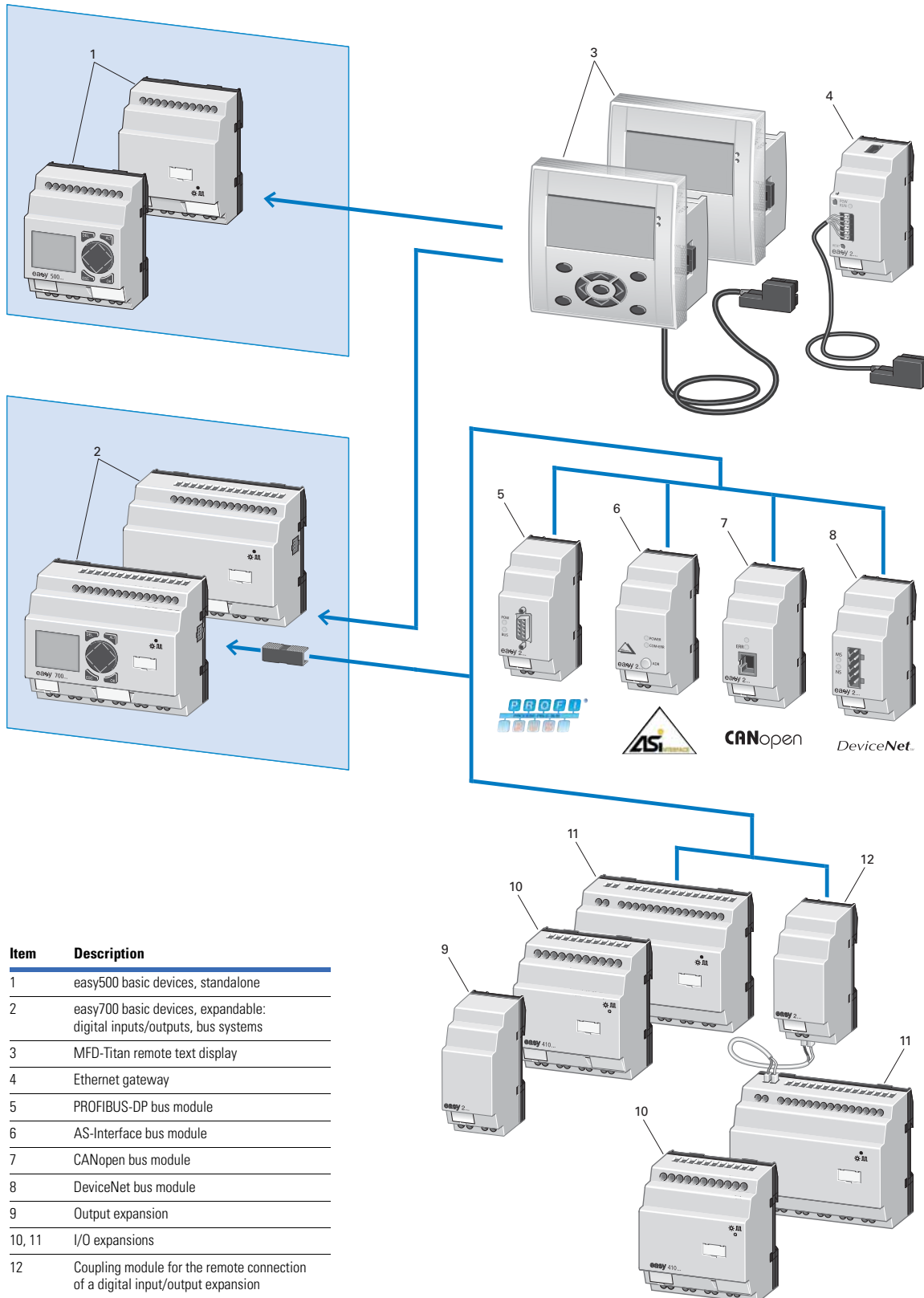
easy500/700/800



Note: Not all combinations are possible. See selection tables.

System Overview

easy500/700 Programmable Relays



Item	Description
1	easy500 basic devices, standalone
2	easy700 basic devices, expandable: digital inputs/outputs, bus systems
3	MFD-Titan remote text display
4	Ethernet gateway
5	PROFIBUS-DP bus module
6	AS-Interface bus module
7	CANopen bus module
8	DeviceNet bus module
9	Output expansion
10, 11	I/O expansions
12	Coupling module for the remote connection of a digital input/output expansion

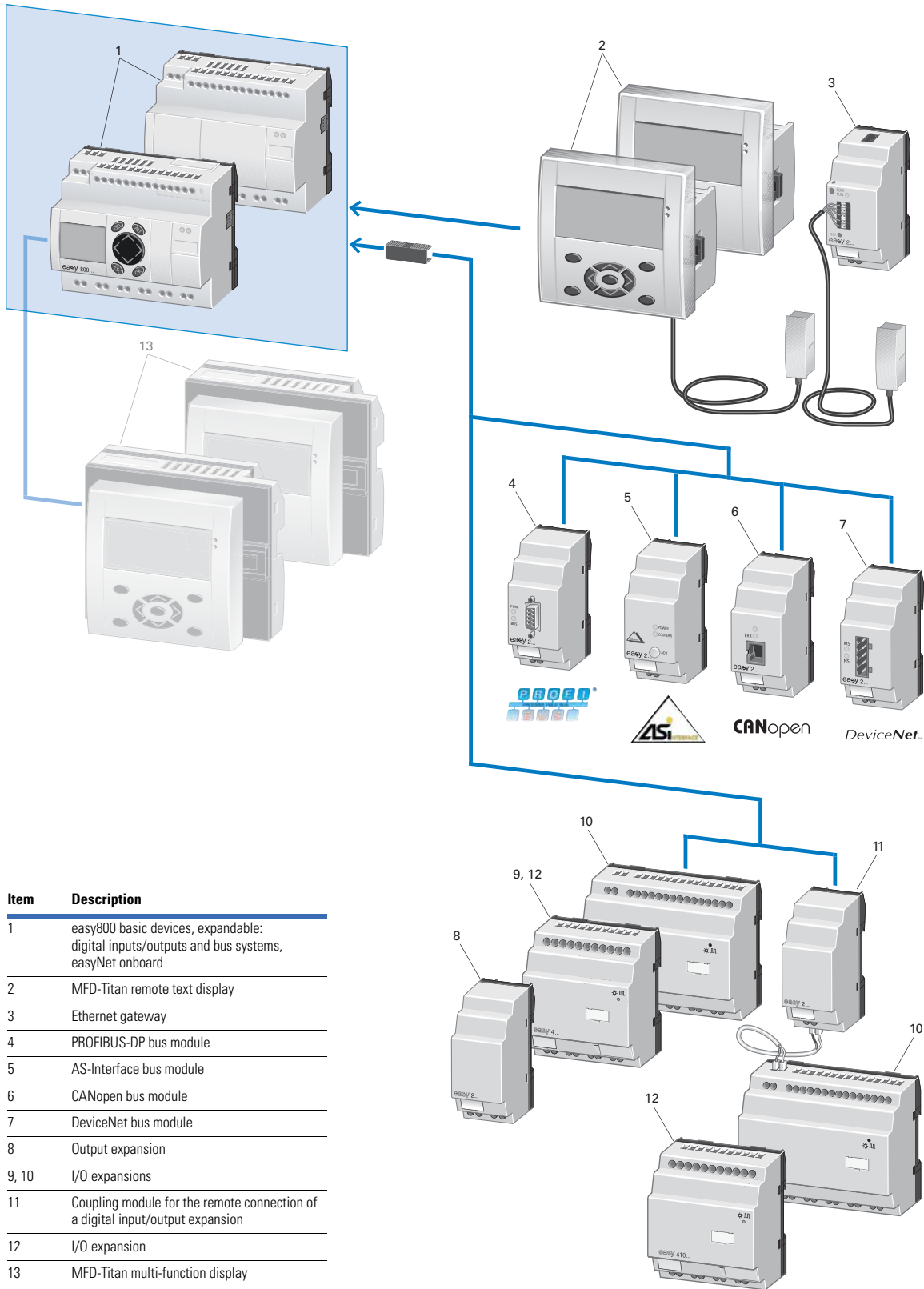
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Control Relays and Timers

Programmable Relays

easy800 Programmable Relay

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Item	Description
1	easy800 basic devices, expandable: digital inputs/outputs and bus systems, easyNet onboard
2	MFD-Titan remote text display
3	Ethernet gateway
4	PROFIBUS-DP bus module
5	AS-Interface bus module
6	CANopen bus module
7	DeviceNet bus module
8	Output expansion
9, 10	I/O expansions
11	Coupling module for the remote connection of a digital input/output expansion
12	I/O expansion
13	MFD-Titan multi-function display

Product Selection

easy500—Display



easy500 Programmable Relays (Standalone)

Description	Inputs					Outputs		Catalog Number
	24 Vac	110–240 Vac	12 Vdc	24 Vdc	Analog ^①	Relay	Transistor	
Display								
12 I/O, no clock	—	8	—	—	—	4	—	EASY512-AC-R
	—	—	—	8	2	4	—	EASY512-DC-R
12 I/O, clock	8	—	—	—	2	4	—	EASY512-AB-RC
	—	8	—	—	—	4	—	EASY512-AC-RC
	—	—	8	—	2	4	—	EASY512-DA-RC
	—	—	—	8	2	4	—	EASY512-DC-RC
	—	—	—	8	2	—	4	EASY512-DC-TC
No Display								
12 I/O, clock	8	—	—	—	2	4	—	EASY512-AB-RCX
	—	8	—	—	—	4	—	EASY512-AC-RCX
	—	—	8	—	2	4	—	EASY512-DA-RCX
	—	—	—	8	2	4	—	EASY512-DC-RCX
	—	—	—	8	2	—	4	EASY512-DC-TCX

easy500—No Display



easy700—Display



easy700 Programmable Relays (Expandable and Networkable)

Description	Inputs					Outputs		Catalog Number
	24 Vac	110–240 Vac	12 Vdc	24 Vdc	Analog ^①	Relay	Transistor	
Display								
18 I/O, clock	12	—	—	—	4	6	—	EASY719-AB-RC
	—	12	—	—	—	6	—	EASY719-AC-RC
	—	—	12	—	4	6	—	EASY719-DA-RC
	—	—	—	12	4	6	—	EASY719-DC-RC
20 I/O, clock	—	—	—	12	4	—	8	EASY721-DC-TC
No Display								
18 I/O, clock	12	—	—	—	4	6	—	EASY719-AB-RCX
	—	12	—	—	—	6	—	EASY719-AC-RCX
	—	—	12	—	4	6	—	EASY719-DA-RCX
	—	—	—	12	4	6	—	EASY719-DC-RCX
20 I/O, clock	—	—	—	12	4	—	8	EASY721-DC-TCX

easy700—No Display



easy800—Display



easy800 Programmable Relays (Expandable and Networkable)

Description	Inputs			Outputs			Catalog Number
	110–240 Vac	24 Vdc	Analog ^①	Relay	Transistor	Analog	
Display							
18 I/O, clock	12	—	—	6	—	—	EASY819-AC-RC
	—	12	4	6	—	—	EASY819-DC-RC
19 I/O, clock	—	12	4	6	—	1	EASY820-DC-RC
20 I/O, clock	—	12	4	—	8	—	EASY821-DC-TC
21 I/O, clock	—	12	4	—	8	1	EASY822-DC-TC
No Display							
18 I/O, clock	12	—	—	6	—	—	EASY819-AC-RCX
	—	12	4	6	—	—	EASY819-DC-RCX
19 I/O, clock	—	12	4	6	—	1	EASY820-DC-RCX
20 I/O, clock	—	12	4	—	8	—	EASY821-DC-TCX
21 I/O, clock	—	12	4	—	8	1	EASY822-DC-TCX

easy800—No Display



Note

① Analog inputs optional. Use of analog inputs will result in a decrease in the same number of available digital inputs.

Technical Data and Specifications

easy500 Series

Type	EASY512-AB...	EASY512-AC...	EASY512-DA...	EASY512-DC-R...	EASY512-DC-TC.
Supply voltage	24 Vac	100–240 Vac	12 Vdc	24 Vdc	24 Vdc
Heat dissipation	5 VA	5 VA	2 W	2 W	2 W
Continuous current outputs ^①	8 A	8 A	8 A	8 A	0.5 A
Short-circuit proof with power factor 1	Line protection B16, 600 A				—
Short-circuit proof with power factor 0.7...0.7	Line protection B16, 900 A				—
Mounting	On 35 mm DIN rail or screw mounting with ZB4-101-GF1 mounting feet				
Connection cables					
Solid	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)
Flexible	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)
Degree of protection	IP20	IP20	IP20	IP20	IP20
RFI suppression	EN 55011, EN 55022 Class B, IEC 61000-6-1, 2, 3, 4				
Ambient operating temperature	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C
Transport and storage temperature	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C
Hazardous location	CSA Class I, Div. 2, Groups A, B, C, D; Temp. Code T3C				

easy700 Series

Type	EASY719-AB...	EASY719-AC...	EASY719-DA...	EASY719-DC-RC...	EASY721-DC-TC.
Supply voltage	24 Vac	100–240 Vac	12 Vdc	24 Vdc	24 Vdc
Heat dissipation	7 VA	10 VA	3.5 W	3.5 W	3.5 W
Continuous current outputs ^①	8 A	8 A	8 A	8 A	0.5 A
Short-circuit proof with power factor 1	Line protection B16, 600 A	Line protection B16, 600 A	Line protection B16, 600 A	Line protection B16, 600 A	—
Short-circuit proof with power factor 0.7...0.7	Line protection B16, 900 A	Line protection B16, 900 A	Line protection B16, 900 A	Line protection B16, 900 A	—
Mounting	On 35 mm DIN rail or screw mounting with ZB4-101-GF1 mounting feet				
Connection cables					
Solid	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)
Flexible	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)
Degree of protection	IP20	IP20	IP20	IP20	IP20
RFI suppression	EN 55011, EN 55022 Class B, IEC 61000-6-1, 2, 3, 4				
Ambient operating temperature	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C
Transport and storage temperature	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C
Hazardous location	CSA Class I, Div. 2, Groups A, B, C, D; Temp. Code T3C				

easy800 Series

Type	EASY819-AC...	EASY819-DC-RC...	EASY820-DC-RC...	EASY821-DC-TC...	EASY822-DC-TC.
Supply voltage	100–240 Vac	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Heat dissipation	10 VA	3.4 W	3.4 W	3.4 W	3.4 W
Continuous current outputs ^①	8 A	8 A	8 A	8 A	0.5 A
Short-circuit proof with power factor 1	Line protection B16, 600 A	Line protection B16, 600 A	Line protection B16, 600 A	Line protection B16, 600 A	—
Short-circuit proof with power factor 0.7...0.7	Line protection B16, 900 A	Line protection B16, 900 A	Line protection B16, 900 A	Line protection B16, 900 A	—
Mounting	On 35 mm DIN rail or screw mounting with ZB4-101-GF1 mounting feet				
Connection cables					
Solid	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)	0.2–4.0 mm ² (AWG 22–12)
Flexible	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)	0.2–2.5 mm ² (AWG 22–12)
Degree of protection	IP20	IP20	IP20	IP20	IP20
RFI suppression	EN 55011, EN 55022 Class B, IEC 61000-6-1, 2, 3, 4				
Ambient operating temperature	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C	–25 °C to +55 °C
Transport and storage temperature	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C	–40 °C to +70 °C
Hazardous location	CSA Class I, Div. 2, Groups A, B, C, D; Temp. Code T3C				

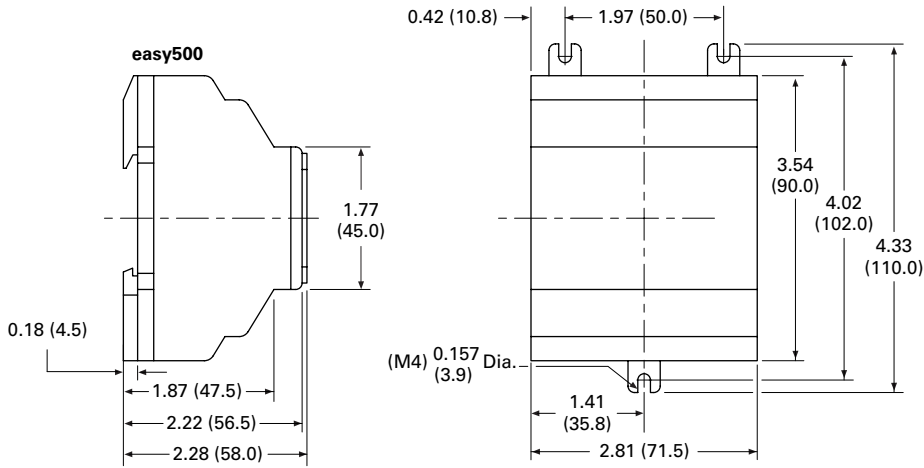
Note

^① Relay = 8 A (10 A to UL) with resistive load, 3 A with inductive load. Transistor outputs = 0.5 A/24 Vdc, maximum four outputs switchable in parallel.

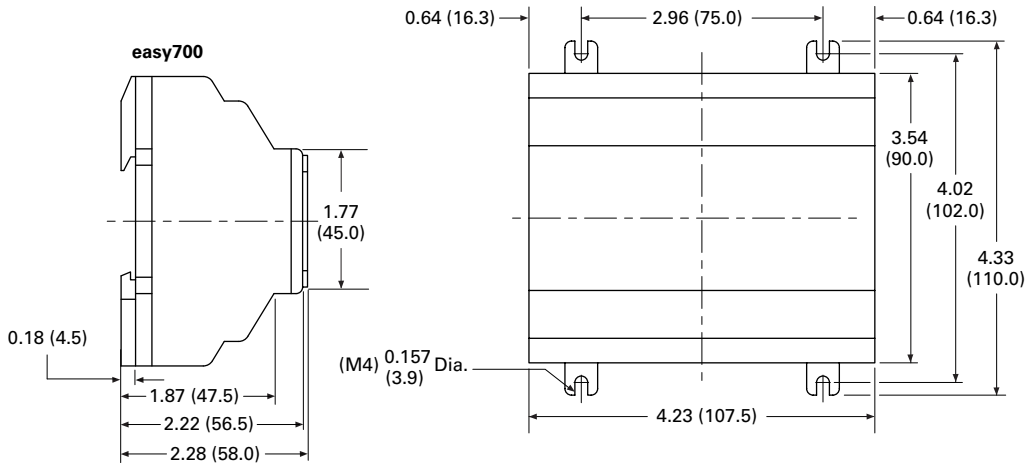
Dimensions

Approximate Dimensions in Inches (mm)

easy500 Series, Drawing Number MD05013001E



easy700 Series, Drawing Number MD05013002E



easy800 Series, Drawing Number MD05013003E

