



I/O expansion, For use with easyE4, 24 V DC, Inputs expansion (number) analog: 4, screw terminal

Part no. **EASY-E4-DC-6AE1**  
 Catalog No. **197223**  
 EL-Nummer (Norway) **4500554**

### Delivery program

Product range		Control relays easyE4
Subrange		easyE4 analog input/output enhancements
Basic function		easyE4 extensions
Description		Input/output extension for easyE4 control relay Expandable with the easyE4 series of digital input/output expansions with easy-E4-CONNECT1 connector (Item Y7-197225) Rated operating voltage 24V DC Analog inputs: 4 Analog outputs: 2 Screw terminals
<b>Inputs</b>		
Inputs expansion (number)		Analog: 4
Analog		4
<b>Additional features</b>		
Display		with diagnostic LED
Software		EASYSOFT-SWLIC/easySoft 7
Supply voltage		24 V DC
For use with		easyE4

### Technical data

#### General

Standards		EN 61000-6-2 EN 61000-6-3 IEC 60068-2-6 IEC 60068-2-27 IEC 60068-2-30 IEC/EN 61131-2 EN 61010 EN 50178
Approvals		
Approvals certificate		cULus CE
shipping classification		DNV GL
Dimensions (W x H x D)	mm	35.5 x 90 x 58
Weight	kg	0.088
Mounting		Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)
Connection type		screw terminal

#### Terminal capacities

<b>Screw terminals</b>		
Solid	mm <sup>2</sup>	0.2 - 4
flexible	mm <sup>2</sup>	0.2 - 2.5
Solid or flexible conductor, with ferrule	mm <sup>2</sup>	0,2 - 2,5
Solid or stranded	AWG	22 - 12
Standard screwdriver	mm	0.8 x 3.5
Tightening torque	Nm	0.5 - 0.7
Stripping length	mm	6.5

## Climatic environmental conditions

Operating ambient temperature		°C	-25 to 55, cold as per IEC 60068-2-1, heat as per IEC 60068-2-2
Condensation			Take appropriate measures to prevent condensation
Storage	θ	°C	-40 - +70
relative humidity		%	in accordance with IEC 60068-2-30, IEC 60068-2-78 5 - 95
Air pressure (operation)		hPa	795 - 1080

## Ambient conditions, mechanical

Protection type (IEC/EN 60529, EN50178, VBG 4)			IP20
Vibrations		Hz	In accordance with IEC 60068-2-6 constant amplitude 0.15 mm: 10 - 57 constant acceleration 2 g: 57 - 150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms		Impacts	18
Drop to IEC/EN 60068-2-31	Drop height	mm	50
Free fall, packaged (IEC/EN 60068-2-32)		m	0.3
Mounting position			Vertical or horizontal

## Electromagnetic compatibility (EMC)

Overvoltage category/pollution degree			III/2
Electrostatic discharge (ESD)			
applied standard			nach IEC/EN 61000-4-2
Air discharge		kV	8
Contact discharge		kV	6
Electromagnetic fields (RFI) to IEC EN 61000-4-3		V/m	0.08 - 1.0 GHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1
Radio interference suppression			EN 61000-6-3 Class B
Burst		kV	according to IEC/EN 61000-4-4 Supply cables: 2 Signal cables: 2
power pulses (Surge)			according to IEC/EN 61000-4-5 0.5 kV (supply cables, symmetrical) 1 kV (supply cables, asymmetrical)
Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10

## Insulation resistance

Clearance in air and creepage distances			nach EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201
Insulation resistance			in accordance with EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201

## Power supply

Rated operational voltage	$U_e$	V	24 DC (-15/+20%)
Permissible range	$U_e$		20.4 - 28.8 V DC
Residual ripple		%	≤ 5
Protection against polarity reversal			yes
Input current			max. 100 mA at $U_e$
Voltage dips		ms	≤ 10
Fuse		A	≥ 1A (T)
Power loss	P	W	Normally 2.5
Heat dissipation at 24 V DC		W	2.5

## Analog inputs

Number			4
Potential isolation			from power supply: no to the in/outputs: no to expansion devices: yes
Input type			Voltage or current, selectable per input
Signal range			0-10 V DC 0 - 20 mA 4 - 20 mA
Resolution			12 Bit (value 0 - 4095)
Input impedance		kΩ	12.122
Cable length		m	≤ 10, screened

## Analog outputs

Number			2
Potential isolation			from power supply: no to the in/outputs: no

Output type			to the expansion units: yes
Signal range			Voltage or current, selectable per input
Resolution			0-10 V DC 0 - 20 mA 4 - 20 mA
Accuracy			12 Bit (value 0 - 4095)
-25 °C - 55 °C		%	1
Cable length		m	≤ 10, shielded

## Design verification as per IEC/EN 61439

Technical data for design verification			
Static heat dissipation, non-current-dependent	P <sub>Vs</sub>	W	2.5
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Meets the product standard's requirements.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## Technical data ETIM 8.0

Programmable logic controllers PLC (EG000024) / Logic module (EC001417)			
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / Logic module (ecl@ss10.0.1-27-24-22-16 [AKE539014])			
Supply voltage AC 50 Hz		V	0 - 0
Supply voltage AC 60 Hz		V	0 - 0
Supply voltage DC		V	20.4 - 28.8
Voltage type of supply voltage			DC
Switching current		A	0.5
Number of analogue inputs			4
Number of analogue outputs			2
Number of digital inputs			0
Number of digital outputs			0
With relay output			No
Number of HW-interfaces industrial Ethernet			0

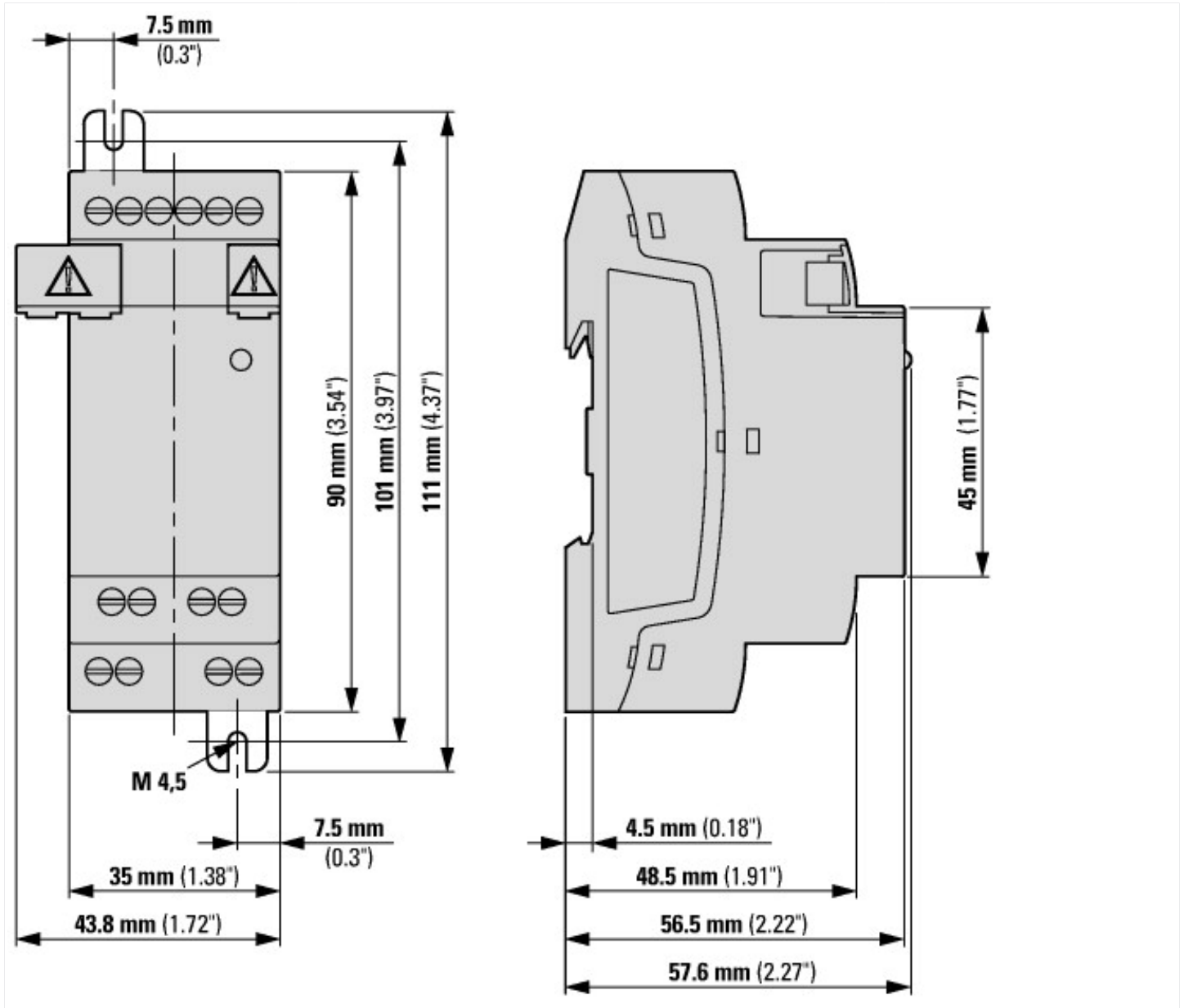
Number of interfaces PROFINET	0
Number of HW-interfaces RS-232	0
Number of HW-interfaces RS-422	0
Number of HW-interfaces RS-485	0
Number of HW-interfaces serial TTY	0
Number of HW-interfaces USB	0
Number of HW-interfaces parallel	0
Number of HW-interfaces Wireless	0
Number of HW-interfaces other	0
With optical interface	No
Supporting protocol for TCP/IP	Yes
Supporting protocol for PROFIBUS	No
Supporting protocol for CAN	No
Supporting protocol for INTERBUS	No
Supporting protocol for ASI	No
Supporting protocol for KNX	No
Supporting protocol for Modbus	Yes
Supporting protocol for Data-Highway	No
Supporting protocol for DeviceNet	No
Supporting protocol for SUCONET	No
Supporting protocol for LON	No
Supporting protocol for PROFINET IO	No
Supporting protocol for PROFINET CBA	No
Supporting protocol for SERCOS	No
Supporting protocol for Foundation Fieldbus	No
Supporting protocol for EtherNet/IP	No
Supporting protocol for AS-Interface Safety at Work	No
Supporting protocol for DeviceNet Safety	No
Supporting protocol for INTERBUS-Safety	No
Supporting protocol for PROFIsafe	No
Supporting protocol for SafetyBUS p	No
Supporting protocol for other bus systems	No
Radio standard Bluetooth	No
Radio standard Wi-Fi 802.11	No
Radio standard GPRS	No
Radio standard GSM	No
Radio standard UMTS	No
IO link master	No
Redundancy	No
With display	No
Degree of protection (IP)	IP20
Basic device	No
Expandable	Yes
Expansion device	Yes
With time switch clock	No
Rail mounting possible	Yes
Wall mounting/direct mounting	Yes
Front built-in possible	Yes
Rack-assembly possible	No
Suitable for safety functions	No
SIL according to IEC 61508	None
Performance level according to EN ISO 13849-1	None
Appendant operation agent (Ex ia)	No
Appendant operation agent (Ex ib)	No
Explosion safety category for gas	None

Explosion safety category for dust		None
Width	mm	36
Height	mm	90
Depth	mm	58

## Approvals

UL File No.		E205091
UL Category Control No.		NRAQ/7
North America Certification		UL listed
Degree of Protection		IEC: IP20, UL/CSA Type: -

## Dimensions



## Additional product information (links)

<b>assembly instructions easyE4 IL050021ZU</b>	
assembly instructions easyE4 IL050021ZU	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL050021ZU.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL050021ZU.pdf</a>
<b>easyE4 (MN050009) manual</b>	
easyE4 – Handbuch (MN050009) - Deutsch	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_DE.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_DE.pdf</a>
easyE4 (MN050009) manual - English	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_EN.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_EN.pdf</a>
manuel easyE4 (MN050009) - français	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_FR.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN050009_FR.pdf</a>
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f1=1454&f2=1174&f3=1755;Download Software  
easySoft V7

<http://applications.eaton.eu/sdlc?LX=11&amp>

Product overview (WEB)

<http://www.eaton.eu/easyE4>