

Eaton 197217

Catalog Number: 197217

Eaton Moeller® series EASY I/O expansion, For use with easyE4, 12/24 V DC, 24 V AC, Inputs expansion (number) digital: 4, screw terminal

General specifications

Product Name	Catalog Number
Eaton Moeller® series EASY I/O expansion	197217
	Model Code
	EASY-E4-UC-8RE1
EAN	Product Length/Depth
4015080892786	58 mm
Product Height	Product Width
90 mm	36 mm
Product Weight	Certifications
0.125 kg	CULus per UL 61010
	IEC 60068-2-6
	IEC 60068-2-27
	IEC/EN 61000-6-3
	CSA-C22.2 No. 61010
	IEC 60068-2-30
	EN 61010
	IEC/EN 61131-2
	EN 50178
	IEC/EN 61000-4-2
	IEC/EN 61000-6-2
	UL Listed
	UL Category Control No.: NRAQ, NRAQ7
	UL File No.: E205091
	DNV GL
	CE
	UL hazardous location class I
	UL hazardous location division 2
	UL hazardous location group A

Features & Functions

Features

Expandable
Expansion device

Fitted with:

Relay output

Indication

LCD-display base unit used as status indication of Digital inputs
12 V DC
LCD-display base unit used as status indication of Digital inputs
24 V DC

General

Degree of protection

IP20

Input frequency

50/60 Hz (Digital inputs, at 24 V DC)

Insulation resistance

According to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201

Lifespan, electrical

25,000 Operations (Filament bulb load at 500 W, 115/120 V AC)
25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, uncompensated)
25,000 Operations (Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventional, compensated)
25,000 Operations (Fluorescent lamp load 10 x 58 W at 230/240 V AC, with upstream electrical device)
25,000 Operations (Filament bulb load at 1000 W, 230/240 V AC)

Lifespan, mechanical

10,000,000 Operations

Mounting method

Top-hat rail fixing (according to IEC/EN 60715, 35 mm)
Rail mounting possible
Screw fixing using fixing brackets ZB4-101-GF1 (accessories)
Wall mounting/direct mounting
Front build in possible

Overvoltage category

III

Pollution degree

2

Product category

Control relays easyE4

Protection

B16 circuit breaker or 8 A (T) fuse, Protection of an Output relay

Protocol

TCP/IP
MODBUS

Rated impulse withstand voltage (Uimp)

6 kV (contact-coil)

Residual ripple

≤ 5 %

Software

EASYSOFT-SWLIC/easySoft7

Switching frequency

2 Hz, Resistive load/lamp load, Relay outputs

10 Hz, Relay outputs

0.5 Hz, Inductive load, Relay outputs

Type

easyE4 extension

Utilization category

B 300 Light Pilot Duty, UL/CSA Control Circuit Rating Codes AC

R 300 Light Pilot Duty, UL/CSA Control Circuit Rating Codes DC

Voltage type

AC/DC

Climatic environmental conditions

Air pressure

795 - 1080 hPa (operation)

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

55 °C

Ambient storage temperature - min

-40 °C

Ambient storage temperature - max

70 °C

Environmental conditions

Condensation: prevent with appropriate measures

Clearance in air and creepage distances according to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201

Relative humidity

5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)

Ambient conditions, mechanical

Drop and topple

50 mm Drop height, Drop to IEC/EN 60068-2-31

Height of fall (IEC/EN 60068-2-32) - max

0.3 m

Mounting position

Vertical

Horizontal

Shock resistance

15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 18 Impacts

Vibration resistance

According to IEC/EN 60068-2-6

10 - 57 Hz, 0.15 mm constant amplitude

57 - 150 Hz, 2 g constant acceleration

Electro magnetic compatibility

Air discharge

8 kV

Burst impulse

2 kV, Signal cable

2 kV, Supply cable

According to IEC/EN 61000-4-4

Contact discharge

6 kV

Electromagnetic fields

1 V/m at 2.0 - 2.7 GHz (according to IEC EN 61000-4-3)

3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3)

10 V/m at 0.8 - 1.0 GHz (according to IEC EN 61000-4-3)

Immunity to line-conducted interference

10 V (according to IEC/EN 61000-4-6)

Radio interference class

Class B (EN 61000-6-3)

Surge rating

2 kV, Supply cables, asymmetrical, power pulses (Surge), EMC

1 kV, Supply cables, symmetrical, power pulses (Surge), EMC

According to IEC/EN 61000-4-5, power pulses (Surge), EMC

Voltage dips

≤ 1 ms from rated voltage (12 V DC)
10 ms

Electrical rating

Conventional thermal current I_{th} of auxiliary contacts (1-pole, open)

8 A

Power consumption

2 W

Power loss

2 W

Rated breaking capacity

300000 Operations at AC-15, 250 V AC, 3 A (600 Ops./h)

200000 Operations at DC-13, 24 V DC, 1 A (500 Ops./h)

Rated insulation voltage (U_i)

240 V

Rated operational voltage

Max. 300 V AC

24 V AC (digital inputs)

12/24 V DC (-15 %/+ 20 % - power supply)

Max. 300 V DC

10.2 - 28.8 V DC

240 V AC

24 V DC (digital inputs)

24 V AC (-15 %/+10 % - power supply)

12 V DC (digital inputs)

20.4 - 26.4 V AC

Supply frequency

50/60 Hz (± 5%)

Supply voltage at AC, 50 Hz - min

85 VAC

Supply voltage at AC, 50 Hz - max

264 VAC

Terminal capacities

Terminal capacity

0.2 - 4 mm² (AWG 22 - 12), solid

0.2 - 2.5 mm² (22 - 12 AWG), flexible with ferrule

Screwdriver size

3.5 x 0.8 mm, Terminal screw

Tightening torque

0.6 Nm, Screw terminals

Short-circuit rating

Short-circuit protection

≥ 1A (T), Fuse, Power supply

Communication

Connection type

Screw terminal

Cable

Cable length

100 m, unscreened, Digital inputs 24 V AC

100 m, unscreened, Digital inputs 24 V DC

100 m, unscreened, Digital inputs 12 V DC

40 m (max. per input), Digital inputs 24 V DC

Input/Output

Delay time

25 ms typ., Digital Inputs 24 V AC 50 Hz (I1 - I4), Delay time from 0 to 1, Debounce OFF

0.015 ms typ., Digital inputs 12 V DC (I1 - I8), Delay time from 0 to 1, Debounce OFF

0.015 ms typ., Digital inputs 12 V DC (I1 - I8), Delay time from 1 to 0, Debounce OFF

20 ms, Digital Inputs 12 V DC, Delay time from 1 to 0, Debounce ON

0.1 ms typ., Digital inputs 24 V DC (I1 - I4), Delay time from 0 to 1, Debounce OFF

25 ms typ., Digital Inputs 24 V AC 50 Hz (I1 - I4), Delay time

Supply voltage at DC - min

10.2 VDC

Supply voltage at DC - max

28.8 VDC

Uninterrupted current

8 A DC, at 24 V DC (UL/CSA)

10 A AC, at 240 V AC (UL/CSA)

1 A DC, at R 300 (UL/CSA)

5 A AC, max. thermal continuous current $\cos \phi = 1$ at B 300 (UL/CSA)

from 1 to 0, Debounce OFF

21 ms typ., Digital Inputs 24 V AC 60 Hz (I1 - I4), Delay time from 0 to 1, Debounce OFF

21 ms typ., Digital Inputs 24 V AC 60 Hz (I1 - I4), Delay time from 1 to 0, Debounce OFF

20 ms, Digital Inputs 12 V DC, Delay time from 0 to 1, Debounce ON

0.2 ms typ., Digital inputs 24 V DC (I1 - I4), Delay time from 1 to 0, Debounce OFF

Input current

3.3 mA (I1 - I4, at 24 V DC, at signal 1)

80 mA

Input voltage

Signal 0: ≤ 5 V DC (I1 - I4, Digital inputs, 12 V DC)

Signal 1: ≥ 15 V DC (I1 - I4, Digital inputs, 24 V DC)

At signal 0: ≤ 5 V (I1 - I8, sinusoidal, Digital inputs, 24 V DC)

Signal 0: ≤ 5 V DC (I1 - I4, Digital inputs, 24 V DC)

At signal 1: ≥ 15 V (I1 - I8, sinusoidal, Digital inputs, 24 V DC)

Status 0: ≤ 15 V DC (I1 - I4, Digital inputs, 24 V DC)

Making/breaking capacity

28/28 VA (DC, at R 300)

3600/360 VA (AC, at B 300)

Number of inputs (analog)

0

Number of inputs (digital)

4

Number of outputs (analog)

0

Number of outputs (digital)

4

Output

Relay outputs in groups of 1

4 Relay Outputs

> 500 mA (Relay outputs, Recommended for load: 12 V AC/DC)

Voltage

Current

Parallel switching

Not permitted

Safety

Explosion safety category for gas

None

Potential isolation

Between Relay outputs: yes

Between Relay outputs and expansion devices: yes

Between Digital inputs 24 V DC and Outputs: yes

Between Digital inputs 12 V DC and expansion devices: yes

Between Digital inputs 24 V AC and expansion devices: yes

Between Digital inputs 24 V AC and base unit: yes

Between Digital inputs 12 V DC and base unit: yes

Between Digital inputs 24 V DC and expansion devices: yes

Safe isolation according to EN 50178: 300 V AC (Relay outputs)

Between Relay outputs and Power supply: yes

Between Digital inputs 12 V DC and Outputs: yes

Between Digital inputs 24 V AC and Outputs: yes

Between Digital inputs 24 V DC and base unit: yes

Between Relay outputs and Inputs: yes

Basic isolation: 600 V AC (Relay outputs)

Protection against polarity reversal

Yes, for supply voltage (Siemens MPI optional)

Explosion safety category for dust

None

Safe isolation

300 V AC, Between coil and contact, According to EN 50178

300 V AC, Between two contacts, According to EN 50178

Design verification

Equipment heat dissipation, current-dependent P_{vid}

0 W

Heat dissipation capacity P_{diss}

0 W

Heat dissipation per pole, current-dependent P_{vid}

0 W

Rated operational current for specified heat dissipation (I_n)

0 A

Static heat dissipation, non-current-dependent P_{vs}

2 W

10.2.2 Corrosion resistance

Resources

Brochures

Control has never been easier thanks to the easyE4 control relay Control relay easyE4

easy E4 control relay - brochure

Catalogues

Product overview for machinery

Drawings

eaton-modular-plc-easy-i-o-expansion-dimensions.eps

2723DIM-101

eaton-general-easy-control-relays-symbol-002.tif

0000SPC-596

Meets the product standard's requirements.	2723DRW-423
10.2.3.1 Verification of thermal stability of enclosures	eaton-modular-plc-easy-i-o-expansion-3d-drawing-002.eps
Meets the product standard's requirements.	eCAD model
10.2.3.2 Verification of resistance of insulating materials to normal heat	ETN.EASY-E4-UC-8RE1
Meets the product standard's requirements.	Installation instructions
	IL050021ZU
10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects	Installation videos
Meets the product standard's requirements.	Video easy E4 control relay
10.2.4 Resistance to ultra-violet (UV) radiation	mCAD model
Meets the product standard's requirements.	DA-CD-uc_8re1
	DA-CS-uc_8re1
10.2.5 Lifting	User guides
Does not apply, since the entire switchgear needs to be evaluated.	MN050009_EN
10.2.6 Mechanical impact	MZ049014EN
Does not apply, since the entire switchgear needs to be evaluated.	DA-MN-h1430de
	mz049001en.pdf
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.	
10.9.2 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.



Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com
© 2023 Eaton. All rights reserved.

Eaton is a registered trademark.

All other trademarks are property of their respective owners.



[Eaton.com/socialmedia](https://www.eaton.com/socialmedia)