

Specifications



Eaton 197223

Eaton Moeller® series EASY I/O expansion,
For use with easyE4, 24 V DC, Inputs
expansion (number) analog: 4, screw
terminal EASY-E4-DC-6AE1

General specifications

PRODUCT NAME	Eaton Moeller® series EASY I/O expansion
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CATALOG NUMBER	197223
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MODEL CODE	EASY-E4-DC-6AE1
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EAN	4015080892847
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PRODUCT LENGTH/DEPTH	58 mm
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PRODUCT HEIGHT	90 mm
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PRODUCT WIDTH	36 mm
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PRODUCT WEIGHT	0.1 kg
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CSA-C22.2 No. 61010
IEC/EN 61000-4-2
EN 61010
IEC/EN 61131-2
IEC/EN 61000-6-2
EN 50178
IEC/EN 61000-6-3
CULus per UL 61010
IEC 60068-2-27
IEC 60068-2-30
IEC 60068-2-6
UL Listed
UL Category Control No.:
NRAQ, NRAQ7
UL File No.: E205091
DNV GL
CE
UL hazardous location
group B (hydrogen)
UL hazardous location
division 2
UL hazardous location
group C (ethylene)
UL hazardous location
group A (acetylene)
UL hazardous location
group D (propane)
UL hazardous location
class I

CERTIFICATIONS

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	Horizontal Vertical
SHOCK RESISTANCE	15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 18 Impacts
VIBRATION RESISTANCE	57 - 150 Hz, 2 g constant acceleration 10 - 57 Hz, 0.15 mm constant amplitude According to IEC/EN 60068-2-6

Climatic environmental conditions

AIR PRESSURE	795 - 1080 hPa (operation)
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ENVIRONMENTAL CONDITIONS	Clearance in air and creepage distances according to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201 Condensation: prevent with appropriate measures
RELATIVE HUMIDITY	5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)

Cable

CABLE LENGTH	≤ 30 m, screened, Analog outputs ≤ 30 m, screened, Analog inputs 10 m, screened, Analog inputs
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Communication

CONNECTION TYPE	Screw terminal
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Design verification

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.
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 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. 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.

Electrical rating

HEAT DISSIPATION	3.4 W (at 24 V DC)
INRUSH CURRENT	12.5 A (for 6 ms)
POWER CONSUMPTION	2.5 W
RATED OPERATIONAL VOLTAGE	20.4 - 28.8 V DC 24 V DC (-15 %/+ 20 % - power supply)
SUPPLY VOLTAGE AT DC - MAX	28.8 VDC
SUPPLY VOLTAGE AT DC - MIN	20.4 VDC

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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	0 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	2.5 W

Electro magnetic compatibility

AIR DISCHARGE	8 kV
BURST IMPULSE	According to IEC/EN 61000-4-4 2 kV, Supply cable 2 kV, Signal cable
CONTACT DISCHARGE	6 kV
ELECTROMAGNETIC FIELDS	3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-4-3) 1 V/m at 2.0 - 2.7 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	0.5 kV, Supply cables, symmetrical, power pulses (Surge), EMC According to IEC/EN 61000-4-5, power pulses (Surge), EMC 1 kV, Supply cables, asymmetrical, power pulses (Surge), EMC
VOLTAGE DIPS	20 ms ≤ 10 ms, Bridging voltage dips

Features & functions

FEATURES	Expandable Expansion device
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General information

DEGREE OF PROTECTION	IP20
INSULATION RESISTANCE	According to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201
MOUNTING METHOD	Front build in possible Rail mounting possible Wall mounting/direct mounting Top-hat rail fixing (according to IEC/EN 60715, 35 mm) Screw fixing using fixing brackets ZB4-101-GF1 (accessories)
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	2
PRODUCT CATEGORY	Control relays easyE4
PROTOCOL	TCP/IP MODBUS
RESIDUAL RIPPLE	≤ 5 %
RESOLUTION	• 12 Bit (value 0 - 4095, Analog inputs) • 12 Bit (value 0 - 4095, Analog outputs)
SOFTWARE	EASYSOFT-SWLIC/easySoft
TYPE	easyE4 extension
VOLTAGE TYPE	DC

Input/Output

ACCURACY	1 %, Analog inputs at -25 °C - 55 °C
INPUT	Voltage Current
INPUT IMPEDANCE	11.2 kΩ
NUMBER OF INPUTS (ANALOG)	4
NUMBER OF INPUTS (DIGITAL)	0
NUMBER OF OUTPUTS (ANALOG)	2
NUMBER OF OUTPUTS (DIGITAL)	0
OUTPUT	Current Voltage
SIGNAL RANGE	4 - 20 mA, Analog outputs 0 - 20 mA, Analog inputs 0 - 10 V DC, Analog inputs 0 - 10 V DC, Analog outputs 4 - 20 mA, Analog inputs 0 - 20 mA, Analog outputs

Safety

EXPLOSION SAFETY CATEGORY FOR DUST	None
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EXPLOSION SAFETY CATEGORY FOR GAS	None
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POTENTIAL ISOLATION

Between Analog inputs and Power supply: no
Between Analog inputs and Inputs/Outputs: no
Between Analog outputs and Inputs/Outputs: no
Between Analog inputs and expansion devices: yes
Between Analog outputs and Power supply: no
Between Analog outputs and expansion devices: no

PROTECTION AGAINST POLARITY REVERSAL	Yes, for supply voltage (Siemens MPI optional)
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Terminal capacities

SCREWDRIVER SIZE	3.5 x 0.8 mm, Terminal screw
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TERMINAL CAPACITY	0.2 - 2.5 mm ² (22 - 12 AWG), flexible with ferrule 0.2 - 4 mm ² (AWG 22 - 12), solid
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TIGHTENING TORQUE	0.6 Nm, Screw terminals
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Short-circuit rating

SHORT-CIRCUIT PROTECTION	≥ 1A (T), Fuse, Power supply
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Resources

APPLICATION NOTES	eaton-easye4-aws-ap050027-en-us.pdf
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CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
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DECLARATIONS OF CONFORMITY	eaton-i-o-expansion-declaration-of-conformity-eu251486en.pdf
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DECLARATIONS OF CONFORMITY	eaton-i-o-expansion-declaration-of-conformity-uk251130en.pdf
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DRAWINGS	eaton-modular-plc-easy-i-o-expansion-dimensions-002.eps eaton-modular-plc-easy-i-o-expansion-3d-drawing-002.eps
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ECAD MODEL	ETN.EASY-E4-DC-6AE1.edz
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INSTALLATION INSTRUCTIONS	eaton-easye4-i-o-expansions-control-relays-il050021zu.pdf eaton-easye4-base-programmable-control-relays-il050020zu.pdf
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INSTALLATION VIDEOS	Video easy E4 control relay Control relay easyE4: The new generation
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MANUALS AND USER GUIDES	MN049001EN
MCAD MODEL	eaton-logic-modules-mcad-drawings-dc-6ae1.dwg DA-CS-dc_6ae1
MULTIMEDIA	How to process ModbusRTU devices with the EASY-COM-RTU-M1 module on an easyE4? easyE4 SmartWire-DT module with Remote Touch Display and RMQ multi color indicator How to connect the Remote Touch Display EASY-RTD to the easyE4? How to process SmartWire-DT modules using the EASY-COM-SWD-C1 module connected to an easyE4? Handling of the data logger as a ring buffer with the easyE4 using the ST programming language. How to connect the easyE4 to the touch panel XV-102 for easy? - 5 Steps
PRODUCT NOTIFICATIONS	MZ049014EN
SALES NOTES	eaton-easy-remote-touch-display-flyer-fl048004en-en-us.pdf eaton-control-relay-easye4-flyer-fl050007en-en-us.pdf

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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