Eaton 197220

Eaton Moeller® series EASY I/O expansion, For use with easyE4, 24 V DC, Inputs expansion (number) digital: 8, screw terminal

PRODUCT NAME	Eaton Moeller® series EASY I/O expansion
CATALOG NUMBER	197220
PRODUCT LENGTH/DEPTH	58 mm
PRODUCT HEIGHT	90 mm
PRODUCT WIDTH	72 mm
PRODUCT WEIGHT	0.2 kg
CERTIFICATIONS	IEC/EN 61000-6-2 IEC/EN 61000-4-2 EN 61010 IEC 60068-2-27 IEC/EN 61000-6-3 IEC 60068-2-30 EN 50178 IEC 60068-2-6 IEC/EN 61131-2 CSA-C22.2 No. 61010 CULus per UL 61010 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 (acetylene) UL hazardous location group B (hydrogen) UL hazardous location group C (ethylene) UL hazardous location group D (propane) UL hazardous location

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	class I UL hazardous location division 2 UL hazardous location group A (acetylene) UL hazardous location group B (hydrogen) UL hazardous location group C (ethylene) UL hazardous location group D (propane)

TYPE	easyE4 extension
FEATURES	Expansion device Parallel connection of transistor outputs with resistive load, inductive load with external suppressor circuit, combination within a group - Group 1 Q1 to Q4 Expandable Parallel connection of transistor outputs with resistive load, inductive load with external suppressor circuit, combination within a group - Group 2 Q5 to Q8
AIR DISCHARGE	8 kV
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.

INSTALLATION VIDEOS	Video easy E4 control relay
	TT-197220_EASY-E4-DC-16TE1-de_DE
	eaton-modular-plc-easy-i-o-expansion-dimensions-003.eps eaton-modular-plc-easy-i-o-expansion-3d-drawing.eps eaton-general-easy-control-relays-symbol-002.tif

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.
10.9.2 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.
OPERATING FREQUENCY	Dependent on the cycle- and transmission-time of the expansion devices Depending on the suppressor circuit (Inductive load to EN 60947-5-1, With external suppressor circuit, Max. switching frequency, max. duty factor) Dependent on the cycle time of the basic device
POLLUTION DEGREE	2
BURST IMPULSE	2 kV, Signal cable According to IEC/EN 61000-4-4 2 kV, Supply cable
AIR PRESSURE	795 - 1080 hPa (operation)

CATEGORY (EN 954-1)	None
EXPLOSION SAFETY CATEGORY FOR DUST	None
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
INDICATION	LCD-display base unit used as Output status indication of Transistor outputs LCD-display base unit used as status indication of Digital inputs 24 V DC
OUTPUT VOLTAGE	Max. 2.5 V (at status 0 per channel, transistor outputs) $U = U_e$ - 1 V (signal 1 at I_e = 0.5 A, transistor outputs)
EXPLOSION SAFETY CATEGORY FOR GAS	None
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) Front build in possible Wall mounting/direct mounting
SCREWDRIVER SIZE	3.5 x 0.8 mm, Terminal screw
VOLTAGE TYPE	DC
MOUNTING POSITION	Horizontal Vertical
OUTPUT	8 Transistor Outputs 4 A, Max. total current, Outputs Parallel connection of max. 8 Transistor outputs Voltage Current
CONTACT DISCHARGE	6 kV
BASE TYPE	No
SAFETY PERFORMANCE	None

LEVEL (EN ISO 13849-1)	
SIL (IEC 61508)	None
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	70 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	0.5 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
HEIGHT OF FALL (IEC/EN 60068-2-32) - MAX	0.3 m
NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)	0
NUMBER OF HW-INTERFACES (OTHER)	0
NUMBER OF HW-INTERFACES (PARALLEL)	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 (WIRELESS)	0
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 % (Inductive load to EN 60947-5-1, With external suppressor

	circuit) 100 % (Inductive load to EN 60947-5-1, Without external suppressor circuit, DC-13, T0.95 = 72 ms, R = 48 Ω, L = 1.15 H) 100 % (Inductive load to EN 60947-5-1, Without external suppressor circuit, T0.95 = 15 ms, R = 48 Ω, L = 0.24 H)
SOFTWARE	EASYSOFT-SWLIC/easySoft
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
CABLE LENGTH	100 m, unscreened, Digital inputs 24 V DC
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)
PROTECTION AGAINST POLARITY REVERSAL	Yes, for supply voltage (Siemens MPI optional) For transistor outputs (Caution: A short circuit will result if 0 V/earth is applied to the outputs in the event that the supply voltage is connected to the wrong poles)
NUMBER OF INPUTS (ANALOG)	0
CONNECTION TYPE	Screw terminal
DROP AND TOPPLE	50 mm Drop height, Drop to IEC/EN 60068-2-31
IMMUNITY TO LINE-CONDUCTED INTERFERENCE	10 V (according to IEC/EN 61000-4-6)
RADIO INTERFERENCE CLASS	Class B (EN 61000-6-3)
NUMBER OF OUTPUTS	8

(DIGITAL)	
RELATIVE HUMIDITY	5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)
DEGREE OF PROTECTION	IP20
DELAY TIME	0.2 ms typ., Digital inputs 24 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 - I8), Delay time from 0 to 1, Debounce OFF 20 ms, Digital Inputs 12 V DC, Delay time from 0 to 1, Debounce ON
RESIDUAL CURRENT	0.1 mA (on signal "1" per channel)
PROTOCOL	TCP/IP MODBUS
RESIDUAL RIPPLE	5 % (transistor outputs) ≤ 5 %
RATED OPERATIONAL CURRENT (IE)	Max. 0.5 A at signal „1” DC per channel
INRUSH CURRENT	12.5 A (for 6 ms)
INSULATION RESISTANCE	According to EN 50178, EN 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201
HEAT DISSIPATION	3.4 W (at 24 V DC)
FUNCTIONS	Thermal cutout
SHORT-CIRCUIT CURRENT	13.6 A, Transistor outputs
VIBRATION RESISTANCE	According to IEC/EN 60068-2-6 10 - 57 Hz, 0.15 mm constant amplitude 57 - 150 Hz, 2 g constant acceleration
INPUT CURRENT	40 mA
SHOCK RESISTANCE	15 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 11 ms, 18 Impacts
INPUT VOLTAGE	Condition 1: ≥ 15 V DC (I1 - I8, Digital inputs, 24 V DC) Signal 0: ≤ 5 V DC (I1 - I8, Digital inputs, 24 V DC)

SHORT-CIRCUIT TRIPPING CURRENT	0.7 ≤ Ie ≤ 1.7 per output, For Ra ≤ 10 mΩ, Depending on number of active channels and their load, Transistor outputs
LAMP LOAD	Max. 3 W (without Rv per channel)
SUPPLY CURRENT	18/32 mA, Normally/max., On 0 signal, Transistor outputs 24/44 mA, Normally/max., On 1 signal, Transistor outputs
UTILIZATION FACTOR	1 (Inductive load to EN 60947-5-1, With external suppressor circuit) 0.25 (Inductive load to EN 60947-5-1, Without external suppressor circuit, T0.95 = 15 ms, R = 48 Ω, L = 0.24 H) 0.25 (Inductive load to EN 60947-5-1, Without external suppressor circuit, DC-13, T0.95 = 72 ms, R = 48 Ω, L = 1.15 H)
POTENTIAL ISOLATION	Between Digital inputs 24 V DC and Outputs: no Between Transistor outputs and expansion devices: yes Between Transistor outputs and Inputs: no Between Digital inputs 24 V DC and expansion devices: yes Between Digital inputs 24 V DC: no Between Digital inputs 24 V DC and Power supply: no Between Transistor outputs and Power supply: no
NUMBER OF INPUTS (DIGITAL)	8
POWER LOSS	1 W
VOLTAGE DIPS	20 ms ≤ 10 ms, Bridging voltage dips
NUMBER OF INTERFACES (PROFINET)	0
NUMBER OF OUTPUTS	0

(ANALOG)	
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	0 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	1 W
SUPPLY VOLTAGE AT AC, 50 HZ - MAX	0 VAC
SUPPLY VOLTAGE AT AC, 50 HZ - MIN	0 VAC
SUPPLY VOLTAGE AT AC, 60 HZ - MAX	0 VAC
SUPPLY VOLTAGE AT AC, 60 HZ - MIN	0 VAC
SUPPLY VOLTAGE AT DC - MAX	28.8 VDC
SUPPLY VOLTAGE AT DC - MIN	20.4 VDC
SWITCHING CURRENT	0.5 A
PRODUCT CATEGORY	Control relays easyE4
POWER CONSUMPTION	1 W
RATED OPERATIONAL VOLTAGE	20.4 - 28.8 V DC 20.4 - 28.8 V DC (Transistor outputs) 24 V DC (transistor outputs) 24 V DC (digital inputs) 24 V DC (-15 %/+ 20 % - power supply)
SHORT-CIRCUIT PROTECTION	≥ 1A (T), Fuse, Power supply Yes, electronic (Q1 - Q4, Q5 - Q8), Transistor outputs
TERMINAL CAPACITY	0.2 - 2.5 mm^2 (22 - 12 AWG), flexible with ferrule 0.2 - 4 mm^2 (AWG 22 - 12), solid
TIGHTENING TORQUE	0.6 Nm, Screw terminals

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
:	

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