

EASYE4 PROGRAMMABLE RELAYS  
197213



Overview



Specifications







Resources

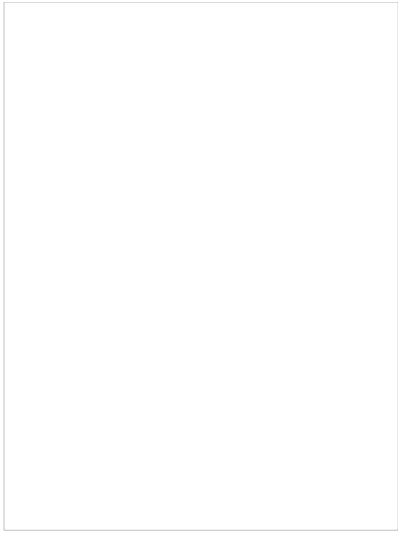
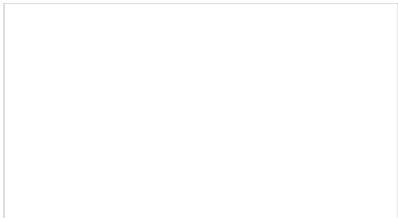
How to buy

# 197213

Eaton Moeller® series EASY Control relays easyE (Ethernet), 24 VDC, Inputs Digital: 8, of which can be used as terminal

**How to buy**

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-  Download brochure
-  Download easySoft
-  Watch tutorials



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### 197218

Eaton Moeller® series EASY I/O expansion,  
For use with easyE4, 12/24 V DC, 24 V  
AC, Inputs expansion (number) digital: 8,  
screw terminal

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### 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

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### 198513

Eaton XV-102 Touch display for easyE4, 24  
V DC, 3.5z, TFTcolor, ethernet

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### 197217

Eaton Moeller® series EASY I/O expansion,  
For use with easyE4, 12/24 V DC,  
24 V AC, Inputs expansion (number) digital: 8,  
screw terminal

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## GENERAL SPECIFICATIONS

General specifications	>	<b>PRODUCT NAME</b>	Eaton Moeller® series EASY Control relay
		<b>CATALOG NUMBER</b>	197213
Product specifications	>	<b>MODEL CODE</b>	EASY-E4-DC-12TC1
		<b>EAN</b>	4015081939466
		<b>PRODUCT LENGTH/DEPTH</b>	58 mm
		<b>PRODUCT HEIGHT</b>	90 mm
		<b>PRODUCT WIDTH</b>	72 mm
		<b>PRODUCT WEIGHT</b>	0.2 kg

<b>CERTIFICATIONS</b>	CSA-C22.2 No. 61010 EN 61010 IEC/EN 61000-6-2 IEC 60068-2-27 IEC 60068-2-30 IEC/EN 61000-4-2 CULus per UL 61010 IEC 60068-2-6 IEC/EN 61000-6-3 IEC/EN 61131-2 EN 50178 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)
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<b>CATALOG NOTES</b>	Accuracy of the real-time clock depending on ambient temperature fluctuations of up to $\pm 5$ s/day ( $\pm 0.5$ h/year) are possible.
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## PRODUCT SPECIFICATIONS

<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	0 A
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility.
<b>RATED OPERATIONAL VOLTAGE</b>	24 V DC (-15 %/+ 20 % - power supply) 24 V DC (transistor outputs) 20.4 - 28.8 V DC (Transistor outputs) 24 V DC (digital inputs) 20.4 - 28.8 V DC
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.

<b>CABLE TYPE</b>	CAT5
<b>MOUNTING METHOD</b>	Screw fixing using fixing brackets ZB4-101-GF1 (ac) Top-hat rail fixing (according to IEC/EN 60715, 35) Front build in possible Wall mounting/direct mounting Rail mounting possible
<b>AIR PRESSURE</b>	795 - 1080 hPa (operation)
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>SURGE RATING</b>	0.5 kV, Supply cables, symmetrical, power pulses (S) According to IEC/EN 61000-4-5, power pulses (Sur) 1 kV, Supply cables, asymmetrical, power pulses (S)
<b>FITTED WITH:</b>	Keypad Display Real time clock Timer
<b>VIBRATION RESISTANCE</b>	10 - 57 Hz, 0.15 mm constant amplitude 57 - 150 Hz, 2 g constant acceleration According to IEC/EN 60068-2-6
<b>EXPLOSION SAFETY CATEGORY FOR GAS</b>	None
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	55 °C
<b>SWITCHING CURRENT</b>	0.5 A
<b>FEATURES</b>	Parallel connection of transistor outputs with resistive load with external suppressor circuit, combination v Group 1: Q1 to Q4 Networkable (Ethernet) Expandable Display indication of 6 lines x 16 characters
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>NUMBER OF HW-INTERFACES (SERIAL TTY)</b>	0
<b>SUPPLY VOLTAGE AT AC, 60 HZ - MAX</b>	0 VAC
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to
<b>CONVERSIONS</b>	Each CPU cycle, Analog inputs
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Meets the product standard's requirements.
<b>OPERATING FREQUENCY</b>	Dependent on the cycle time of the basic device Dependent on the cycle- and transmission-time of the Depending on the suppressor circuit (Inductive load With external suppressor circuit, Max. switching frequency factor)
<b>VOLTAGE TYPE</b>	DC

<b>CATEGORY (EN 954-1)</b>	None
<b>PRODUCT CATEGORY</b>	Control relays easyE4
<b>POTENTIAL ISOLATION</b>	<p>Between Transistor outputs and Ethernet: yes</p> <p>Between Digital inputs 24 V DC and Ethernet: yes</p> <p>Between Transistor outputs and control buttons: yes</p> <p>Between Transistor outputs and Power supply: yes</p> <p>Between Analog inputs and Outputs: yes</p> <p>Between Transistor outputs and expansion devices: yes</p> <p>Between Digital inputs 24 V DC and expansion devices: yes</p> <p>Between Analog inputs and expansion devices: yes</p> <p>Between Digital inputs 24 V DC: no</p> <p>Between Transistor outputs and Inputs: yes</p> <p>Between Transistor outputs: no</p> <p>Between Digital inputs 24 V DC and Power supply: yes</p> <p>Between Analog inputs: no</p> <p>Between Analog inputs and Memory card: no</p> <p>Between Transistor outputs and Memory card: yes</p> <p>Between Digital inputs 24 V DC and Outputs: yes</p> <p>Between Analog inputs and Ethernet: yes</p> <p>Between Digital inputs 24 V DC and Memory card: yes</p> <p>Between Analog inputs and Power supply: no</p>
<b>RADIO INTERFERENCE CLASS</b>	Class B (EN 61000-6-3)
<b>RESIDUAL RIPPLE</b>	5 % (transistor outputs) ≤ 5 %
<b>INDICATION</b>	<p>LCD-display used as Output status indication of Transistor outputs</p> <p>LCD-display used as status indication of Digital inputs</p>
<b>TERMINAL CAPACITY</b>	<p>0.2 - 4 mm<sup>2</sup> (AWG 22 - 12), solid</p> <p>0.2 - 2.5 mm<sup>2</sup> (22 - 12 AWG), flexible with ferrule</p>
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>INCREMENTAL ENCODER</b>	Cable length: ≤ 20 m (screened)
<b>UTILIZATION FACTOR</b>	<p>0.25 (Inductive load to EN 60947-5-1, Without external snubber circuit, DC-13, T<sub>0.95</sub> = 72 ms, R = 48 Ω, L = 1.1 mH)</p> <p>0.25 (Inductive load to EN 60947-5-1, Without external snubber circuit, T<sub>0.95</sub> = 15 ms, R = 48 Ω, L = 0.24 H)</p> <p>1 (Inductive load to EN 60947-5-1, With external snubber circuit)</p>
<b>NUMBER OF HW-INTERFACES (RS-422)</b>	0
<b>SHORT-CIRCUIT CURRENT</b>	6.8 A, Transistor outputs
<b>INSULATION RESISTANCE</b>	According to EN 50178, EN 61010-2-201, UL61010-1 NO. 61010-2-201
<b>POWER LOSS</b>	2 W
<b>OUTPUT</b>	<p>Parallel connection of max. 4 Transistor outputs</p> <p>2 A, Max. total current, Outputs</p> <p>4 Transistor Outputs</p> <p>Voltage</p> <p>Current</p>
<b>ELECTROMAGNETIC FIELDS</b>	<p>3 V/m at 1.4 - 2 GHz (according to IEC EN 61000-6-3)</p> <p>10 V/m at 0.8 - 1.0 GHz (according to IEC EN 61000-6-3)</p> <p>1 V/m at 2.0 - 2.7 GHz (according to IEC EN 61000-6-3)</p>

<b>CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)</b>	0.5 A
<b>INRUSH CURRENT</b>	12.5 A (for 6 ms)
<b>PROTOCOL</b>	TCP/IP MODBUS
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>OVERVOLTAGE CATEGORY</b>	III
<b>DEGREE OF PROTECTION</b>	IP20
<b>FREQUENCY COUNTER</b>	Cable length: ≤ 20 m (screened, Digital inputs 24 V DC) Number: 4 (I1, I2, I3, I4 - Digital inputs 24 V DC) Pulse pause ratio: 1:1 (Digital inputs 24 V DC) Pulse shape: Square (digital inputs 24 V DC) Counter frequency: 5 kHz (Digital inputs 24 V DC)
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	70 °C
<b>INPUT VOLTAGE</b>	Status 0: ≤ 15 V DC (I1 - I4, Digital inputs, 24 V DC) Status 0: ≤ 8 V DC (I5 - I8, Digital inputs, 24 V DC) Status 1: ≥ 15 V DC (I1 - I4, Digital inputs, 24 V DC) Signal 0: ≤ 5 V DC (I1 - I8, Digital inputs, 24 V DC)
<b>POLLUTION DEGREE</b>	2
<b>SIL (IEC 61508)</b>	None
<b>FUNCTIONS</b>	Thermal cutout
<b>TIGHTENING TORQUE</b>	0.6 Nm, Screw terminals
<b>TYPE</b>	easyE4 base device
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>INCREMENTAL COUNTER</b>	Pulse pause ratio: 1:1 Pulse shape: Square Value range: -2147483648 to +2147483647 Number of counter inputs: 2 (I1 + I2, I3 + I4) Signal offset: 90° Counter frequency: ≤ 5 kHz
<b>ENVIRONMENTAL CONDITIONS</b>	Condensation: prevent with appropriate measures Clearance in air and creepage distances according to IEC 60664-1, IEC 60717-1, IEC 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201, UL61010-2-201, CSA-C22.2 NO. 61010-2-201
<b>PROTECTION AGAINST POLARITY REVERSAL</b>	For transistor outputs (Caution: A short circuit will be applied to the outputs in the event that the supply voltage is applied to the wrong poles) Yes, for supply voltage (Siemens MPI optional)
<b>SIGNAL RANGE</b>	0 - 10 V DC, Analog inputs
<b>SHOCK RESISTANCE</b>	15 g, Mechanical, according to IEC/EN 60068-2-27

	shock 11 ms, 18 Impacts
<b>NUMBER OF INPUTS (ANALOG)</b>	0 4
<b>INPUT CURRENT</b>	1 mA (Analog inputs) 3.3 mA (I1 - I4, at 24 V DC, at signal 1) 2.2 mA (I5 - I8, at 24 V DC, at signal 1) 80 mA
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to
<b>NUMBER OF HW-INTERFACES (RS-485)</b>	0
<b>NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)</b>	1
<b>INPUT</b>	Voltage (DC)
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>IMMUNITY TO LINE-CONDUCTED INTERFERENCE</b>	10 V (according to IEC/EN 61000-4-6)
<b>CONTACT DISCHARGE</b>	6 kV
<b>SUPPLY VOLTAGE AT DC - MIN</b>	20.4 VDC
<b>NUMBER OF HW-INTERFACES (WIRELESS)</b>	0
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	2 W
<b>DISPLAY TEMPERATURE - MIN</b>	0 °C
<b>INPUT IMPEDANCE</b>	13.3 kΩ
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>NUMBER OF HW-INTERFACES (RS-232)</b>	0
<b>NUMBER OF INPUTS (DIGITAL)</b>	8
<b>CABLE LENGTH</b>	≤ 30 m, screened, Analog inputs 100 m, unscreened, Digital inputs 24 V DC
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to
<b>VOLTAGE DIPS</b>	20 ms ≤ 10 ms, Bridging voltage dips
<b>SUPPLY VOLTAGE AT DC - MAX</b>	28.8 VDC
<b>USED WITH</b>	easyE4
<b>MOUNTING POSITION</b>	Vertical Horizontal
<b>SOFTWARE</b>	EASYSOFT-SWLIC/easySof7
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the instructions in the instruction leaflet (IL) is observed.

<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>DISPLAY TEMPERATURE - MAX</b>	55 °C
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0 W
<b>SAFETY PERFORMANCE LEVEL (EN ISO 13849-1)</b>	None
<b>RESOLUTION</b>	<ul style="list-style-type: none"> <li>• 1 min (Range H:M)</li> <li>• 1 s (Range M:S)</li> <li>• 12 Bit (value 0 - 4095, Analog inputs)</li> <li>• 5 ms (Range S)</li> </ul>
<b>SHORT-CIRCUIT PROTECTION</b>	≥ 1A (T), Fuse, Power supply Yes, electronic (Q1 - Q4), Transistor outputs
<b>DROP AND TOPPLE</b>	50 mm Drop height, Drop to IEC/EN 60068-2-31
<b>SUPPLY VOLTAGE AT AC, 60 HZ - MIN</b>	0 VAC
<b>HEIGHT OF FALL (IEC/EN 60068-2-32) - MAX</b>	0.3 m
<b>RESIDUAL CURRENT</b>	0.1 mA (on signal "1" per channel)
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	0 W
<b>RATED OPERATIONAL CURRENT (IE)</b>	Max. 0.5 A at signal „1” DC per channel
<b>SHORT-CIRCUIT TRIPPING CURRENT</b>	$0.7 \leq I_e \leq 1.7$ per output, For $R_a \leq 10 \text{ m}\Omega$ , Depend on active channels and their load, Transistor outputs
<b>NUMBER OF OUTPUTS (ANALOG)</b>	0
<b>LAMP LOAD</b>	Max. 3 W (without Rv per channel)
<b>AIR DISCHARGE</b>	8 kV
<b>OUTPUT VOLTAGE</b>	$U = U_e - 1 \text{ V}$ (signal 1 at $I_e = 0.5 \text{ A}$ , transistor outputs) Max. 2.5 V (at status 0 per channel, transistor outputs)
<b>NUMBER OF HW-INTERFACES (USB)</b>	0
<b>HEAT DISSIPATION</b>	3.4 W (at 24 V DC)
<b>ACCURACY</b>	<p>± 2 %, (I7, I8) ± 0.12 V, of actual value, within a signal range (Digital Inputs)</p> <p>± 3 %, of actual value, two easy devices (Analog Inputs)</p> <p>± 2 s/day, Real-time clock to inputs (± 0.2 h/Year)</p> <p>± 1 %, Repetition accuracy of timing relays (of value)</p>
<b>DISPLAY TYPE</b>	Monochrome
<b>DELAY TIME</b>	<p>0.015 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce OFF</p> <p>20 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce ON</p> <p>0.015 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce OFF</p> <p>20 ms typ., Digital inputs 24 V DC (I1 - I8), Debounce ON</p>



<b>DATA TRANSFER RATE</b>	10/100 MBit/s
<b>NUMBER OF OUTPUTS (DIGITAL)</b>	4
<b>POWER CONSUMPTION</b>	2 W
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>CONNECTION TYPE</b>	Screw terminal Ethernet: RJ45 plug, 8-pole
<b>NUMBER OF HW-INTERFACES (OTHER)</b>	0
<b>RELATIVE HUMIDITY</b>	5 - 95 % (IEC 60068-2-30, IEC 60068-2-78)
<b>SUPPLY VOLTAGE AT AC, 50 HZ - MIN</b>	0 VAC
<b>RAPID COUNTER INPUTS</b>	1:1 (Pulse pause ratio) 10 kHz, Counter frequency ≤ 20 m (cable length, screened) -2147483648 - 2147483647 (value range) Square (pulse shape) Number: 4 (I1, I2, I3, I4 - Digital inputs 24 V DC)
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>SUPPLY VOLTAGE AT AC, 50 HZ - MAX</b>	0 VAC
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the device
<b>NUMBER OF HW-INTERFACES (PARALLEL)</b>	0
<b>EXPLOSION SAFETY CATEGORY FOR DUST</b>	None
<b>SCREWDRIVER SIZE</b>	3.5 x 0.8 mm, Terminal screw
<b>SUPPLY CURRENT</b>	24/44 mA, Normally/max., On 1 signal, Transistor 18/32 mA, Normally/max., On 0 signal, Transistor
<b>BURST IMPULSE</b>	According to IEC/EN 61000-4-4 2 kV, Supply cable 2 kV, Signal cable
<b>DUTY FACTOR</b>	100 % (Inductive load to EN 60947-5-1, With external circuit) 100 % (Inductive load to EN 60947-5-1, Without external circuit, T0.95 = 15 ms, R = 48 Ω, L = 0.24 H) 100 % (Inductive load to EN 60947-5-1, Without external circuit, DC-13, T0.95 = 72 ms, R = 48 Ω, L = 1.1 H)
<b>BASE TYPE</b>	Yes
<b>NUMBER OF INTERFACES (PROFINET)</b>	0



Brochures

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Characteristic curve

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Declarations of conformity

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Drawings

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eCAD model

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Installation instructions

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Installation videos

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Manuals and user guides

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mCAD model

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Sales notes

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197213



Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power — today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy and helping to solve the world's most urgent power management challenges.

