



Control relay, 100-240VAC, 8DI, 4DO relays, display



Powering Business Worldwide™

Part no. **EASY512-AC-R**
Article no. **274103**

Delivery programme

Product range			Control relays easyRelay
Basic function			easy500
Description			Stand alone customized laser inscription or delivery with user program possible with EASY-COMBINATION-* product (article No. 2010781)
Inputs			
Digital input count			digital: 8
Digital			8
Outputs			
Type			Relay
Quantity of outputs			Relays: 4
Outputs		Number	4
Additional features			
Display			with display, with keypad
Supply voltage			100 - 240 V AC
Software			EASY-SOFT-BASIC/-PRO

Technical data

General

Standards			EN 55011, EN 55022, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27
Dimensions (W x H x D)		mm	71.5 x 90 x 58 (4 PE)
Weight		kg	0.2
Mounting			Top-hat rail IEC/EN 60715, 35 mm or screw fixing using fixing brackets ZB4-101-GF1 (accessories)

Terminal capacities

Solid		mm ²	0.2/4 (AWG 22 - 12)
Flexible with ferrule		mm ²	0.2/2.5 (AWG 22 - 12)
Standard screwdriver		mm	3.5 x 0.8
Max. tightening torque		Nm	0.6

Climatic environmental conditions

Operating ambient temperature		°C	In accordance with IEC 60068-2-1, -25 - +55
Condensation			Take appropriate measures to prevent condensation
LCD display (clearly legible)		°C	0 - 55
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	1
Mounting position			Vertical or horizontal

Electromagnetic compatibility (EMC)

Overvoltage category/pollution degree			III/2
Electrostatic discharge (ESD)			
applied standard			according to IEC EN 61000-4-2
Air discharge		kV	8

Contact discharge		kV	6
Electromagnetic fields (RFI) to IEC EN 61000-4-3		V/m	10
Radio interference suppression			EN 55011 Class B, EN 55022 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 2 kV (supply cables, symmetrical)
Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V	10

Insulation resistance

Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, No. 142
Insulation resistance			EN 50178


Repetition accuracy of timing relays

Accuracy of timing relays (of values)		%	± 1
Resolution			
Range "S"		ms	10
Range "M:S"		s	1
Range "H:M"		min	1

Retentive memory

Write cycles of the retentive memory			1000000 (10 ⁶)
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Power supply

Rated operational voltage	U _e	V	100/110/115/120/230/240 AC (-15/+10%)
Permissible range	U _e		85 - 264 V AC
Frequency		Hz	50/60 (± 5%)
Input current			normally 40 mA at 115/120 V AC 60 Hz normally 20 mA at 230/240 V AC 50 Hz
Voltage dips		ms	≤ In accordance with IEC 61131-2 ≤ 20
Fuse		A	 1A (T)
Power loss	P	W	Normally 6

Digital inputs 24 V DC

Status Display			LCD-Display
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Digital inputs 24 V DC



Status Display			LCD-Display
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Digital inputs 115/230 V AC

Number			8
Status Display			LCD-Display
Potential isolation			from power supply: no between digital inputs: no from the outputs: yes to interface/memory card: no
Input voltage (sinusoidal)	U _e	V AC	Signal 0: 0 - 40 Signal 1: 79 - 264
Rated frequency		Hz	50 - 60
Input current at signal 1		mA	I1 - I6: 6 x 0.25 (at 115 V AC, 60 Hz) I7, I8: 2 x 4 (at 115 V AC, 60 Hz) I1 - I6: 6 x 0.5 (at 230 V AC, 50 Hz) I7, I8: 2 x 6 (at 230 V AC, 50 Hz)
Deceleration time		ms	80/66% (0 -> 1/1 -> 0, debounce ON 50/60Hz, I1 - I6, I9 - I12, R1 - R12) 20/16% (0 -> 1/1 -> 0, debounce OFF 50/60Hz, I1 - I6, I9 - I12, R1 - R12) 160/150 (1 -> 0, debounce ON 50/60Hz, I7, I8) 100/100 (1 -> 0, Debounce OFF 50/60Hz, I7, I8) 80/66% (0 -> 1, debounce ON 50/60Hz, I7, I8) 20/16% (0 -> 1, debounce OFF 50/60Hz, I7, I8)
Cable length		m	Normally 40 I1 to I6 (max. permissible per input) Normally 100 I7, I8 (max. permissible per input)

Relay outputs

Number			4
Outputs in groups of			1
Parallel switching of outputs for increased output			Not permissible
Protection of an output relay			Miniature circuit-breaker B16 or fuse 8 A (slow)
Potential isolation			from power supply: yes From the inputs: yes Safe isolation according to EN 50178: 300 V AC Basic isolation: 600 V AC

Lifespan, mechanical	Operations	$\times 10^6$	10
Contacts			
Conventional thermal current (10 A UL)		A	8
Recommended for load: 12 V AC/DC		mA	> 500
Short-circuit-proof $\cos \varphi = 1$, characteristic B16 at 600 A		A	16
Short-circuit-proof $\cos \varphi = 0.5$ to 0.7, characteristic B16 at 900 A		A	16
Rated impulse withstand voltage U_{imp} of contact coil		kV	6
Rated operational voltage	U_e	V AC	250
Rated insulation voltage	U_i	V AC	250
Safe isolation according to EN 50178		V AC	300 between coil and contact 300 between two contacts
Making capacity			
AC—15, 250 V AC, 3 A (600 ops./h)	Operations		300000
DC-13, L/R  150 ms, 24 V DC, 1 A (500 S/h)	Operations		200000
Breaking capacity			
AC-15, 250 V AC, 3 A (600 Ops./h)	Operations		300000
DC-13, L/R  150 ms, 24 V DC, 1 A (500 S/h)	Operations		200000
Filament bulb load			
1000 W at 230/240 V AC	Operations		25000
500 W at 115/120 V AC	Operations		25000
Fluorescent lamp load			
Fluorescent lamp load 10 x 58 W at 230/240 V AC			
With upstream electrical device	Operations		25000
Uncompensated	Operations		25000
Fluorescent lamp load 1 x 58 W at 230/240 V AC, conventional, compensated	Operations		25000
Switching frequency			
Mechanical operations		$\times 10^6$	10
Switching frequency		Hz	10
Resistive load/lamp load		Hz	2
Inductive load		Hz	0.5
UL/CSA			
Uninterrupted current at 240 V AC		A	10
Uninterrupted current at 24 V DC		A	8
AC			
Control Circuit Rating Codes (utilization category)			B 300 Light Pilot Duty
Max. rated operational voltage		V AC	300
max. thermal continuous current $\cos \varphi = 1$ at B 300		A	5
max. make/break $\cos \varphi \neq$ capacity 1 at B 300		VA	3600/360
DC			
Control Circuit Rating Codes (utilization category)			R 300 Light Pilot Duty
Max. rated operational voltage		V DC	300
Max. thermal uninterrupted current at R 300		A	1
Max. make/break capacity at R 300		VA	28/28
Supply voltage U_{Aux}			
Power loss	P	W	6

Data for design verification according to IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	0
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	6
Heat dissipation capacity	P_{diss}	W	0
IEC/EN 61439 design verification			

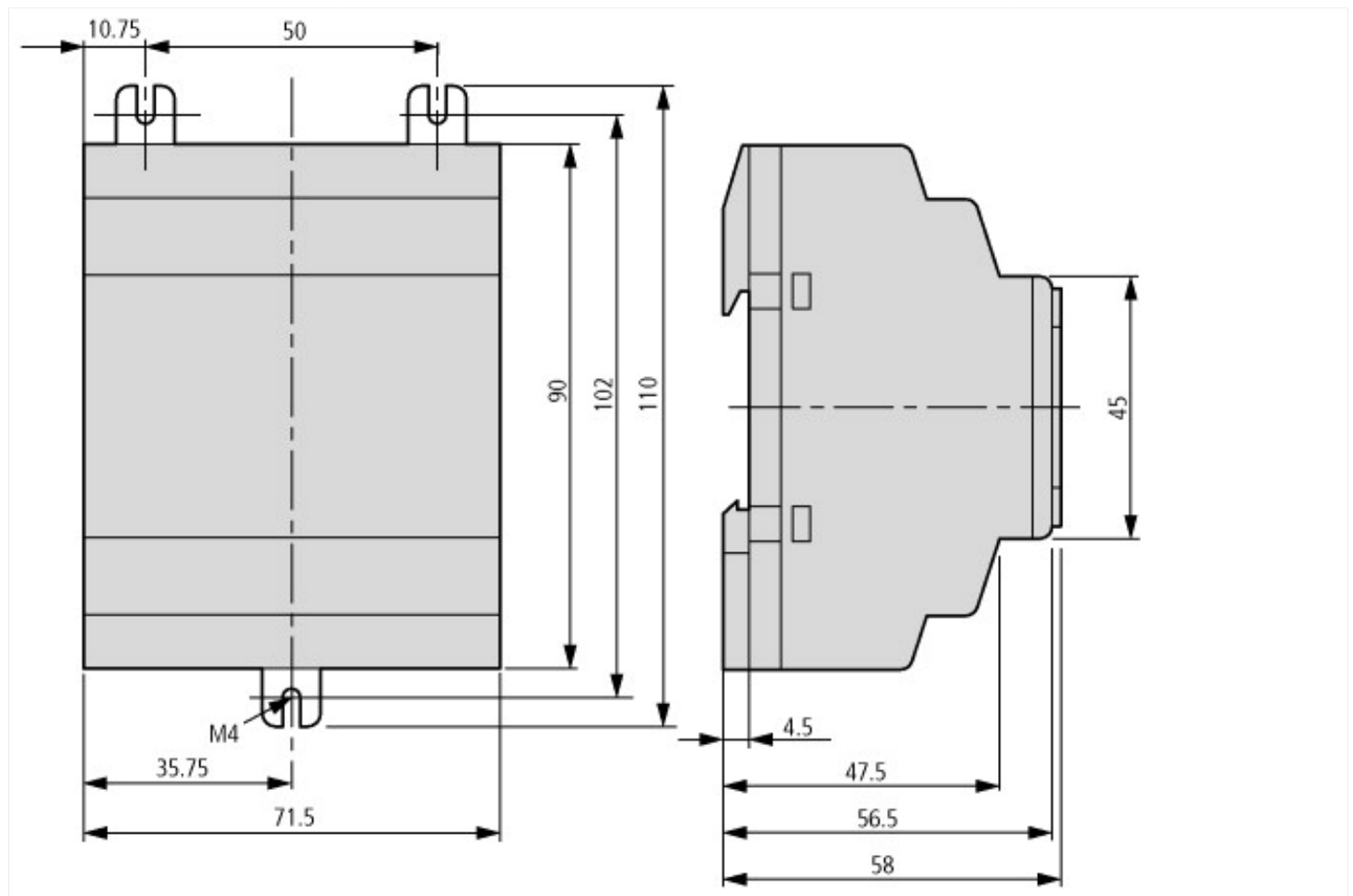
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the 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.

Approvals

Product Standards			IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking
UL File No.			E135462
UL Category Control No.			NRAQ
CSA File No.			012528
CSA Class No.			2252-01 + 2258-02
North America Certification			UL listed, CSA certified
Degree of Protection			IEC: IP20, UL/CSA Type: -
shipping classification			BV DNV GL LR



Dimensions



Additional product information (links)

IL05013015Z (AWA2528-2105) Control relay easy

IL05013015Z (AWA2528-2105) Control relay easy ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013015Z2010_11.pdf

MN05013003Z (AWB2528-1508) easy500, easy700 control relay

MN05013003Z (AWB2528-1508) Steuerrelais easy500, easy700 - Deutsch ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_DE.pdf

MN05013003Z (AWB2528-1508) easy500, easy700 control relay - English ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013003Z_EN.pdf

Labeleditor <http://downloadcenter.moeller.net/de/software.f6023a63-5acb-42c7-a51c-ccf99091cace>