



Control relay, 24 V DC, 8DI(2AI), 4DO relays, time

Part no. **EASY512-DC-RCX**
 Catalog No. **274110**

EL-Nummer (Norway) **4519759**

Delivery program

Basic function			easy500
Description			Stand alone customized laser inscription or delivery with user program possible with EASY-COMBINATION-* product (article No. 2010781)
Inputs			
Digital			8
of which can be used as analog			2
Outputs			
Quantity of outputs			Relays: 4
Outputs		Number	4
Additional features			
Real time clock			#
Supply voltage			24 V DC
Software			EASY-SOFT-BASIC/-PRO
Connection type			screw terminal

Technical data

General

Standards			EN 55011, EN 55022, IEC/EN 61000-4, IEC 60068-2-6, IEC 60068-2-27
Approvals			CSA UL EAC
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	0.8 x 3.5
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
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)

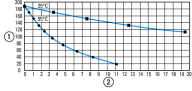
Overvoltage category/pollution degree			III/2
Electrostatic discharge (ESD)			

applied standard		nach 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 1 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

Back-up of real-time clock

Back-up of real-time clock		 <p>① Backup time (hours) with fully charged double layer capacitor ② Service life (years)</p>
Accuracy of real-time clock to inputs	s/day	typ. ± 2 (± 0.2 h/Year) depending on ambient air temperature fluctuations of up to ± 5 s/day (± 0.5 h/year) are possible

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	24 DC (-15/+20%)
Permissible range	U_e		20.4 - 28.8 V DC
Residual ripple		%	≤ 5
Input current			normally 80 mA at U_e
Voltage dips		ms	$\leq I_n$ accordance with IEC 61131-2 ≤ 10
Fuse		A	$\geq 1A$ (T)
Power loss	P	W	Normally 2

Digital inputs 24 V DC

Number			8
Inputs can be used as analog inputs			2 (I7, I8)
Potential isolation			from power supply: no between digital inputs: no from the outputs: yes to interface/memory card: no
Rated operational voltage	U_e	V DC	24
Input voltage		V DC	Signal 0: ≤ 5 (I1 - I8) Signal 1: ≥ 15 (I1 - I6), ≥ 8 (I7, I8)
Input current at signal 1		mA	I1 - I6: 3.3 (at 24 V DC) I7, I8: 2.2 (at 24 V DC)
Deceleration time		ms	20 (0 -> 1/1 -> 0, Debounce ON) normally 0.25 (0 -> 1, Debounce OFF, I1 - I8)
Cable length		m	100 (unshielded)
Frequency counter			
Number			2 (I3, I4)
Counter frequency		kHz	≤ 1
Pulse shape			Square
Pulse pause ratio			1:1
Cable length		m	≤ 20 (screened)

Rapid counter inputs		
Number		2 (I1, I2)
Cable length	m	≤ 20 (screened)
Counter frequency	kHz	≤ 1
Pulse shape		Square
Pulse pause ratio		1:1

Analog inputs

Number		
		2 (I7, I8)
Potential isolation		from power supply: no between digital inputs: no from the outputs: yes to interface/memory card: no
Input type		DC voltage
Signal range		0-10 V DC
Resolution		0.01 V analog 0.01 V digital 10 Bit (value 0 - 1023)
Input impedance	kΩ	11.2
Accuracy of actual value		
two devices from series	%	± 3
Within a single device	%	± 2, (I7, I8, I11, I12) ± 0.12 V
Conversion time, analog/digital	ms	Input delay ON: 20; Input delay OFF: each cycle time
Input current	mA	< 1
Cable length	m	≤ 30, screened

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	x 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 φ = 1, characteristic B16 at 600 A	A	16
Short-circuit-proof cos φ = 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	2

Design verification as per 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	2
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			
10.2.3.1 Verification of thermal stability of enclosures			
10.2.3.2 Verification of resistance of insulating materials to normal heat			
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			
10.2.4 Resistance to ultra-violet (UV) radiation			
10.2.5 Lifting			
10.2.6 Mechanical impact			
10.2.7 Inscriptions			
10.3 Degree of protection of ASSEMBLIES			
10.4 Clearances and creepage distances			
10.5 Protection against electric shock			
10.6 Incorporation of switching devices and components			
10.7 Internal electrical circuits and connections			
10.8 Connections for external conductors			
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			
10.9.3 Impulse withstand voltage			
10.9.4 Testing of enclosures made of insulating material			
10.10 Temperature rise			
10.11 Short-circuit rating			
10.12 Electromagnetic compatibility			
10.13 Mechanical function			

Technical data ETIM 7.0

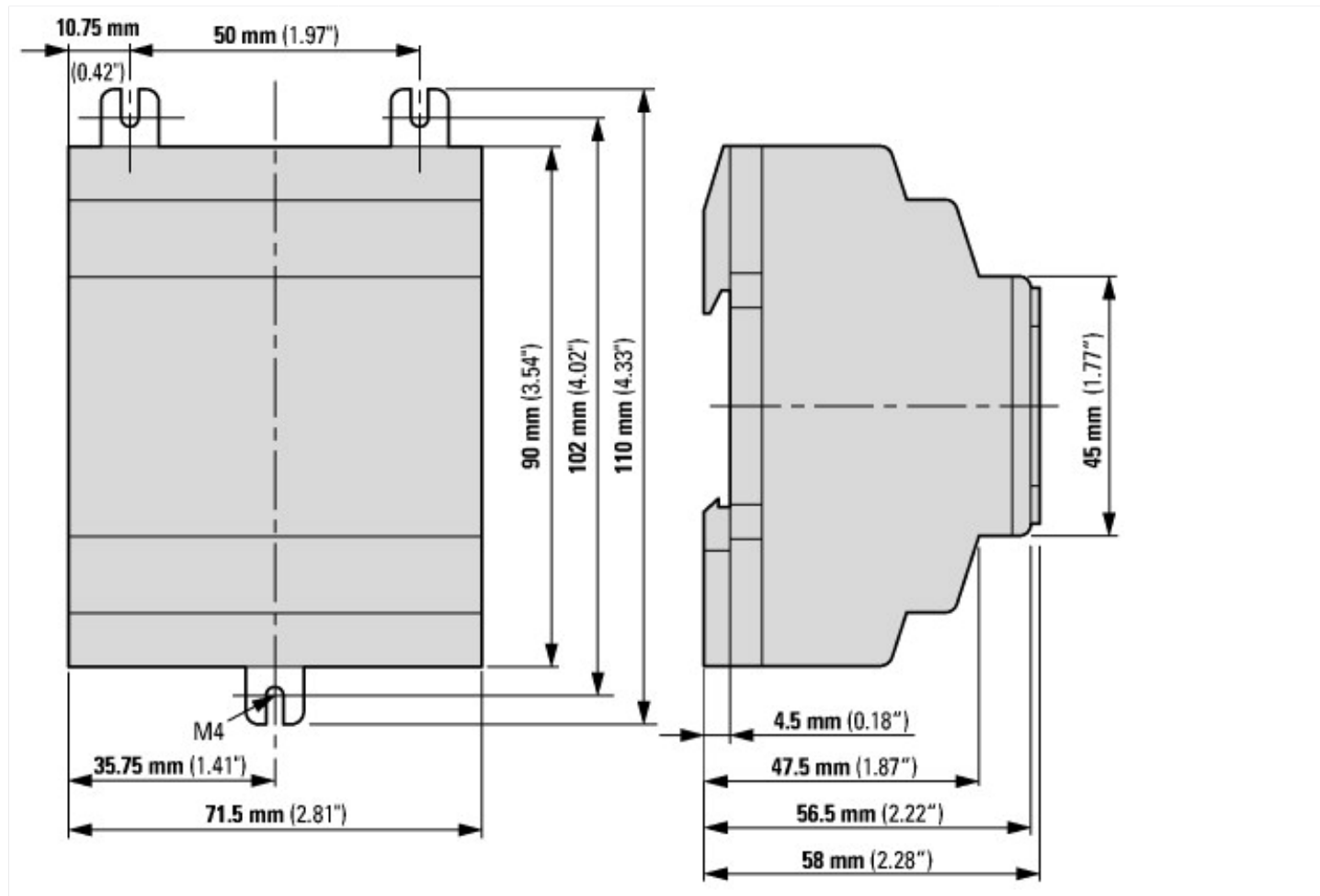
PLC's (EG000024) / Logic module (EC001417)		
Electric engineering, automation, process control engineering / Control / Programmable logic control (SPS) / Logic module (ecl@ss10.0.1-27-24-22-16 [AKE539014])		
Supply voltage AC 50 Hz	V	0 - 0
Supply voltage AC 60 Hz	V	0 - 0
Supply voltage DC	V	20.4 - 28.8
Voltage type of supply voltage		DC
Switching current	A	8
Number of analogue inputs		2
Number of analogue outputs		0
Number of digital inputs		8
Number of digital outputs		4
With relay output		Yes
Number of HW-interfaces industrial Ethernet		0
Number of interfaces PROFINET		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 parallel		0
Number of HW-interfaces Wireless		0
Number of HW-interfaces other		1
With optical interface		No
Supporting protocol for TCP/IP		No
Supporting protocol for PROFIBUS		No
Supporting protocol for CAN		No
Supporting protocol for INTERBUS		No
Supporting protocol for ASI		No
Supporting protocol for KNX		No
Supporting protocol for MODBUS		No
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		No
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		No
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		No
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for other bus systems		No
Radio standard Bluetooth		No
Radio standard WLAN 802.11		No
Radio standard GPRS		No
Radio standard GSM		No
Radio standard UMTS		No
IO link master		No
Redundancy		No
With display		No
Degree of protection (IP)		IP20

Basic device			Yes
Expandable			No
Expansion device			No
With timer			Yes
Rail mounting possible			Yes
Wall mounting/direct mounting			Yes
Front build in possible			No
Rack-assembly possible			No
Suitable for safety functions			No
Category according to EN 954-1			None
SIL according to IEC 61508			None
Performance level acc. EN ISO 13849-1			None
Appendant operation agent (Ex ia)			No
Appendant operation agent (Ex ib)			No
Explosion safety category for gas			None
Explosion safety category for dust			None
Width		mm	71.5
Height		mm	90
Depth		mm	58

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: -

Dimensions



Additional product information (links)

Instruction leaflet "easy control relays" IL05013015Z (AWA2528-2105)

Instruction leaflet "easy control relays"
IL05013015Z (AWA2528-2105) https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013015Z2018_02.pdf

Manual "easy500, easy700 control relays" MN05013003Z (AWB2528-1508)

Handbuch „Steuerrelais easy500, easy700“
MN05013003Z (AWB2528-1508) - Deutsch https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05013003Z_DE.pdf

Manual "easy500, easy700 control relays"
MN05013003Z (AWB2528-1508) - English https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05013003Z_EN.pdf

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