STEP CONTROLLER WITH TWO RELAYS ACTUATED BT TWO SWITCHES

ACR 328 Eng.
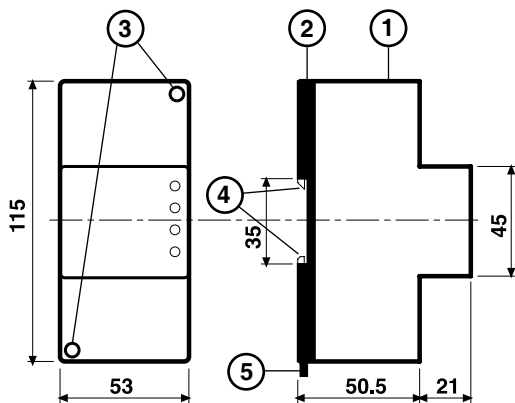
• **Converts two On-Off signals into two SPDT relay signals**
• **Power supply 230 V ~ ; DIN rail mounting**

1. APPLICATION

Designed to convert two On-Off signals (including optisolated) into two SPDT relay signals. Each relay has two control inputs either of which can be selected by the external inputs selector.

2. OVERALL DIMENSIONS

1 – Protective cover for electronic components
2 – Base with transformer, relay and terminal blocks
3 – Screws for securing base and cover
4 – DIN rail securing elements
5 – DIN rail release lever

3. FACIA
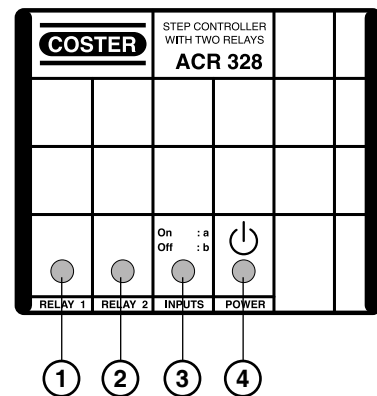
1 - Relay 1 LED : - Lit when relay energised
                   - Unlit when relay de-energised
2 - Relay 2 LED : - Lit when relay de-energised
                   - Unlit when relay de-energised
3 - LED for selector inputs C a/b:
      - Lit : Inputs C1a and C2a in use
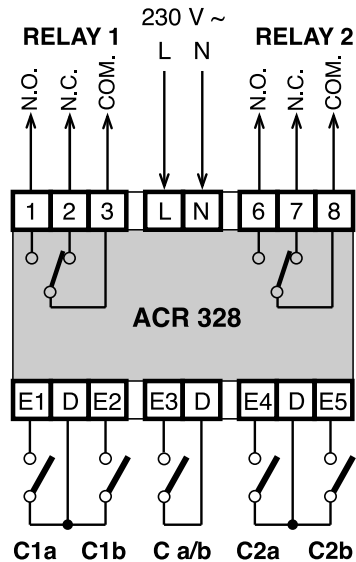   - Unlit : Inputs C1b and C1b in use
4 - Power supply LED

4. TECHNICAL DATA

|			
Power supply	230 V ~ ± 10%	Enclosure	DIN 3E module
Frequency	50 ... 60 Hz	Mounting	on DIN 35 rail
Consumption	2 VA	Materials:	
Protection	IP40	Base	NYLON
Radio disturbances	VDE0875/0871	Cover	ABS
Vibration test	with 2g (DIN 40 046)	Ambient temperature:	
Voltage-free output contacts:		Operating	0 ... 45°C
Maximum switched voltage	250 V ~	Storage	– 25 ... + 60°C
Maximum switched current	5 (1) A	Ambient humidity	Class F DIN 40040
Construction standards	Italian Electrotech. Committee (CEI)	Weight	0.31 kg

5. INSTALLATION

ACR 328 must be installed in a dry location that respects the ambient conditions given under 5. TECHNICAL DATA.
If installed in a location classified as "Hazardous" it must be installed in a cabinet for electrical equipment constructed according to the current regulations for the class of danger concerned.
The controller can be mounted on a DIN rail and housed in a standard DIN enclosure.

6. WIRING DIAGRAM

230 V ~
L   N

RELAY 1   RELAY 2

N.O. N.C. COM.   N.O. N.C. COM.

| 1 | 2 | 3 | L | N | 6 | 7 | 8 |

ACR 328

| E1 | D | E2 | E3 | D | E4 | D | E5 |

C1a   C1b   C a/b   C2a   C2b

C1a – On-Off switch for control Relay 1
C1b – On-Off switch for control Relay 1
C a/b – Selector choice inputs :
    - Open   = Inputs C1a and C2.a in use
    - Closed = Inputs C1.b and C2.b in use
C2a – On-Off switch for control Relay 2
C2b – On-Off switch for control Relay 2

7. RELAY DELAY PROGRAMMER

J1   J2

← Factory setting

Without delay

Delay = 3 seconds
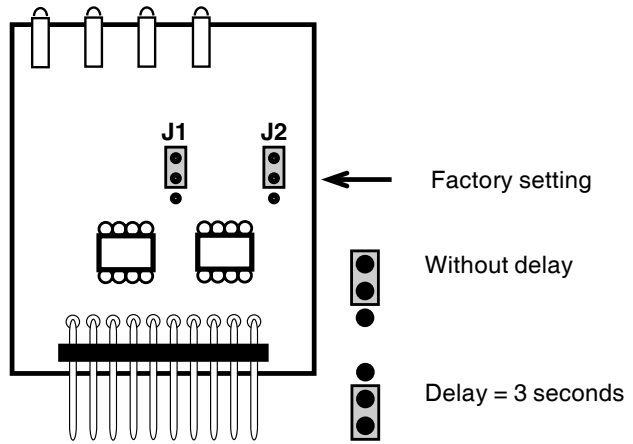
J1 – Programmer delay Relay 1
J2 – Programmer delay Relay 2

8. ELECTRICAL CONNECTIONS

Proced as follows :
• Separate base from cover after loosening the two securing screws (2.3).
• Mount the base on the DIN rail and check that it is firmly anchored by the securing elements(2.4).
• Carry out the wiring according to the diagram and in compliance with current electrical regulations and using :
    – 1.5 mm^2 cables for power and relay control outputs,
    – 1 mm^2 cables for input switches.
• Apply power (230 V~) and check its presence across terminals L and N.
• Remove power, replace cover on base/terminal block and secure it with the two screws supplied (2.3).

You are advised not to insert more than two cables in a single terminal of the controller and, if necessary, to use an external junction box.

9. OPERATION

The two relay outputs are controlled by two input switches.

Relay 1 by C1a or by C1b: switch open = relay de-energised (1-3 open; 2-3 closed)
                                switch closed = relay energised (1-3 closed; 2-3 open)
Relay 2 by C2a or by C2b: switch open = relay de-energised (6-8 open; 7-8 closed)
                                switch closed = relay energised (6-8 closed; 7-8 open)

The choice between the use of switches "a" or "b" is made with the inputs selector C a/b :

With inputs selector C a/b open :   Relay 1 controlled by switch C1a
                                        Relay 2 controlled by switch C2a
With inputs selector C a/b closed :   Relay 1 controlled by switch C1b
                                          Relay 2 controlled by switch C2b

The action of the two output relays can be immediate (factory setting) or delayed by about three seconds (see 7.RELAY DELAY PROGRAMMER) to avoid operations due to electronic disturbances.

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We reserve the right to make changes without notice