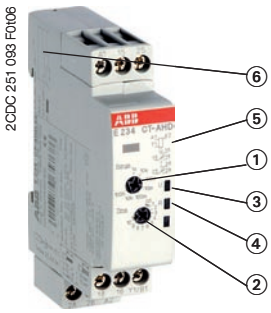
Electronic timer CT-AHD.22

OFF-delayed with 2 c/o contacts

Data sheet



① Rotary switch for the preselection of the time range

② Potentiometer with direct reading scale for the fine adjustment of the time delay

③ U: green LED -
control supply voltage applied
timing

④ R: yellow LED -
output relays energized

⑤ Circuit diagram

⑥ Function diagram

Features

- Rated control supply voltage 24-48 V DC, 24-240 V AC
- Single-function timer OFF-delay
- 7 time ranges (0.05 s - 100 h) in one device
- 2 c/o contacts (250 V / 5 A)
- Control input: voltage-related triggering, polarized, capable of switching a parallel load
- 2 LEDs for status indication
- Width of only 17.5 mm
- Light-grey enclosure in RAL 7035

Approvals

	UL 508, CAN/CSA C22.2 No.14	
	GOST	
CB	CB scheme	pending
	CCC	pending

Marks

CE	CE	
	C-Tick	pending

Order data

Type	Rated control supply voltage	Time range	Output	Control input	Order code
CT-AHD.22	24-48 V DC, 24-240 V AC	0.05 s - 100 h	2 c/o contacts	voltage-related triggering	1SVR 500 110 R0100

Application

With their structural form and their width of 17.5 mm only, the CT-D range timers are ideally suited for installation in distribution cabinets.

Operating mode

The CT-AHD.22 with 2 c/o contacts and offers 7 time ranges, from 0.05 s to 100 h. The time delay range is rotary switch selectable on the front of the unit. The fine adjustment of the time delay is made via an internal potentiometer, with a direct reading scale, on the front of the unit.

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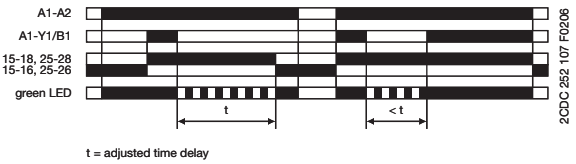
Function diagram(s)

OFF-delay with auxiliary voltage

This function requires continuous control supply voltage for timing.

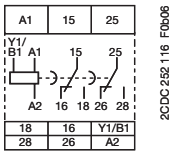
If control input **A1-Y1/B1** is closed, the output relay energizes immediately. If control input **A1-Y1/B1** is opened, the time delay starts. The green LED flashes during timing. When the selected time delay is complete, the output relay de-energizes and the flashing green LED turns steady.

If control input **A1-Y1/B1** recloses before the time delay is complete, the time delay is reset and the output relay does not change state. Timing starts again when control input **A1-Y1/B1** re-opens. If control supply voltage is interrupted, the output relay de-energizes and the time delay is reset.



t = adjusted time delay

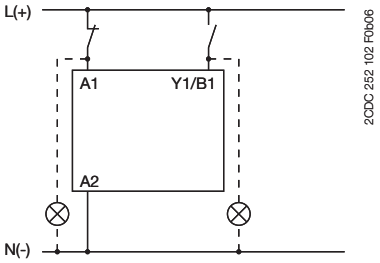
Connection diagram(s)



15-16/18	1. c/o contact
25-26/28	2. c/o contact
A1-A2	Rated control supply voltage U_S 24-48 V DC or 24-240 V AC
A1-Y1/B1	Control input

Wiring instructions

Parallel load to control input possible / allowed



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Technical data

Data at T_a = 25 °C and rated values, if nothing else indicated

Input circuits - Supply circuit		1SVR 500 110 R0100		
Rated control supply voltage U_S	A1-A2	24-240 V AC		
	A1-A2	24-48 V DC		
Rated control supply voltage tolerance	24-240 V AC	-15...+10 %		
	24-48 V DC	-15...+10 %		
Typical current / power consumption		24 V DC	230 V AC	115 V AC
	24-48 V DC	24.12 mA / -	- / -	- / -
	24-240 V AC	- / -	31.30 mA / -	19.89 mA / -
Rated frequency		DC; 50/60 Hz		
Frequency range AC		47-63 Hz		
Power failure buffering time		min. 30 ms		

Input circuits - Control circuit		1SVR 500 110 R0100
Control input, control function	A1-Y1/B1	start timing external
Kind of triggering		voltage-related triggering
Resistance to reverse polarity		yes
Polarized		yes
Capable of switching a parallel load		yes
Maximum cable length to the control inputs		50 m - 100 pF/m
Minimum control pulse length		30 ms
Control voltage potential		see rated control supply voltage U_S
Current consumption of the control input	24 V DC	0.92 mA
	230 V AC	6.49 mA
	115 V AC	3.27 mA

Timing circuit		1SVR 500 110 R0100
Kind of timer	Single-function timer	OFF-delay with auxiliary voltage
Time ranges 0.05 s - 100 h		0.05-1 s, 0.5-10 s, 5-100 s, 0.5-10 min, 5-100 min, 0.5-10 h, 5-100 h
Recovery time		< 50 ms
Accuracy within the rated control supply voltage tolerance		Δt < 0.005 %/V
Accuracy within the temperature range		Δt < 0.06 %/°C

Indication of operational states		1SVR 500 110 R0100
Control supply voltage / timing	U: green LED	⎍‾‾‾⎍: control supply voltage applied
Control supply voltage / timing	U: green LED	⎍⎍⎍⎍⎍: timing
Relay status	R: yellow LED	⎍‾‾‾⎍: output relay energized

Output circuits		1SVR 500 110 R0100
Kind of output	15-16/18	Relay, 1. c/o contact
	25-26/28	Relay, 2. c/o contact
Contact material		Cd-free
Rated operational voltage U_e		250 V
Derating		

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Output circuits		1SVR 500 110 R0100
Minimum switching voltage / Minimum switching current		12 V / 100 mA
Maximum switching voltage / Minimum switching current		see load limit curve / see load limit curve
Rated operational current I_e (IEC 60947-5-1)	AC12 (resistive) at 230 V	5 A
	AC15 (inductive) at 230 V	3 A
	DC12 (resistive) at 24 V	5 A
	DC13 (inductive) at 24 V	2 A
Mechanical lifetime		30 x 10^6 switching cycles
Electrical lifetime		0.1 x 10^6 switching cycles (AC12, 230 V, 4 A)
Short-circuit resistance, maximum fuse rating (IEC/EN 60947-5-1)	n/c contact	6 A fast-acting
	n/o contact	10 A fast-acting

General data		1SVR 500 110 R0100
Duty time		100 %
Repeat accuracy (constant parameters)		Δt <± 0.5 %
Dimensions (W x H x D)		17.5 x 80 x 58 mm (0.69 x 3.15 x 2.28 inches)
Weight		approx. 65 g (approx. 0.14 lb)
Mounting position		any
Minimum distance to other units		
normal operation mode	horizontal	none
	vertical	none
Mounting		DIN rail (EN 60715), snap-on mounting without any tool
Degree of protection	enclosure / terminals	IP50 / IP20

Electrical connection		1SVR 500 110 R0100
all circuits		Screw connection
Wire size	fine-strand with wire end ferrule	2 x 0.5-1.5 mm^2 / 1 x 0.5-2.5 mm^2 (2 x 20-16 AWG) / (1 x 20-14 AWG)
	fine-strand without wire end ferrule	2 x 0.5-1.5 mm^2 / 1 x 0.5-2.5 mm^2 (2 x 20-16 AWG) / (1 x 20-14 AWG)
	rigid	2 x 0.5-1.5 mm^2 / 1 x 0.5-4 mm^2 (2 x 20-16 AWG) / (1 x 20-12 AWG)
Stripping length		7 mm (0.28 inches)
Tightening torque		0.5-0.8 Nm

Environmental data		1SVR 500 110 R0100
Ambient temperature range	operation	-20...+60 °C
	storage	-40...+85 °C
Damp heat, cyclic (IEC/EN 60068-2-30)		6 x 24 h cycles, 55 °C, 95 % RH
Vibration, sinusoidal (IEC/EN 60068-2-6)		4 m/s^2, 20 cycles, 10...150...10 Hz
Shock, half-sine (IEC/EN 60068-2-27)		100 m/s^2, 11 ms

Isolation data		1SVR 500 110 R0100
Rated isolation voltage U_i	Output circuit 1 / Output circuit 2	300 V
	Input circuit / Output circuit	300 V

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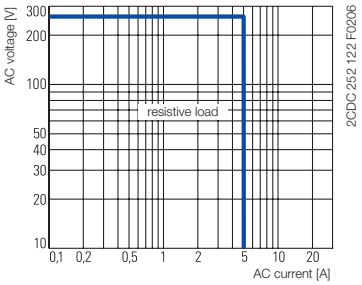
Isolation data		1SVR 500 110 R0100
Rated impulse withstand voltage U_{imp} (type test) (IEC/EN 60664-1, VDE 0110)	between all isolated circuits	4 kV; 1.2/50 µs
Power-frequency withstand voltage test (Test voltage, routine test)	between all isolated circuits	2.5 kV, 50 Hz, 1 s
Basic insulation (IEC/EN 61140)	Input circuit / Output circuit	300 V
Protective separation (IEC/EN 61140, VDE 0106 part 101 and part 101/A1)	Input circuit / Output circuit	250 V
Pollution degree (IEC/EN 60664-1, VDE 0110, UL 508)		3
Overvoltage category (IEC/EN 60664-1, VDE 0110, UL 508)		III

Standards / Directives	1SVR 500 110 R0100
Product standard	IEC 61812-1, EN 61812-1 + A11, DIN VDE 0435 part 2021
EMC Directive	2004/108/EC
Low Voltage Directive	2006/95/EC
RoHS Directive	2002/95/EC

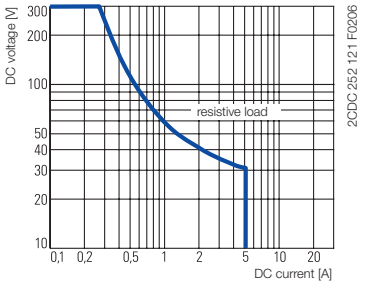
Electromagnetic compatibility		1SVR 500 110 R0100
Interference immunity		IEC/EN 61000-6-1 IEC/EN 61000-6-2
electrostatic discharge (ESD)	IEC/EN 61000-4-2	Level 3 (6 kV / 8 kV)
electromagnetic field (HF radiation resistance)	IEC/EN 61000-4-3	Level 3 (10 V/m)
fast transients (Burst)	IEC/EN 61000-4-4	Level 3 (2 kV / 5 kHz)
powerful impulses (Surge)	IEC/EN 61000-4-5	Level 4 (2 kV L-L)
HF line emission	IEC/EN 61000-4-6	Level 3 (10 V)
Interference emission		IEC/EN 61000-6-3 IEC/EN 61000-6-4
electromagnetic field (HF radiation resistance)	IEC/CISPR 22, EN 55022	Class B
HF line emission	IEC/CISPR 22, EN 55022	Class B

Technical diagrams

Load limit curve

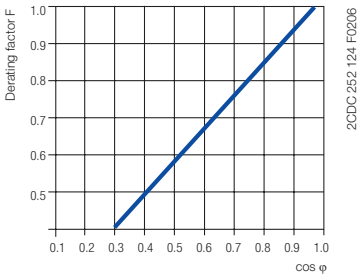


AC load (resistive)



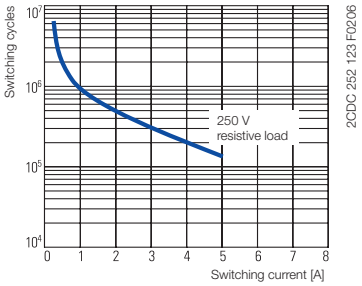
DC load (resistive)

Derating factor F



for inductive AC load

Contact lifetime



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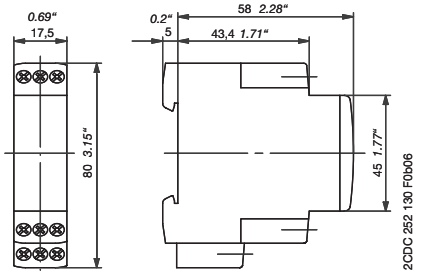
Dimensions

in mm



CT-AHD.22

Synonyms

Used expression	Alternative expression(s)	Used expression	Alternative expression(s)
2 c/o contacts	1 DPDT / 2 SPDT	voltage-related	wet / non-floating

Further Documentation

Document title	Document type	Document number
Electronic Products and Relays	Technical catalogue	2CDC 110 004 C020x

You can find the documentation in the internet under www.abb.com/lowvoltage → Control Products → ...

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