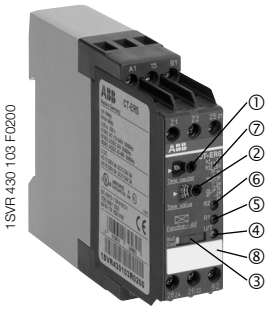
Electronic timer CT-ERS

ON-delayed with 2 c/o contacts

Data sheet



CT-ERS

① 10 selectable time ranges, from 0.05 s to 300 h

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

③ Sliding switch to set the 2nd c/o contact as an instantaneous contact

④ U/T: green LED - Supply voltage (LED flashes during timing)

⑤ R1: red LED - Output relay 1 energized

⑥ R2: red LED - Output relay 2 energized

⑦ Circuit diagram

⑧ Marker label

Characteristics

- Single-function ON-delay timer
- One device includes 10 time ranges, from 0.05 s to 300 h, for the adjustment of the time delay
- Remote potentiometer connection
- 2 c/o contacts
- 2nd c/o contact can be selected as instantaneous contact (front-face sliding switch)
- 3 LEDs for status indication
- Width 22.5 mm

Approvals

cULus
GL
GOST
CCC

Marks

CE
C-Tick

Order data

Type	Supply voltage	Order code
CT-ERS	12-40 V AC / 12-60 V DC	1SVR 430 100 R1200
CT-ERS	24 V, 42-48V AC/DC, 110-240 V AC	1SVR 430 103 R0200
CT-ERS	380-440 V AC	1SVR 430 101 R2200

Order data (Accessories)

Description	Order code
Remote potentiometer 30.5 mm	1SVR 700 800 R1000
Remote potentiometer 22.5 mm	1SVR 701 800 R1000
Remote potentiometer 10.5 mm	1SVR 214 017 R0900
Adapter for screw mounting on panel	1SVR 430 029 R0100
Sealable cover	1SVR 430 005 R0100
Marker label	1SVR 366 017 R0100

Application

The CT-S range timers are designed for use in industrial applications. They operate over a universal range of supply voltages and a large time delay range, within compact dimensions. The easy-to-set front-face potentiometers, with direct reading scales, provide accurate time delay adjustment.

Operating mode

The CT-ERS with 2 c/o contacts offers 10 time ranges, from 0.05 s to 300 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. When an external potentiometer is connected to terminals Z1- Z2, the internal adjustment is disabled and external adjustment is enabled. Timing is displayed by a flashing green LED labelled U/T.

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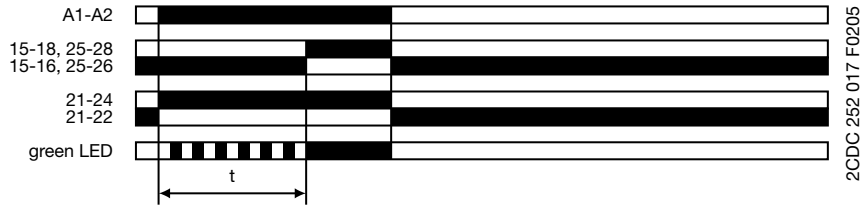
Data sheet

Function diagrams

⌧ ON-delay (Delay on make)

Timing begins when supply voltage is applied to A1-A2. The green LED flashes during timing. When the selected time delay is complete, the output relays energize and the flashing green LED turns steady. If supply voltage is interrupted, the output relays de-energize and the time delay is reset.
When an external potentiometer is connected to terminals Z1-Z2, the internal, front-face potentiometer is disabled and the time adjustment is made via the external potentiometer.
If the front-face sliding switch is set to the “Inst.” position, the 2nd c/o contact energizes immediately upon application of the supply voltage.



t = adjustable delay time
t_s = storage time
$t = t_1 + t_2$

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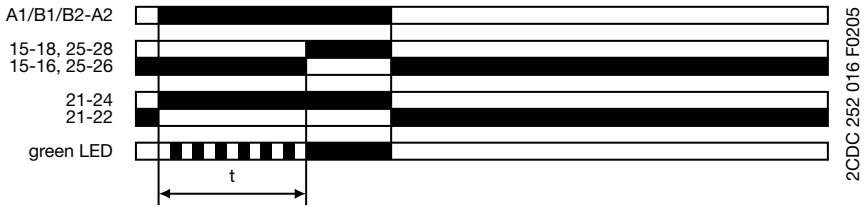

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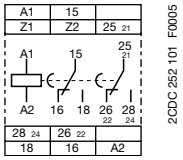
Data sheet

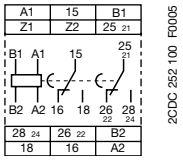
Connection diagrams

CT-ERS



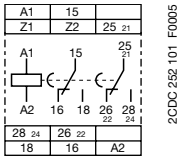
Version: 1SVR 430 100 R1200
A1-A2 Supply: 12-40 V AC oder 12-60 V DC
Z1-Z2 Remote potentiometer
15-16/18 1. c/o contact
25-26/28 2. c/o contact
21-22-/24 2. c/o contact as instantaneous contact

CT-ERS



Version: 1SVR 430 103 R0200
A1-A2 Supply: 110-240 V AC
B1-A2 Supply: 24 V AC/DC
B2-A2 Supply: 42-48 V AC/DC
Z1-Z2 Remote potentiometer
15-16/18 1. c/o contact
25-26/28 2. c/o contact
21-22/24 2. c/o contact as instantaneous contact

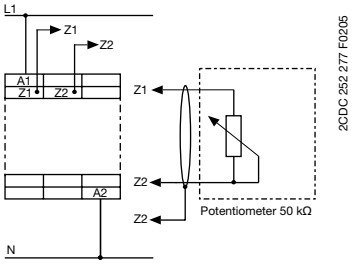
CT-ERS



Version: 1SVR 430 101 R2200
A1-A2 Supply: 380-440 V AC
Z1-Z2 Remote potentiometer
15-16/18 1. c/o contact
25-26/28 2. c/o contact
21-22-/24 2. c/o contact as instantaneous contact

Wiring note

Connection diagram for remote potentiometer



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Data sheet

Technical Data

Input circuits		
Supply voltage	A1-A2	12-40 V AC
	A1-A2	12-60 V DC
	A1-A2	110-240 V AC
	A1-A2	380-440 V AC
	B1-A2	24 V AC/DC
	B2-A2	42-48 V AC/DC
Power consumption	12-40 V AC	approx. 0.6-1.8 VA
	110-240 V AC	approx. 2-3 VA
	380-440 V AC	approx. 3 VA
	12-60 V DC	approx. 0.6-2.5 VA
	24 V AC/DC	approx. 0.5 VA/W
	42-48 V AC/DC	approx. 1.8 VA/W
Supply voltage tolerance		-15...+10 %
Supply voltage frequency	AC/DC Version	DC or 50/60 Hz
	AC Version	50/60 Hz
Remote potentiometer connection	Z1/Z3-Z2	50 kΩ
Max. cable length to remote potentiometer		2 x 25 m, shield connected to Z2 potential
Duty time		100 %
Timing circuit		
Time ranges 0.05 s - 300 h	1)	0.05-1 s
	2)	0.15-3 s
	3)	0.5-10 s
	4)	1.5-30 s
	5)	5-100 s
	6)	15-300 s
	7)	1.5-30 min
	8)	15-300 min
	9)	1.5-30 h
	10)	15-300 h
Recovery time		< 50 ms
Repeat accuracy (constant parameters)		< 0.2 %
Timing error within the supply voltage tolerance range		< 0.008 % / % Δ U
Timing error within operating temperature range		< 0.07 % / °C
Indication of operational states		
Supply voltage / timer		green LED steady / flashing while timing
1st / 2nd output relay energized		red LED / red LED
Output circuits	15-16/18, 25(21)-26(22)/28(24)	
Number of contacts		Relays, 2 c/o contacts, 2nd c/o contact selectable as instantaneous contact
Contact material		AgCdO
Related voltage	acc. to VDE 0110, IEC 60947-1	250 V
Maximum switching voltage		250 V AC, 250 V DC
Rated switching current acc. to IEC 60947-5-1	AC-12 (resistive) 230 V	4 A
	AC-15 (inductive) 230 V	3 A
	DC-12 (resistive) 24 V	4 A
	DC-15 (inductive) 24 V	2 A
Maximum lifetime	mechanical	30 x 10^6 switching cycles
	electrical (AC-12, 230 V, 4 A)	0.1 x 10^6 switching cycles
Short circuit proof, max. fuse rating	n/c	10 A fast, operating class gL
	n/o	10 A fast, operating class gL
General data		
Enclosure	width	22.5 mm
	length	78.0 mm
	depth	100.0 mm
Wire size	fine-strand with wire end ferrule	2 x 0.75 - 2.5 mm^2 (18-14 AWG)
	fine-strand without wire end ferrule	
	rigid	2 x 0.5 - 4 mm^2 (20-12 AWG)
Weight		approx. 150 g (5.3 oz)

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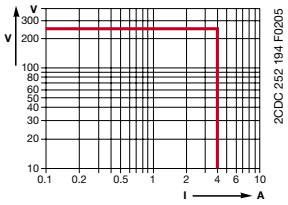
Data sheet

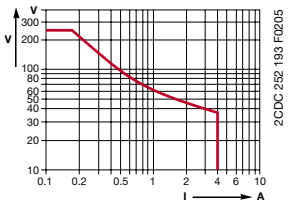
Mounting position		any
Degree of protection	enclosure / terminals	IP50 / IP20
Temperature	operating	-20...+60 °C
	storage	-40...+85 °C
Mounting		DIN rail (EN 50022)
Standards		
Product standard		IEC 61812-1, EN 61812-1
EMC Directive		89/336/EEC
Electromagnetic compatibility		IEC 61000-6-2, EN 61000-6-4
ESD	acc. to IEC 61000-4-2, EN 61000-4-2	level 3 6 kV / 8 kV
HF radiation resistance	acc. to IEC 61000-4-3, EN 61000-4-3	level 3 10 V/m
Burst	acc. to IEC 61000-4-4, EN 61000-4-4	level 3 2 kV / 5 kHz
Surge	acc. to IEC 1000-4-5, EN 61000-4-5	level 4 2 kV L-L
HF line emission	acc. to IEC 1000-4-6, EN 61000-4-6	level 3 10 V
Low Voltage Directive		73/23/EEC
Operational reliability	acc. to IEC 68-2-6	4 g
Mechanical resistance	acc. to IEC 68-2-6	6 g
Approvals / marks		
Approvals		cULus, GL, GOST and CCC
Marks		CE and C-Tick
Isolation data		
Rated insulation voltage between supply circuit, control circuit and output circuit	acc. to VDE 0110, IEC 60947-1	supply up to 240 V: 300 V supply up to 440 V: 500 V
Rated impulse withstand voltage between all isolated circuits	acc. to VDE 0110, IEC 664	4 kV / 1.2-50 µs
Test voltage between all isolated circuits		2.5 kV, 50 Hz, 1 min.
Pollution category	acc. to VDE 0110, IEC 664, IEC 255-5	III/C
Overvoltage category	acc. to VDE 0110, IEC 664, IEC 255-5	III/C
Environmental testing	acc. to IEC 68-2-30	24 h cycle time, 55 °C, 93 % rel., 96 h

Load limit curves

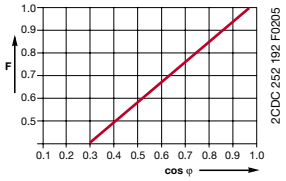
AC load (resistive)



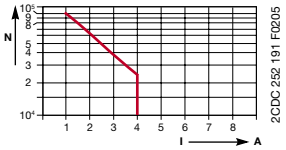
DC load (resistive)



Derating factor F for inductive AC load



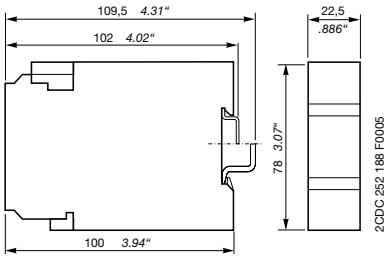
Contact lifetime /switching cycles N



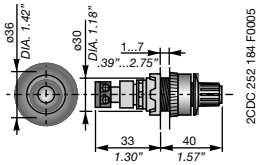
220 V 50 Hz 1 AC 360 cycles/h

Dimensional drawings

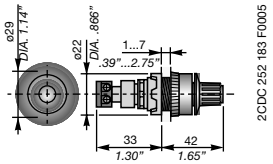
Dimensions in mm



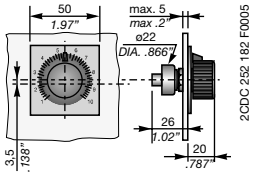
Dimensional drawings (Accessories)



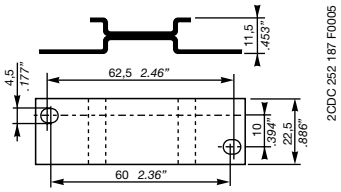
Remote potentiometer 30.5 mm



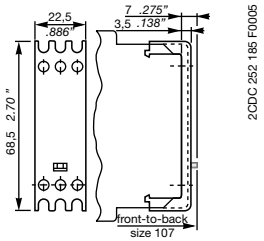
Remote potentiometer 22.5 mm



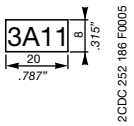
Remote potentiometer 10.5 mm



Adapter for screw mounting on panel



Sealable cover



Marker label

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ABB STOTZ-KONTAKT GmbH
Eppelheimer Straße 82 69123 Heidelberg, Deutschland
Postfach 10 16 80 69006 Heidelberg, Deutschland
Internet http://www.abb.com/lowvoltage -> Control Products -> Electronic Relays
E-Mail epr-support@stotzkontakt.de