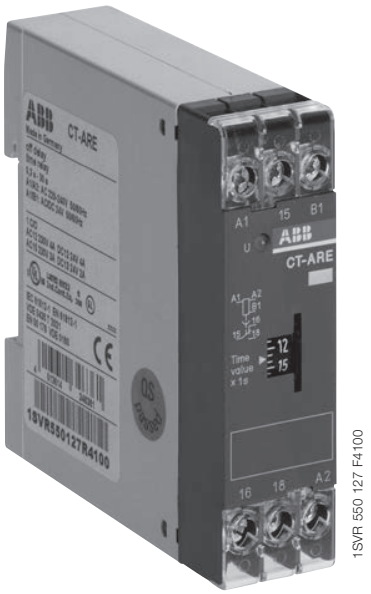
Data sheet

Electronic timer CT-ARE

OFF-delayed without auxiliary voltage, 1 c/o (SPDT) contact

The CT-ARE is an electronic time relay with OFF-delay. It is from the CT-E range.

The CT-E range is the economic range of ABB‘s time relays and offers a cost effective price-performance ratio for OEM users. This is achieved by simplified functionality and results in the simplest of setup procedures. The CT-E range is ideally suited for repeat applications.



Characteristics

- 4 versions:
  2 different single time ranges (0.1-10 and 0.3-30 s) and 2 different rated control supply voltage ranges (24 V AC/DC / 220-240 V AC and 110-130 V AC)
- Single-function OFF-delay timer
- 1 c/o (SPDT) contact
- 22.5 mm (0.89 in) width
- 1 LED for the indication of operational states

Approvals

- UL 508, CAN/CSA C22.2 No.14
- GL
- GOST
- CB scheme
- CCC
- RMRS

Marks

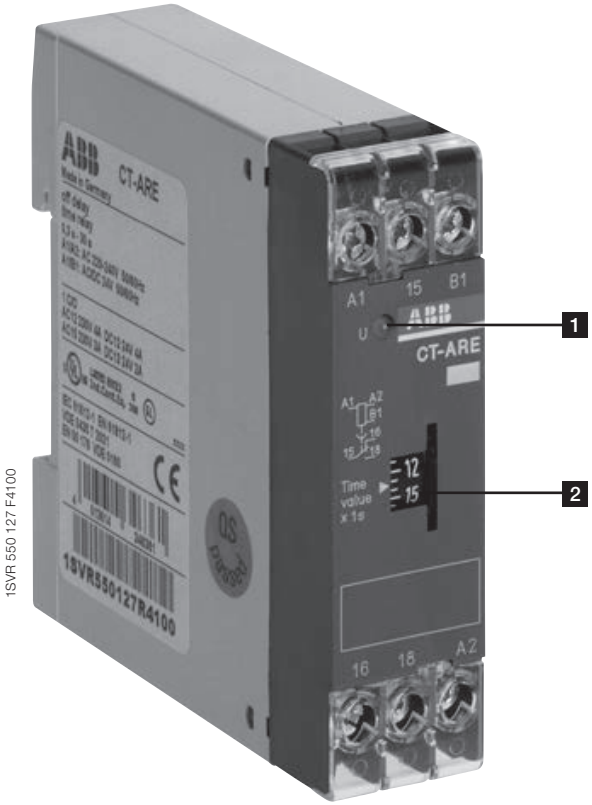
- CE
- C-Tick

Order data

Type	Rated control supply voltage	Time range	Order code
CT-ARE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR 550 127 R1100
		0.3-30 s	1SVR 550 127 R4100
	110-130 V AC	0.1-10 s	1SVR 550 120 R1100
		0.3-30 s	1SVR 550 120 R4100

Functions

Operating controls



1 Indication of operational states

U: green LED – Control supply voltage applied

2 Thumbwheel for the fine adjustment of the time delay

Application

Their conception makes the CT-E range timers ideal for repeat applications.

Operating mode

The fine adjustment of the time delay is made via the front-face thumbwheel.

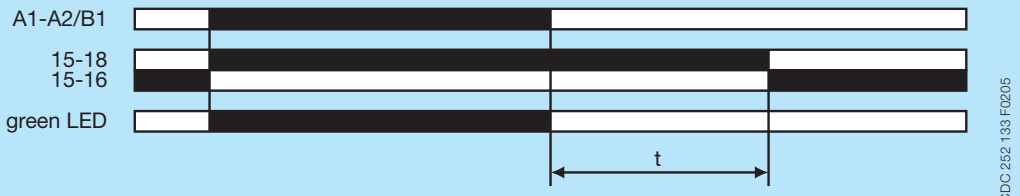
Function diagram

OFF-delay without auxiliary voltage (True delay on break)

The OFF-delay function without auxiliary voltage does not require continuous control supply voltage for timing.

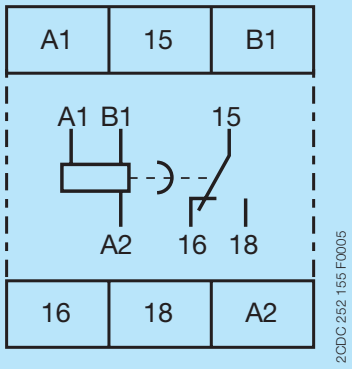
Applying control supply voltage, energizes the output relay. If control supply voltage is interrupted, the OFF-delay starts. When timing is complete, the output relay de-energizes. If control supply voltage is re-applied before the time delay is complete, the time delay is reset and the output relay remains energized.

Control supply voltage must be applied for the minimum energizing time (200 ms), for proper operation.



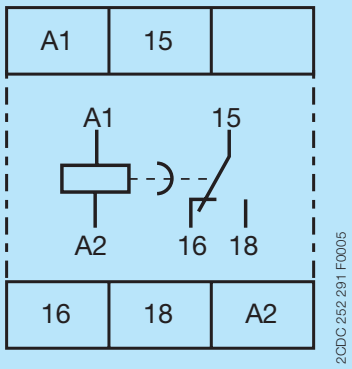
t = adjusted delay time

Electrical connection



A1-A2	Rated control supply voltage U_s: 220-240 V AC
A1-B1	Rated control supply voltage U_s: 24 V AC/DC
15-16/18	1 c/o (SPDT) contact

Connection diagram
1SVR 550 127 R1100, 1SVR 550 127 R4100



A1-A2	Rated control supply voltage U_s: 110-130 V AC
15-16/18	1 c/o (SPDT) contact

Anschlussdiagramm
1SVR 550 120 R1100, 1SVR 550 120 R4100

Technical data

Data at T_a = 25 °C and rated values, unless otherwise indicated

Input circuits

Supply circuit		
Rated control supply voltage U_s	A1-A2	220-240 V AC
	A1-A2	110-130 V AC
	A1-B1	24 V AC/DC
Rated control supply voltage U_s tolerance		-15...+10 %
Typical current / power consumption	24 V AC/DC	approx. 1.0 VA/W
	110-130 V AC	approx. 2.0 VA
	220-240 V AC	approx. 2.0 VA
Rated frequency	AC/DC version	DC or 50/60 Hz
	AC version	50/60 Hz
Minimum energizing time		200 ms

Timing circuit	
Time range	depending on device: 0.1-10 s or 0.3-30 s
Recovery time	< 200 ms
Repeat accuracy (constant parameters)	Δt < 1 %
Accuracy within the rated control supply voltage tolerance	Δt < 0.5 % / V
Accuracy within the temperature range	Δt < 0.1 % / °C

User interface

Indication of operational states		
Control supply voltage	U: green LED	⎍: control supply voltage applied

Output circuit

Kind of output	15-16/18	relay, 1 c/o (SPDT) contact
Contact material		AgCdO
Rated operational voltage U_e (IEC/EN 60947-1)		250 V
Maximum switching voltage		250 V AC, 250 V DC
Rated operational current I_e (IEC/EN 60947-5-1)	AC12 (resistive) at 230 V	4 A
	AC15 (inductive) at 230 V	3 A
	DC12 (resistive) at 24 V	4 A
	DC13 (inductive) at 24 V	2 A
AC rating (UL 508)	Utilization category (Control Circuit Rating Code)	B 300
	max. rated operational voltage	300 V AC
	Maximum continuous thermal current at B300	5 A
	max. making/breaking apparent power at B300	3600 VA / 360 VA
Mechanical lifetime		30 x 10^6 switching cycles
Electrical lifetime	AC12, 230 V, 4 A	0.1 x 10^6 switching cycles
Maximum fuse rating to achieve short-circuit protection	n/c contact	5 A
	n/o contact	5 A

General data

MTBF		on request
Duty time		100 %
Dimensions (W x H x D)	product dimensions	22.5 x 78.0 x 78.5 mm (0.89 x 3.07 x 3.09 in)
	packaging dimensions	84.2 x 83.1 x 24.6 mm (3.31 x 3.27 x 0.97 in)
Weight	net weight	0.070 kg (0.154 lb)
	gross weight	0.081 kg (0.179 lb)
Mounting		DIN rail (IEC/EN 60715), snap-on mounting without any tool
Mounting position		any
Degree of protection	housing	IP50
	terminals	IP20

Electrical connection

Wire size	fine-strand with wire end ferrule	2 x 0.75-1.5 mm² (2 x 18-16 AWG)
	fine-strand without wire end ferrule	2 x 1-1.5 mm² (2 x 18-16 AWG)
	rigid	2 x 0.75-1.5 mm² (2 x 18-16 AWG)
Stripping length		10 mm (0.39 in)
Tightening torque		0.6-0.8 Nm (5.31-7.08 lb.in)

Environmental data

Ambient temperature ranges	operation	-20...+60 °C
	storage	-40...+85 °C
Operational reliability	IEC/EN 60068-2-6	6 g
Mechanical resistance	IEC/EN 60068-2-6	10 g
Damp heat, cyclic	IEC/EN 60068-2-30	24 h cycle, 55 °C, 93 % rel., 96 h

Isolation data

Rated insulation voltage between supply, control and output circuit (IEC/EN 60947-1)	Control supply voltage up to 240 V: 300 V
	Control supply voltage up to 440 V: 500 V
Rated impulse withstand voltage U_{imp} between all isolated circuits (IEC/EN 60664)	4 kV / 1.2-50 µs
Test voltage between all isolated circuits (routine test)	2.5 kV, 50 Hz, 1 min.
Pollution degree (IEC/EN 60664, IEC/EN 60255-5)	III/C
Overvoltage category (IEC/EN 60664, IEC/EN 60255-5)	III/C

Standards

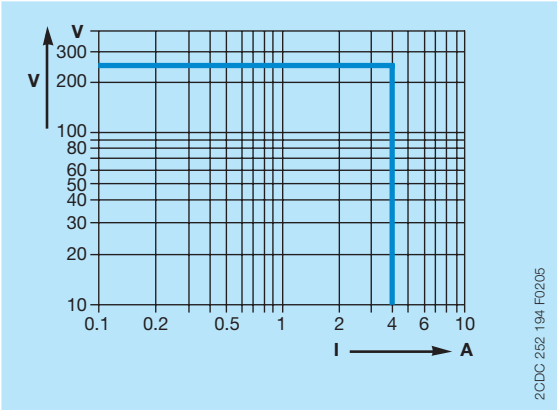
Product standard	IEC 61812-1, EN 61812-1 +A11
Low Voltage Directive	2006/95/EC
EMC directive	2004/108/EC

Electromagnetic compatibility

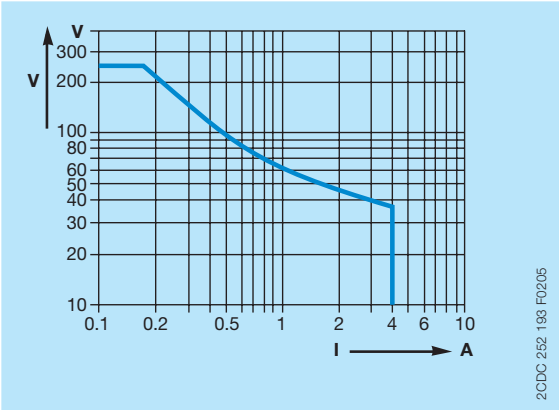
Interference immunity to		IEC/EN 61000-6-2
electrostatic discharge	IEC/EN 61000-4-2	Level 3 (6 kV / 8 kV)
radiated, radio-frequency, electromagnetic field	IEC/EN 61000-4-3	Level 3 (10 V/m)
electrical fast transient / burst	IEC/EN 61000-4-4	Level 3 (2 kV / 5 kHz)
surge	IEC/EN 61000-4-5	Level 4 (2 kV L-L)
conducted disturbances, induced by radio-frequency fields	IEC/EN 61000-4-6	Level 3 (10 V)
Interference emission		IEC/EN 61000-6-4

Technical diagrams

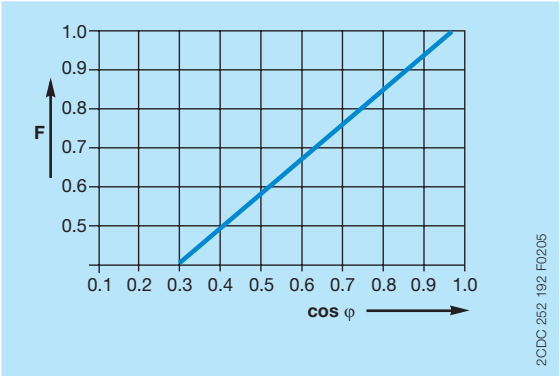
Load limit curves



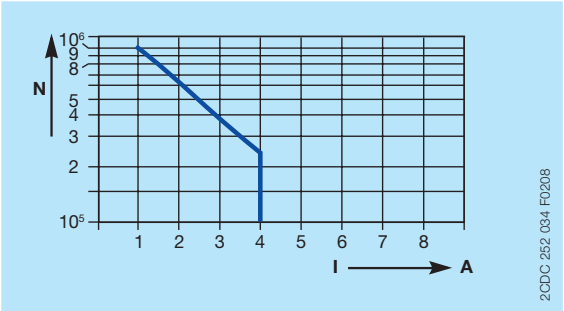
AC load (resistive)



DC load (resistive)



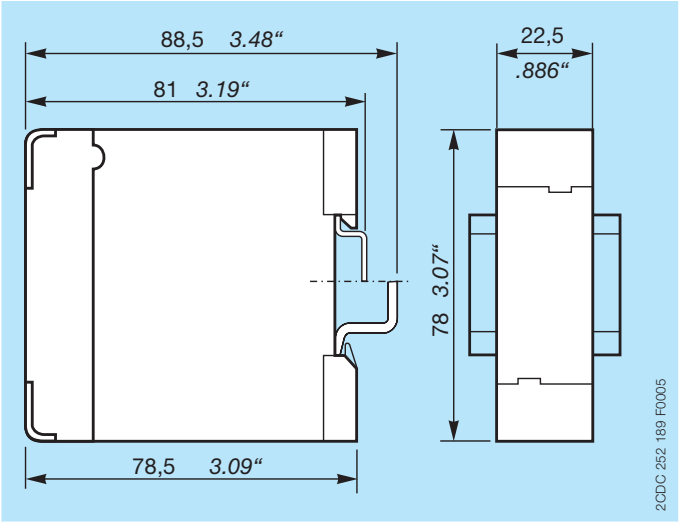
Derating factor F for inductive AC load



Contact lifetime /switching cycles N
220 V 50 Hz AC1, 360 cycles/h

Dimensions

in **mm** and *inches*



Further documentation

Document title	Document type	Document number
Electronic products and relays	Technical catalogue	2CDC 110 004 C02xx

You can find the documentation on the internet at www.abb.com/lowvoltage -> Control Products -> Electronic Relays and Controls -> Time Relays.

CAD system files

You can find the CAD files for CAD systems at http://abb-control-products.partcommunity.com/PARTcommunity/Portal/abb-control-products -> Low Voltage Products & Systems -> Control Products -> Electronic Relays and Controls -> Time Relays -> CT-E - Time Relays.

Contact us

ABB STOTZ-KONTAKT GmbH
P. O. Box 10 16 80
69006 Heidelberg, Germany
Phone: +49 (0) 6221 7 01-0
Fax: +49 (0) 6221 7 01-13 25
E-mail: info.desto@de.abb.com

You can find the address of your
local sales organisation on the
ABB home page
http://www.abb.com/contacts
-> Low Voltage Products and Systems

Document number 2CDC 111 138 D0201 (03.2013)

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.