

Electronic timer CT-EBE

Flasher starting with OFF, 1 c/o (SPDT) contact

The CT-EBE is an electronic time relay with the function flasher starting with OFF. 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.



1SVR 550 167 F1100

Characteristics

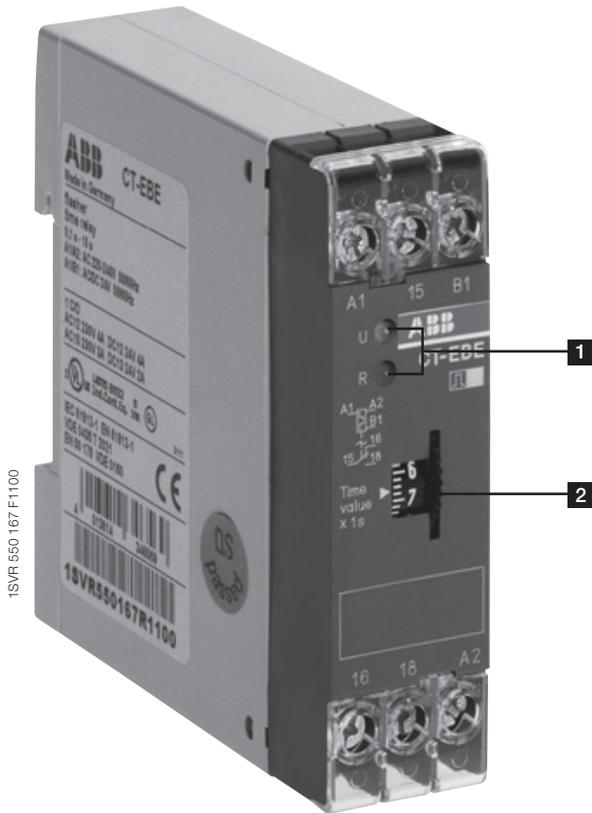
- 2 versions :
 - 1 single time range (0.1-10 s) and
 - 2 different rated control supply voltage ranges (24 V AC/DC / 220-240 V AC and 110-130 V AC)
- Single-function flasher starting with the OFF time
- 1 c/o (SPDT) contact
- 22.5 mm (0.89 in) width
- 2 LEDs for the indication of operational states

Order data

Type	Rated control supply voltage	Time range	Order code
CT-EBE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR 550 167 R1100
	110-130 V AC		1SVR 550 160 R1100

Functions

Operating controls



1 Indication of operational states

U: green LED – Control supply voltage applied

R: red LED – Output relay energized

2 Thumbwheel for the fine adjustment of the time delay

Application

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

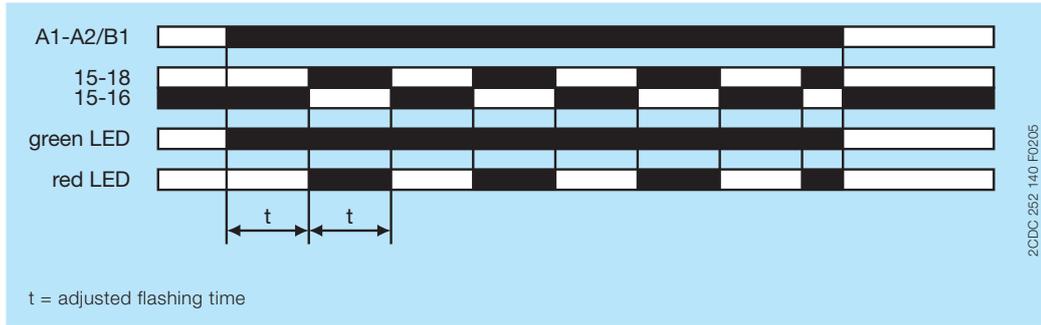
Operating mode

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

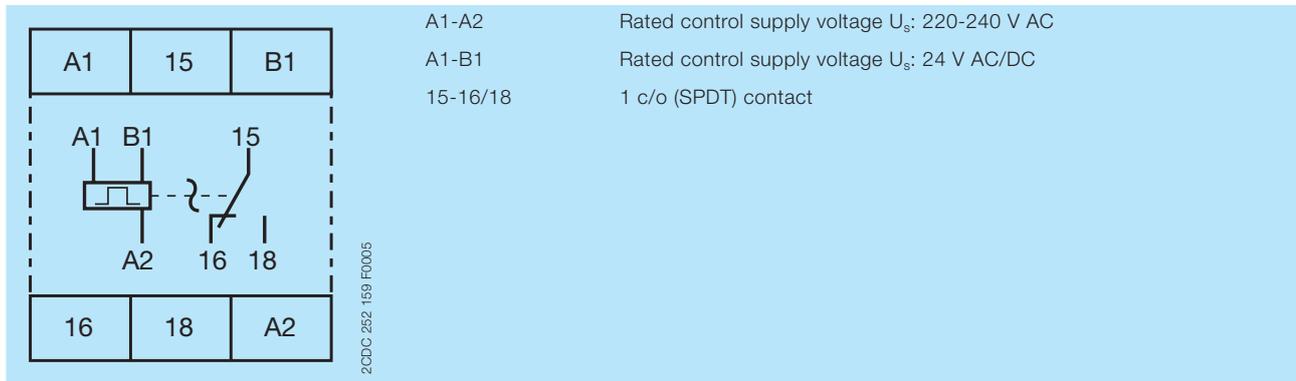
Function diagram

Flasher, starting with the OFF time

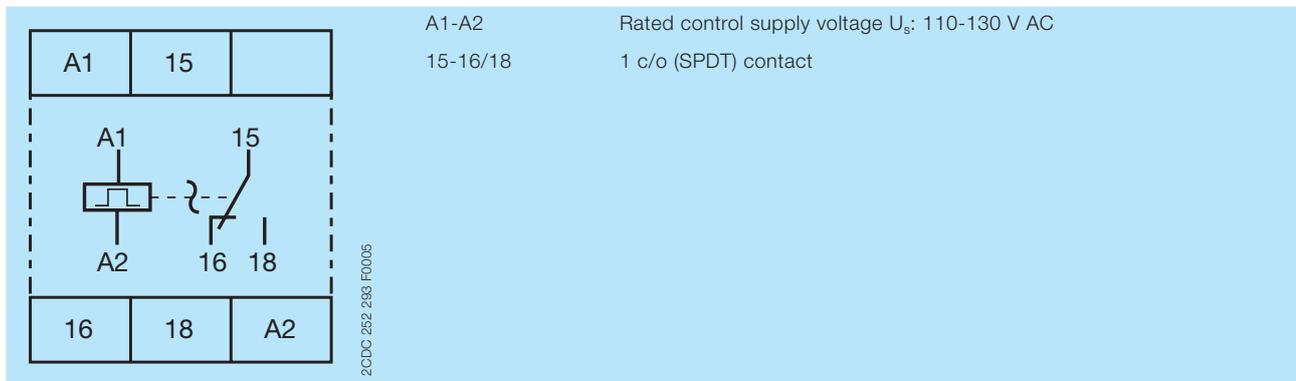
Applying control supply voltage starts timing with symmetrical ON & OFF times. The cycle starts with an OFF time first. If control supply voltage is interrupted, the output relay de-energizes and the time delay is reset.



Electrical connection



Connection diagramm 1SVR 550 167 R11000



Connection diagramm 1SVR 550 160 R1100

Technical data

Data at $T_a = 25\text{ °C}$ 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 %
Rated frequency	AC/DC version	DC or 50/60 Hz
	AC version	50/60 Hz
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
Release voltage		> 10 % of the minimum control supply voltage

Timing circuit	
Time range	0.1-10 s
Recovery time	< 50 ms
Repeat accuracy (constant parameters)	$\Delta t < 1\%$
Accuracy within the rated control supply voltage tolerance	$\Delta t < 0.5\% / V$
Accuracy within the temperature range	$\Delta t < 0.1\% / \text{°C}$
Setting accuracy of time delay	$\pm 10\%$ of full-scale value

User interface

Indication of operational states		
Control supply voltage	U: green LED	 : control supply voltage applied
Relay status	R: red LED	 : output relay energized

Output circuit

Kind of output	15-16/18	relay, 1 c/o (SPDT) contact
Contact material		silver alloy
Rated operational voltage U_s		250 V
Minimum switching voltage / current		12 V / 100 mA
Maximum switching voltage / current		see 'Load limit curves'
Rated operational current I_e	AC-12 (resistive) at 230 V	4 A
	AC-15 (inductive) at 230 V	3 A
	DC-12 (resistive) at 24 V	4 A
	DC-13 (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		10×10^6 switching cycles
Electrical lifetime	AC-12, 230 V, 4 A	0.1×10^6 switching cycles
Frequency of operation	with/without load	$360/72000^{-1}$
Maximum fuse rating to achieve short-circuit protection	n/c contact	10 A fast
	n/o contact	10 A fast

General data

MTBF		on request
Duty time		100 %
Dimensions		see 'Dimensional drawings'

Weight	net weight	0.065 kg (0.143 lb)
	gross weight	0.077 kg (0.170 lb)
Mounting	DIN rail (IEC/EN 60715), snap-on mounting without any tool	
Mounting position	any	
Minimum distance to other units	not necessary	
Material of housing	lower section	UL 94 V-0
	upper section	UL 94 V-2
Degree of protection	housing	IP50
	terminals	IP20

Electrical connection

Connecting capacity	fine-strand with wire end ferrule	2 x 0.75-1.5 mm ² (2 x 18-16 AWG)
	fine-strand without wire end ferrule	2 x 1-1.5 mm ² (2 x 18-16 AWG)
	rigid	2 x 0.75-1.5 mm ² (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
Relative humidity range	4 x 24 h cycle, 40 °C, 93 % RH	
Vibration, sinusoidal	IEC/EN 60068-2-6	20 m/s ² , 10-58/60-150 Hz
Shock, half-sine	IEC/EN 60068-2-27	150 m/s ² , 11 ms, 3 shocks/direction

Isolation data

Rated insulation voltage U _i	between all isolated circuits	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	4 kV / 1.2-50 μs
Power frequency withstand voltage (test voltage)	between all isolated circuits	2.5 kV, 50 Hz, 1 min.
Basic insulation (IEC/EN 61140)	input/output	300 V
Protective separation (IEC/EN 61140, EN 50178)	input/output	-
Pollution degree	3	
Overvoltage category	III	

Standards / Directives

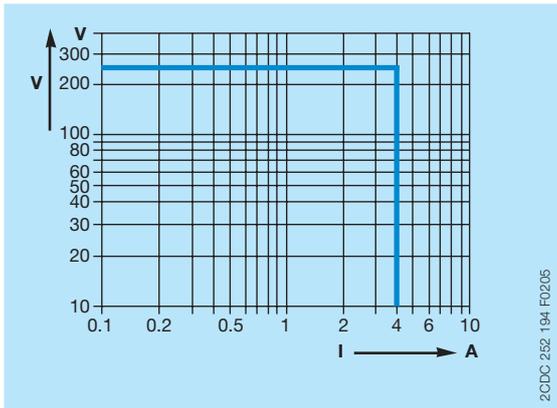
Standards	IEC/EN 61812-1
Low Voltage Directive	2014/35/EU
EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU

Electromagnetic compatibility

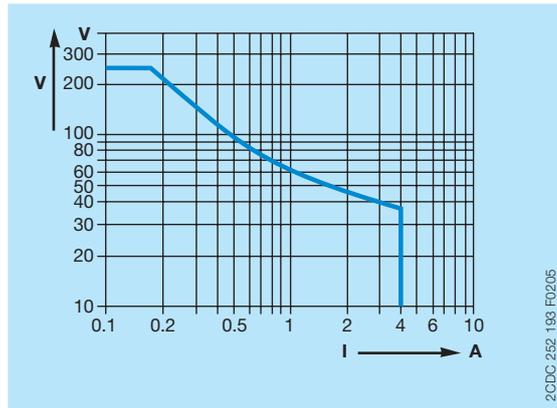
Interference immunity to	IEC/EN 61000-6-2	
electrostatic discharge	IEC/EN 61000-4-2	Level 3 (6 kV / 8 kV)
radiated, radio-frequency, electromagnetic field	IEC/EN 61000-4-3	10 V/m (1 GHz), 3 V/m (2 GHz), 1 V/m (2.7 GHz)
electrical fast transient / burst	IEC/EN 61000-4-4	Level 3 (2 kV / 5 kHz)
surge	IEC/EN 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 61000-6-3	
high-frequency radiated	IEC/CISPR 22, EN 55022	Class B
high-frequency conducted	IEC/CISPR 22, EN 55022	Class B

Technical diagrams

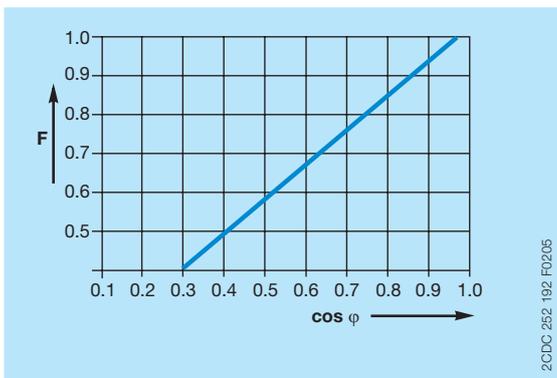
Load limit curves



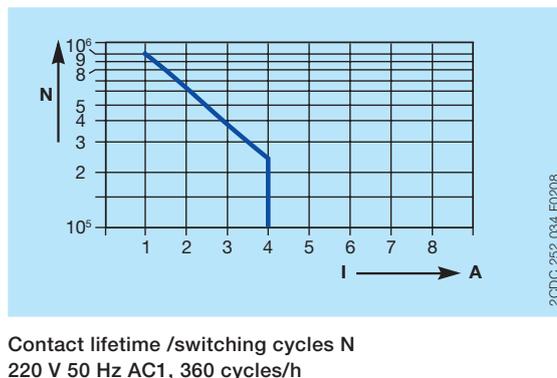
AC load (resistive)



DC load (resistive)



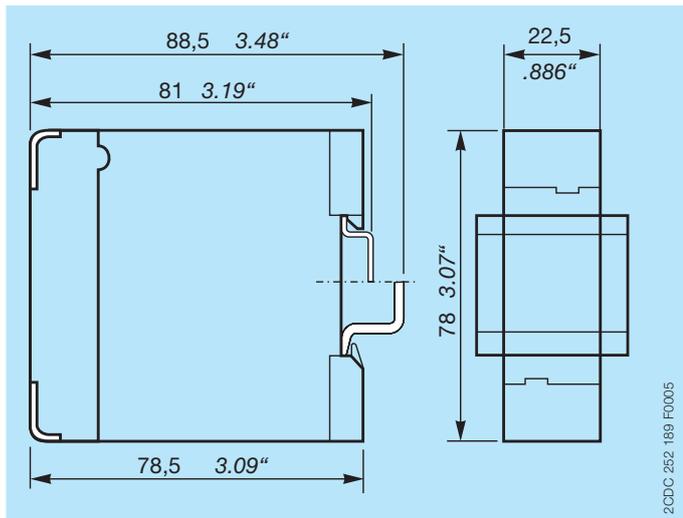
Derating factor F for inductive AC load



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 relays and controls	Catalog	2CDC 110 004 C02xx

You can find the documentation on the internet at www.abb.com/lowvoltage
-> Automation, control and protection -> 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>
-> Low Voltage Products & Systems -> Control Products -> Electronic Relays and Controls.

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