Data sheet

Electronic timer CT-EBD.12
Flasher starting with ON with 1 c/o (SPDT) contact

The CT-EBD.12 is an electronic time relay with the function flasher starting with ON. It is from the CT-D range.

With their MDRC profile and a width of only 17.5 mm, the CT-D range timers are ideally suited for installation in distribution panels as well as for industrial applications where compact dimensions are required.



2CDC 251 096 F0006

Characteristics
- Rated control supply voltage 24-48 V DC, 24-240 V AC
- Single-function timer flasher, starting with ON
- 7 time ranges (0.05 s - 100 h) in one device
- Light-grey enclosure in RAL 7035
- 1 c/o (SPDT) contact (250 V / 6 A)
- Width of only 17.5 mm (0.689 in)
- 2 LEDs for the indication of operational states

Approvals
UL 508, CAN/CSA C22.2 No.14
EAC
CB scheme
CCC
RMRS

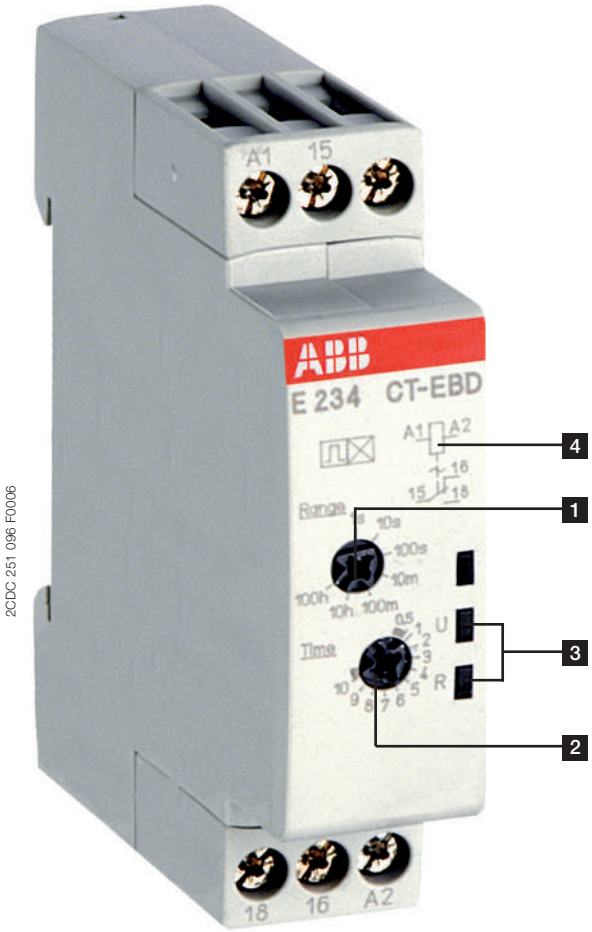
Marks
CE
RCM

Order data

Type	Rated control supply voltage	Time range	Output	Order code
CT-EBD.12	24-48 V DC, 24-240 V AC	0.05 s - 100 h	1 c/o (SPDT) contact	1SVR 500 150 R0000

Functions

Operating controls



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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 **Indication of operational states**

U: green LED

⎍‾‾⎍ control supply voltage applied

⎍⎍⎍⎽ timing

R: yellow LED

⎍‾‾⎍ output relay energized

4 **Circuit diagram**

Application

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

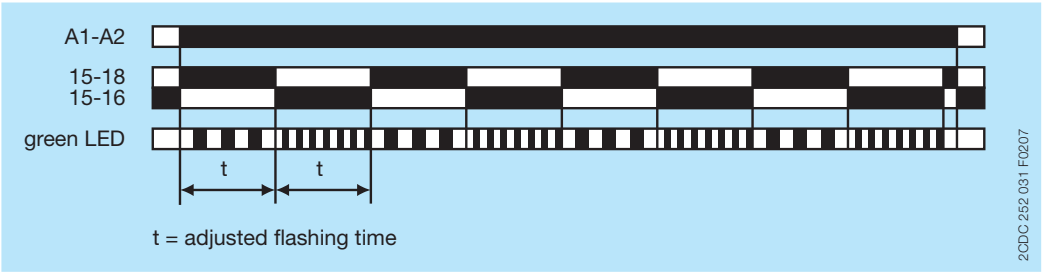
Operating mode

The CT-EBD.12 has 1 c/o (SPDT) contact 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.

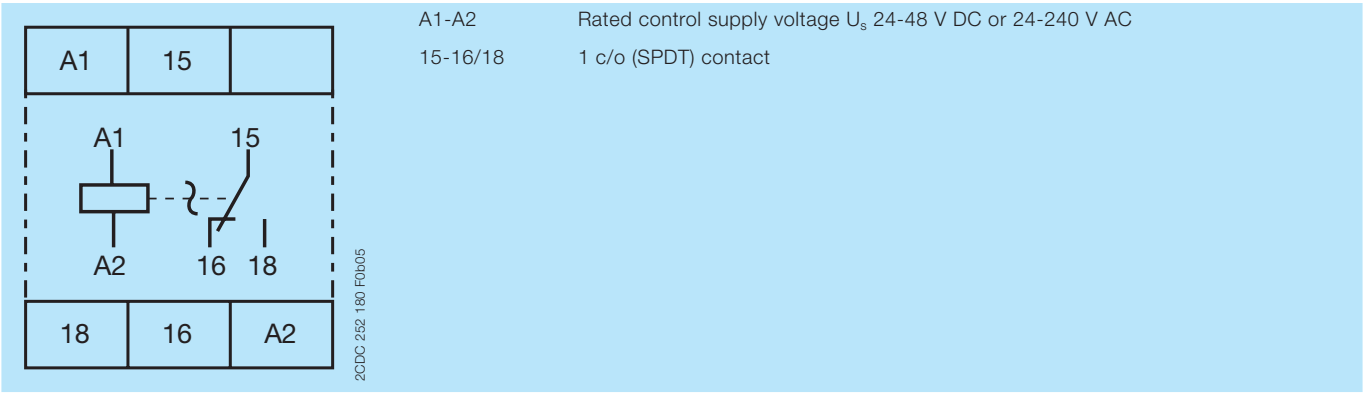
Function descriptions / diagrams

Flasher, starting with ON

Applying control supply voltage starts timing with symmetrical ON & OFF times. The cycle starts with an ON time first. The ON & OFF times are displayed by the flashing green LED, which flashes twice as fast during the OFF time. If control supply voltage is interrupted, the output relay de-energizes and the time delay is reset.



Electrical connection



A1-A2	Rated control supply voltage U_s 24-48 V DC or 24-240 V AC
15-16/18	1 c/o (SPDT) contact

Connection diagram

Technical data

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

Input circuits

Supply circuit		**A1-A2**
Rated control supply voltage U_s		24-240 V AC, 24-48 V DC
Rated control supply voltage U_s tolerance		-15...+10 %
Typical current / power consumption	24 V DC	14 mA / 0.3 W
	115 V AC	52 mA / 1.3 VA
	230 V AC	60 mA / 2.4 VA
Rated frequency		DC; 50/60 Hz
Frequency range AC		47-63 Hz
Power failure buffering time		min. 20 ms
Release voltage		> 10 % of the min. rated control supply voltage U_s

Timing circuit		
Kind of timer	Single-function timer	Flasher, starting with ON
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
Repeat accuracy (constant parameters)		Δt < ± 0.5 %
Accuracy within the rated control supply voltage tolerance		Δt < 0.005 % / V
Accuracy within the temperature range		Δt < 0.06 % / °C
Setting accuracy of time delay (IEC/EN 61812-1)		± 10 % of full-scale value

User interface

Indication of operational states		
Control supply voltage / timing	U: green LED	⎍: control supply voltage applied ⎍⎍: timing
Relay status	R: yellow LED	⎍: output relay energized

Output circuit

Kind of output	15-16/18	relay, 1 c/o (SPDT) contact
Contact material		Cd-free
Rated operational voltage U_e (IEC/EN 60947-1)		250 V
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/EN 60947-5-1)	AC12 (resistive) at 230 V	6 A
	AC15 (inductive) at 230 V	3 A
	DC12 (resistive) at 24 V	6 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 B 300	5 A
	max. making/breaking apparent power at B 300	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 (IEC/EN 60947-5-1)	n/c contact	6 A fast-acting
	n/o contact	10 A fast-acting

General data

MTBF		on request
Duty time		100 %
Dimensions (W x H x D)	product dimensions	17.5 x 70 x 58 mm (0.69 x 2.76 x 2.28 in)
	packaging dimensions	89 x 65 x 20 mm (3.50 x 2.56 x 0.79 in)
Weight		0.06 kg (0.132 lb)
Mounting		DIN rail (IEC/EN 60715), snap-on mounting without any tool
Mounting position		any
Minimum distance to other units, normal operation mode	horizontal	not necessary
	vertical	not necessary
Degree of protection	housing	IP50
	terminals	IP20

Electrical connection

Wire size	fine-strand with wire end ferrule	2 x 0.5-1.5 mm² / 1 x 0.5-2.5 mm² (2 x 20-16 AWG / 1 x 20-14 AWG)
	fine-strand without wire end ferrule	2 x 0.5-1.5 mm² / 1 x 0.5-2.5 mm² (2 x 20-16 AWG / 1 x 20-14 AWG)
	rigid	2 x 0.5-1.5 mm² / 1 x 0.5-4 mm² (2 x 20-16 AWG / 1 x 20-12 AWG)
Stripping length		7 mm (0.28 in)
Tightening torque		0.5-0.8 Nm (4.43-7.08 lb.in)

Environmental data

Ambient temperature ranges	operation	-20...+60 °C
	storage	-40...+85 °C
Climatic class (IEC/EN 60068-2-30)		3k3
Relative humidity range		25 % to 85 %
Vibration, sinusoidal (IEC/EN 60068-2-6)		20 m/s², 10 cycles, 10...150...10 Hz
Shock, half-sine (IEC/EN 60068-2-27)		150 m/s², 11 ms

Isolation data

Rated insulation voltage U_i	output circuit 1 / output circuit 2	n.a.
	input circuit / output circuit	300 V
Rated impulse withstand voltage U_{imp} between all isolated circuits (IEC/EN 60664-1)		4 kV; 1.2/50 µs (type test)
Power-frequency withstand voltage between all isolated circuits (test voltage)		2.5 kV, 50 Hz, 1 s (routine test) 2.5 kV, 50 Hz, 60 s (type test)
Basic insulation (IEC/EN 61140)	input circuit / output circuit	300 V
Protective separation (IEC/EN 61140, EN 50178)	input circuit / output circuit	250 V
Pollution degree (IEC/EN 60664-1)		3
Overvoltage category (IEC/EN 60664-1)		III

Standards

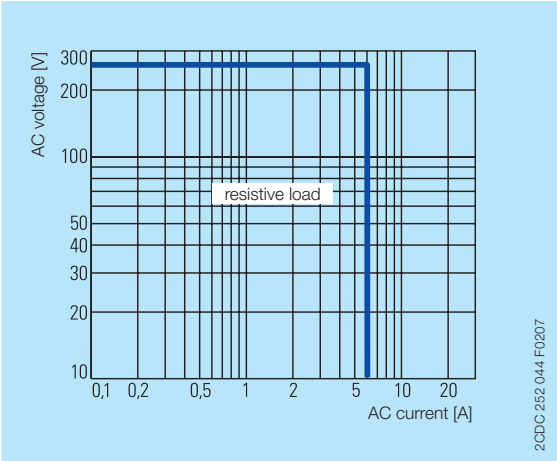
Product standard	IEC/EN 61812-1
Low Voltage Directive	2006/95/EC
EMC directive	2004/108/EC
RoHS Directive	2011/65/EC

Electromagnetic compatibility

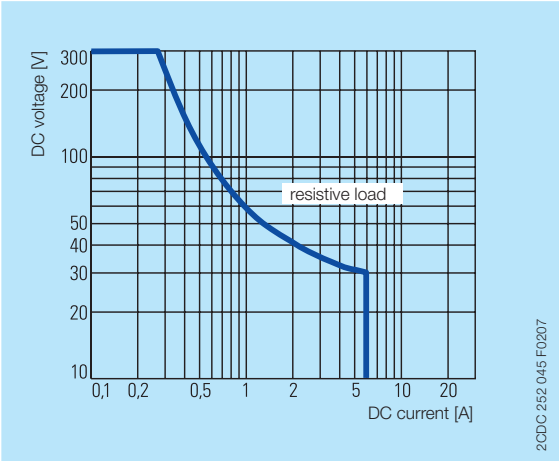
Interference immunity to		IEC/EN 61000-6-1 IEC/EN 61000-6-2
electrostatic discharge	IEC/EN 61000-4-2	Level 3 (6 kV / 8 kV)
radiated, radio-frequency, electromagnetic field	IEC/EN 61000-4-3	Level 3 (10 V/m)
electrical fast transient / burst	IEC/EN 61000-4-4	Level 3 (2 kV / 5 kHz)
surge	IEC/EN 61000-4-5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

Technical diagrams

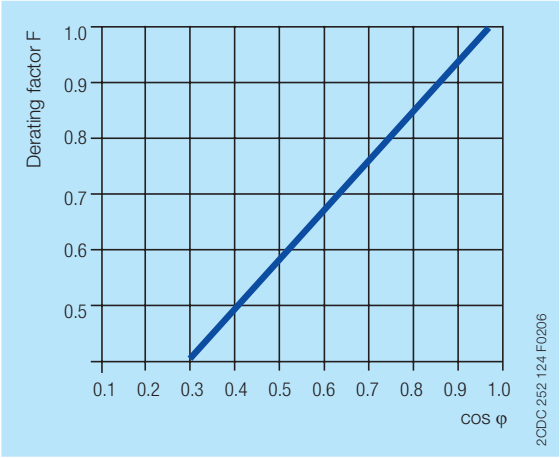
Load limit curves



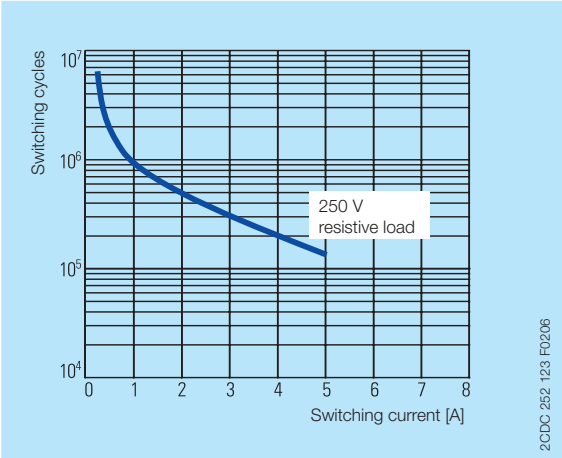
AC load (resistive)



DC load (resistive)



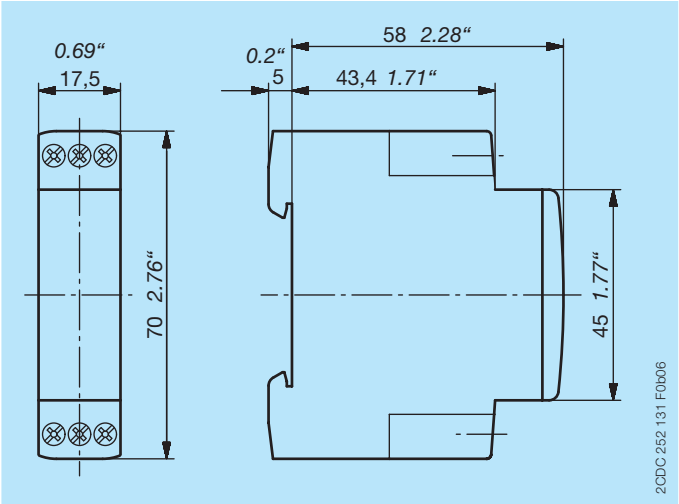
Derating factor F for inductive AC load



Contact lifetime

Dimensions

in **mm** and *inches*



Further documentation

Document title	Document type	Document number
Electronic products and relays	Technical catalogue	2CDC 110 004 C02xx
CT-D range	Instruction manual	1SVC 500 010 M1000

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/portal/portal/abb-control-products
-> Low Voltage Products & Systems -> Control Products -> Electronic Relays and Controls
-> Time Relays -> CT-D - Time Relays.

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Document number 2CDC 2CDC 111 151 D0201 (02.2015)

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