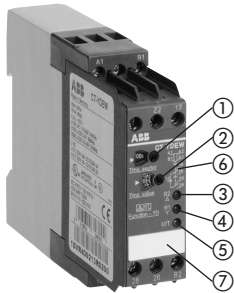


Electronic timer relay CT-YDEW

Star-delta timer

Data sheet

1SVR 430 213 F0200



CT-YDEW

- ① Time ranges - selection of the upper range time value
- ② Direct reading scale to set time value within chosen range
- ③ R2Y: red LED - output relay 2 energized
- ④ R1Δ: redLED - output relay 1 energized
- ⑤ U/T: green LED - supply voltage flashes whilst timing, glows steadily after timing
- ⑥ Circuit diagram
- ⑦ Marker label

Features

- 10 time ranges from 0.05 s - 300 h in one unit
- Change-over time 50 ms
- 1 c/o contact OFF-delayed, 1 c/o contact ON-delayed
- c/o common contacts internally prewired
- 3 LEDs for status indication

Approvals    

Ordering data

Type	Supply voltage	Order Code
CT-YDEW	24 V / 42-48 V AC/DC, 110-240 V AC	1SVR 430 213 R0200

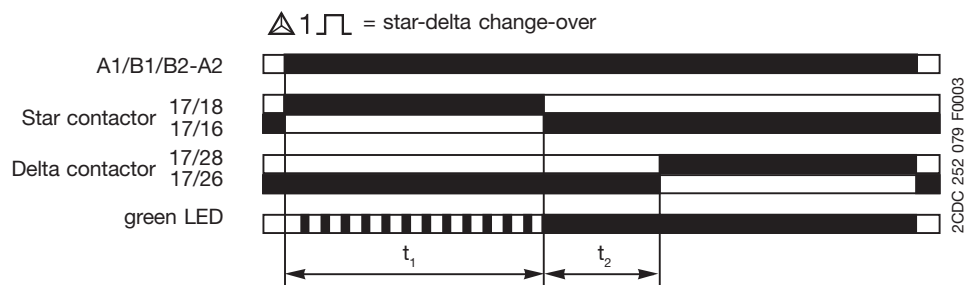
Application

The CT-YDEW is designed especially for star-delta starting of squirrel cage motors.

Operating mode

The CT-YDEW uses two separate timing circuits: a variable timing circuit for the starting time in star-mode, and a fixed timing circuit with 50 ms for the transition from the star to the delta contactor. Applying the supply voltage to **A1/A2** or **B1/A2** or **B2/A2**, the output relay for the star contactor is energized and the adjusted start-up time is started. Timing is displayed by the flashing green LED. After the start-up time has elapsed, the first output relay de-energizes and the fixed star-delta change-over time of 50 ms starts. After the star-delta change-over time has elapsed, the second output relay for the delta contactor is energized and stays energized until the supply is disconnected.

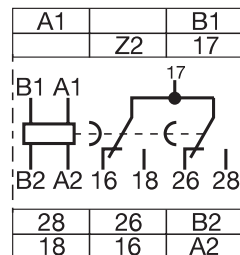
Function diagram



t_1 = adjustable start-up time

t_2 = star-delta change-over time (fixed approx. 50 ms)

Position of connection terminals



1SVC 110 000 F0381

B1/A2 supply voltage 24 V AC/DC
 B2/A2 supply voltage 42-48 V AC/DC
 A1/A2 supply voltage 110-240 V AC
 17-16/18 make contact 1 - OFF-delayed
 17-26/28 make contact 2 - ON-delayed

¹⁾ C-Tick (Australia, New Zealand)

Electronic timer relay CT-YDEW

Star-delta timer

Data sheet

Technical data

Input circuit		
Supply voltage - power consumption	B1-A2	24 V AC/DC approx. 0.5 VA/W
	B2-A2	42-48 V AC/DC approx. 1.8 VA/W
	A1-A2	110-240 V AC approx. 2.5-12 VA
Tolerance of supply voltage		-15 % ... +10 %
Supply voltage frequency	AC range	50 / 60 Hz
	AC/DC ranges	DC or 50/60 Hz
Timing circuit		
Time ranges for starting time in star circuit 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
Star-delta change-over time		fixed approx. 50 ms
Recovery time		< 50 ms
Repeat accuracy (constant parameters)		< 0.2 %
Timing error within the tolerance of supply voltage		< 0.008 % / % Δ U
Timing error within temperature range		< 0.07 % / °C
Indication of operational states		
Supply voltage / timer		U/T: green LED steady / flashing while timing
1. output relay (star) energized		R1: red LED
2. output relay (delta) energized		R2: red LED
Output circuits 17-16/18, 17-26/28		
Number of contacts		Relays: 1 c/o OFF-delayed 1 c/o ON-delayed
Contact material		AgCdo
Rated 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-13 (inductive) 24 V	2 A
Maximum life	mechanical	30 x 10 ⁶ switching cycles
	electrical (AC-12, 230 V, 4 A)	0.1 x 10 ⁶ switching cycles
Short-circuit proof, maximum fuse rating	n/c	10 A fast operating class gL
	n/o	10 A fast operating class gL
General data		
Width of the enclosure		22.5 mm
Wire size		2 x 2.5 mm ² (2 x 14 AWG) stranded with wire end ferrule
Weight		approx. 150 g / 5.25 oz
Mounting position		any
Degree of protection	enclosure / terminals	IP 50 / IP 20
Temperature range	operation	-20 °C ... +60 °C
	storage	-40 °C ... +85 °C
Mounting		DIN rail (EN 50022)

Electronic timer relay CT-YDEW

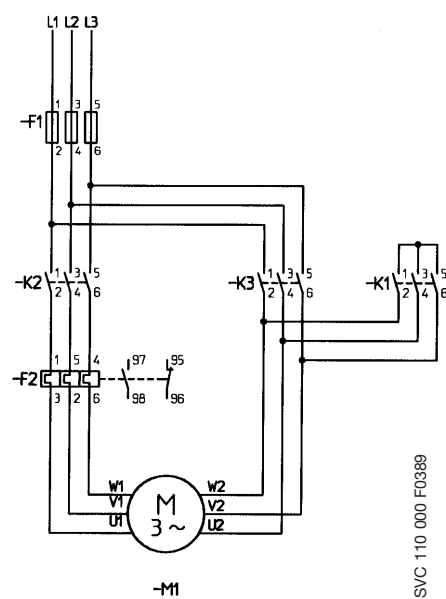
Star-delta timer

Data sheet

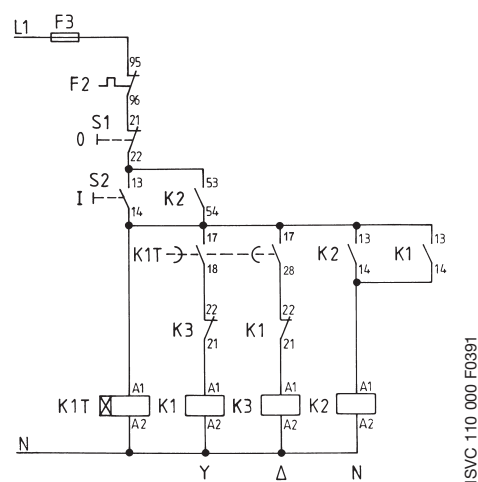
Technical data (continued)

Standards / directives			
Product standard		IEC 61812-1, EN 61812-1	
EMC-Directive		89/336/EEC	
Electromagnetic compatibility	acc. to EN 61000-6-2 acc. to 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 3	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 shock resistance	acc. to IEC 68-2-6	6 g	
Approvals		cULus, GL, GOST, C-Tick	
Isolation data			
Rated isolation voltage between supply-, control- and output circuit acc. to VDE 0110, IEC 60947-1		300 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 tests	acc.to IEC 68-2-30	24 h cycle, 55 °C, 93 % rel. 96 h	

Star-delta applications



Power circuit diagram



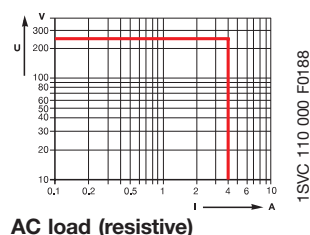
Control circuit diagram

Electronic timer relay CT-YDEW

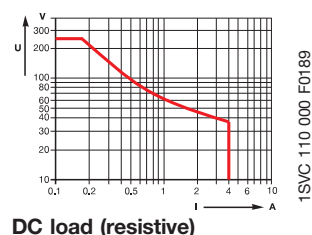
Star-delta timer

Data sheet

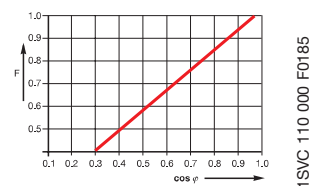
Load limit curves



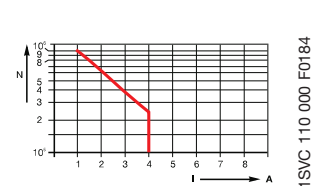
AC load (resistive)



DC load (resistive)



Reduction factor F for inductive AC load



Contact life / number of operations N
220 V 50 Hz 1 AC, 360 operations/h

Dimensions

in mm

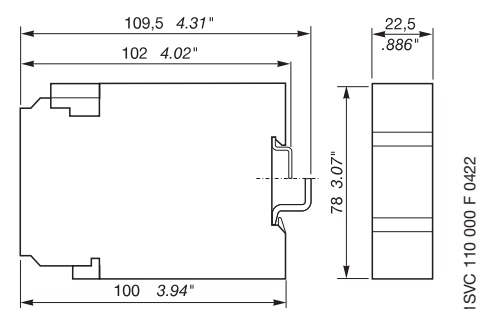


ABB STOTZ-KONTAKT GmbH

Eppelheimer Straße 82 69123 Heidelberg, Germany
Postfach 10 16 80 69006 Heidelberg, Germany
Internet www.abb.de/epr
E-Mail epr-support@stotzkontakt.de