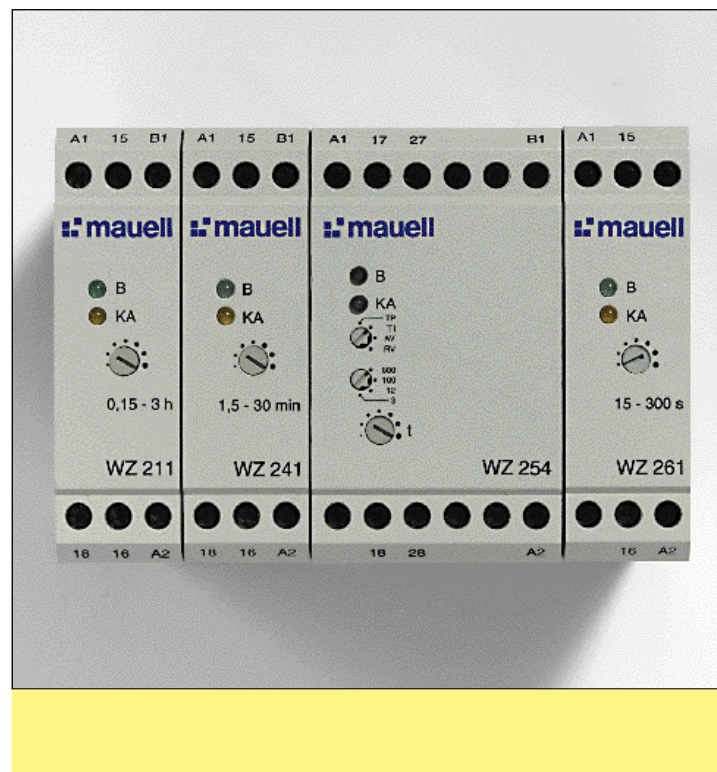


Timer Relays



WZ 211... WZ 261

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Application and Features

The immediate or delayed execution or transmission of a switching command is one of the most common applications in switching technology. Electronic timer relays of the WZ series can be set for switching processes of various kinds, such as in controller, start-up, monitor and regulator switching.

The WZ series is marked by:

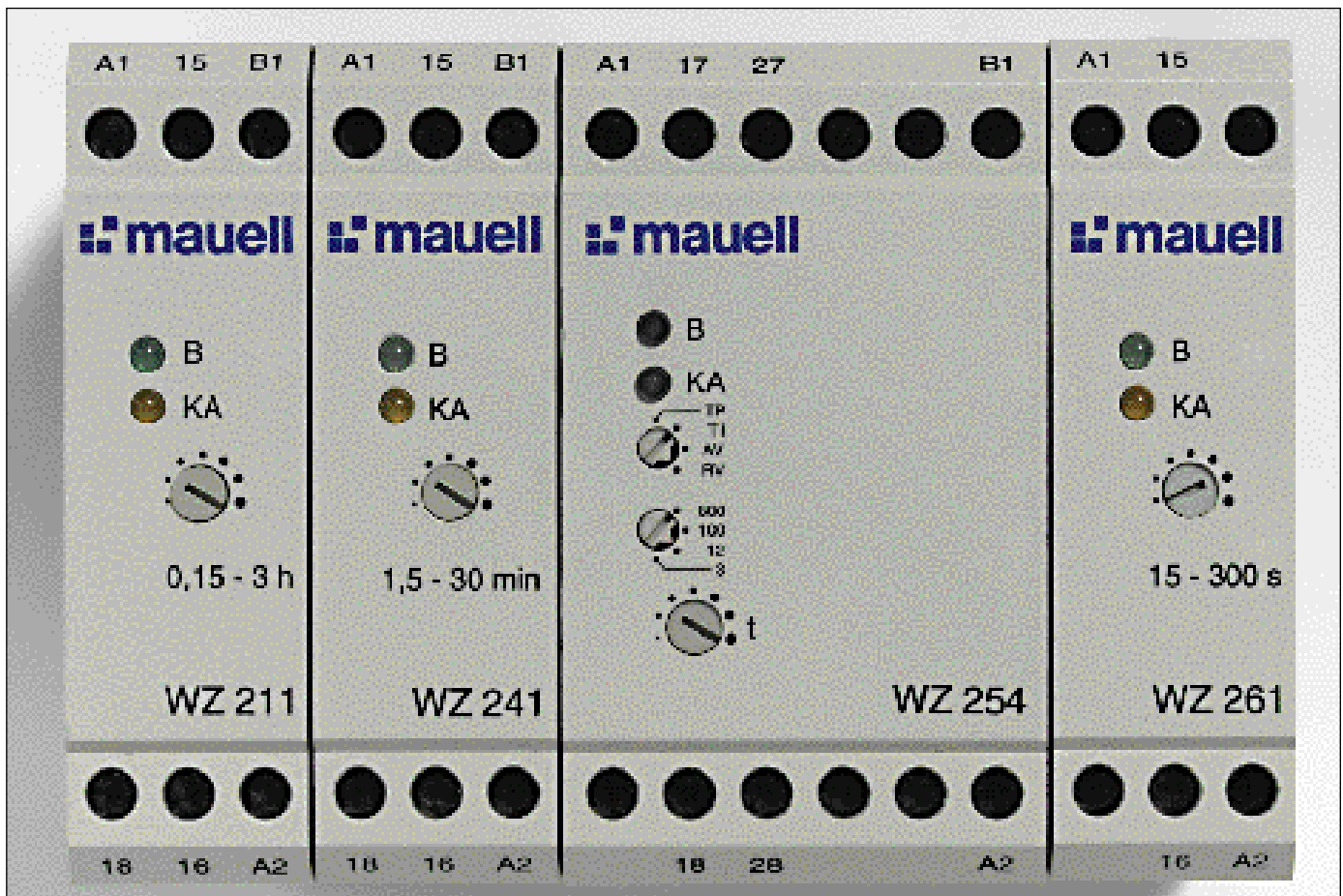
- high repeat accuracy
- easy to operate
- good price / performance ratio
- analog time setting and a digital operating principle
- control via the supply voltage or contacts
- operating status display with LEDs
- Snap-on mounting onto a standard 35 mm rail
- cabling via screw connectors at the front

- screw terminals with Philips / cross-head screw heads, suitable for power-operated screwdrivers
- self-opening large-capacity terminals with cable protectors
- casing and terminal section made of self-extinguishing, recyclable plastic
- compliance with current standards, especially VDE 0110 and VDE 0435, part 2021

In addition to single-range, single-function timer relays there are also units available with switchable functions and multiple timing ranges.

A cable clamp is offered as an optional accessory. It helps to greatly improve the layout and an overview of the switching cabinet. The comb-type clamps made of self-extinguishing plastic can be applied to the designated points (see also the dimensional illustration) with the self-adhesive sections.

Please state the number of cable clamps required when ordering.



Timer relays

Summary of Timer Relays

Type	Function	Timing Range	Supply voltage	Output	Casing width
Single-Range, Single-Function Timer Relays					
WZ 211	DA	0.15 s - 3 s 1.5 - 30 s 15 - 300 s 1.5 min. - 30 min. 0.15 hr - 3 hrs	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	1 time-delayed change-over contact	22.5 mm
WZ 221	DR/WC	0.15 s - 3 s 1.5 - 30 s 15 - 300 s 1.5 min. - 30 min. 0.15 hr - 3 hrs	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	1 time-delayed change-over contact	22.5 mm
WZ 231	CP	0.15 s - 3 s 1.5 - 30 s 15 - 300 s 1.5 min. - 30 min. 0.15 hr - 3 hr	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	1 time-delayed change-over contact	22.5 mm
WZ 241	CI	0.15 s - 3 s 1.5 - 30 s 15 - 300 s 1.5 min. - 30 min. 0.15 hr - 3 hrs	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	1 time-delayed change-over contact	22.5 mm
Multifunction Timer Relays					
WZ 251	DA DR/WC CP CI Switchable	0.15 s - 3 s 0,6 s bis 12 s 5 - 100 s 40 - 800 s Switchable	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	1 time-delayed change-over contact	22.5 mm
WZ 252	DA DR/WC CP CI Switchable	0.15 s - 3 s 0.6 - 12 s 5 - 100 s 40 - 800 s Switchable	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	2 time-delayed change-over contacts	45 mm
WZ 253	DA DR/WC CP CI Switchable	0.15 - 3 s 0.6 - 12 s 5 - 100 s 40 - 800 s Switchable	220/230 V AC 42/48 V AC, 48/60 V DC	1 time-delayed change-over contact and 2 immediate-action normally-open contacts	45 mm
WZ 254	DA DR/WC CP CI Switchable	0.15 - 3 s 0.6 - 12 s 5 - 100 s 40 - 800 s Switchable	220/230 V AC 110/127 V AC 42/48 V AC, 48/60 V DC	2 time-delayed normally-open contacts	45 mm
WZ 255	DA DR/WC CP CI Switchable	0.15 - 3 s 0.6 - 12 s 5 - 100 s 40 - 800 s Switchable	220/230 V AC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC 220 V DC	1 time-delayed change-over contact and 1 immediate-action change-over contact	45 mm
Delta-Star Timer Relay					
WZ 261	DA (80 ms pulse)	1.5 - 30 s 15 s - 300 s	220/230 V AC 110/127 V AC	1 time-delay normally-closed contact	22.5 mm

Abbreviations: DA = Delayed Action, DR = Delayed Release, WC = Wipe Contact, CI = Clock generator, starting in the Intervals
CP = Clock generator, starting on the clock Pulses

Functional Overview

Delayed-Action Timer Relays (Voltage-Controlled / Contact-Controlled)

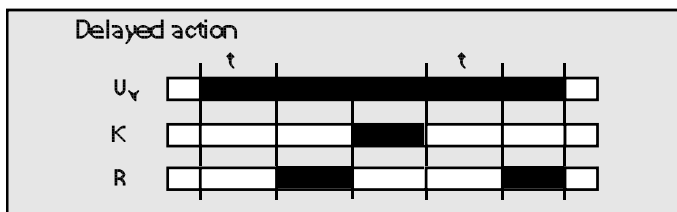
When the control contact is open, the timing sequence is started by applying the supply voltage (green LED "ON") to terminals A1 and A2.

When the set time has ended, the output relay operates (yellow LED "ON"). After the supply voltage has been switched off, the output relay reverts to the rest position.

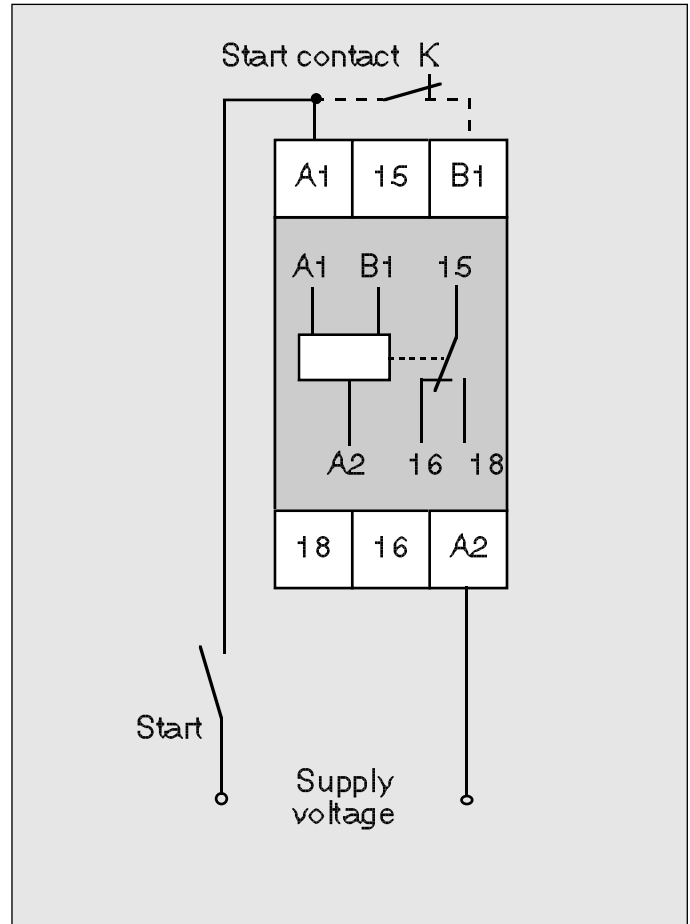
If the control contact is closed and the supply voltage is applied, then the unit is in a state of readiness. The timing sequence is started by opening the control contact (terminals A1 and B1).

If this contact is closed by applying the supply voltage, then the internal function is reset.

Explanation of diagram		
U_V - supply voltage	On	Off
K - control contact	Closed	Open
R - output relay	Operating position	Rest position
t = set time		



Sequencing diagram for operating delay, voltage- or contact-controlled



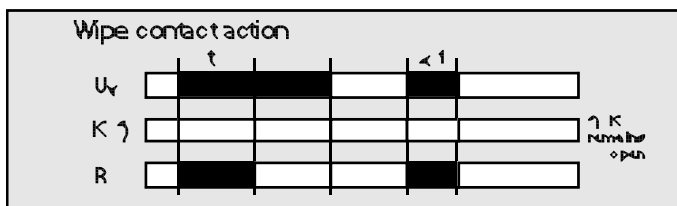
Connection diagram for control

Wipe Contact Flick Relays (Voltage-Controlled)

The timing sequence is started by applying the supply voltage (green LED "ON") to terminals A1 and A2. The output relay then operates without a delay and reverts after the end of the set wiping time.

The timer relay can be started again after the supply voltage is switched off.

If the supply voltage is switched off before the end of the wiping time, the output relay reverts to its former setting.



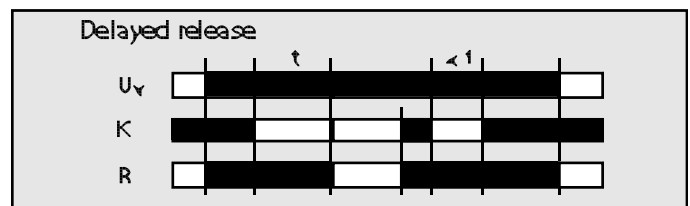
Sequencing diagram for wipe contact operation, voltage-controlled

Delayed-Action Timer Relays With Auxiliary Voltage (Contact-Controlled)

This function requires a supply voltage to be applied permanently to terminals A1 and A2 as well as having a control contact to terminals A1 and B1.

The output relay operates immediately if the control contact is closed. The opening of the control contact starts the timing sequence, which ends with the reversion of the output relay.

The relay remains excited if the control contact is closed again during the timing sequence.



Sequencing diagram for delayed release, contact-controlled

**Clock Generator, Starting in the Intervals
(Voltage-Controlled, Contact-Controlled)**

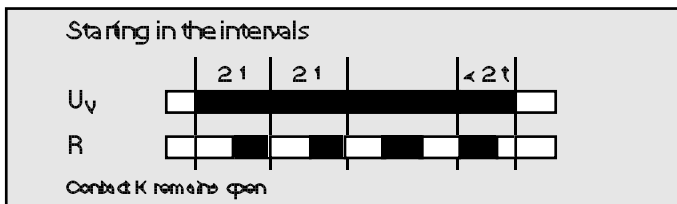
With an open contact, the timing sequence begins by applying the supply voltage to terminals A1 and A2. The relay operates after the set time has elapsed and subsequently remains excited for the same time.

This procedure is repeated periodically for as long as the supply voltage is applied.

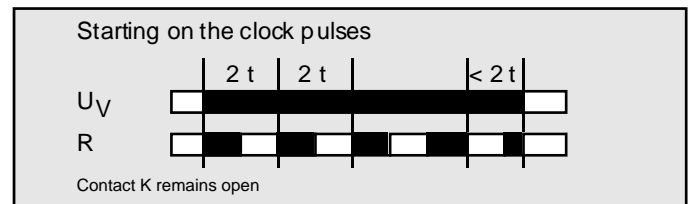
With a closed control contact and a supply voltage applied, the unit is in a state of readiness. The timing sequence is started when the control contact opens. Periodic operation is halted if terminals A1 and B1 are connected again.

**Clock Generator, Starting on the Clock Pulses
(Voltage-Controlled, Contact-Controlled)**

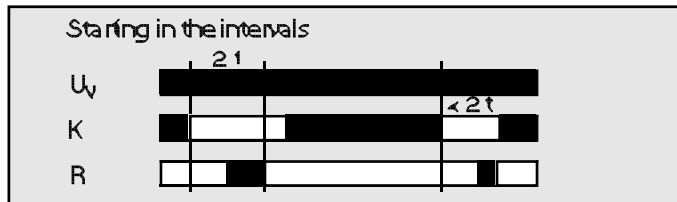
The output relay operates without any delay when the supply voltage is applied to terminals A1 and A2 and when the contact is open, and reverts to its initial position at the end of the set time. Subsequently it remains for the same time in the rest position. This process is repeated periodically for as long as the supply voltage is applied. Contact control is done as appropriate by the clock generator, starting on a clock pulse.



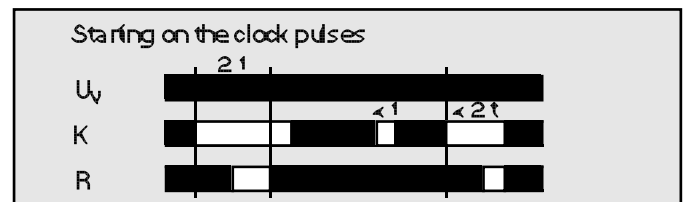
Clock generator, starting in the intervals, voltage-controlled



Clock generator, starting on the clock pulses, voltage-controlled

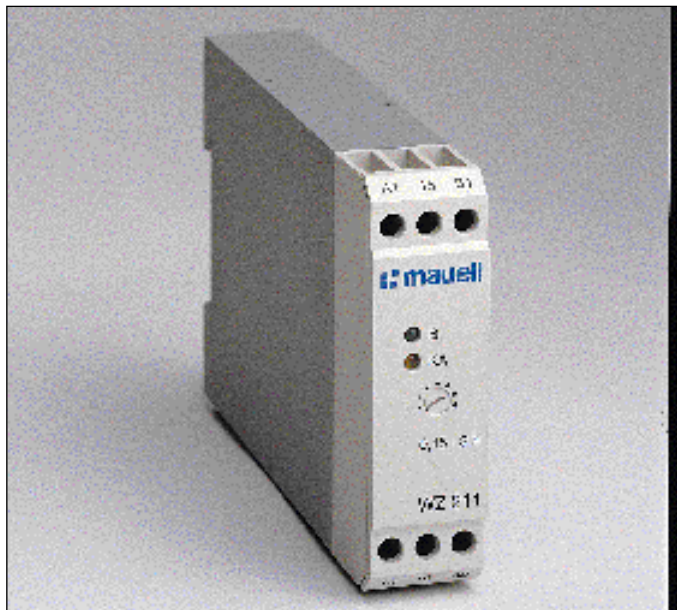


Clock generator, starting in the intervals, contact-controlled



Clock generator, starting on the clock pulses, contact-controlled

Single-Range, Single-Function Timer Relays



Single-range, single-function timer relay type WZ 211

Application

Single-range, single-function timer relays are used for delay times from 0.15 seconds up to 3 hours over 5 timing ranges. Within these timing ranges it is possible to make a constant time setting over a ratio of 1:20 by means of a potentiometer in the front of the module. They can be switched between the functions DA = delayed action, DR = delayed release, WC = wipe contact, CI = clock generator, starting in the intervals, and CP = clock generator, starting on the clock pulses. Timer relays make use of a potential-free output (changeover). Control is done either by the supply voltage or through a contact. Two LEDs at the front of the module show the supply voltage (green) and the output contact that had been activated (yellow).

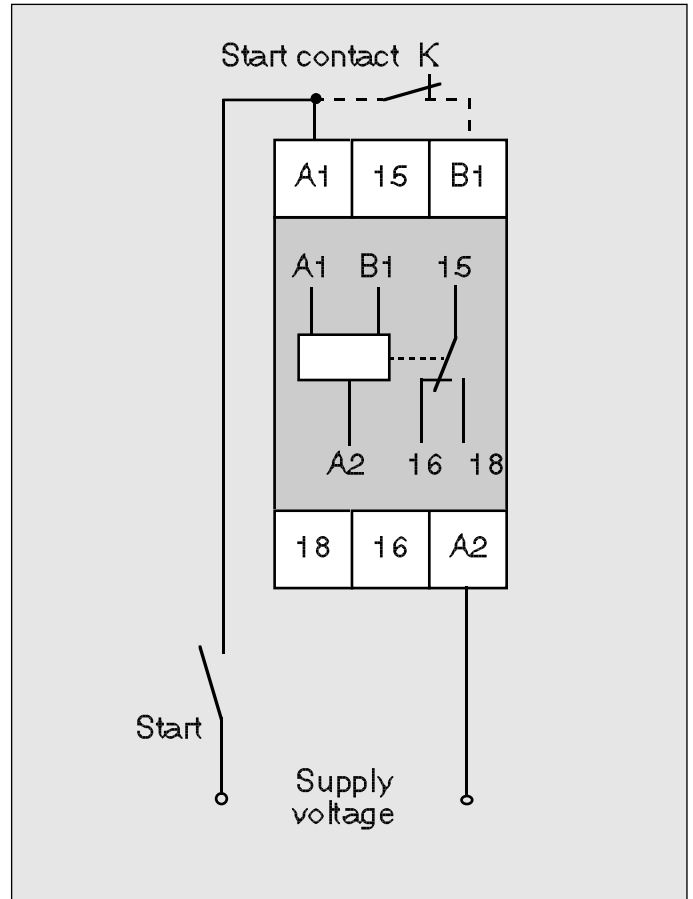
Technical Data

Output circuit	1 centre-zero (changeover) relay
Contact material	AgCdO
Max. switching voltage	250 V AC/DC
Max. sustained current	4 A
Max. switching rating	2000 VA for a resistive load, see reduction graph for $\cos \varphi < 1$, see arcing limiting graph for DC loads
Electrical life	See switching performance and life graph
Mechanical life	Approx. 10^7 switching operations
Switching capabilities as per DIN VDE 0660 part 200	AC 11: 220 V/1.5 A DC 11: 60 V/0.8 A DC 11: 110 V/0.3 A
Min. switching voltage	Approx. 12 V (information value for AgCdO)

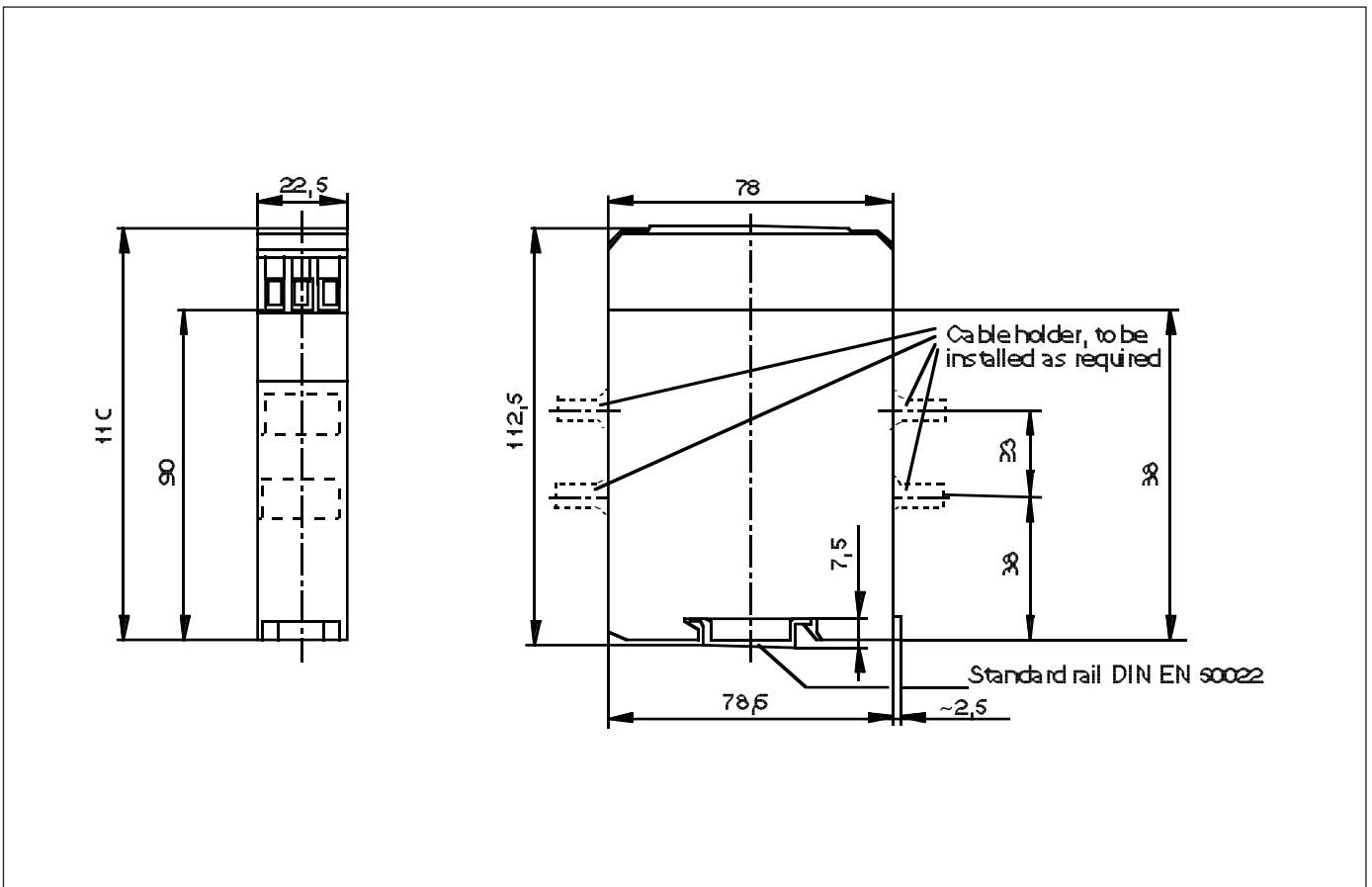
Min. switching current	Approx. 80 mA (information value for AgCdO)	
Supply voltage U_V	220/230 V AC 220 V DC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC	
Max. current consumption	6 VA	at 220/230 V AC
	2.5 VA	at 110/127 V AC
	1.5 VA	at 42/48 V AC
	1.8 VA	at 24 V AC
	3.1 W	at 220 V DC
	1.6 W	at 110/125 V DC
	2.2 W	at 48/60 V DC
	1.8 W	at 24 V DC
Permissible variation in U_V	-20% to +10%	
Mains frequency	47 Hz to 63 Hz	
Duty cycle	100%	
Loading of the control contact at A1, B1 with respect to U_V	230 V AC 127 V AC 48 V AC 24 V AC	approx. 0.4 mA approx. 0.7 mA approx. 0.3 mA approx. 0.13 mA
	220 V DC 125 V DC 60 V DC 48 V DC 24 V DC	approx. 0.6 mA approx. 0.7 mA approx. 0.5 mA approx. 0.3 mA approx. 0.13 mA
Time setting	From the front, with a screw driver (blade 4 x 0.6)	
Timing ranges	0.15 s to 3 s, 1.5 s to 30 s, 15 to 300 s, 1.5 min. to 30 min., 0.15 hr to 3 hrs	
Resetting time to return to readiness	≤ 80 ms	
Repeat accuracy	$\leq (\pm 0.5\% \pm 20$ ms)	
Timing errors within the range of permissible variations of U_V	$\leq \pm 0.09\% / \Delta U$	
Timing errors within the temperature range	$\leq \pm 0.15\% / K$	
Ambient temperature range	-25 °C to +60 °C	
Max. temperature-humidity value	+30 °C at 95% RH	
Surge voltage strength and RF interference immunity	Test level class II as per IEC 255 part 22-1	
Insulation class	C/250 V as per DIN VDE 0110	
Test voltage	2.5 kV	
Creeping distances and clearances according to DIN VDE 0110	Pollution degree level 2 Overvoltage category III	

Mechanical Data

Casing	Wall-mounted casing 22.5 mm x 78 mm x 110 mm without cable holders (see dimensional diagram on page 9)
Installation	Snap-on mounting onto a standard rail as per EN 50022, 35 mm wide
Type of protection as per DIN 40050 and IEC 529	Terminal IP 20 Casing IP 40
Protection against touching as per DIN VDE 0106 part 100	Finger-protected
Location for installation	As desired, but not suspended
Vibration resistance as per DIN IEC 68 parts 2-6	Frequency range 10 Hz to 55 Hz, travel 0.35 mm, acceleration 5 g, 10 frequency cycles per axis
Max. cross-section for connection	1 x 2.5 mm ² single core 2 x 1.5 mm ² fine strand with end splice as per DIN 46228
Burning behaviour	V-0 as per UL 94
Weight	Approx. 120 g

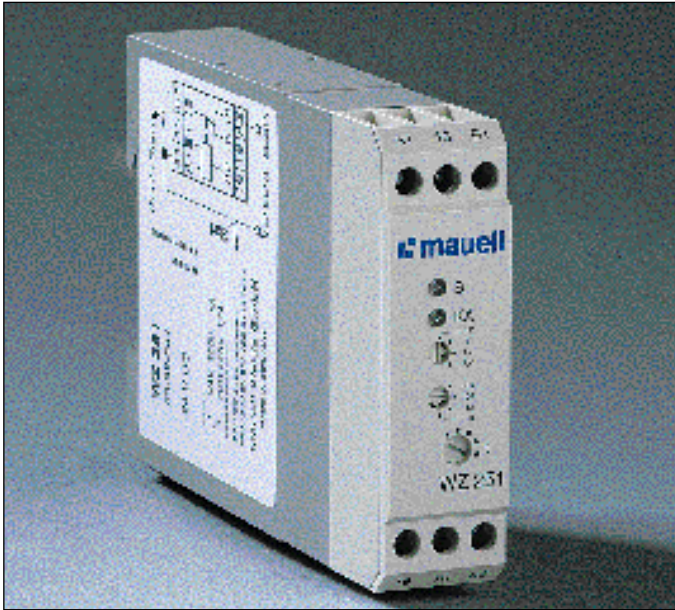


Connection diagram for WZ 211, WZ 221, WZ 231 and WZ 241



Dimensional drawing for WZ 211, WZ 221, WZ 231, WZ 241, WZ 251 and WZ 261

Multifunction Timer Relays



Multifunction timer relay WZ 251

Application

Multifunction timer relays offer the option to switch between four time ranges (within 0.15 to 800 seconds) and also between four function ranges from the front of the module. Within these timing ranges it is possible to make a constant time setting over a ratio of 1:20 by means of a potentiometer in the front of the module. Multifunction timer relays make use of potential-free output contacts, which can either be set to operate immediately or after a time delay. Control is done either by the supply voltage or through a contact. Two LEDs at the front of the module show the supply voltage (green) and the timer output contact that had been activated (yellow).

Technical Data

Functions

- for time-delayed contacts (TC):
 - Delayed action (DA)
 - Delayed release (DR)
 - Wipe contact (WC)
 - Clock generator 1:1, starting in the intervals (CI)
 - Clock generator 1:1, starting on the clock pulses (CP)

Can be set from the front with a screwdriver

- for immediately-acting contacts (IC):
The relay is energized as soon as the voltage supply is applied

Types of control

- Application of the supply voltage
- Opening of the contact K (see sequencing diagram), wiping contact only for voltage control, delayed release only for contact control

Duty cycle	100%	
Loading of the control contact at A1, B1 with respect to U_V	Contact open	Contact closed
230 V AC	145 V AC	3.7 mA
110 V AC	45 V AC	2.3 mA
42 V AC	11 V AC	2.6 mA
24 V AC / DC	12 V AC / DC	4.3 mA
220 V DC	62 V DC	1.2 mA
110 V DC	33 V DC	1.6 mA
60 V DC	15 V DC	3.7 mA
48 V DC	12 V DC	2.7 mA
Min. switching voltage for AgCdO contacts	Approx. 12 V (information value)	
Min. switching current for AgCdO contacts	Approx. 80 mA (information value)	
Permissible variation in supply voltage	-20% to +10%	
DC ripple	± 15%	
Mains frequency	50 Hz to 60 Hz, ± 6%	
Timing ranges	0.15 s to 3 s 0.6 s to 12 s 5 to 100 s 40 s to 800 s Can be set from the front	
Time setting	Continuous, from the front with a screwdriver. Point markings to help in setting.	
Resetting time to return to readiness	≤ 80 ms	
Repeat accuracy	≤ (± 0.5% ± 20 ms)	
Timing errors within the range of permissible variations of U_V	≤ ± 0.1% / % ΔU	
Timing errors within the temperature range	≤ ± 0.15% / K	
Effect of temperature-humidity value 30°C / 95% RH	≤ ± 10%	
Ambient temperature range	-25°C to +55°C	
Max. temperature-humidity value	+30°C at 95% RH	
Surge voltage strength and RF interference immunity	Test level class II as per IEC 255 part 22-1	
Insulation coordination	Pollution degree level 2 Overvoltage category III	

Technical Data WZ 251

Mechanical Data

Casing	Wall-mounted casing WZ 251: 22.5 mm x 78 mm x 110 mm See dimensional diagram on page 9 WZ 252 to WZ 255: 45 mm x 78 mm x 110 mm See dimensional diagram on page 14	WZ 251 Output circuit	1 centre-zero (changeover) relay (time-delayed contact)
		Contact material	AgCdO
		Max. switching voltage	250 V AC, 220 V AC/DC
		Max. switching current	10 A
		Max. sustained current	4 A
Installation	Snap-on mounting onto a standard rail as per EN 50022, 35 mm wide	Max. switching rating	2500 VA for a resistive load, see reduction graph for $\cos \varphi < 1$, see arcing limiting graph for DC loads
Type of protection as per DIN 40050 and IEC 529	Casing IP 40 Terminal IP 20	Electrical life	Approx. 4×10^5 switching operations See switching performance and life graph
Protection against touching as per DIN VDE 0106 part 100	Finger-protected		
Location for installation	As desired	Mechanical life	Approx. 10^7 switching operations
Vibration resistance	As per DIN IEC 68 parts 2-6 Frequency range 10 Hz to 55 Hz, travel 0.15 mm, acceleration 2 g, 20 frequency cycles per axis	Supply voltage U_v	220/230 V AC 220 V DC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC / DC
Max. cross-section for connection	1 x 2.5 mm ² single core 2 x 1.5 mm ² fine core 2 x 1.5 mm ² fine strand with end splice as per DIN 46228	Max. current consumption	29 mA at 220/230 V AC 57 mA at 110/127 V AC 16 mA at 110/125 V DC 33 mA at 42/48 V AC, 48/60 V DC 52 mA at 24 V AC/DC 11 mA at 220 V DC
Burning behaviour	V-0 as per UL 94	Test voltage between A1, A2, B1 and 15, 16, 18	2.5 kV
		Weight	Approx. 150 g

Technical Data for WZ 252 and WZ 253

WZ 252

Output circuit	2 centre-zero (changeover) relays (time-delayed contacts)
Contact material	AgCdO
Max. switching voltage	250 V AC, 220 V DC
Max. switching current	6 A
Max. sustained current	2 x 3 A or 1 x 4 A
Max. switching rating	1500 VA for a resistive load, see reduction graph for $\cos \varphi < 1$, see arcing limiting graph for DC loads
Electrical life	Approx. 3×10^5 switching operations See switching performance and life graph
Mechanical life	Approx. 10^7 switching operations
Supply voltage U_V	220/230 V AC 220 V DC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC
Max. current consumption	30 mA at 220/230 V AC 59 mA at 110/127 V AC 17 mA at 110/125 V DC 34 mA at 42/48 V AC, 48/60 V DC 53 mA at 24 V AC/DC 12 mA at 220 V DC
Test voltage between A1, A2, B1 and 15, 16, 18, 25, 26, 28	2.5 kV
Test voltage between 15, 16, 18 and 25, 26, 28	2.5 kV
Weight	Approx. 200 g

WZ 253

Output circuit	1 centre-zero (changeover) relay (time-delayed contact) 2 normally-open contacts (immediate-action)
Contact material	Time-delayed contact: AgCdO Immediate-action contact: silver alloy
Max. switching voltage	250 V AC/DC
Max. switching current	Time-delayed contact: 8 A Immediate-action contact: 5 A
Max. sustained current (simultaneous contact loading)	TDC IOC 5 A 0 A 0 A 5 A or 2 x 4 A 3.5 A 2 x 2 A
Max. switching rating	Time-delayed contact: AC voltage : 2000 VA DC voltage: 50 W to 270 W See load limit graph Immediate-action contact: AC voltage: 1250 VA DC voltage: 1000 W min. 10^4 switching operations with optimum wiring of switching contacts
Electrical life	Approx. 10^5 switching operations
Mechanical life	Time-delayed contact: Approx. 2×10^7 switching operations Immediate-action contact: Approx. 5×10^4 switching operations
Supply voltage U_V	220/230 V AC 42/48 V AC, 48/60 V DC
Max. current consumption	74 mA at 220/230 V AC 67 mA at 42/48 V AC, 48/60 V DC
Test voltage between A1, A2, B1 and 15, 16, 18, 23, 24, 33, 34	2.5 kV
Test voltage between 15, 16, 18 and 23, 24, 33, 34	2.5 kV
Test voltage between 23, 24 and 33, 34	2 kV
Weight	Approx. 240 g

Technical Data for WZ 254 and WZ 255

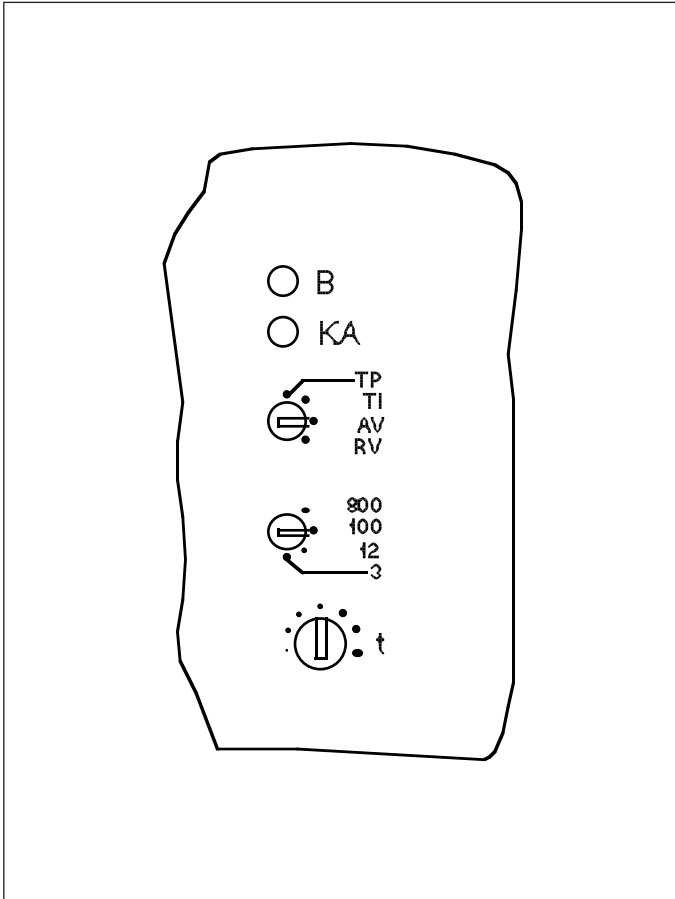
WZ 254

Output circuit	2 normally-open contacts (time-delayed)
Contact material	AgCdO
Max. switching voltage	250 V AC/DC
Max. sustained current	5 A, 2 x 4 A
Max. switching rating	AC voltage : 1250 VA DC voltage: 1000 W min. 10 ⁴ switching operations with optimum wiring of switching contacts
Electrical life	Approx. 10 ⁵ switching operations
Mechanical life	Approx. 5 x 10 ⁶ switching operations
Supply voltage U _v	220/230 V AC 110/127 V AC 42/48 V AC, 48/60 V DC
Max. current consumption	54 mA at 220/230 V AC 82 mA at 110/127 V AC 56 mA at 42/48 V AC, 48/60 V DC
Test voltage between A1, A2, B1 and 17, 18, 27, 28 between 17, 18 and 27, 28	2.5 kV 2 kV
Weight	Approx. 225 g

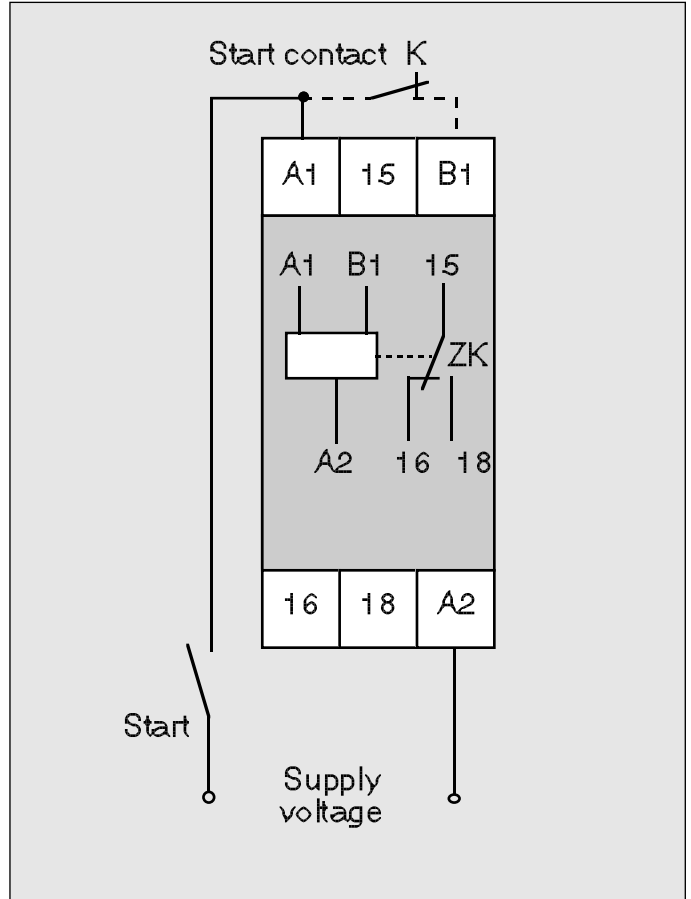
WZ 255

Output circuit	1 centre-zero (changeover) relay (time-delayed contact) 1 centre-zero (changeover) relay (immediate-action)
Contact material	AgCdO
Max. switching voltage	250 V AC/DC
Max. switching current	8 A
Max. sustained current	5 A or 2 x 4 A
Max. switching rating	AC voltage : 2000 VA DC voltage: 50 W to 270 W See load limit graph
Electrical life	Approx. 10 ⁵ switching operations
Mechanical life	Approx. 2 x 10 ⁷ switching operations
Supply voltage U _v	220/230 V AC 220 V DC 110/127 V AC 110/125 V DC 42/48 V AC, 48/60 V DC 24 V AC/DC
Max. current consumption	58 mA at 220/230 V AC 78 mA at 110/127 V AC 20 mA at 110/125 V DC 44 mA at 42/48 V AC, 48/60 V DC 72 mA at 24 V AC/DC 14 mA at 220 V DC
Test voltage between A1, A2, B1 and 15, 16, 18, 21, 22, 24 between 15, 16, 18 and 21, 22, 24	2.5 kV 2.5 kV
Weight	Approx. 225 g

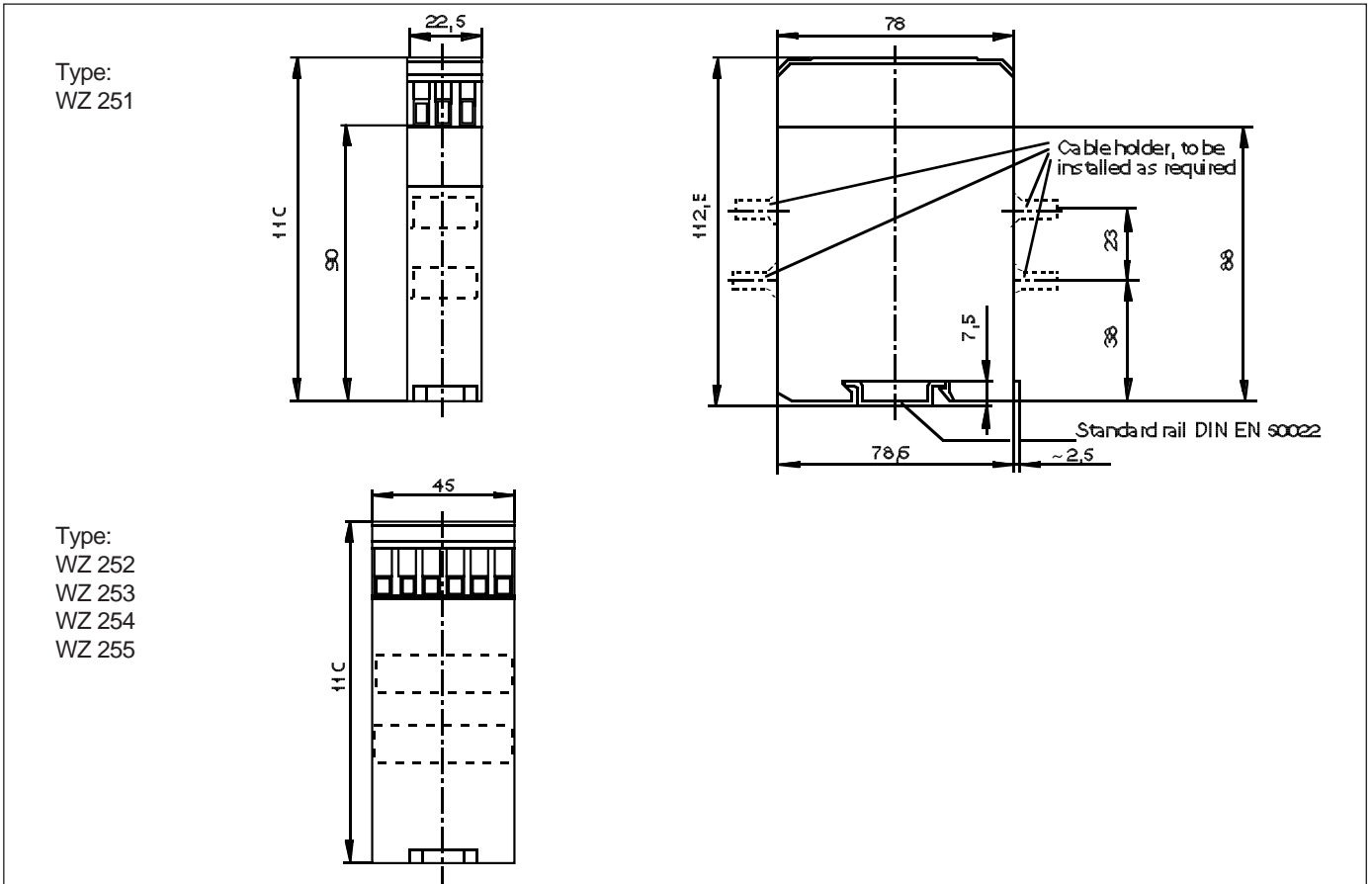
Multifunction Timer Relays



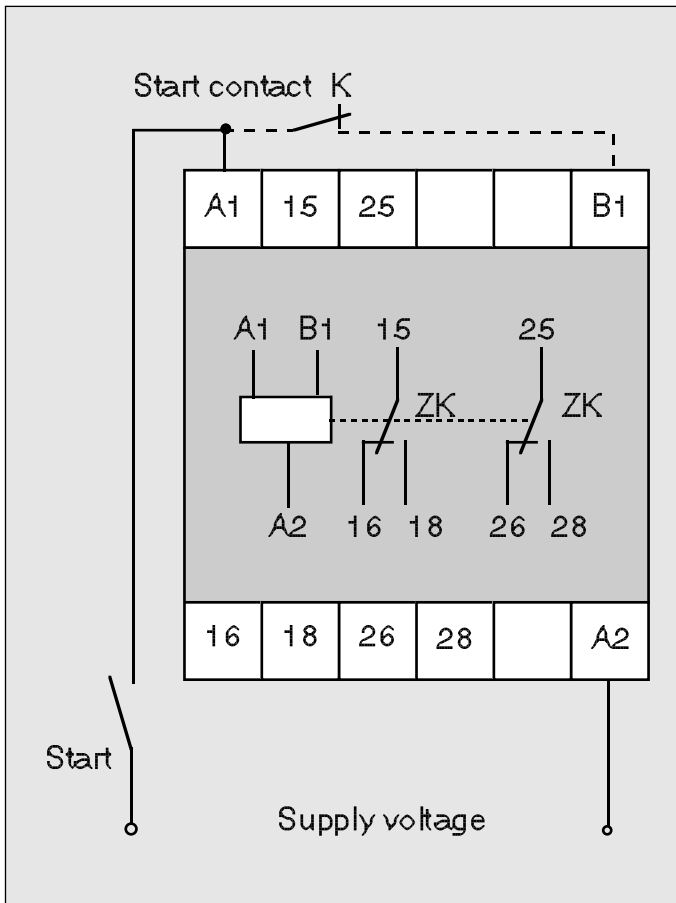
Display and operating elements on module face plate



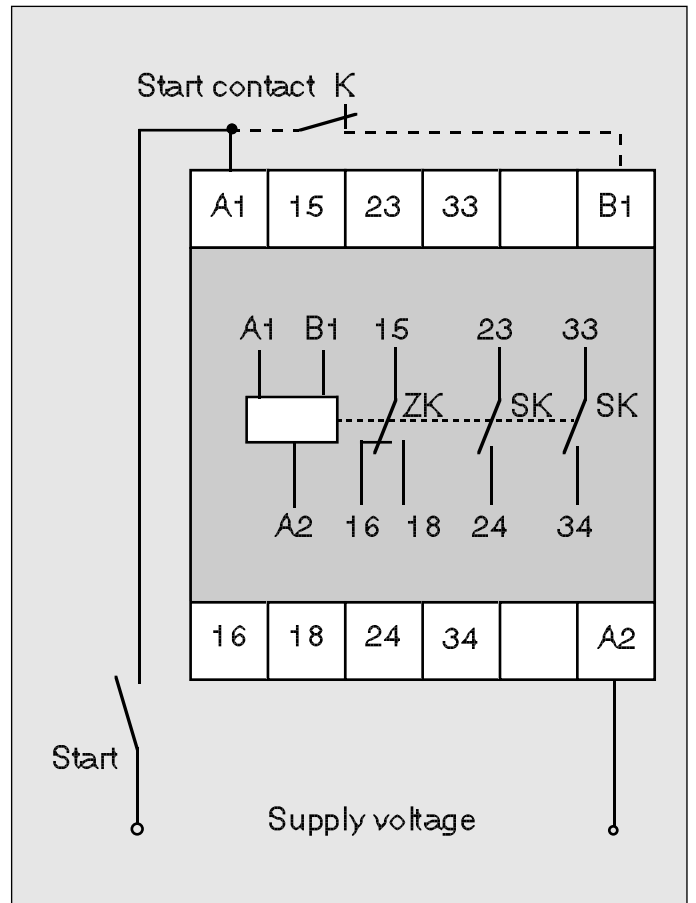
Wiring diagram WZ 251



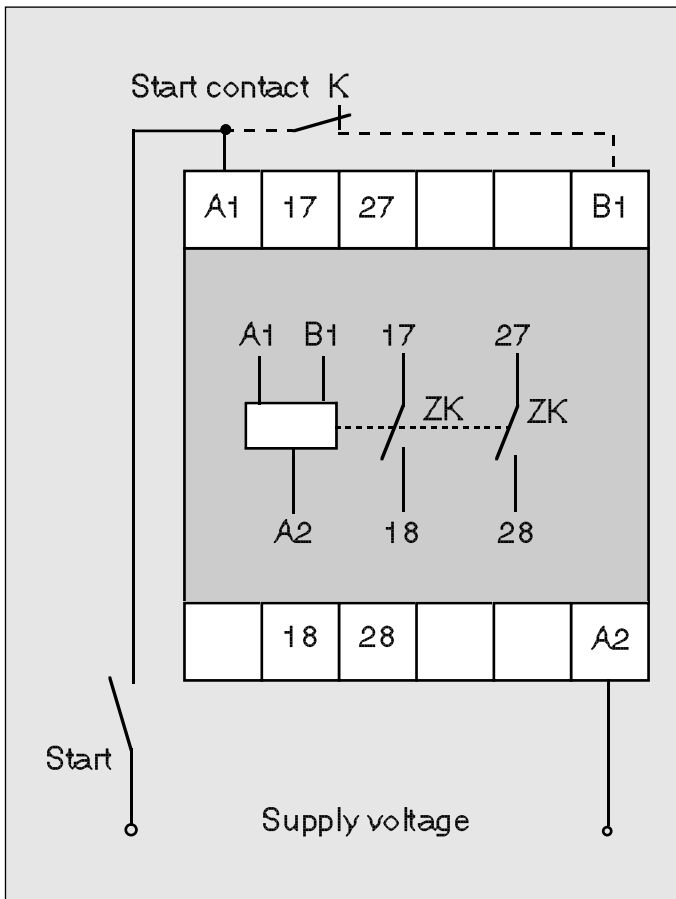
Dimensional diagrams WZ 251, WZ 252, WZ 253, WZ 254 and WZ 255



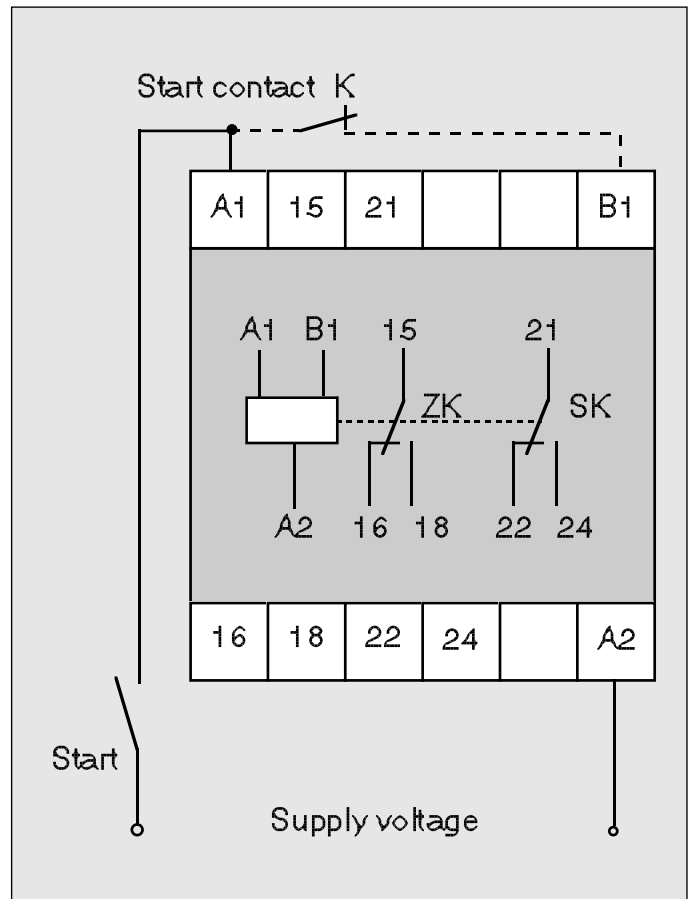
Wiring diagram WZ 252



Wiring diagram WZ 253

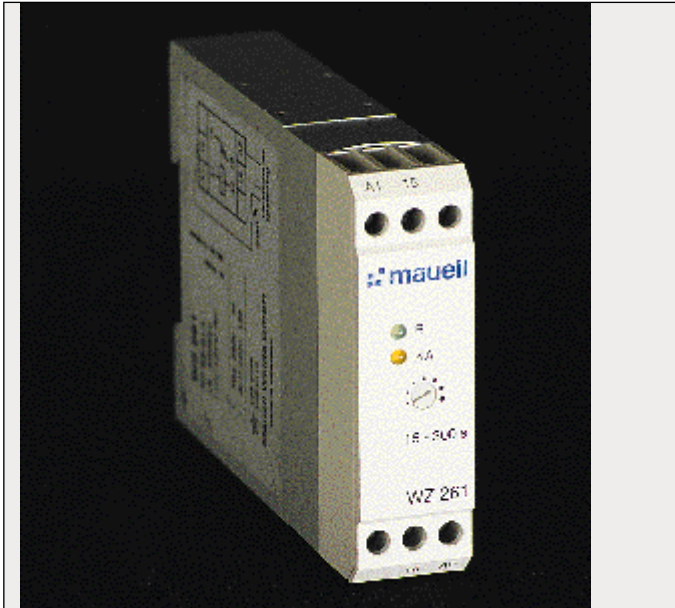


Wiring diagram WZ 254



Wiring diagram WZ 255

Star-Delta Timer Relay WZ 261

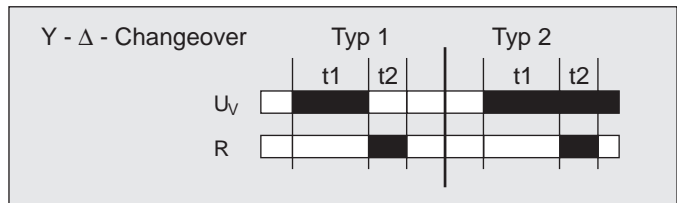


Star-Delta Timer Relay WZ 261

Explanation of diagram		
U_V - Supply voltage	On	Off
R - Output relays	Operating position	Rest position

t_1 = Selectable run-up time

t_2 = Changeover time / Pulse time (approx. 80 ms)



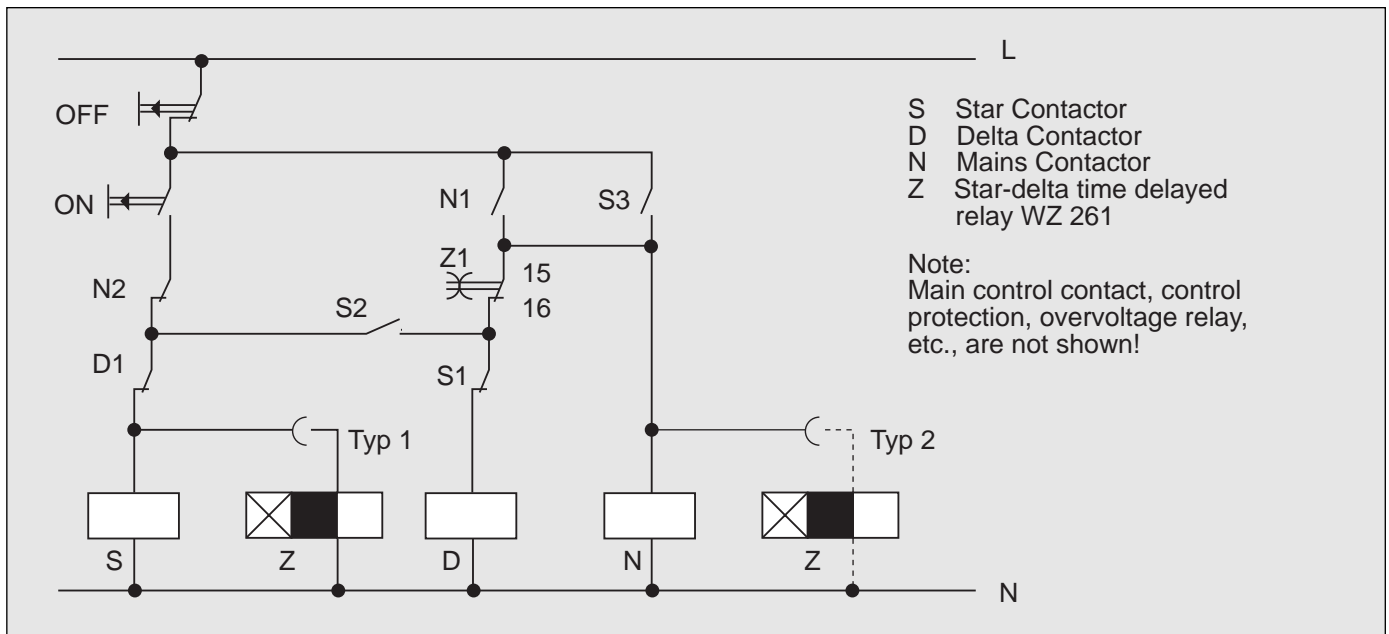
Sequence diagram WZ 261

Relay WZ 261 is suitable for the following types of star-delta connection types of switching.

The sequence is started by applying the supply voltage to terminals A1 and A2. At the end of the selected time, the output relay responds and closes again after a pulse interval of approx. 80 ms.

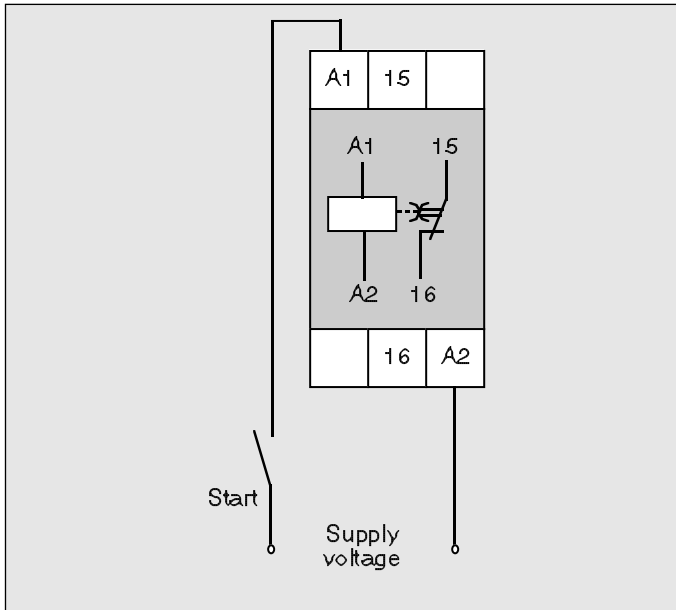
This constant pulse interval is not conditional on whether or not the supply voltage is disconnected after the selected delay.

During the pulse interval of approx. 80 ms, the contact of the output relay (terminals 15 and 16) remains open.



Principle Circuit Diagram WZ 261

Technical Data WZ 261



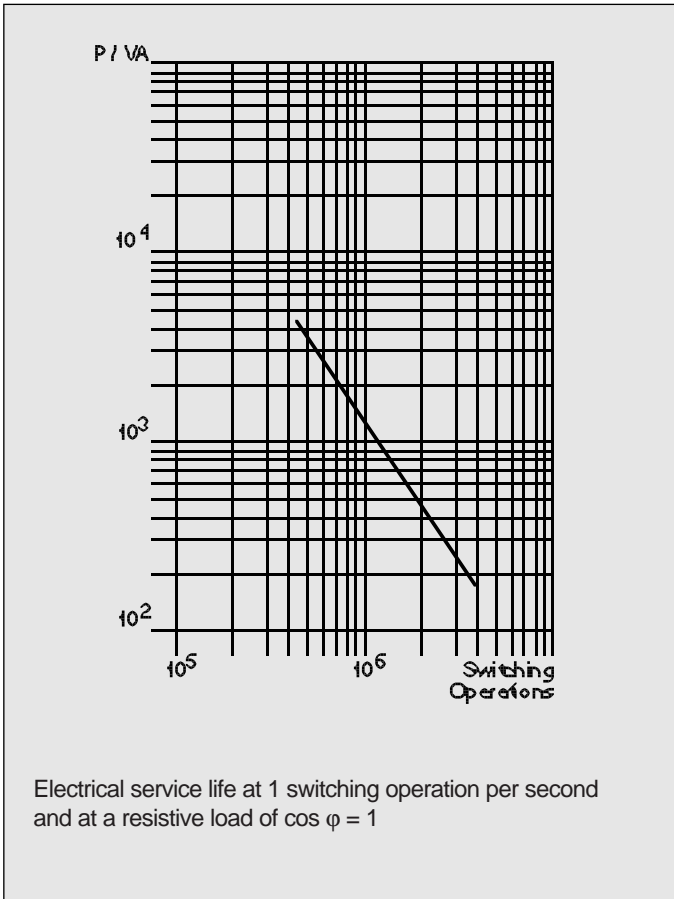
Wiring Diagram WZ 261

Electrical Data

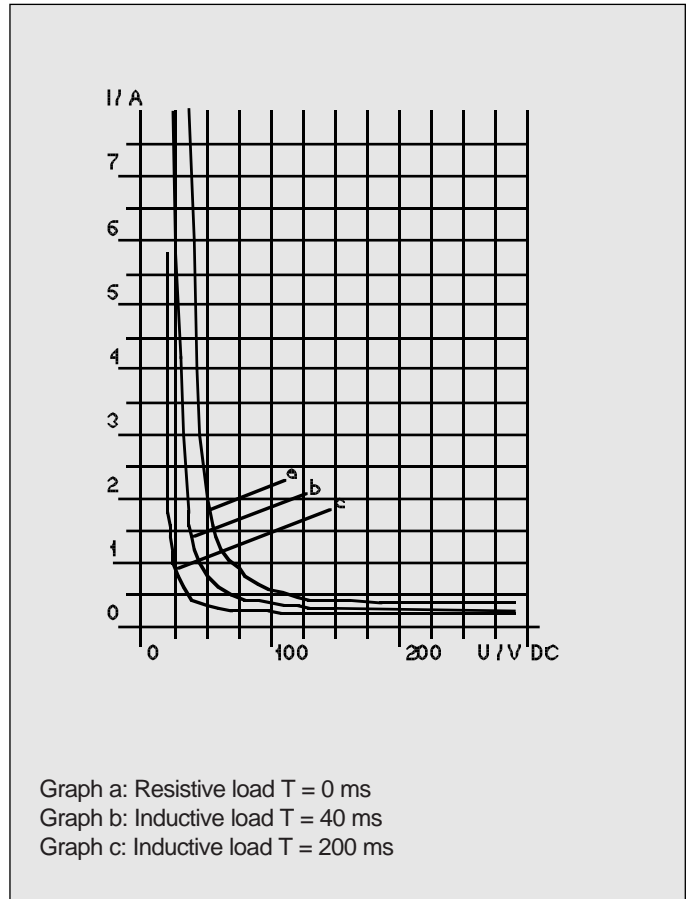
Output circuit	1 normally-closed contact	
Contact material	AgCdO	
Max. switching voltage	250 V AC/DC	
Max. sustained current	4 A	
Max. switching rating	2000 VA for a resistive load, see reduction graph for $\cos \varphi < 1$	
Electrical life	See switching performance and life graph	
Mechanical life	Approx. 10^7 switching operations	
Switching capabilities as per DIN VDE 0660 part 200	AC 11: 220 V	1,5 A
Min. switching voltage	Approx. 12 V (information value for AgCdO)	
Min. switching current	Approx. 80 mA (information value for AgCdO)	
Supply voltage U_V	220/230 V AC, 110/127 V AC	
Max. current consumption	6.0 VA	at 230 V AC
	2.5 VA	at 127 V AC
Permissible variation in U_V	-20 % to +10 %	
Mains frequency	47 Hz to 63 Hz	
Duty cycle	100 %	
Time setting	From the front, with a screwdriver (blade 4 x 0.6)	

Timing ranges	1.5 s to 30 s, 15 to 300 s, pulse time approx. 80 ms
Resetting time to return to readiness	< 250 ms
Repeat accuracy	$\leq (\pm 0.5\% \pm 20 \text{ ms})$ for run-up time $\leq \pm 20 \text{ ms}$ for pulse time
Timing errors within the range of permissible variations of U_V	$\leq \pm 0.09\% / \% \Delta U$
Timing errors within the temperature range	$\leq \pm 0.15\% / K$
Ambient temperature range	-25 °C to +60 °C
Max. temperature-humidity value	+30 °C at 95% RH
Surge voltage strength and RF interference immunity	Test level class II as per IEC 255 part 22-1
Insulation class	C/250 V as per DIN VDE 0110
Test voltage	2.5 kV
Creeping distances and clearances according to DIN VDE 0110	Pollution degree level 2 Overvoltage category III
Mechanical Data	
Casing	Wall-mounted casing 22.5 mm x 78 mm x 110 mm without cable holders See dimensional diagram on page 9
Installation	Snap-on mounting onto a standard rail as per EN 50022, 35 mm wide
Type of protection as per DIN 40050 and IEC 529	Casing IP 40 Terminal IP 20
Protection against touching as per DIN VDE 0106 part 100	Finger-protected
Location for installation	As desired, but not suspended
Vibration resistance as per DIN IEC 68 parts 2-6	Frequency range 10 Hz to 55 Hz, travel 0.35 mm, acceleration 5 g, 10 frequency cycles per axis
Max. cross-section for connection	1 x 2.5 mm ² single core 2 x 1.5 mm ² fine strand with end splice as per DIN 46228
Burning behaviour	V-0 as per UL 94
Weight	Approx. 120 g

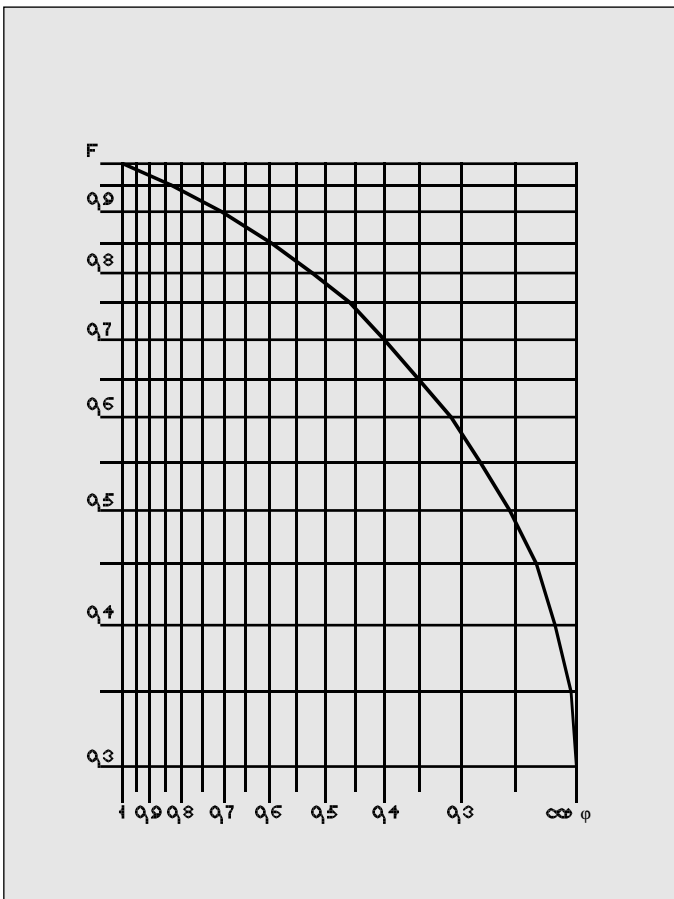
Diagrams for WZ 211 to WZ 251 and WZ 261



Switching life graph for WZ 211 to WZ 251 and WZ 261



Arcing limiting graph for WZ 211 to WZ 251 and WZ 261



Reduction of switching capacity graph for WZ 211 to WZ 252, WZ 261

Reduction factor F

The maximum switching capacity or service life of the contact is a function, amongst others, of $\cos \varphi$ in the AC voltage circuit. The reduced switching capacity or service life under inductive loads can be determined from the diagram at left. Multiply factor F by the maximum switching capacity quoted in the technical data.

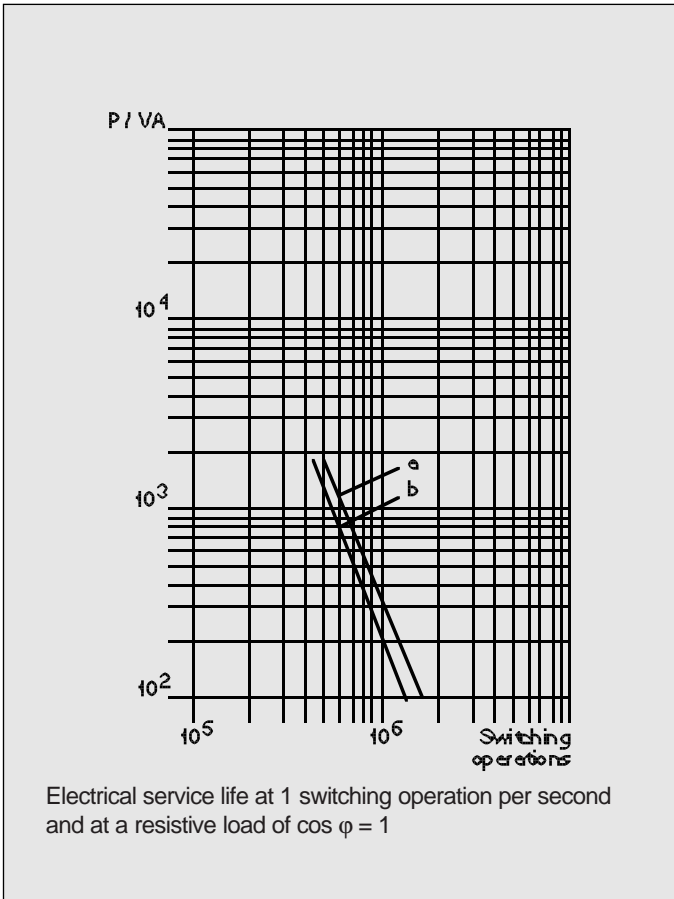
Example:

$\cos \varphi = 0.4$, which yields a curve of $F = 0.7$

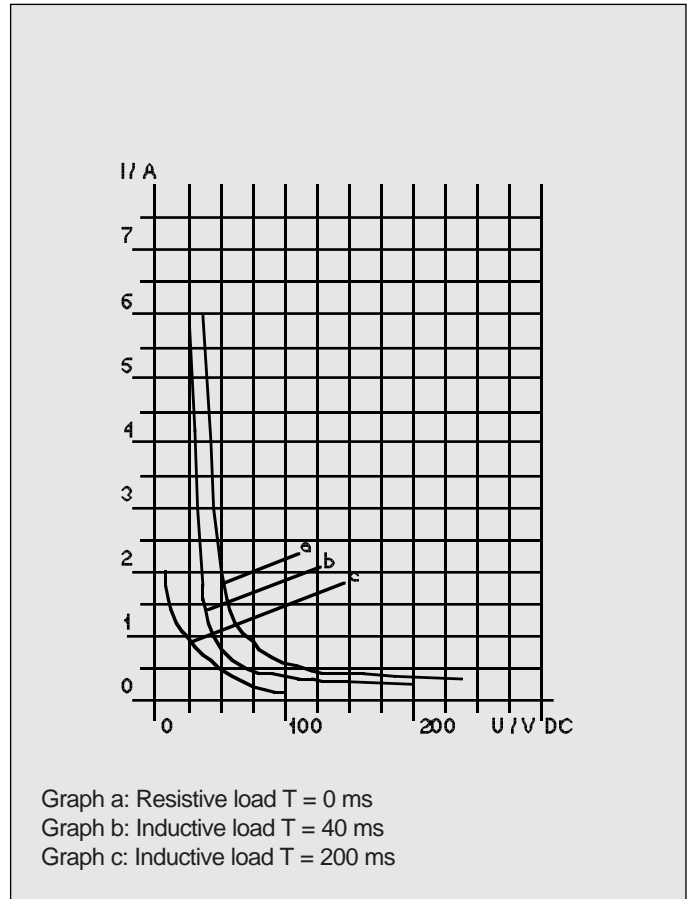
Max. switching capacity x Reduction factor = Permitted switching capacity

$$2000 \text{ VA} \quad \times \quad 0.7 \quad = \quad 1400 \text{ VA}$$

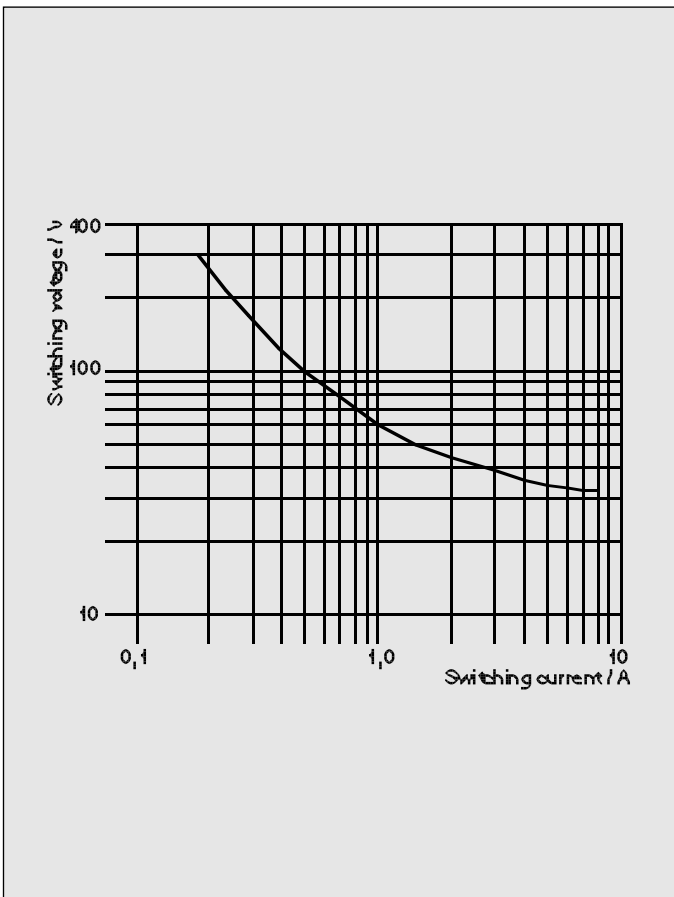
Diagrams for WZ 252 to WZ 255



Switching life graph for WZ 252



Arcing limiting graph for WZ 252



Load limiting graph for WZ 253 to WZ 255

Ordering Details

Single-Range Single-Function Timer Relays

WZ 211, WZ 221, WZ 231, WZ 241

Item No. 30 - 92 -

Type	Function			
WZ 211	DA	1		
WZ 221	DR / WC	2		
WZ 231	CP	3		
WZ 241	CI	4		

Voltage

220 V / 230 V AC	0
110 V / 127 V AC	1
110 V / 125 V DC	2
42 V / 48 V AC, 48 V / 60 V DC	3
24 V AC / DC	4
220 V DC	5

Time Range

0.15 s to 3 s	1
1.5 s to 30 s	2
15 s to 300 s	3
1.5 min to 30 min	4
0.15 h to 3 h	5

Function

DA = Delayed Action
 DR = Delayed Release
 WC = Wipe Contact,
 CI = Clock generator, starting in the Intervals
 CP = Clock generator, starting on the clock Pulses

Ordering Example: Delayed-release relay,
 supply voltage 24 V,
 time range 1.5 s to 30 s

Type **WZ 221**
 Ordering No. **30 - 92 - 242**

Multifunction Relays

WZ 251, WZ 252, WZ 253, WZ 254 and WZ 255

Item No. 30 - 92 - 5

Type	Output		
WZ 251	1 time-delayed C/O contact	1	
WZ 252	2 time-delayed C/O contacts	2	
WZ 255	1 time-delayed C/O contact and 1 immediate-action C/O contact	5	

Voltage

220 V / 230 V AC	0
110 V / 127 V AC	1
110 V / 125 V DC	2
42 V / 48 V AC, 48 V / 60 V DC	3
24 V AC / DC	4
220 V DC	5

Type

Type	Output		
WZ 253	1 time-delayed C/O contact and 2 immediate-action N/O contacts	3	

Voltage

220 V / 230 V AC	0
42 V / 48 V AC, 48 V / 60 V DC	3

Type

Type	Output		
WZ 254	2 time-delayed N/O contacts	4	

Spannung

220 V / 230 V AC	0
110 V / 127 V AC	1
42 V / 48 V AC, 48 V / 60 V DC	3

Time Range (Selectable)

0.15 s to 3 s
 0.6 s to 12 s
 5 s to 100 s
 40 s to 800 s

Function (Selectable)

DA = Delayed Action
 DR = Delayed Release
 WC = Wipe Contact
 CI = Clock generator, starting
 in the Intervals
 CP = Clock generator, starting
 on the clock Pulses

Ordering Example

Multifunction relay,
 2 time-delayed C/O contacts,
 supply voltage 24 V DC

Type
 Item No.

WZ 252
30 - 92 - 542

Star-delta Time-delayed Relay WZ 261

Item No. 30 - 92 - 6

Voltage

220 V / 230 V AC	0
110 V / 127 V AC	1

Time Range

1.5 s to 30 s	2
15 s to 300 s	3

Ordering Example Star-delta time-delayed relays
 supply voltage 230 V AC
 time range 1.5 s to 30 s

Item No. **30 - 92 - 602**

Accessories

Wire mount for a housing
 width of 22.5 mm
 1 set of 4 pcs.

06 - 21 - 215

Wire mount for a housing
 width of 45 mm
 1 set of 4 pcs.

06 - 21 - 225