

Timer Relays Series ZR6



ZR6MF052



ZR6MF052

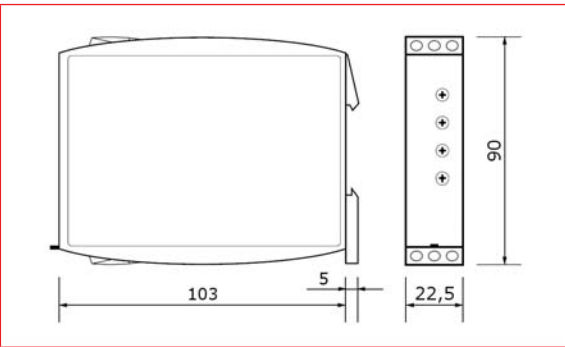
Schrack-Info

- 16 different modes
- 16 time ranges
- 2 CO
- Zoom voltage 24 to 240 V AC/DC
- Remote potentiometer connection
- Component width 22.5 mm
- Industrial type design

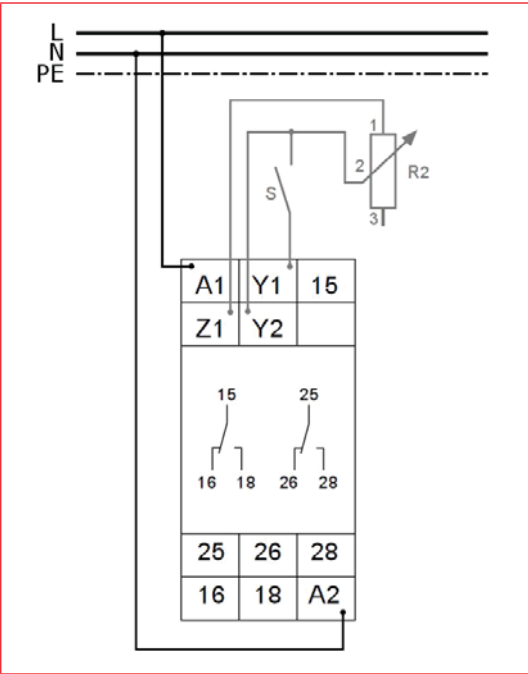
Overview Modes

1 delayed contact (terminals 15-16-18) and 1 instantaneous contact (terminals 25-26-28)		
E11	ON delay	
R11	OFF delay	with control contact "S"
Es11	ON delay	with control contact "S"
Wu11	Single shot leading edge voltage controlled	
Ws11	Single shot leading edge	with control contact "S"
Wa11	Single shot trailing edge	with control contact "S"
Bi11	Flasher pulse first	
Bp11	Flasher pause first	
2 delayed contacts		
E20	ON delay	
R20	OFF delay	with control contact "S"
Es20	ON delay	with control contact "S"
Wu20	Single shot leading edge voltage controlled	
Ws20	Single shot leading edge	with control contact "S"
Wa20	Single shot trailing edge	with control contact "S"
Bi20	Flasher pulse first	
Bp20	Flasher pause first	

Dimensions (mm)



Circuit Diagram

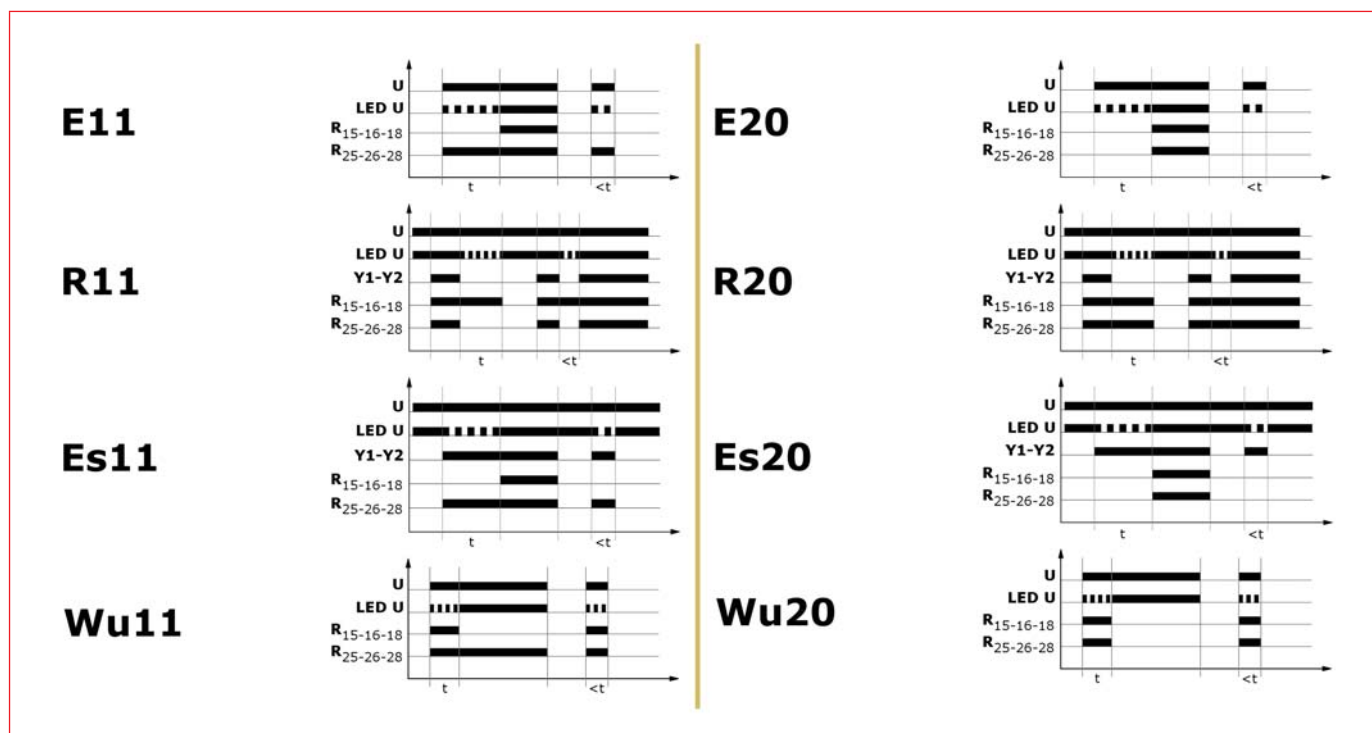


Time Ranges

Time range	Adjustment range
1 s	50 ms - 1 s
3 s	150 ms - 10 s
10 s	500 ms - 10 s
30 s	1500 ms - 30 s
1 min	3 s - 1 min
3 min	9 s - 3 min
10 min	30 s - 10 min
30 min	90 s - 30 min
1 h	3 min - 1 h
3 h	9 min - 3 h
10 h	30 min - 10 h
30 h	90 min - 30 h
1 d	72 min - 1 d
3 d	216 min - 3 d
10 d	12 h - 10 d
30 d	36 h - 30 d

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Modes (Part 1)



Detailed Description of Modes (Part 1)

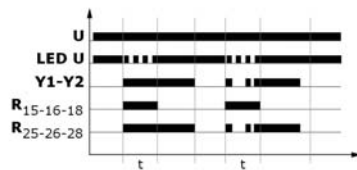
The internal potentiometer is deactivated when a remote potentiometer is connected! The function has to be set before connecting the relay to the supply voltage.

E11	ON delay When the supply voltage U is applied, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t , the interval already expired is erased and is restarted when the supply voltage is next applied.	E20	ON delay When the supply voltage U is applied, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t , the interval already expired is erased and is restarted when the supply voltage is next applied.
R11	OFF delay with control contact "S" The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, both contacts switch into on-position (yellow LED illuminated). If the control contact is opened, the instantaneous contact switches into off-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.	R20	OFF delay with control contact "S" The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.
Es11	ON delay with control contact "S" The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.	Es20	ON delay with control contact "S" The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.
Wu11	Single shot leading edge voltage controlled (Wu11) When the supply voltage U is applied, both contacts switch into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the both contacts switch into off-position. The interval already expired is erased and is restarted when the supply voltage is next applied.	Wu20	Single shot leading edge voltage controlled When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position. The interval already expired is erased and is restarted when the supply voltage is next applied.

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Modes (Part 2)

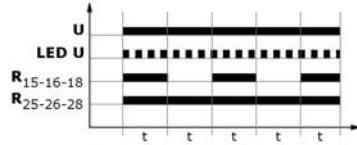
Ws11



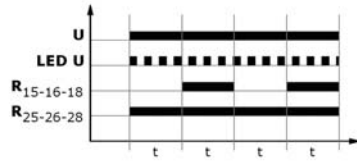
Wa11



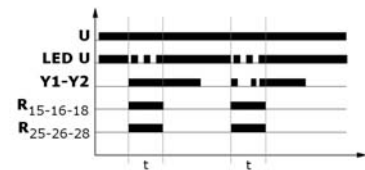
Bi11



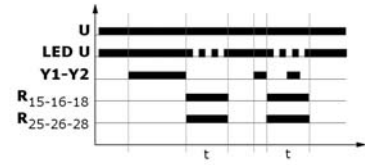
Bp11



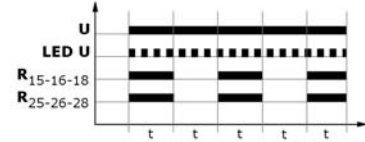
Ws20



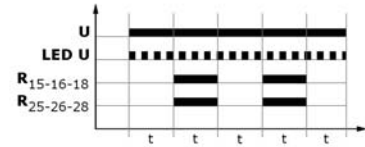
Wa20



Bi20



Bp20



Detailed Description of Modes (Part 2)

The internal potentiometer is deactivated when a remote potentiometer is connected! The function has to be set before connecting the relay to the supply voltage.


<p>Ws11</p>	<p>Single shot leading edge with control contact "S"</p> <p>The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, both contacts switch into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the delayed contact switches into off-position (yellow LED not illuminated). The instantaneous contact remains in on-position, until the control contact is opened again. During the interval, the control contact (and the instantaneous contact) can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>	<p>Ws20</p>	<p>Single shot leading edge with control contact "S"</p> <p>The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>
<p>Wa11</p>	<p>Single shot trailing edge with control contact "S"</p> <p>The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact Y1-Y2 is closed the instantaneous contact switches into on-position. When the control contact is opened, the instantaneous contact switches into off-position, the delayed contact switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated), the delayed contact switches into off-position (yellow LED not illuminated). During the interval, the control contact (and the instantaneous contact) can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>	<p>Wa20</p>	<p>Single shot trailing edge with control contact "S"</p> <p>The supply voltage U must be constantly applied to the device (green LED illuminated). Closing the control contact Y1-Y2 has no influence on the condition of the output relay R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated), the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>
<p>Bi11</p>	<p>Flasher pulse first</p> <p>When the supply voltage U is applied, the instantaneous contact and the delayed contact switch into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired, the delayed contact switches into off-position (yellow LED not illuminated) and the set interval t begins again. The delayed contact is triggered at a ratio of 1:1 until the supply voltage is interrupted.</p>	<p>Bi20</p>	<p>Flasher pulse first</p> <p>When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval t begins again. The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.</p>
<p>Bp11</p>	<p>Flasher pause first</p> <p>When the supply voltage U is applied, the instantaneous contact switches into on-position and the set interval t begins (green LED flashes). After the interval t has expired, the delayed contact switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the delayed contact switches into off-position (yellow LED not illuminated). The delayed contact is triggered at a ratio of 1:1 until the supply voltage is interrupted.</p>	<p>Bp20</p>	<p>Flasher pause first</p> <p>When the supply voltage U is applied, the set interval t begins (green LED flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.</p>

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Technical Data

ZR6MF052		
INDICATORS	Green LED U/t ON	Indication of supply voltage
	Green LED U/t flashes	Indication of time period
	Yellow LED R ON/OFF	Indication of relay output
MECHANICAL DESIGN	Housing	Self-extinguishing plastic housing
	IP rating housing	IP40
	Mounting (EN 60715)	DIN-rail TS 35
	Terminal (VBG 4, PZ1 required)	Shockproof terminal connection
	IP rating terminal	IP20
	Mounting position	Any
	Tightening torque	Max. 1 Nm
INPUT CIRCUIT	Terminal capacity	1 x 0.5 to 2.5 mm ² with/without multicore cable end 1 x 4 mm ² without multicore cable end 2 x 0.5 to 1.5 mm ² with/without multicore cable end 2 x 2.5 mm ² flexible without multicore cable end
	Input	Terminals A1-A2 (galvanically separated)
	Supply voltage	AC/DC
	Tolerance	24 to 240 V DC 24 to 240 V AC
		-20 % to +25 % -15 % to +10 %
	Rated frequency	48 to 400 Hz 16 to 48 Hz
		24 to 240 V~ 48 to 240 V~
	Rated consumption	2.5 VA (1 W)
	Duration of operation	100 %
	Reset time	500 ms
	Wave form	For AC Sinus
	Residual ripple	For DC 10 %
	Drop-out voltage	> 15% of the supply voltage
	Overvoltage category (IEC 60664-1)	III
	Rated surge voltage	4 kV
OUTPUT CIRCUIT	Number of contacts and type	2 potential free CO contacts
	Rated voltage	250 V AC
	Switching capacity (distance < 5 mm)	750 VA (3 A / 250 V~)
	(distance > 5 mm)	1250 VA (5 A / 250 V~)
	Fusing	5 A fast acting
	Mechanical service life	20 x 10 ⁵ operations
	Electrical service life	2 x 10 ⁵ operations at 1000VA resistive load
	Switching capacity (IEC 60947-5-1)	Max. 60 / min at 100 VA resistive load, Max. 6 / min at 1000 VA resistive load
CONTROL CONTACT	Overvoltage category (IEC 60664-1)	III
	Rated surge voltage	4 kV
	Activation	Bridge Y1-Y2
	Potential free	Yes, basic isolation against input and output circuit
	Loadable	No
	Control voltage	Max. 5 V
	Short circuit current	Max. 1 mA
REMOTE POTENTIOMETER	Line length	Max. 10 m
	Control pulse length	Min. 50 ms
	(not included)	The internal potentiometer is de-activated when a remote potentiometer is connected!
	Connections	1 MΩ potentiometer, terminals Z1-Y2
	Line type	Twisted pair
	Control voltage	Max. 5 V
	Short circuit current	Max. μA range
ACCURACY	Line length	Max. 5 m
	Base accuracy	± 1 % (of maximum scale value) using 1 MΩ remote potentiometer
	Frequency response	-
	Adjustment accuracy	< 5 % (of maximum scale value) using 1 MΩ remote potentiometer
	Repetition accuracy	< 0.5 % or ± 5 ms
AMBIENT CONDITIONS	Temperature influence	≤ 0,01 % / °C
	Ambient temperature (IEC 60068-1)	-25 °C to +55 °C
	(UL 508)	-25 °C to +40 °C
	Storage temperature	-25 °C to +70 °C
	Transport temperature	-25 °C to +70 °C
	Relative humidity (IEC 60721-3-3 class 3K3)	15 % to 85 %
	Pollution degree (IEC 60664-1)	3
	Vibration resistance (IEC 60068-2-6)	10 to 55 Hz, 0.35 mm
	Shock resistance (IEC 60068-2-27)	15 g, 11 ms

*The potentiometer is used for remote setting of the time. Here, the internal potentiometer (knob for fine adjustment of the time) is automatically disabled. The nominal value of the potentiometer is 1 MΩ. At a value approximately > 1.6 MΩ at this input the time fine-tuning is again determined by the internal potentiometer.

DESCRIPTION	AVAILABLE	ORDER NO.
Multi-function Relays		
Timer multifunction 12-240V AC/DC, 2CO, 8A/250V		
		ZR6MF052



Order no. blue: on stock, usually ready for delivery on the day of order

