Timers - Multifunction

K3ZMF20

KAPPA series

7 Functions

7 time ranges

1 change over contact, 1 normally open contact

Supply voltage 24V a.c./d.c. and 110-240V a.c.

Width 38mm

Installation design



Read and understand these instructions before installing, operating or maintaining the equipment.

Danger!
Never carry out work on live parts! Danger of fatal injury! The product must not be used in case of obvious damage. To be installed by an authorized person.

Technical data

1. Functions
The function has to be set before connecting the relay to the supply voltage.

E	ON delay
R	OFF delay
Es	ON delay with control input
Wu	Single shot leading edge voltage controlled
Ws	Single shot leading edge with control input
Wa	Single shot trailing edge with control input
Bp	Flasher pause first

2. Time ranges

Time range	Adjustment range	
1s	50ms	1s
10s	500ms	10s
1min	3s	1min
10min	30s	10min
1h	3min	1h
10h	30min	10h
100h	5h	100h

3. 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

4. Mechanical design
Self-extinguishing plastic housing, IP rating IP40
Mounted on screw terminal socket 11-pols in accordance with IEC 60067-1-18a (type R11X or ES12)
Mounting position: any

5. Input circuit

Supply voltage:	
24V d.c.	Pins S2(+) - S7
24V a.c.	Pins S2 - S7
110 - 240V a.c.	Pins S2 - S10
Tolerance:	
24V d.c.	-
24V a.c.	-
110 - 240V a.c.	-
Rated consumption:	
24V a.c./d.c.	-
110V a.c.	-
240V a.c.	-
Rated frequency:	a.c. 48 to 63Hz
Duty cycle:	100%
Reset time:	100ms
Residual ripple to d.c.:	10%
Drop-out voltage:	>30% of the supply voltage
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

6. Output circuit

1 potential free change-over contact:	Pins S1 - S3 - S4
1 normally open contact:	Pins S9 - S11
Rated voltage:	250V a.c.
Contact material:	AgNi
Switching capacity:	1250VA (5A / 250V a.c.)
If the distance between the devices is less than 5mm.	
Switching capacity:	2000VA (8A / 250V a.c.)
If the distance between the devices is greater than 5mm.	
Fusing:	8A fast acting
Prospective current value:	$1000A_{EFF}$
Mechanical life:	20×10^6 operations
Electrical life:	2×10^5 operations at 1000VA resistive load
Switching frequency:	max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

7. Control input

Input not potential free:	pins S2-S5
Loadable:	yes
Max. Leitungslänge:	10m
Trigger level (sensitivity):	automatic adaption to supply voltage
Min. control pulse length:	d.c. 50ms / a.c. 100ms

8. Remote potentiometer

Connections:	1MΩ potetiometer (type RONDO R2) pins S6-S8
Line length:	max. 5m (twisted pair)

9. Insulation data

Insulation:	Basic insulation
Dielectric test voltage:	1640V

10. Accuracy

Base accuracy:	±5% of maximum scale value
Adjustment accuracy:	<5% of maximum scale value
Repetition accuracy:	<5% or ±100ms
Voltage influence:	-
Temperature influence:	≤0.05% / °C

11. Ambient conditions

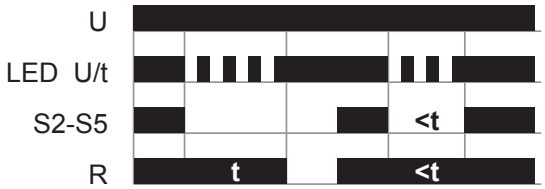
Ambient temperature:	-25 to +55°C
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	2 (in accordance with IEC 60664-1)

Functions

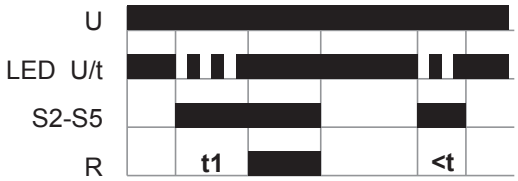
ON delay (E)
When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED R illuminated). This status remains until the supply voltage is interrupted. If the 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.



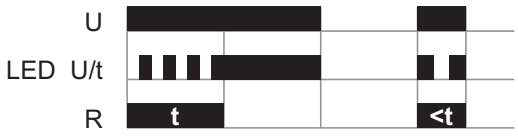
OFF delay (R)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S2-S5 is closed, the output relay R switches into on-position (yellow LED R illuminated). If the control contact is opened, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED R not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted.



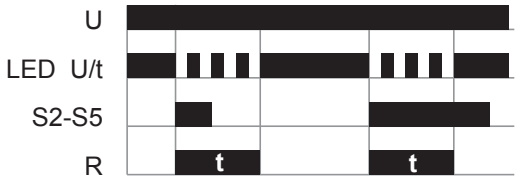
ON delay with control input (Es)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When tthe control contact S2-S5 is closed, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED R 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.



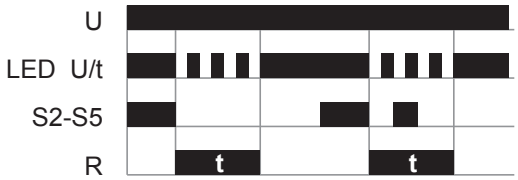
Single shot leading edge voltage controlled (Wu)
When the supply voltage U is applied, the output relay R switches into on-position (yellow LED R illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED R 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.



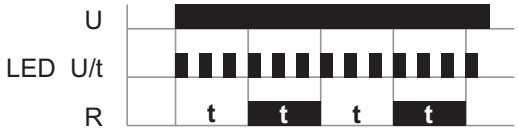
Single shot leading edge with control input (Ws)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S2-S5 is closed, the output relay R switches into on-position (yellow LED R illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED R 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.



Single shot trailling edge with control input (Wa)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). Closing the control contact S2-S5 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 R illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated), the ouput relay switches into off-position (yellow LED R 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.

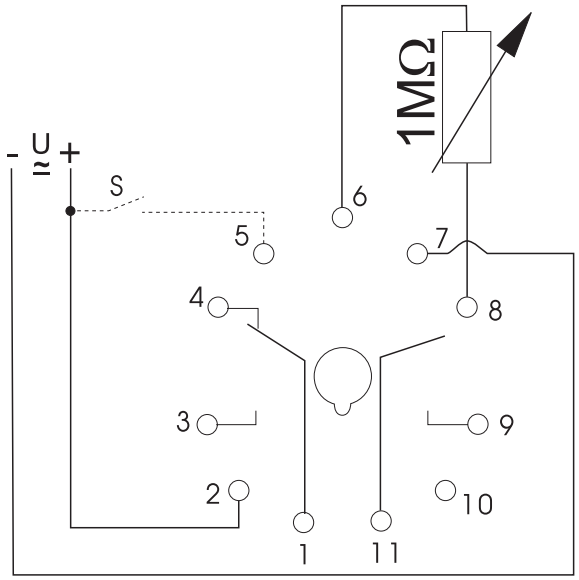


Flasher pause first (Bp)
When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED R illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED R not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.

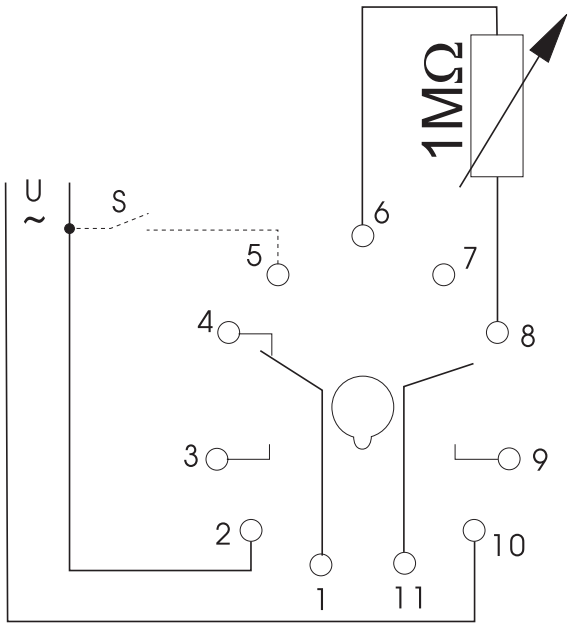


Connections

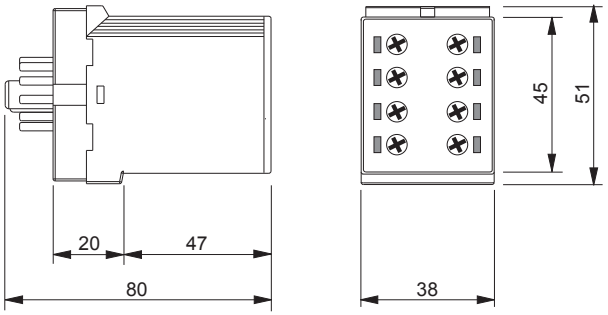
24V a.c./d.c.



110-240V a.c.



Dimensions



Ordering information

Type	Functions	Supply Voltage	Part. No.
K3ZMF20 24V AC/DC 110-240V AC	E, R, Es, Wu, Ws, Wa, Bp	24V a.c./d.c. 110-240V a.c.	135600

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Subject to alterations and errors