Timers - Asymmetric flasher

K3ZI20

KAPPA series

2-time multifunction

7 time ranges

Wide input voltage range

2 change-over contacts

Width 35mm

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.

Ip	Asymmetric flasher pause first
Ii	Asymmetric flasher pulse first
ER	ON delay and OFF delay with control contact
EWu	ON delay single shot leading edge voltage controlled
EWs	ON delay single shot leading edge with control contact
WsWa	Single shot leading and single shot trailling edge with control contact
Wt	Pulse sequence monitoring

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 slow flashing:	indication of time period t1
Green LED U/t fast flashing:	indication of time period t2
Yellow LED 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:	12 to 240V a.c./d.c.
Terminals:	A1(+)- A2
Tolerance:	-10% to +10%
Rated frequency:	48 to 63Hz
Rated consumption:	6VA (2W)
Duration of operation:	100%
Reset time:	100ms
Residual ripple of d.c.:	-
Drop-out voltage:	>30% of supply voltage
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

6. Output circuit
2 potential free change over contacts

Rated voltage:	250V a.c.
Switching capacity:	2000VA (8A / 250V)
Fusing:	8A fast acting
Mechanical life:	20 x 10^6 operations
Electrical life:	2 x 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:	terminals A1-B1
Loadable:	yes
Max. line length:	10m
Trigger level (sensitivity):	automatic adaption to supply voltage
Max. control pulse length:	d.c. 50ms / a.c. 100ms

8. Accuracy

Base accuracy:	±1% of maximum scale value
Adjusting accuracy:	≤5% of maximum scale value
Repetition accuracy:	<0.5% or ±5ms
Voltage influence:	-
Temperature influence:	≤0.01% / °C

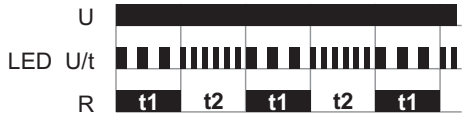
9. Ambient conditions

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)

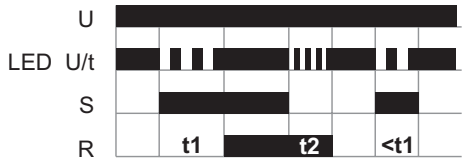
Functions

Asymmetric flasher pause first (Ip)
When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at the ratio of t1:t2 until the supply voltage is interrupted.

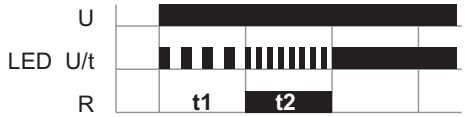
Asymmetric flasher pulse first (Ii)
When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into on-position (yellow LED illuminated). The output relay is triggered at the ratio of t1:t2 until the supply voltage is interrupted.



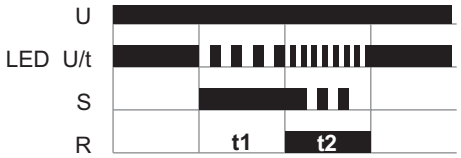
ON delay and OFF delay with control contact (ER)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay Switches into off-position (yellow LED not illuminated). If the control contact is opened before the interval t1 has expired, the interval already expired is erased and is restarted with the next cycle.



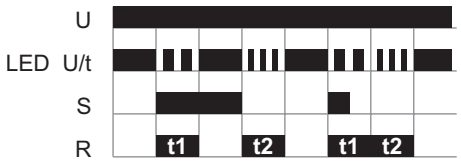
ON delay and single shot leading edge voltage controlled (EWu)
When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated). If the supply voltage is interrupted before the interval t1+t2 has expired, the interval already expired is erased and is restarted when the supply voltage is next applied.



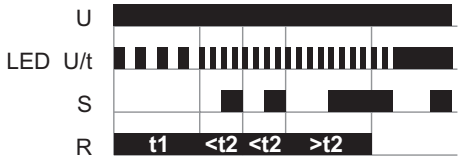
ON delay and single shot leading edge with control contact (EWs)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired, 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.



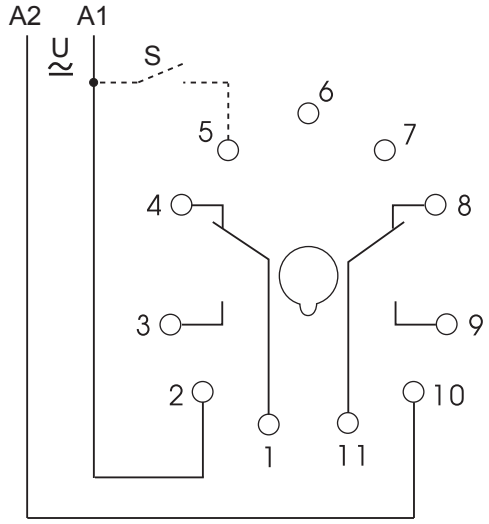
Single shot leading and single shot trailing edge with control contact (WsWa)
The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated) and the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay R switches into off-position (yellow LED not illuminated). If the control contact is opened, the output relay again switches into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes fast). After the interval t2 has expired the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times.



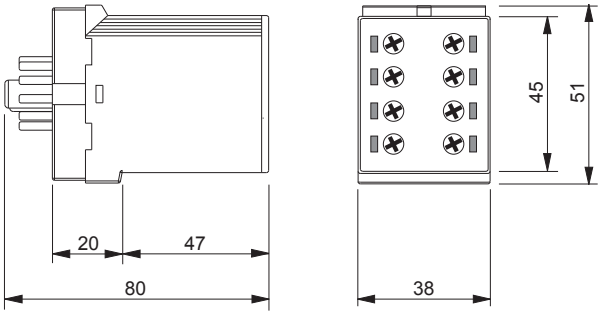
Pulse sequence monitoring (Wt)
When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly) and the output relay R switches into on-position (yellow LED illuminated). After the interval t1 has expired, the set interval t2 begins (green LED U/t flashes fast). So that the output relay R remains in on-position, the control contact S must be closed and opened again within the set interval t2. If this does not happen, the output relay R switches into off-position (yellow LED not illuminated) and all further pulses at the control contact are ignored. To restart the function the supply voltage must be interrupted and reapplied.



Connections



Dimensions



Ordering information

Type	Functions	Supply Voltage	Part. No. (PQ 1)
K3ZI20 12-240V AC/DC	Ip, Ii, ER, EWu, EWs, WsWa, Wt	12-240V a.c./d.c.	135101