

Technical Data

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

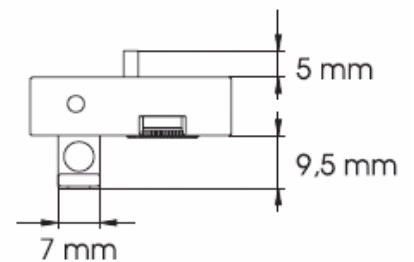
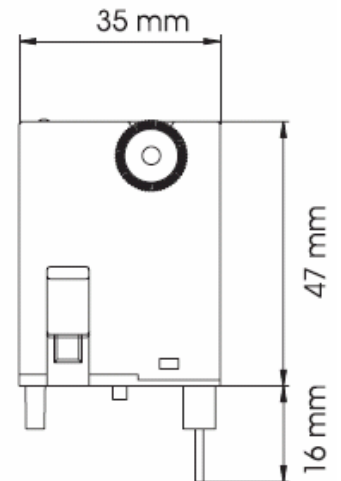
Time Ranges		
Time Range	Adjustment Range	
1s	50ms	1s
10s	500ms	10s
1min	3s	1min
10min	30s	10min
1h	3min	1h
10h	30min	10h
1d	72min	1d
10d	12h	10d

Indicators		
Green LED U/t	ON	Indication of supply voltage
Green LED U/t	flashes	Indication of time period

Mechanical Design	
Housing	
Material	Self-extinguishing plastic
IP Rating	IP40
Mounting Parts	On 11 and 8 pole plug-in sockets ZKE 088 and ZKE 118 according to IEC 67-1-18a
Mounting Postion	Any

Input Circuit		
Supply Voltage	Terminals A1(+)-A2	12 to 30VDC
Tolerance	12VDC -10% to 30VDC+10%	
Rated Frequency	45 to 65 Hz	
Rated Consumption	12VDC	30mW
	24VDC	65mW
	30VDC	90mW
Duration of Operation	100%	
Reset Time	150ms	
Residual Ripple for DC	10%	
Drop-Out Voltage	> 3VDC	

Dimension Diagram



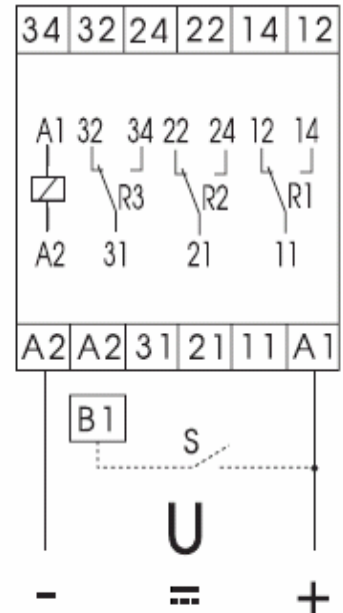
Output Circuit	
According to selected industrial relay	

Control Contact	
Connection	Not potential free, Terminals A1-B1
Loadable	Yes, parallel load min. 1VA (0.5W), Terminals A2-B1
Line Length	max. 10m (twisted pair).
Control Pulse Length	DC: min. 20ms

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

Ambient Conditions	
Ambient Temperature (according to IEC 68-1)	-25 to +55 °C
Storage Temperature	-25 to +70 °C
Transport Temperature	-25 to +70 °C
Relative Humidity (according to IEC 721-3-3 class 3K3)	15% to 85%
Pollution Degree (according to IEC 664-1)	2, if built-in 3

Connection Diagram



Functions

ON Delay (E)

When the supply voltage [U] is supplied, 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. This status remains until the supply voltage is interrupted.

Additional Option (ON-Delay Adding):

If the control contact is closed the running interval is stopped (green LED U/t illuminated) and the interval already expired is saved. When the control contact is opened once again the interval is continued (green LED U/t flashing). After the interval [t] has expired, the control contact can be operated as you like.



OFF Delay With Control Contact (R)

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. If the control contact [S] is opened, the set interval [t] begins (green LED U/t flashing). After the interval [t] has expired (green LED U/t illuminated) the output relay switches into off-position. 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.



Single Shot Leading Edge With Control Contact (Ws)

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 and the set interval [t] begins (green LED U/t flashing). After the interval [t] has expired (green LED U/t illuminated) the output relay switches into off-position. 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 Trailing Edge With Control Contact (Wa)

The supply voltage [U] must be constantly applied to the device (green LED U/t illuminated). Closing the control contact [S] has no influence on the condition of the output relay [R]. When the control contact is opened, the output relay switches into on-position and the set interval [t] begins (green LED U/t flashing). After the interval [t] has expired (green LED U/t illuminated), the output relay switches into off-position. 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.



ON Delay With Control Contact (Es)

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 [t] begins (green LED U/t flashing). After the interval [t] has expired (green LED U/t illuminated) the output relay [R] switches into on-position. 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 and the set interval [t] begins (green LED U/t flashing). After the interval [t] has expired (green LED U/t illuminated) the output relay switches into off-position. 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.

Additional Option (Single Shot Leading Edge Adding):

If the control contact is closed the running interval is stopped (green LED U/t illuminated) and the interval already expired is saved. When the control contact is opened once again the interval is continued (green LED U/t flashing). After the interval [t] has expired, the control contact can be operated as you like.



Flasher Pause First (Bp)

When the supply voltage [U] is applied, the set interval [t] begins (green LED U/T flashing). After the interval [t] has expired, the output relay [R] switches into on-position and the set interval [t] begins again. After the interval [t] has expired, the output relay switches into off-position. The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



Flasher Pulse First (Bi)

When the supply voltage [U] is applied, the output relay [R] switches into on-position and the set interval [t] begins (green LED U/T flashing). After the interval [t] has expired, the output relay switches into off-position and the set interval [t] begins again. The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.

