Timers + Light Controller **Series ENYA**

tele
Automation Components

Timer series ENYA

The timers in the ENYA series are the culmination of systematic further development of the successful OCTO series. The new timers, in the installation design style, feature the newly developed case front which makes optimum use of the space available within the overall front width of 17.5mm or 35mm.

These ultra-compact products provide up to 5 control elements together with LEDs for status indication as well as the asymmetric flasher with two independently selectable times (E1ZI10), all within the overall width of 17.5mm. The rotary knobs, replacing the previously used setting elements, are recessed to prevent the settings being altered accidentally. These features together with the ESD (Electro Static Discharge) protected LEDs provide ultra-reliability and simple operation. The laterally displaced terminals allow access to the lower-level terminals even after wiring. The large terminal compartment and the shutter also significantly ease wiring operations.

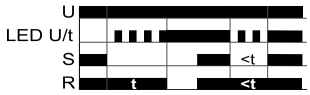
All standard timers provide a wide input-voltage range. Depending on timer type, voltages in the range 12V or 24V through 240V AC/DC are simply connected to the two supply terminals. When the supply is connected, not only the supply input but also the trigger threshold of the control input adapt to the voltage level automatically.

Quick Select				Part Number		Functions														
Type	12-240V AC/DC	24-240V AC/DC	Output-quantities CO=Change over contact	Packing Quantity: 1	Packing Quantity : 10 on request	E	R	Ws	Wa	Es	Wu	Bp	Ip	Ii	ER	EWu	EWs	WsWa	Wt	S
E1ZM10	■		1CO	110100	110100A	■	■	■	■	■	■	■								
E1ZM10		■	1CO	110200	110200A	■	■	■	■	■	■	■								
E1ZMQ10		■	1CO	110202	110202A	■	■				■	■								
E1Z1E10		■	1CO		110204A	■														
E1ZI10	■		1CO	110101									■	■						
E3ZM20	■		2CO	111100		■	■	■	■	■	■	■								
E3ZI20	■		2CO	111101									■	■	■	■	■	■	■	
E3ZS20	■		2CO	111300																■

E ON delay

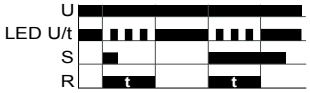
When the supply voltage U is applied, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.

R OFF delay



The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact S 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.

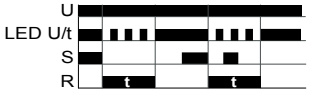
Ws Single shot leading edge with control contact



The supply voltage U must be constantly applied to the device (green LED illuminated). When the control contact S 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.

Wa Single shot trailing edge with control contact

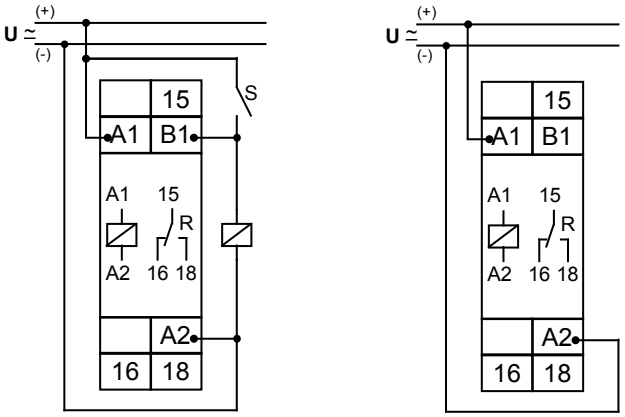


The supply voltage U must be constantly applied to the device (green LED illuminated).

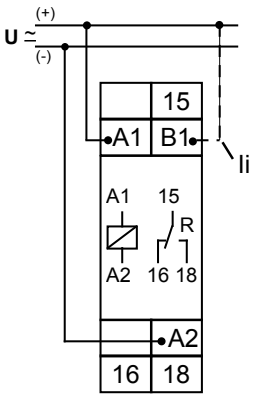
Closing the control contact S has no influence on the condition of the output relay R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated), the 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 a cycle run has been completed.

Connections

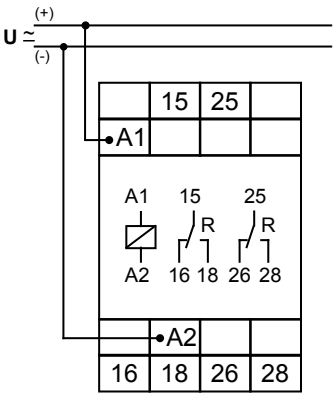
E1ZM10, E1Z1E10 with and without control inputs



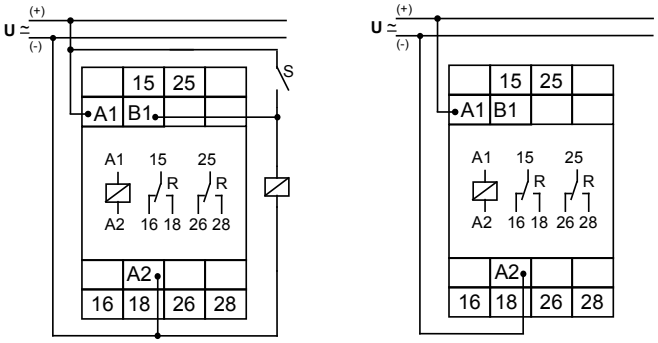
E1ZI10



E3ZS20



E3ZM20 with and without control inputs

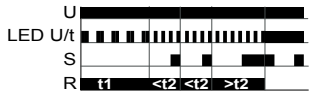


Loadable control input

This refers to the facility for connecting a load between B1 and A2. The load is connected to the supply by closing switch S and simultaneously activating the control input. In the connection diagrams this facility is indicated by a relay. In place of the relay, it is equally possible to connect some other load such as a signal lamp to indicate the input status. This facility often obviates the need for an additional switching contact.

Wt

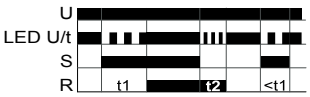
Pulse detection



When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly) and the output relays R switch into on-position (yellow LED illuminated).
After the interval t1 has expired, the set interval t2 begins (green LED U/t flashes rapidly). For the output relay R to remain in on-position, the control contact S must be closed and reopened within the set interval t2. If this does not occur, the output relay R switches into off position (yellow LED not illuminated) and all further pulses at the control contact S are ignored.
To restart the function, the supply voltage must be interrupted and reapplied.

ER

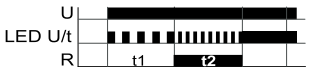
ON and OFF delay with control contact



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 t has expired t1, the output relay switches into on-position (yellow LED illuminated). When the control contact is opened, the set interval t2 begins (green LED U/t flashes rapidly). After the interval t2 has expired, the output relays switch 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.

EWu

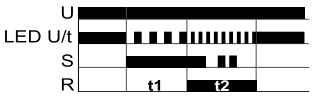
ON delay and single shot leading edge voltage controlled



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 relays switch into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes rapidly). After the interval t2 has expired, the output relays switch 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.

EWs

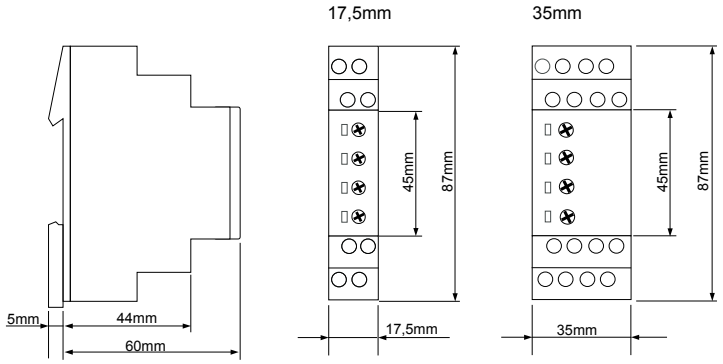
ON delay and single shot leading edge with control contact

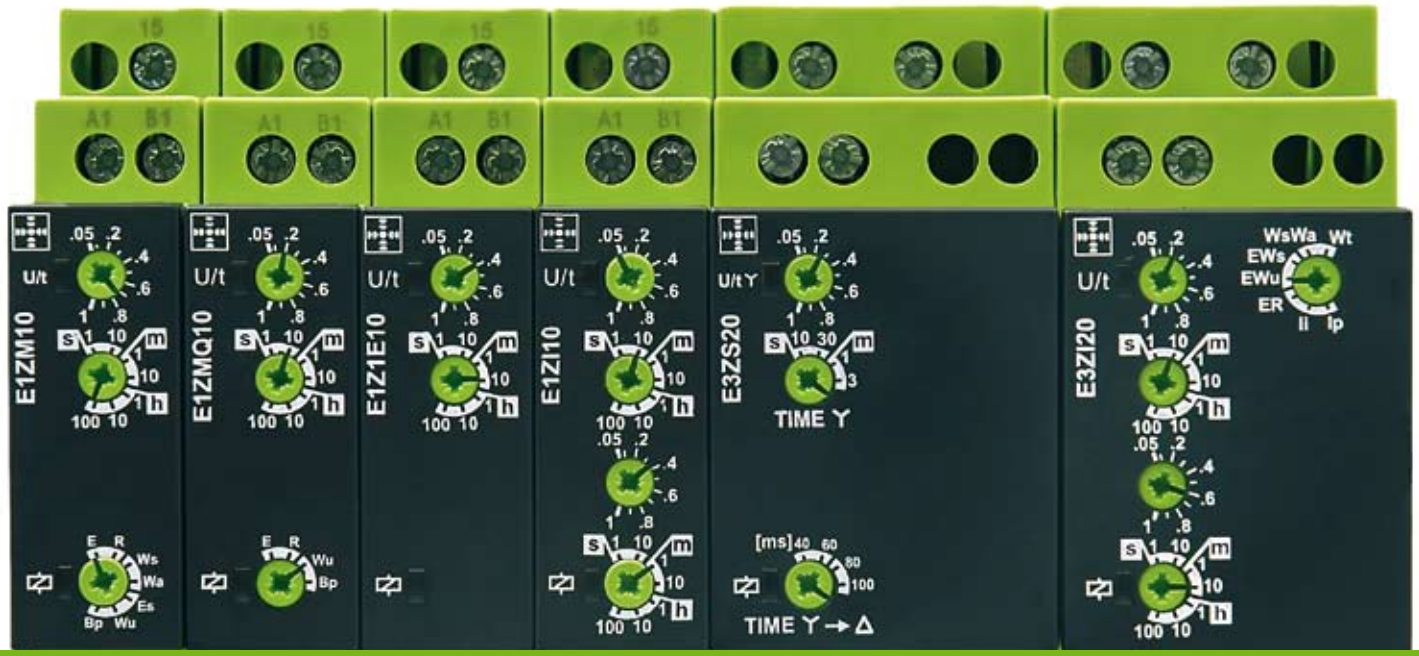


The supply voltage U must be constantly applied to the device (green LED U/t illuminated).
When the control contact S is closed, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relays switch into on-position (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes rapidly). After the interval t2 has expired, the output relays switch 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.

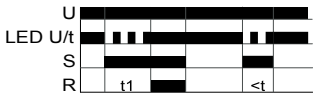
Installation design

TELE devices in the installation design style are dimensioned to allow troublefree mounting in all popular distribution boards. Their overall width is based on the standardized 17.5mm pitch used in distribution board practice. The cap size of 45mm was selected to allow the control and indication panel of the case front to fit exactly into the corresponding aperture in the cover. The terminals are recessed so as not to obstruct the fitting of the cover. Once installed in the distribution boards, only the controls of the devices are visible and the terminals are no longer accessible.



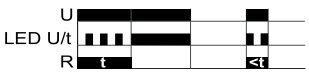


Es — ON delay with control contact



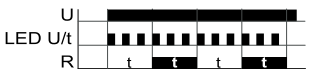
The supply voltage U must be constantly applied to the device (green LED illuminated).
When the control contact S is closed, the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened. 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.

Wu — Single shot leading edge voltage controlled



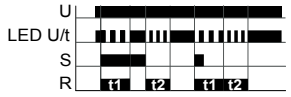
When supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED flashes). After the interval t has expired (green LED illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains 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.

Bp — Flasher pause first



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 in the ratio 1:1 until the supply voltage is interrupted.

WsWa — Single shot leading edge and single shot trailing edge with control contact



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 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 again (yellow LED not illuminated).
When the control contact is opened, the output relay switches into on-position again (yellow LED illuminated) and the set interval t2 begins (green LED U/t flashes rapidly). After the interval t2 has expired, the output relay switches into off-position again (yellow LED not illuminated). During the interval, the control contact can be operated any number of times.

Technical data

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

Self-extinguishing plastic housing, IP rating IP40
Mounted on DIN-rail TS 35 according to EN 50022

Mounting position:	any

Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20

Tightening torque:	max. 1Nm
Terminal capacity:	1 x 0.5 to 2.5mm² with/without multicore cable end 1 x 4mm² without multicore cable end 2 x 0.5 to 1.5mm² with/without multicore cable end 2 x 2.5mm² flexible without multicore cable end

Input circuit

Supply voltage:	terminals A1(+)-A2
Types E1Z..12-240VAC/DC	12 to 240V AC/DC
Tolerance:	12V-10% to 240V+10%
Types E1Z..24-240VAC/DC:	24 to 240V AC/DC
Tolerance:	24V-15% to 240V+10%
Rated consumption:	4VA (1.5W)
Rated frequency:	AC 48 to 63Hz
Duty cycle:	100%
Reset time:	100ms
Residual ripple for DC:	10%
Drop-out voltage:	>30% of minimum rated supply voltage
Overvoltage category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

Output circuit

1 or 2 potential free change over contacts

Rated voltage:	250V AC
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. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (according to IEC 947-5-1)
Overvoltage category:	III. (according to IEC 60664-1)
Rated surge voltage:	4kV

Control input

Input not potential free:	terminals A1-B1
Loadable:	yes
Max. line length:	10m
Trigger level (sensitivity):	automatic adaption to supply voltage
Min. control pulse length:	DC 50ms / AC 100ms

Accuracy

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

Ambient conditions

Ambient temperature:	-25 to +55°C (according to IEC 68-1)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (according to IEC 721-3-3 Klasse 3K3)
Pollution degree:	2, if built-in 3 (according to IEC 664-1)
Vibration resistance:	10 to 55 Hz 0.35mm (according to IEC 68-2-6)
Shock resistance:	15g 11ms (according to IEC 68-2-27)

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

for function S:

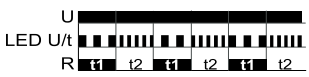
Time range (t1)	Adjustment range (t1)
10s	500ms - 10s
30s	1500ms - 30s
1min	3s - 1min
3min	9s - 3min

Transit time (t2): 40ms, 60ms, 80ms or 100ms selectable

Ip Asymmetric flasher pause first

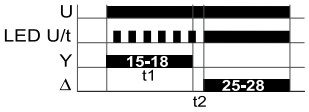
When the supply voltage U is applied, the set interval t1 begins (green LED U/t flashes slowly). After the interval t1 has expired, the output relay switches into on-position (yellow LED illuminated) and the interval t2 begins (green LED U/t flashes rapidly). After the interval t2 has expired, the output relay switches into off-position (yellow LED not illuminated).
The output relay is triggered in the ratio of the two set intervals until the supply voltage is interrupted.

Ii Asymmetric flasher pulse first



When the supply voltage U is applied, the output relay 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 rapidly). After the interval t2 has expired, the output relay switches into on-position again (yellow LED illuminated).
The output relay is triggered in the ratio of the two set intervals until the supply voltage is interrupted.

S Star-Delta start-up



When the supply voltage U is applied, the output relay for the star contactor switches into on-position (yellow LED illuminated) and the set star interval t1 begins (green LED U/t flashes). After the star interval t1 has expired (green LED U/t illuminated), the output relay for the star contactor switches into off-position (yellow LED not illuminated) and the set transit interval t2 begins. After the transit interval has expired, the output relay for the delta contactor switches into on-position.
To restart the function, the supply voltage must be interrupted and reapplied.

Automation Components

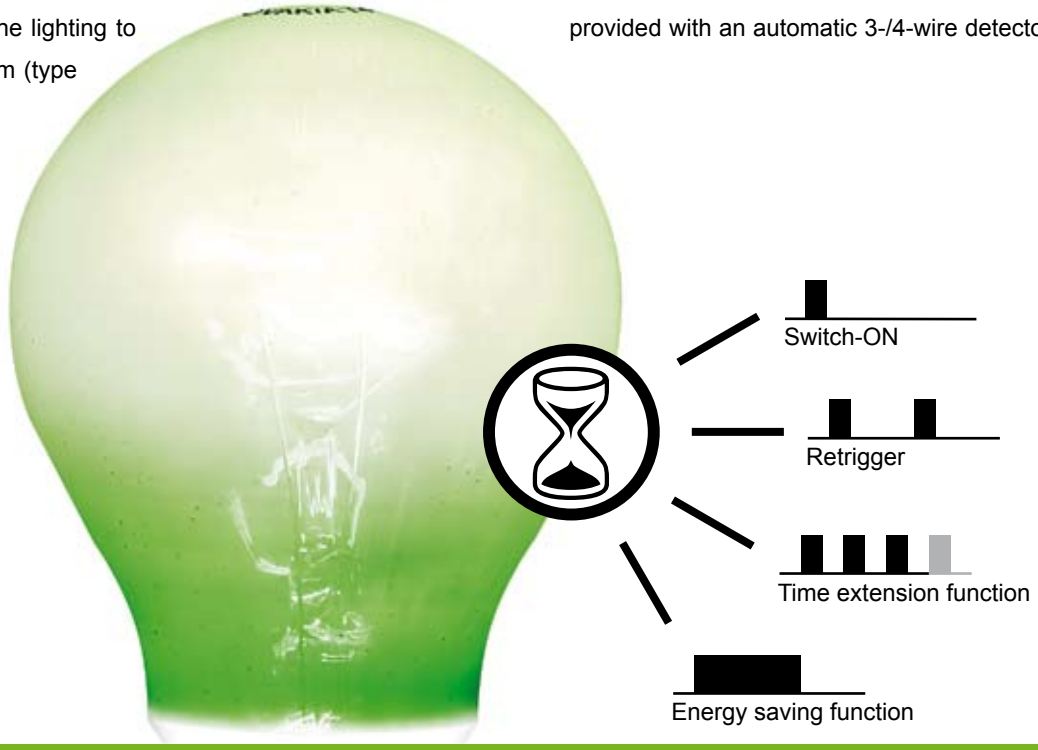
Light Control = Staircase lighting timer and impulse switch

The Light Controller is the newest innovation from TELE. It is innovative in combining a stairwell lighting timer and impulse switch in a single device. The changeover from lighting timer to low-noise impulse switch is accomplished by a small manual adjustment. Selecting the lighting timer or impulse switch mode can even be postponed until after the devices have been installed. This simplifies project planning and stockholding. The service technician always has the right device to hand.

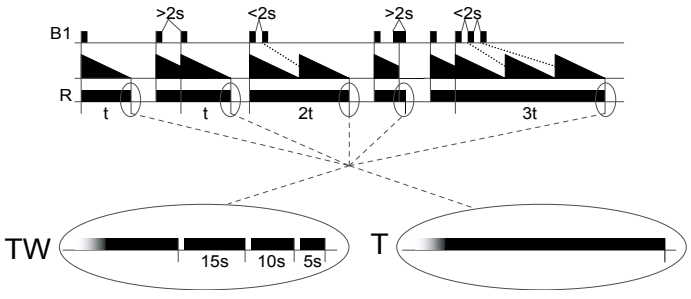
An additional, galvanic isolated input is optionally available, allowing the lighting timer to be also operated remotely. Using a single wire pair it is possible to switch the lighting for several floors from a central point or to link the lighting to the door-entry lock or intercom system (type E1ZTPNC).

What sets the integrated TELE staircase lighting timer apart from ordinary timers is its switch-off warning and energy-saving function. The time range can be set variably and lies between 0.5 and 12 min. Rapid (<2s), multiple pressing of the pushbutton adds 2, 3 or more time intervals together up to 60 minutes (time extension function).

Owing to its high switching capacity (up to 80A switching transients), the Light Controller is ideally suited to handling the high inrush currents of incandescent lamps. The electronic design made it possible to reduce the switching noise. Designed for installation applications with an overall width of 17.5mm, the device is provided with an automatic 3-/4-wire detector.

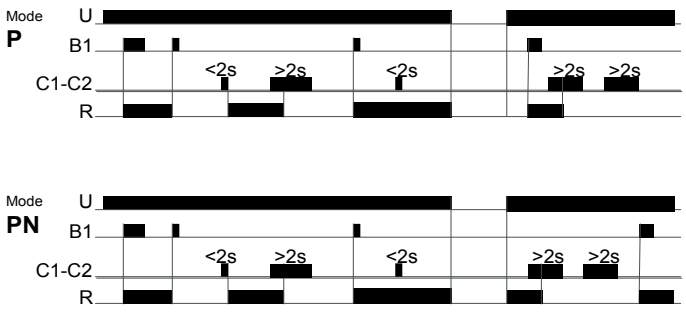


T, TW Automatic timer



After the pushbutton at B1 has been pressed, the output relay R closes (terminals L-18) and the set interval begins. If the pushbutton is pressed again before the interval t has expired, the interval begins again (restart function complies with EN 60669-2-3). Rapid, multiple pressing of the pushbutton (pumping) adds 2, 3 or more time intervals to extend the time up to 60min. Prolonged pressure on the button (>2s) aborts the interval running and switches the relay off (energy saving function). In the TW mode the device provides a switch-off warning (in accordance with DIN 180-15-2) by generating short pulses (flashing) at 30s, 15s and 5s prior to switch-off. The additional control input C1-C2 can be used in the T and TW modes to control the staircase lighting timer with a voltage of 8 to 230V AC/DC. This input can be used to start and restart the cycle. It cannot be used for switch-off (energy saving function) or for programming long intervals (pumping).

P, PN Impulse switch mode



In the impulse switch mode each press of the pushbutton causes the output relay R to change state. In the P function the output relay R is always in off-position after the supply voltage has been applied. In the PN function the relay R switches to on-position as soon as the supply voltage is applied, provided that it was in the on-position before the supply was removed.

Applying a short voltage pulse (<2s) to the additional control input C1-C2 activates the relay R (central ON).

A longer voltage pulse (>2s) causes deactivation of the relay R (central OFF).

Light Controller **Technical data**

Staircase lighting timer electronic

Switch-off warning

Restartable, time extension function programmable

Energy saving function

Impulse switch mode selectable

Low switching noise

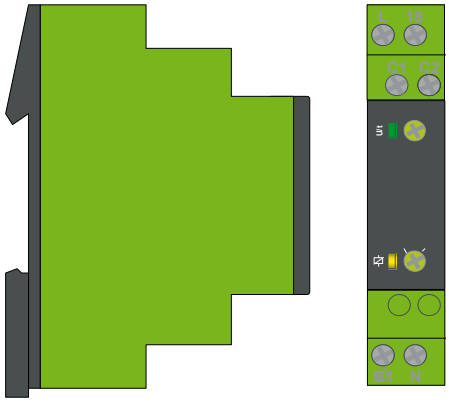
High switching capacity, 80A peak inrush current

Automatic 3-/4-wire detection

Push-button glow lamp load up to 100mA

Width 17.5 mm

Installation design



Functions
Electronic staircase lighting timer with switch-off warning. The control input allows the connection of pushbuttons with a total glow lamp load up to 100mA and enables the application in 3- or 4-wire circuits. The unit can be retriggered via the connected pushbuttons. A long keypress will switch off the light (energy saving function). A fast sequence of pushes (pumping) will extend the period to a multiple of the selected value. Depending upon distinct type, the following operating methods can be selected by the controls on the unit:

TW Automatic timer with switch-off warning
T Automatic timer without switch-off warning
1 Steady light (ON)
0 Switch-off
P Impulse switch mode without time function
PN Impulse switch mode power fail latch (type E1ZTPNC)

Indicators

Green LED U ON:	indication of supply voltage
Yellow LED ON/OFF:	indication of relay output

Output

Switching capacity (distance >5mm): 16A continuous current

Start-up peak (20ms):	80A
Mechanical life:	30 x 10^6 operations
Electrical life:	
Resistive load:	10^5 operations at 16A 250V
Lamp load:	80.000 operations at 1000W 250V

Control input B1

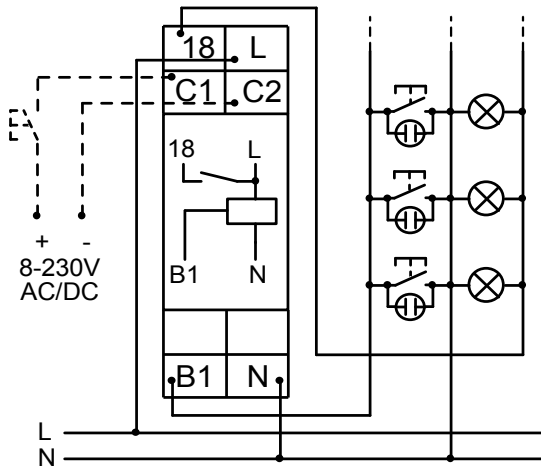
Connection not potential free:	pushbutton B1-N (3-wire circuit)
	pushbutton B1-L (4-wire circuit)
Glow lamp load:	max. 100mA parallel to the pushbuttons
Overload prodection:	yes, electronic

Additional control input (Typ E1ZTPNC)

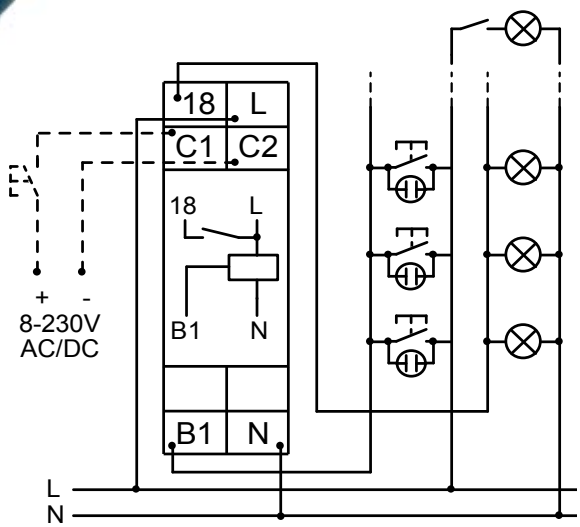
Connection:	control voltage on terminals C1(+)-C2
Voltage range:	8...230V AC/DC
Galvanic isolation:	yes, basic isolation
Overvoltage category:	III. (according to IEC 60664-1)
Rated surge voltage:	4kV

Quick Select				Functions					
Type	Supply voltage	Additional control input	Part Number	TW	T	1	0	P	PN
E1ZTP 230V AC	230VAC	no	110301	■		■	■	■	
E1ZTPNC 230V AC	230VAC	C1-C2	110300	■	■	■	■	■	■

3-wire-circuit



4-wire-circuit with attic illumination



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