

MODULAR DEVICES, MODULAR TIME AND MEASURING RELAYS

TOP-TECHNIC



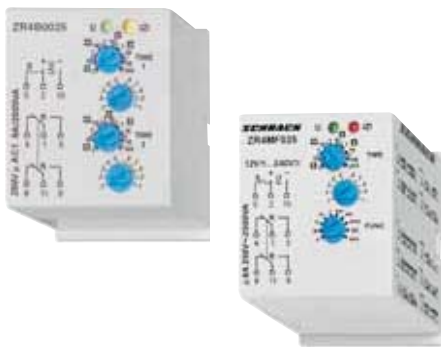
MODULAR DEVICES

TOP-TECHNIC



TIME AND MEASURING RELAYS,
SERIES ZR5000

TOP-TECHNIC



PLUG-IN TIMER RELAY, SERIES ZR4

TOP-TECHNIC



MEASURING- AND MONITORING RELAY

MODULAR DEVICES, MODULAR TIME AND MONITORING RELAYS

CONTENTS

MODULAR DEVICES

TIME RELAYS, SERIES ZR5000

PLUG-IN TIMER RELAYS, SERIES ZR4

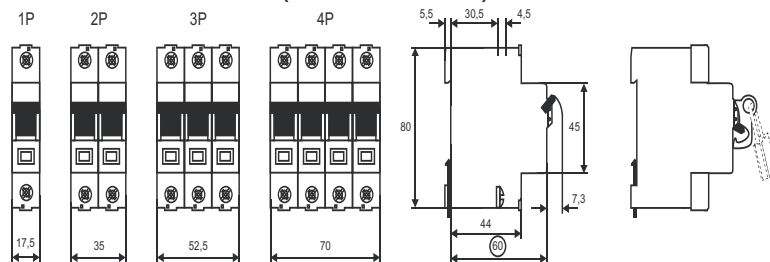
MONITORING RELAYS

MODULAR DEVICES

MAIN LOAD-BREAK SWITCH (ISOLATOR)



MAIN LOAD-BREAK SWITCH



SCHRACK-INFO

- Design meets IEC/EN 60947-3
- Load-break switch for continuous running
- Can be used as a main switch w/ isolating function
- Can come lead-sealed with locking option and accessories
- Can be used to switch motors & highly-inductive loads
- Rated voltage: 240/415 V, 50/60 Hz
- Max. permitted back-up fuse: 125 A
- High rated-isolation voltage: $U_i = 690$ V
- Thermic rated current: $I_n = 40/63/80/100/125$ A
- Rated current
AC 23...50 A
AC 22..0.100 A
- Conductor cross section: 50 mm²
- Fits RCCB and MCB rails

| RATED CURRENT/NR. POLES | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------|-----------------|-----------|
| 40 A/1-pole | 17,5x80x73,5 | BZ900241 |
| 40 A/2-pole | 35x80x73,5 | BZ900242 |
| 40 A/3-pole | 52,5x80x73,5 | BZ900243 |
| 40 A/4-pole | 70x80x73,5 | BZ900244 |
| 63 A/1-pole | 17,5x80x73,5 | BZ900261 |
| 63 A/2-pole | 35x80x73,5 | BZ900262 |
| 63 A/3-pole | 52,5x80x73,5 | BZ900263 |
| 63 A/4-pole | 70x80x73,5 | BZ900264 |
| 80 A/1-pole | 17,5x80x73,5 | BZ900281 |
| 80 A/2-pole | 35x80x73,5 | BZ900282 |
| 80 A/3-pole | 52,5x80x73,5 | BZ900283 |
| 80 A/4-pole | 70x80x73,5 | BZ900284 |
| 100 A/1-pole | 17,5x80x73,5 | BZ900201 |
| 100 A/2-pole | 35x80x73,5 | BZ900202 |
| 100 A/3-pole | 52,5x80x73,5 | BZ900203 |
| 100 A/4-pole | 70x80x73,5 | BZ900204 |
| 125 A/1-pole | 17,5x80x73,5 | BZ900221 |
| 125 A/2-pole | 35x80x73,5 | BZ900222 |
| 125 A/3-pole | 52,5x80x73,5 | BZ900223 |
| 125 A/4-pole | 70x80x73,5 | BZ900224 |

SERIES BM ON-OFF SWITCH, 40 A, 63 A



BM900011/BM900012/BM900013/BM900018

SCHRACK-INFO

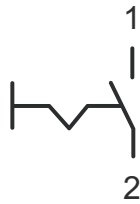
- Design meets IEC/EN 60947-3
- Rated voltage/frequency: 230/400 V AC, 50/60 Hz
- Conductor cross section: 1-25 mm²
- Finger and hand touch safe VBG 4 / EN/IEC 6
- Mounting system: special snap-on mounting for DIN rails EN 50 022
- Contact position indicator with coloured (red/green) window

| RATED CURRENT/NR. POLES | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------|-----------------|-----------|
| 40 A/1-pole | 17,5x80x75,5 | BM900011 |
| 40 A/2-pole | 35x80x75,5 | BM900012 |
| 40 A/3-pole | 52,5x80x75,5 | BM900013 |
| 40 A/3+N-pole | 70x80x75,5 | BM900018 |
| 63 A/1-pole | 17,5x80x75,5 | BM900014 |
| 63 A/2-pole | 35x80x75,5 | BM900015 |
| 63 A/3-pole | 52,5x80x75,5 | BM900016 |
| 63 A/3+N-pole | 70x80x75,5 | BM900019 |

SWITCH BZ SERIES, WITHOUT SIGNAL LAMP, 16 A



BZ107020



SCHRACK-INFO

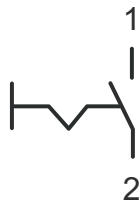
- Meets IEC EN 60947-3
- Rated voltage/frequency: 230/400V AC, 50/60 Hz
- Conductor cross section: 1-10 mm²
- Finger and hand touch protection BVG A3 / EN/IEC 6
- Mounting system: Special snap-on fastening for DIN rail EN 50 022

| RATED CURRENT/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|------------------------|-----------------|-----------|
| 16 A/1 NO | 17,5x90x65 | BZ107010 |
| 16 A/2 NO | 17,5x90x65 | BZ107020 |
| 16 A/1 NO / 1 NC | 17,5x90x65 | BZ107030 |
| 16 A/1 C/O | 17,5x90x65 | BZ107050 |

SWITCH BZ SERIES, WITHOUT SIGNAL LAMP, 32 A



BZ136010



SCHRACK-INFO

- Meets E C EN 60947-3
- Rated voltage/frequency: 230/400V AC, 50/60 Hz
- Conductor cross section: 1-10 mm²
- Finger and hand touch protection BVG A3 / EN/IEC 6
- Mounting system: Special snap-on fastening for DIN rail EN 50 022

| RATED CURRENT/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|------------------------|-----------------|-----------|
| 32 A/1 NO | 17,8x80x74,5 | BZ136010 |
| 32 A/2 NO | 17,8x80x74,5 | BZ136020 |
| 32 A/3 NO | 17,8x80x74,5 | BZ136030 |

MODULAR DEVICES

SWITCH BZ SERIES, WITH LED, 16 A



BZ127131

SCHRACK-INFO

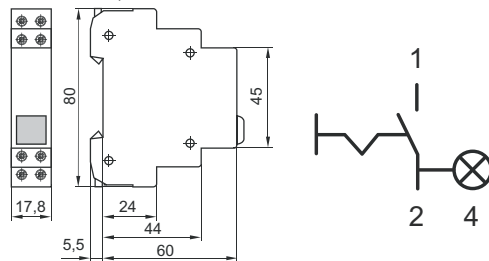
- Lamp: LED with a supply voltage of 24 V or 230 V AC/DC

| RATED CURRENT/CONTACTS/SIGNAL VOLTAGE | DIM. (WxHxD) mm | ORDER NO. |
|---------------------------------------|-----------------|-----------|
| 16 A/1 NO + 1 NC/24 AC/DC | 17,5x90x65 | BZ127131 |
| 16 A/2 NO / 24 AC/DC | 17,5x90x65 | BZ127121 |
| 16 A/1 NO + 1 NC /230 AC/DC | 17,5x90x65 | BZ117131 |
| 16 A/2 NO /230 AC/DC | 17,5x90x65 | BZ117121 |

SWITCH BZ SERIES, WITH SIGNAL LAMP, 32 A



BZ136130



SCHRACK-INFO

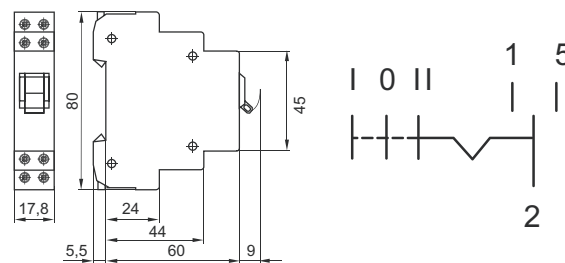
- Lamp: Glow lamp 250 V, E 10
- Clear hood pre-mounted
- Lamp (max. 2W) and hood are replaceable

| RATED CURRENT/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|------------------------|-----------------|-----------|
| 32 A/3 NO | 17,8x80x74,5 | BZ136130 |

CHANGEOVER SWITCH BZ SERIES, WITH ZERO POSITION



BZ106380



| RATED CURRENT/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|------------------------|-----------------|-----------|
| 16 A/1 C/O with 0 | 17,8x80x74,5 | BZ106380 |
| 16 A/2 C/O with 0 | 17,8x80x74,5 | BZ106390 |

PUSH-BUTTON SWITCH BZ SERIES



BZ107430



| RATED CURRENT/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|------------------------|-----------------|-----------|
| 16 A/1 NO | 17,5x90x65 | BZ107410 |
| 16 A/1 NO + 1 NC | 17,5x90x65 | BZ107430 |

PUSH-BUTTON SWITCH BZ SERIES, WITH LED



BZ117531

| RATED CURRENT/CONTACTS/SIGNAL VOLTAGE | DIM. (WxHxD) mm | ORDER NO. |
|---------------------------------------|-----------------|-----------|
| 16 A/1 NO + 1 NC / 24 V AC/DC | 17,5x90x65 | BZ127531 |
| 16 A/1 NO + 1 NC /230 V AC/DC | 17,5x90x65 | BZ117531 |

INDICATOR LIGHT BZ SERIES



BZ117904



BZ127908



BZ106800

| DESCRIPTION | ORDER NO. |
|-----------------------------------------------------------------------------------|-----------|
| Single light 12-24 V AC/DC | BZ127904 |
| Single light 110-240 V AC/DC | BZ117904 |
| Double light 12-24 V AC/DC red/green, 2-colour LED's red/green can be unclipped | BZ127908 |
| Double light 110-240 V AC/DC red/green, 2-colour LED's red/green can be unclipped | BZ117908 |
| Double light 12-24 V AC/DC red/green, 2-colour LED's red/green can be unclipped | BZ127908 |
| Indicator light with bulb | BZ106800 |

ACCESSORIES FOR BZ SERIES

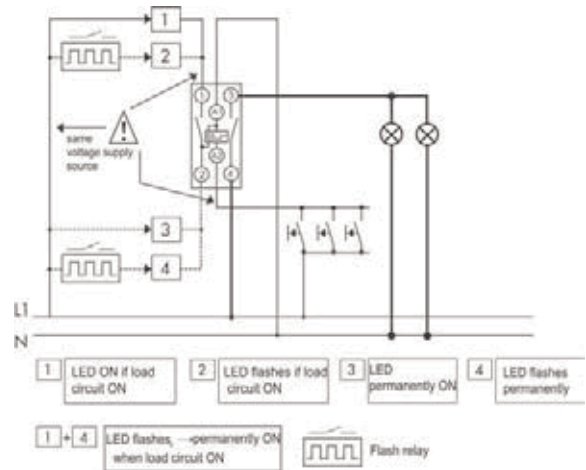
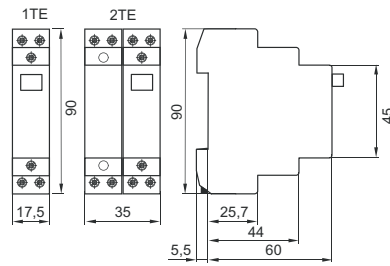
| DESCRIPTION | ORDER NO. |
|---------------------------------------------------------|-----------|
| Incandescent lamp 24 V | BZ336902 |
| Incandescent lamp 230 V | BZ336903 |
| Glow lamp, green 230 V (must be used with a green hood) | BZ900002 |

MODULAR DEVICES

MODULAR IMPULSE RELAY



LQ611230



SCHRACK-INFO

- 1 to 4-pole
- Main contacts
 - N/O 1, 2, 3 and 4 (1 MW)
 - C/O 1 and 2 (1-2 MW)
- Control circuit:
 - Control voltage Us: 8, 12, 24, 48, 230 V AC 50Hz
 - 8, 12, 24, 110 V DC
 - Range: 0,9 - 1,1 x Us
 - Pull-in power of coil: 12 VA / 7 W typ.
 - Minimum command time: > 200 ms
 - Duty cycle: 1 hr. unlimited with spacer
- Load circuit:
 - Rated operating voltage, 1-pole: 250 V AC; 2 / 3 / 4-pole: 240 / 415 V AC
 - Minimum operating voltage Umin: 24 V AC/DC
 - Rated voltage DC: 24 V Ie 16 A
 - 48 V Ie 12.5 A
 - 230 V Ie 1 A
 - Rated continuous current Iu: 16 A
 - Short circuit current: 10 kA (with 20 A gL/gG fuse)

- Service life: electrical: $\geq 40 \times 10^2$ operations
- mechanical: $\geq 1 \times 10^6$ operations
- Degree of protection: IP 20
- No restrictions on service position

- Terminals above and below with firmly-secured lift terminals
- Terminal cross section: 0.5-10 mm² single- and multi-wire
- 0.5-6 mm² fine wire with end sleeve
- Temperature range: -25° C to +45° C
- Contact material is Cadmium free
- Can be clipped onto top-hat rail EN50022

CERTIFICATIONS

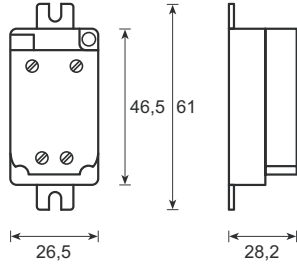
IEC/EN 60669-2-2

| DESCRIPTION / RATED VOLTAGE | ORDER NO. |
|--------------------------------------|-----------|
| Remote switch, 1 NO, 8 V AC | LQ611008 |
| Remote switch, 1 NO, 12 V AC | LQ611012 |
| Remote switch, 1 NO, 24 V AC/12 V DC | LQ611024 |
| Remote switch, 1 NO, 48 V AC/24 V DC | LQ611048 |
| Remote switch, 1 NO, 230 V AC | LQ611230 |
| Remote switch, 2 NO, 24 V AC/12 V DC | LQ612024 |
| Remote switch, 2 NO, 48 V AC/24 V DC | LQ612048 |
| Remote switch, 2 NO, 230 V AC | LQ612230 |
| Remote switch, 1 C/O, 230 V AC | LQ617230 |
| Remote switch, 2 C/O, 230 V AC | LQ618230 |
| Remote switch w/ LED, 2 NO, 230 V AC | LQ622230 |

IMPULSE RELAY 10 A, 250 V AC, 1 N/O



LQ203230



SCHRACK-INFO

- Operating voltage: 8, 24, 230 V AC
- Rated current: 10 A

RANGE OF APPLICATION

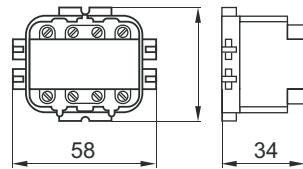
- For installation in wall boxes or snap-on mounting on DIN rails
- Contact load for fluorescent lamps: 36 lamps á 36 Watts, compensated

| CONTROL VOLTAGE/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------|-----------------|-----------|
| 24 V AC, 14 V DC/1 NO | 26,5x61x28,2 | LQ203024 |
| 24 V DC/1 NO | 26,5x61x28,2 | LQ213024 |
| 230 V AC, 127 V DC/1 NO | 26,5x61x28,2 | LQ203230 |
| Snap-on mounting on top-hat rail | 9x50x5 | LQ300008 |

IMPULSE RELAY 10 A, 250 V AC, 2 C/O



LQ207024



SCHRACK-INFO

- Operating voltage: 8, 24, 230 V AC
- Rated current: 10 A

RANGE OF APPLICATION

- For installation in wall boxes or snap-on mounting on DIN rails
- Contact load for fluorescent lamps: 36 lamps á 36 Watts, uncompensated
40 lamps á 36 Watts, compensated

| CONTROL VOLTAGE/CONTACTS | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------------------------|-----------------|-----------|
| 24 V AC, 12 V DC/2 C/O | 47x58x34 | LQ207024 |
| 230 V AC, 110 V DC/2 C/O | 47x58x34 | LQ207220 |
| Snap-on fastening for series 43, 2 pieces required | 5x40x30 | LQ300007 |

MODULAR DEVICES

SCHRACK COMMUNICATION CENTER II



BZ990000

SCHRACK-INFO

- Easily configured from your Internet browser - does not require any additional software
- Remotely configurable via a GSM modem using PPP
- Network connection and serial interface
- Low power consumption through low power support
- Monitoring via 2 analogue Pt100 and 6 digital inputs
- Ideal for remote monitoring of UR5 monitoring relay
- Controls 7 digital outputs
- Alarms sent via email and SMS
- Compact enclosure for top-hat mounting
- Supply voltage 12-24 V-DC
- Transposed network cable (for direct connection with PC included)
- Integrated Antenna

HEATING SYSTEMS, SHUTTERS, UPS'S, ALARM SYSTEMS

The SCHRACK Communication Center is your ideal partner for the remote monitoring and control of any system. Use the digital inputs to retrieve data directly from your system's auxiliary- and signal contacts (RCCB- or combined RCCB/MCB devices). You need to monitor voltages, currents, phase failures, etc? Then order the SCHRACK Communication Center with monitoring relays from or ZR5 series.

Up to 8 persons can be notified by email or SMS should any of the measured values stray from the standard range. All messages of course come in easy-to-follow plain text (pre-defined by customers) with an overview of all current values! Customers can also call up the status of the system at any time via SMS. Should technicians need to intervene directly in the system, they can switch on and off the 6 digital outputs of the SCHRACK Communication Center via SMS.

And what happens if a parameter or telephone number changes? Easy! All you need is nothing more than a laptop or PDA with a standard web browser and of course your mobile. You do not even need to visit the SCHRACK Communication Center. Without any fuss, you can simply dial into the device from your workstation and enter the new parameters on the SCHRACK Communication Center webpage.

POSSIBLE ACCESSORIES

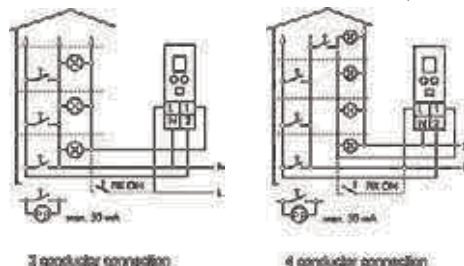
- Auxillary contacts for motor protection-, RCCB-, and combined RCCB/MCB devices
- BR900003 remote trip for BR series MCBs
- LP746101 modular PSU, 24V DC
- UR5..... Current-, voltage-, phase-, thermistor-, or level monitoring relays

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------|-----------------|-----------|
| Communication Center II | 105x86x64 | BZ990001 |
| Additional antenna with cable | - | BZ990000 |

TIMERS FOR STAIRCASE LIGHTING, COMFORT EDITION



BZ327210



SCHRACK-INFO

- 3/4 terminals, automatic detection
- Switching capacity 16 A/250 V AC
- Adjustable between 30 s and 20 min
- Lamp load:
Incandescent lamps 2300 W
Flourescent lamps: 2300 W DUO,
1000 W parallel
- Glow lamp proof, 50 push buttons x 1 mA
- Instant reset possible

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-----------------------------------------------|-----------------|-----------|
| Timer for staircase lighting, 17,5 mm 210 Lux | 17,5x60x45 | BZ327210 |

TIMERS FOR STAIRCASE LIGHTING, VOWA



BZ327350

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 (only for BZ327360)
- PN – Impulse switch mode power fail latch (only for BZ327360)

TECHNICAL DATA

1. Time range

Adjustment range
Time 0,5 - 12 min (in function T, TW)

2. Indicators

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

3. Mechanical design

Self-extinguishing plastic housing, IP rating IP 40
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. 1 Nm
Terminal capacity:

- 1 x 0.5 to 2.5 mm² with/without multicore cable end
- 1 x 4 mm² without multicore cable end
- 2 x 0.5 to 1.5 mm² with/without multicore cable end
- 2 x 2.5 mm² flexible without multicore cable end

4. Input circuit

Supply voltage: terminals L - N
Nominal voltage: 230 V AC
Tolerance: -15% to +10%
Rated consumption: 2 VA (1,0 W)
Rated frequency: AC 48 to 63 Hz
Duty cycle: 100%
Reset time: 500 ms
Hold-up time: -
Residual ripple for DC: -
Drop out voltage: >30%
Overvoltage category: III (according to IEC 60664-1)
Rated surge voltage: 4kV

5. Output

1 normally open contact: terminals L - 18
Rated voltage: 250 V AC
Switching capacity (distance <5 mm):
10 A continuous current
Switching capacity (distance >5 mm):
16 A continuous current
Start-up peak (20 ms): 80 A
Mechanical life: 30 x 10⁶ operations
Electrical life:
Resistive load: 10⁶ operations at 16 A 250 V
Lamp load: 80.000 operations at
1000 W 250 V

6. Control input B1

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

7. Additional control input BZ327360

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

8. Accuracy

Base accuracy: ±5% of maximum scale value
Adjustment accuracy: <15% of maximum scale value
Repetition accuracy: <2%
Voltage influence: -
Temperature influence: ≤1%

MODULAR DEVICES

TIMERS FOR STAIRCASE LIGHTING, VOWA – continued

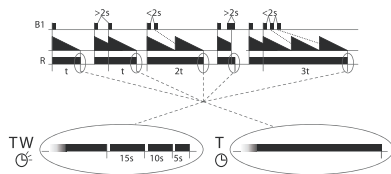
9. Ambient conditions

Ambient temperature: -25 to +55 °C
 Storage temperature: -25 to +70 °C
 Transport temperature: -25 to +70 °C
 Relative humidity: 15% to 85%
 (in according with IEC 60721-3-3 class 3K3)
 Pollution degree: 2, if built-in 3
 (in according with IEC 6064-1)

10. Functions

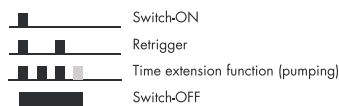
Function automatic timer (T, TW)

After the pushbutton at B1 has been pressed, the output relay R closes (terminals L-18) and the set interval t 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 60 min. 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 180-158-2) by generating short pulses (flashing) at 30 s, 15 s and 5 s prior to switch-off.



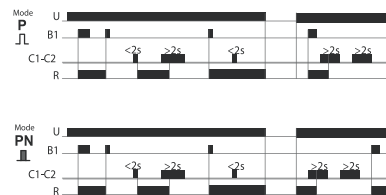
Operating possibilities at B1 in mode T and TW:

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 230 V AC/DC. This input can be used to start and restart the cycle. It cannot be used for switchoff (energy saving function) or for programming long intervals (pumping).



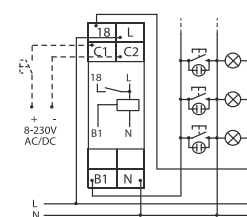
Impulse switch mode (P), (PN):

In this mode, every keypress toggles the output relay R (fl ip-fl op). In function P, the output relay R remains in off-position, whenever the supply voltage is applied. In function PN, the output relay R switches into on-position after applying the supply voltage U, if the output relay R was in on-position last before power failure. The output relay R switches into on-position, if a short voltage impulse ($<2s$) is applied to the additional control input (C1-C2). (central ON) A longer voltage impulse ($>2s$) opens the output relay R. (central OFF)

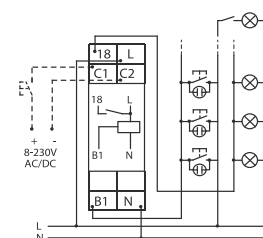


11. Connections

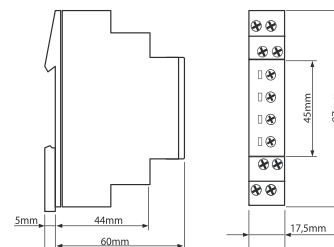
3-wire-circuit



4-wire-circuit with attic illumination



12. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|---------------------------|-----------------|-----------|
| Staircase timer VOWA | 17,5x87x65 | BZ327350 |
| Staircase timer VOWA-PLUS | 17,5x87x65 | BZ327360 |

SOCKET OUTLET WITH EARTH



YY492639



BZ325000-A

SCHRACK-INFO

- Cable cross-section 1-25 mm²
- Screw-mounting possible
- Rated current 10/16 A
- Rated voltage 250 V AC

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------------------------------|-----------------|------------|
| Socket outlet with earth | 52x76x65 | BZ325000-A |
| Socket outlet with plug; for french standard | 44,5x76x65 | BZ325001-A |
| Installation socket outlet, blue, screw terminals | 44,5x76x65 | YY492639 |
| Installation socket outlet, blue, screwless terminals | 44,5x76x65 | YY492637 |

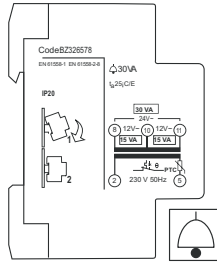
BELL TRANSFORMER, SHORT-CIRCUIT PROTECTED



BZ326577



BZ326578



SCHRACK-INFO

- Safety transformer with isolated windings
- Meets EN 61558-1-2-8
- Rated voltage 230 V 50 Hz
- Rated output 8, 15, 24, 30 VA
- Degree of protection IP40
- 100% operating time
- Including PTC

| INPUT/OUTPUT | DIM. (WxHxD) mm | ORDER NO. |
|------------------------------------------|-----------------|-----------|
| 230 V AC prim./4,8,12 V AC sec., 15 VA | 35x85x58 | BZ326577 |
| 230 V AC prim./12,12,24 V AC sec., 30 VA | 52x85x58 | BZ326578 |
| 230 V AC prim./12, 24 V AC sec., 63 VA | 105x85x65 | BZ326579 |

BELL AND BUZZERS, FOR INSTALLATION IN ENCLOSURE



BZ926338

SCHRACK-INFO

- Coil voltage: 12, 230 V AC
- Power consumption: 4.5 VA
- Cable cross-section, 10 mm²
- 75 dB
- Continuous load up to 12h possible

| DESCRIPTION/SUPPLY VOLTAGE | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------|-----------------|-----------|
| BELL | | |
| Bell, 1 MW/230 V AC | 17,5x86x67 | BZ926338 |
| Bell, 1 MW/12 V AC | 17,5x86x67 | BZ926351 |
| BUZZER | | |
| Bell, 1 MW/230 V AC | 17,5x86x67 | BZ926339 |
| Bell, 1 MW/12 V AC | 17,5x86x67 | BZ926353 |

MODULAR DEVICES

STABILISED POWER SUPPLIES, INSTALLATION DESIGN TYPE



LP746101

CERTIFICATIONS
EN 60742

SCHRACK-INFO

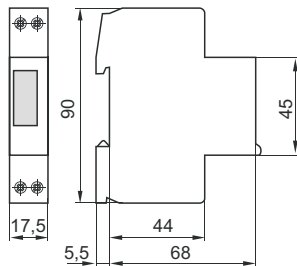
- Supply voltage: 230 V AC
- Frequency range: 48-63 Hz
- Output voltage: 12 V DC or 24 V DC
- Power loss: 4 VA
- Storage temperature: -20 °C to +60 °C
- Ambient operating temperature: -20 °C to +40 °C
- Test voltage: 4 kV
- Degree of protection: IP 20
- Terminals: 2.5 mm²

| OUTPUT CURRENT/MAX. POWER OUTPUT/ OUTPUT VOLTAGE | DIM. (WxHxD) mm | ORDER NO. |
|-----------------------------------------------------|-----------------|-----------|
| 1,25 A/30 W/24 V DC | 51x90x65 | LP746101 |
| 2,5 A/30 W/12 V DC | 51x90x65 | LP7431C2 |

MECHANICAL TIME SWITCH, 1 N/O, 24 HR.-PROGRAM



BZ326448



SCHRACK-INFO

- Minimum switching interval 30 min.
- Programming every 30 min.
- Model BZ 326 450 also available with 150 hr. power reserve
- Power consumption at 230 V AC: approx. 1 VA
- AC switching capacity:
 - resistive load (VDE, IEC) 16 A/250 V AC
 - inductive load p.f. 0,6 4 A/250 V AC
 - incandescent lamp load 1000 W
- Floating output
- Switching contacts: 1 N/O
- Protection class/degree of protection: II/IP 20
- Accuracy: BZ 326 448: synchronized with mains or $\pm 2,5s/$ day at +20° C with BZ 326 450
- Manual switch: Automatic/Fix ON

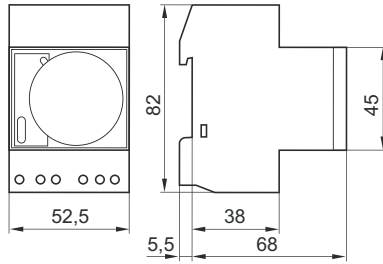
Mains-synchronous time switches must not be used when the quality of the mains supply is variable accuracy is dependent on the mains quality.

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------------------|-----------------|-----------|
| Mechanical time switch, synchronious | 17,5x90x68 | BZ326448 |
| Mechanical time switch, quartz | 17,5x90x68 | BZ326450 |

MECHANICAL CHANGEOVER SWITCH, 24-HR PROGRAM



BZ327031



SCHRACK-INFO

- Minimum switching interval 30 min.
- Programming every 30 min.
- Manual switch: Automatic/Fix ON/fix OFF
- Power consumption: approx. 1 VA
- AC switching capacity:
 - resistive load (VDE, IEC) 16 A/250 V AC
 - inductive load p.f. 0,6 4 A/250 V AC
 - incandescent lamp load 1350 W
- Floating output
- Switching contacts: 1 C/O
- Protection class/degree of protection: II/IP 20
- Accuracy: $\pm 2,5$ s/day at 20° C

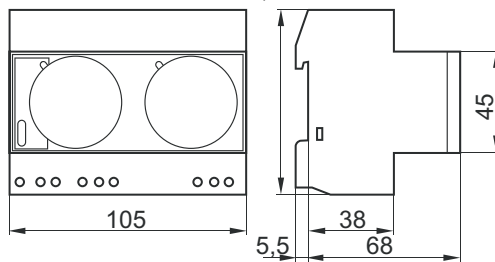
Mains-synchronous time switches must not be used when the quality of the mains supply is variable accuracy is dependent on the mains quality.

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------------|-----------------|-----------|
| Mechanical time switch, synchronous | 52,5x82x68 | BZ327031 |
| Mechanical time switch, quartz | 52,5x82x68 | BZ327131 |

MECHANICAL TIME SWITCH, 24 HR & 7-DAY PROGRAM



BZ326401



SCHRACK-INFO

- 150 hr. power reserve
- Minimum switching interval for 24-hr program (T): 30 mins.
- Minimum switching interval for 7-day program (W): 3 hrs.
- Programmable: T every 30 min., W every 3 hrs.
- T: 1 C/O, W: 1 C/O
- Power consumption: approx. 1 VA
- AC switching capacity:
 - resistive load (VDE, IEC) 16 A/250 V AC
 - inductive load p.f. 0,6 4 A/250 V AC
 - incandescent lamp load 1350 W
- Floating output
- Switching contacts: 2 C/O
- Protection class/degree of protection: II/IP 20
- Accuracy: typ. $\pm 2,5$ s/day at +20° C
- Manual switch: Automatic/Fix ON/fix OFF

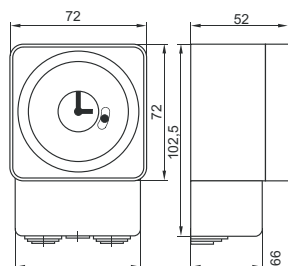
| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------------|-----------------|-----------|
| Mechanical time switch, quartz | 105x82x68 | BZ326401 |

MODULAR DEVICES

MECHANICAL CHANGEOVER SWITCH, 24-HR PROGRAM FOR SURFACE MOUNT



BZ326424



SCHRACK-INFO

- Minimum switching interval 15 min.
- Programming every 15 min.
- Switch status indicator

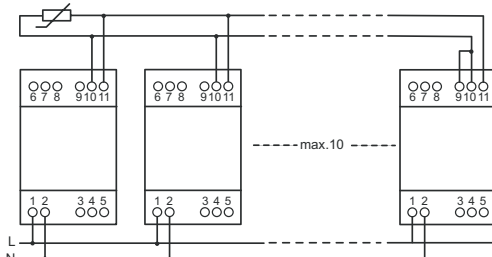
Mains-synchronous time switches must not be used when the quality of the mains supply is variable accuracy is dependent on the mains quality.

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------------|-----------------|-----------|
| Mechanical time switch, synchronous | 72x102,5x52 | BZ326424 |
| Mechanical time switch, quartz | 72x102,5x52 | BZ326484 |

TWILIGHT SWITCH WITH EXTERNAL SENSOR



bz327731



SCHRACK-INFO

- Light sensor
- 1 C/O, 1 N/O, or BZ 327711 with 1 N/C
- Switching status indicator
- Minimum switching interval 1 min.
- To the minute programming
- Switching capacity: 16 A/250 V AC
- Weekly time switch
- Power reserve: 3 years
- Date/time ex works
- 20 memory locations
- Captive program
- Fully-automatic summer & winter time conversion

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------------|-----------------|-----------|
| Twilight time switch 5-500 Lux | 52,5x82x68 | BZ327731 |
| Twilight switch 5-500 Lux | 17,5x82x68 | BZ327711 |
| Light sensor | 36x85x32 | BZ326325 |

DIGITAL DIN-RAIL TIME SWITCHES



BZ328371

SCHRACK-INFO

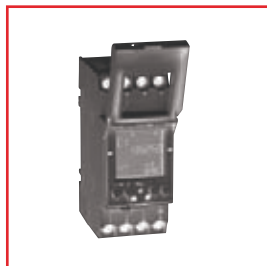
- Daily and weekly program
- 50 Memory spaces
- Automatic summertime/wintertime changeover
- 10 years running reserve
- Manual switch: FIX ON/FIX OFF
- Free weekday block formation
- Non-volatile memory (EEPROM)

TECHNICAL DATA

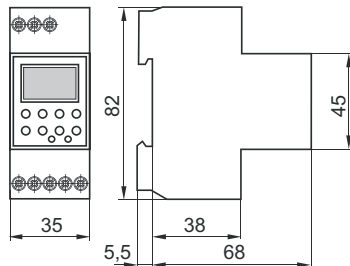
- Advertising signs
- Street lighting
- Shop window lighting
- Home & work environment
- Devices, motors and pumps control

| DESCRIPTION | LANGUAGE | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------------------|----------------------------|-----------------|-----------|
| Digital DIN-rail time switch 1 canal | D, GB, F, I, E, P, CZ, NL | 35x85x60 | BZ328371 |
| Digital DIN-rail time switch 2 canal | D, GB, F, I, E, P, CZ, NL | 35x85x60 | BZ328372 |
| Digital DIN-rail time switch 1 canal | GB, PL,S, N, DK, FIN, L, H | 35x85x60 | BZ328391 |
| Digital DIN-rail time switch 2 canal | GB, PL,S, N, DK, FIN, L, H | 35x85x60 | BZ328392 |

DIGITAL DIN-RAIL ASTRO TIME SWITCHES



BZ328A92



SCHRACK-INFO

- ASTRO function
- Automatic summertime/wintertime changeover
- 10 years running reserve
- Manual switch: FIX ON/FIX OFF
- Free weekday block formation
- Non-volatile memory (EEPROM)

TECHNICAL DATA

- Advertising signs
- Street lighting
- Shop window lighting

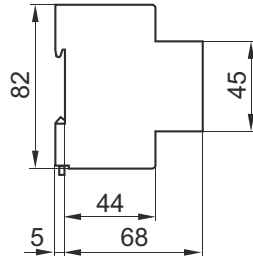
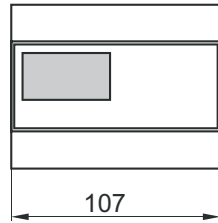
| DESCRIPTION | LANGUAGE | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------------------------|----------------------------|-----------------|-----------|
| Digital DIN-rail ASTRO time switch 1 canal | D, GB, F, I, E, P, CZ, NL | 35x85x60 | BZ328A71 |
| Digital DIN-rail ASTRO time switch 2 canal | D, GB, F, I, E, P, CZ, NL | 35x85x60 | BZ328A72 |
| Digital DIN-rail ASTRO time switch 1 canal | GB, PL,S, N, DK, FIN, L, H | 35x85x60 | BZ328A91 |
| Digital DIN-rail ASTRO time switch 2 canal | GB, PL,S, N, DK, FIN, L, H | 35x85x60 | BZ328A92 |

MODULAR DEVICES

4-CHANNEL 365-DAY TIME SWITCH



BZ327664



SCHRACK-INFO

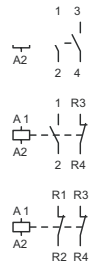
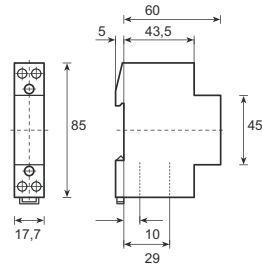
- Power reserve: 6 years
- 4 C/O
- 365-day switch
- Date/time ex works
- Minimum switching interval 1 min.
- To the minute programming
- Memory locations: 400
- Switch between summer and winter time fully automatically
- PC programming incl. software (in PC set)
- Transfer with PC set
- Captive program
- Impulse/cycle function
- Switch status indicator
- AC switching capacity:
 - resistive load (VDE, IEC) 16 A/250 V AC
 - inductive load p.f. 0,6 2,5 A/250 V AC
 - incandescent lamp load 1000 W
- Floating output
- Accuracy: ± 1 sec./day at +20° C
- Manual switch: Automatic/pre-selection
Fix ON/Fix OFF

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------------------------|-----------------|-----------|
| Digital 4-channel 365-day time switch w/ RF-trans. | 107x82x68 | BZ327664 |

MODULAR CONTACTORS 1/2-POLE



BZ326437



SCHRACK-INFO

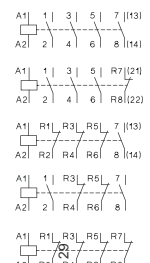
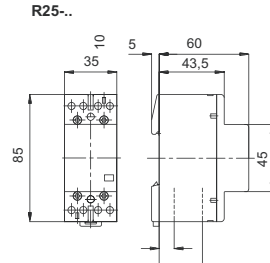
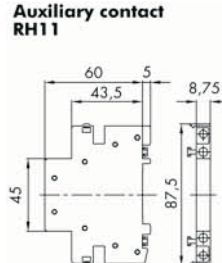
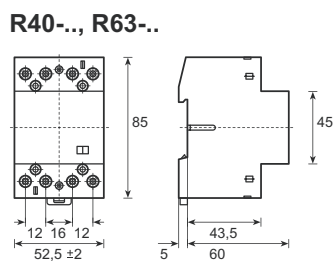
- Modular 1 module wide
- Technical data according to EN 60 947-4-1; EN 60 947-5-1; VDE 0660
- Terminal labels according to EN 50011
- Degree of protection IP 20
- AC1/230 V: 4,6 kW (20 A)
- Low-hum (ultra-quiet)

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|---------------------|-----------------|-----------|
| 1 NO / 230 V | 17,7x85x65 | BZ326471 |
| 2 NO / 24 V | 17,7x85x65 | BZ326453 |
| 2 NO / 230 V | 17,7x85x65 | BZ326437 |
| 1 NO + 1 NC / 24 V | 17,7x85x65 | BZ326421 |
| 1 NO + 1 NC / 230 V | 17,7x85x65 | BZ326438 |
| 2 NC / 230 V | 17,7x85x65 | BZ326439 |

MODULAR CONTACTORS 4-POLE



bz326442



SCHRACK-INFO

- Rated current: 25/40/63 A
- Technical data according to EN 60 947-4-1; EN 60 947-5-1; VDE 0660
- Terminal labels according to EN 50011
- Degree of protection IP 20
- AC1/230 V: 5,7 (25 A) / 9 (40 A) / 14,3 (63 A) kW
- AC1/400 V: 17 (25 A) / 27.5 (40 A) / 43 (63 A) kW
- Low-hum (ultra-quiet)

| RATED CURRENT/DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|------------------------------|-----------------|-----------|
| 25 A,4 NO / 24 V | 35x60,5x64 | BZ326460 |
| 25 A,4 NO / 230 V | 35x60,5x64 | BZ326461 |
| 25 A,3 NO + 1 NC / 24 V | 35x60,5x64 | BZ326462 |
| 25 A,3 NO + 1 NC / 230 V | 35x60,5x64 | BZ326463 |
| 25 A,1 NO + 3 NC / 24 V | 35x60,5x64 | BZ326464 |
| 25 A,1 NO + 3 NC / 230 V | 35x60,5x64 | BZ326465 |
| 40 A,2 NC + 2 NO / 230 V | 52,5x85x65 | BZ326466 |
| 25 A,4 NC / 230 V | 35x60,5x64 | BZ326467 |
| 40 A,3 NO / 230 V | 52,5x85x65 | BZ326468 |
| 63 A,4 NC / 230 V | 52,5x85x65 | BZ326469 |
| 40 A,4 NO / 24 V | 52,5x85x65 | BZ326443 |
| 40 A,4 NO / 230 V | 52,5x85x65 | BZ326442 |
| 63 A,4 NO / 24 V | 52,5x85x65 | BZ326445 |
| 63 A,4 NO / 230 V | 52,5x85x65 | BZ326444 |
| 63 A,3 NO + 1 NC / 230 V | 52,5x85x65 | BZ326452 |
| Auxiliary contact block 10 A | 8,75x85x65 | BZ326470 |

TIME RELAYS, SERIES ZR5000

GENERAL INFORMATIONS

TECHNICAL DATA

1. 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 |

2. 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 |

3. 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

4. Input circuit

| | |
|-------------------------|--------------------------------------|
| Supply voltage: | Terminals A1(+)-A2 |
| Types ZR5 12-240VAC/DC: | 12V to 240V AC/DC |
| Tolerance: | 12V-10% to 240V+10% |
| Types ZR5 24-240VAC/DC: | 24V 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 (in according with IEC 60664-1) |
| Rated surge voltage: | 4kV |

5. Output circuit

| | |
|--------------------------------------|------------------------------------------------------------------------|
| 1 potential free change over contact | |
| 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 ⁶ 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 |

6. 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 50 ms / AC 100 ms |

7. 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 |

8. 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, if built in 3 (in accordance with IEC 60664-1) |

TIME RELAYS, SERIES ZR5000

TIMER RELAY, ZR5 – GENERAL INFORMATIONS – continued

9. Function

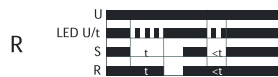
ON delay (E)

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 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.



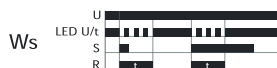
OFF delay (R)

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



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 S is closed, the output relay R switches into on-position (green LED U/t 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 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 trailing 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 S has no influence on the condition of the output 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 U/t flashes). After the interval t has expired (green LED U/t 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.



ON delay with control input (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 flashes). After the interval t has expired (green LED U/t 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.



Single shot leading edge voltage controlled (Wu)

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 U/t flashes). After the interval t has expired (green LED U/t 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 is erased and is restarted when the supply voltage is next applied.



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 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.

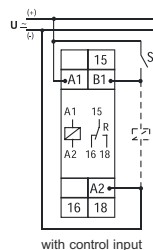


TIME RELAYS, SERIES ZR5000

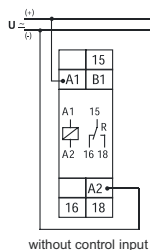
MULTIFUNCTIONAL RELAY, ZR5MF011



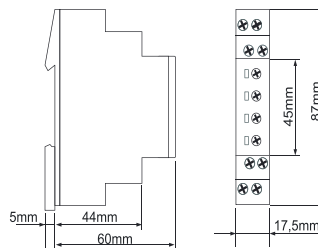
ZR5MF011



with control input



without control input



FUNCTION

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

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

Function sets of the distinct types are according to table ordering information or printing on the unit.

SCHRACK INFO

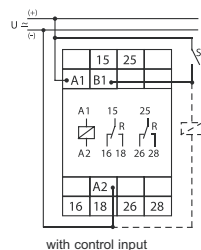
- Timers multifunctional
- Up to 7 functions
- 7 time ranges
- Wide input voltage range
- Width 17 mm
- Installation design

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------|-----------------|-----------|
| Multifunction time relay 1 CO | 17,5x87x65 | ZR5MF011 |

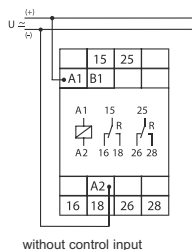
MULTIFUNCTIONAL RELAY, ZR5MF025



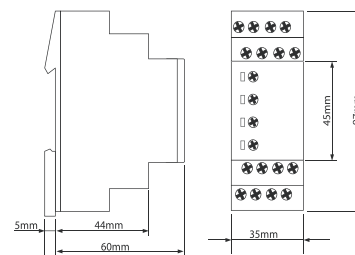
ZR5MF025



with control input



without control input



FUNCTION

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

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

Function sets of the distinct types are according to table ordering information or printing on the unit.

SCHRACK INFO

- Timers multifunctional
- Up to 7 functions
- 7 time ranges
- Wide input voltage range
- 2 change-over contacts
- Width 35 mm
- Installation design

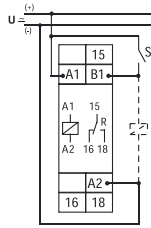
| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------|-----------------|-----------|
| Multifunction time relay 2 CO | 35x87x65 | ZR5MF025 |

TIME RELAYS, SERIES ZR5000

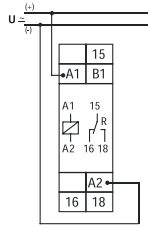
DUO-FUNCTION RELAY ZR5ER011



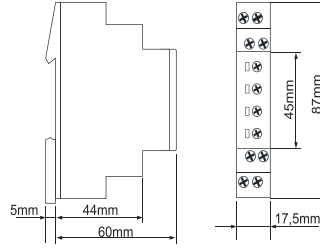
ZR5ER011



with control input



without control input



FUNCTION

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

E ON delay

R OFF delay

Function sets of the distinct types are according to table ordering information or printing on the unit.



SCHRACK INFO

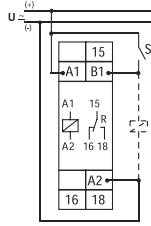
- Double function time relay
- Time range:
50ms – 100h setting
- Variance: 5% mechanical
- Repeat accuracy: >5%

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------|-----------------|-----------|
| Double function time relay E + R | 17,5x87x65 | ZR5ER011 |

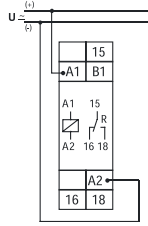
SINGLE-FUNCTION RELAY, OFF-DELAY ZR5R0011



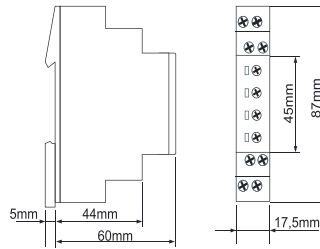
ZR5R0011



with control input



without control input



FUNCTION

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

R OFF delay

Function sets of the distinct types are according to table ordering information or printing on the unit.



SCHRACK INFO

- Single function time relay
- Time range:
50ms – 100h setting
- Variance: 5% mechanical
- Repeat accuracy: >5%

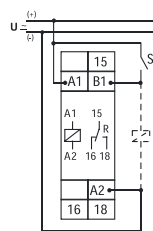
| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|------------------------------|-----------------|-----------|
| Single function time relay R | 17,5x87x65 | ZR5R0011 |

TIME RELAYS, SERIES ZR5000

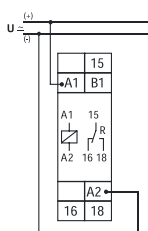
SINGLE-FUNCTION RELAY, ON-DELAY ZR5E0011



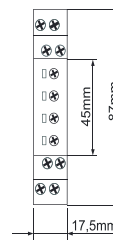
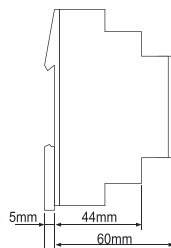
ZR5E0011



with control input



without control input



FUNCTION

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

E ON delay



SCHRACK INFO

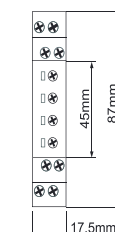
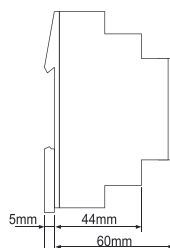
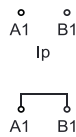
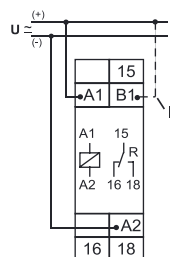
- Single function time relay
- Time range: 50ms – 100h setting
- Variance: 5% mechanical
- Repeat accuracy: >5%

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|------------------------------|-----------------|-----------|
| Single function time relay E | 17,5x87x65 | ZR5E0011 |

TIMER FLASHING ZR5B0011



ZR5B0011



SCHRACK INFO

- Asymmetric flasher
- 7 time ranges
- Wide input voltage range
- 1 change-over contact
- Width 17,5 mm
- Installation design

FUNCTION

1. Functions

- Ip Asymmetric flasher pause first
- Ii Asymmetric flasher pulse first

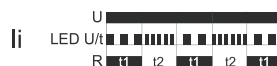
Asymmetric flasher pause first (Ip)

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.



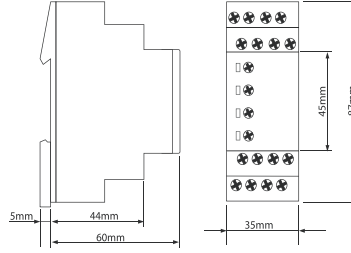
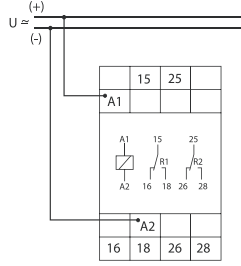
| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|------------------|-----------------|-----------|
| Asymmetric cyler | 17,5x87x65 | ZR5B0011 |

TIME RELAYS, SERIES ZR5000

STAR DELTA RELAY ZR5SD025



ZR5SD025



SCHRACK INFO

- Star-Delta start up
- 2 change-over contacts
- Wide input voltage range
- Width 35 mm
- Installation design

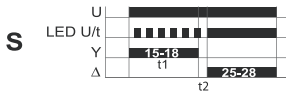
FUNCTION

1. Functions

S Star-delta start up

Star-delta start up

When the supply voltage U is applied, the star-contact switches into on-position (yellow LED illuminated) and the set star-time t_1 begins (green LED U/t flashes). After the interval t_1 has expired (green LED U/t illuminated), the star-contact switches into off-position (yellow LED not illuminated) and the set transit-time t_2 begins. After the interval t_2 has expired, the contact for the delta-contactor switches into on-position. To restart the function, the supply voltage must be interrupted and reapplied.



2. Time ranges

Start-up time

Time range Adjustment range

| | | |
|-------|--------|------|
| 10 s | 500ms | 10s |
| 30 s | 1500ms | 30s |
| 1 min | 3s | 1min |
| 3 min | 9s | 3min |

Transit time (fixed)

| |
|-------|
| 40ms |
| 60ms |
| 80ms |
| 100ms |

3. Indicators

Green LED U/t ON: indication of supply voltage delta-contactor in on-position (terminals 25-28)

Green LED U/t flashes: indication of time period star time

Yellow LED R ON/OFF: indication of star contactor (terminals 15-18)

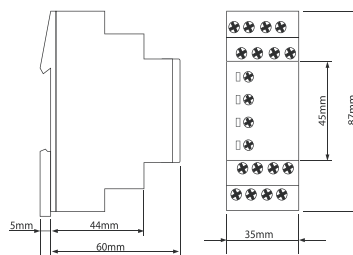
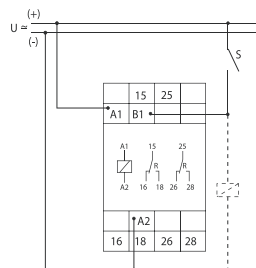
| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|------------------|-----------------|-----------|
| Star delta relay | 35x87x65 | ZR5SD025 |

TIME RELAYS, SERIES ZR5000

SERVICE RELAY ZR5B0025



ZR5B0025



SCHRACK INFO

- Asymmetric flasher, 2-time multifunctional
- 7 Time ranges
- Wide input voltage range
- 2 change-over contacts
- Width 35 mm
- Installation design

FUNCTION

1. Functions

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

- Ip Asymmetric flasher pause first
- li 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 trailing edge with control contact
- Wt Pulse sequence monitoring

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 (li)

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.



TIME RELAYS, SERIES ZR5000

SERVICE RELAY ZR5B0025 – continued

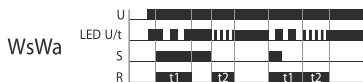
ON delay and single shot leading edge with control contact (EWs)

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.



2. 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, if built in 3 |
| | (in accordance with IEC 60664-1) |

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-----------------------------------|-----------------|-----------|
| Two-time multifunction time relay | 17,5x87x65 | ZR5B0025 |

PLUG-IN TIMER RELAY , SERIES ZR4

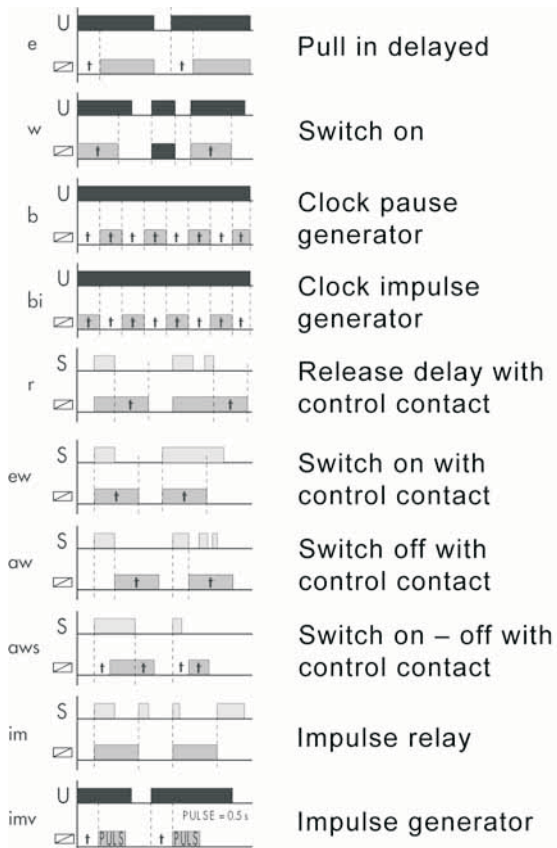
PLUG-IN TIME RELAY ZR4



ZR4B0025



ZR4MF025



SCHRACK INFO

- Time range ZR4B0025: 0,1 s - 100 days
- Time range ZR4MF025: 0,1 s - 10 days / ON / OFF
- Variance: 5 % - mechanical setting
- Repeat accuracy: 0,2 % - stability

OUTPUT

- Max. make current ZR4B0025: 10 A/< 3 s
- Max. make current ZR4MF025: 30 A/< 3 s
- Switch capacity ZR4B0025: 2000 VA/AC1, 192 W/DC
- Switch capacity ZR4MF025: 4000 VA/AC1, 384 W/DC
- Min switching capacity: DC 500 mW
- Load between S-A2: Yes
- Cannot connect flourescent lamps at control contact
- Control terminals: 2-5
- Control pulse duration: min. 25 ms/max. unlimited
- Recovery time: max. 150 ms

| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-------------------------------------|-----------------|-----------|
| Plug-in multifunctional relay | 38x50x53 | ZR4MF025 |
| Plug-in flasher relay, asymmetrical | 38x50x53 | ZR4B0025 |
| 11-pole screw-type socket | 38x62x26 | YMR78700 |

GENERAL INFORMATIONS

TECHNICAL DATA

1. 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

3. Accuracy

Base accuracy: ±5% of rated voltage
 Adjustment accuracy: 5% of maximum scale value
 Repetition accuracy: 2%
 Voltage influence: -
 Temperature influence: ≤ 1%

2. Output circuit

1 potential free change over contact
 Rated voltage: 250V AC
 Switching capacity: 1250VA (5A / 250V)
 Fusing: 5A fast acting
 Mechanical life: 20 x 10⁶ operations
 Electrical life: 2 x 10⁶ 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

4. 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 60721-3-3class 3K3)
 Pollution degree: 2, if built in 3

VOLTAGE MONITORING RELAY WITH ADJUSTABLE TIME RANGE URU20301



URU20301

SCHRACK INFO

- Voltage monitoring in 3-phase mains
- Undervoltage monitoring
- ON delay 5...15 min.
- Supply voltage = measuring voltage
- 1 change over contact
- Width 17.5 mm
- Installation design

1. Functions

Undervoltage monitoring for 3-phase mains with fixed threshold voltage and fixed hysteresis. All measuring inputs (L1, L2 and L3) must be connected to phase voltage. If single or 2-phase monitoring is required, unused input terminals (L) must be connected to mains voltage to have proper L-N voltage on the terminals L1, L2 and L3. If there is a reverse voltage on account of a consumer, which exceeds the fixed threshold, detection of phase failure isn't possible.

Undervoltage monitoring with ON delay (Option E)
 When the voltage of all connected phases exceeds the fixed threshold by more than the fixed hysteresis, the set interval t begins (green LED U/t flashes). After the set interval t has expired, the output relay R switches into on-position (yellow LED R illuminated, green LED U/t illuminated). When the voltage of one of the connected phases falls below the fixed threshold, the output relay R switches into off-position (yellow LED R not illuminated, green LED U/t not illuminated).

2. Time ranges

Time range Adjustment range
 Tripping delay: fixed, approx. 200ms
 ON delay t: 5min to 15min

3. Input circuit

Supply voltage: (=measuring voltage)
 Terminals: N-L1-L2-L3
 Rated voltage U_N: 3N~400/230V
 Tolerance: -30% to +15% of U_N
 Rated consumption: 6VA (0,8W)
 Rated frequency: 48 to 63Hz
 Duty cycle: 100%
 Reset time: 500ms
 Hold-up time: -
 Drop out voltage: determined by undervoltage detection (see measuring circuit)
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4kV (in accordance with IEC 60664-1)

MONITORING RELAYS

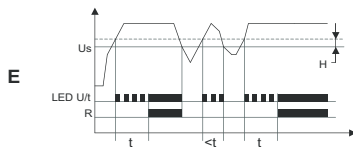
VOLTAGE MONITORING RELAY WITH ADJUSTABLE TIME RANGE URU20301 – continued

4. Indicators

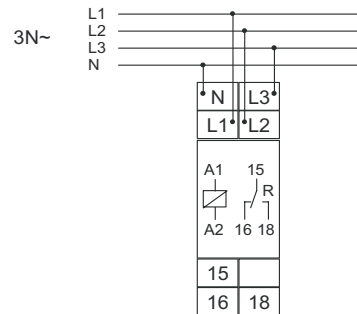
Green LED U/t ON: all 3 tensions are allright
 Green LED U/t flashes: indication of time period
 Yellow LED ON/OFF: indication of relay output

5. Measuring circuit

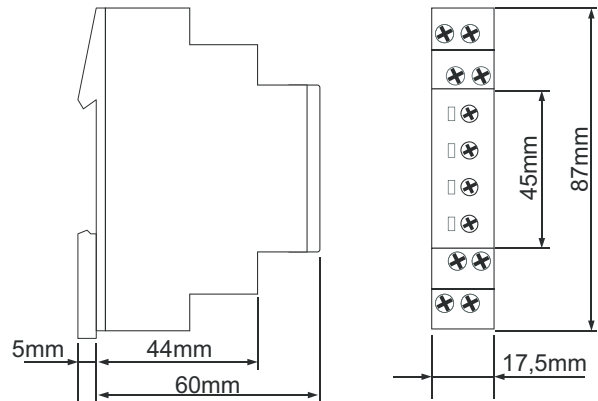
Measuring variable: AC sinus, 48 to 63Hz
 Measuring input: (=supply voltage)
 Terminals: N-L1-L2-L3
 Overload capacity: determined by tolerance specified for supply voltage
 Input resistance: -
 Switching threshold U_s : fixed 165V (L-N)
 Hysteresis H: approx. 5%
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4kV



6. Connections



7. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------|-----------------|-----------|
| Voltage monitoring relay | 17,5x87x65 | URU20301 |

1PH. VOLTAGE MONITORING RELAY UR5U1011



UR5U1011

SCHRACK INFO

- AC/DC voltage monitoring in 1-phase mains
- Undervoltage monitoring
- 1 change over contact
- Width 17.5 mm
- Installation design

TECHNICAL DATA

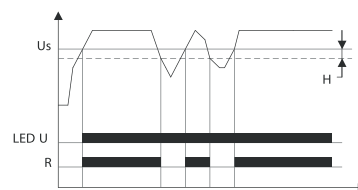
1. Functions

AC/DC undervoltage monitoring in 1-phase mains with adjustable threshold and fixed hysteresis.

UNDER Undervoltage monitoring

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

The output relay R switches into on-position (yellow LED illuminated) when the measured voltage U exceeds the value adjusted at the U_s regulator. The output relay R switches into off-position (yellow LED not illuminated) when the measured value for the voltage falls below the set value by more than the fixed hysteresis.



2. Time ranges

Adjustment range

Tripping delay (Delay): -

3. Indicators

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

MONITORING RELAYS

1PH. VOLTAGE MONITORING RELAY UR5U1011 – continued

4. Input circuit

Supply voltage: (= measuring voltage)
 Terminals:
 230V AC E-F3
 24V AC E-F2 (distance > 5mm)
 24V DC E-F1(+)
 Rated voltage U_N : see table ordering information or printing on the unit
 Tolerance: -25% to +20% of U_N

Rated consumption:

230V AC 10VA (0.6W)
 24V AC 1.3VA (0.8W)
 24V DC 0.6W

Rated frequency: AC 48 to 63Hz

Duration of operation: 100%

Reset time: 500ms

Wave form: DC, AC Sinus

Hold-up time: -

Drop-out voltage: > 60% of supply voltage

Overvoltage category: III (according to IEC 60664-1)

Rated surge voltage: 4kV

5. Measuring circuit

Measuring variable: DC or AC Sinus, 48 to 63Hz

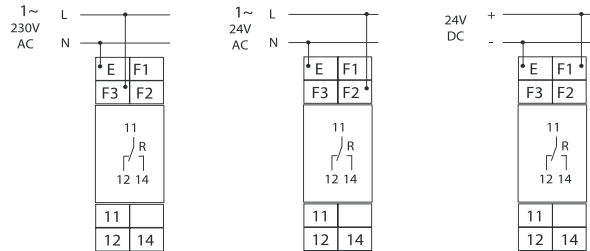
Measuring input: (= supply voltage)

Terminals:

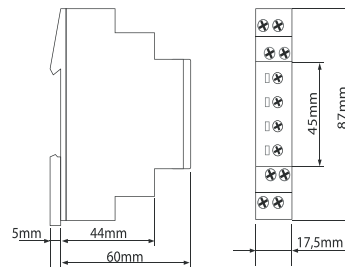
230V AC E-F3
 24V AC E-F2 Distance between the devices must be greater than 5mm!
 24V DC E-F1(+)

Overload capacity: 120% of U_N
 Input resistance: -
 Switching threshold U_S : 75% – 115%
 Hysteresis H: fix 5%
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4kV

6. Connections



7. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------|-----------------|-----------|
| Voltage monitoring relay 1-phase | 17,5x87x65 | UR5U1011 |

3PH. VOLTAGE MONITORING RELAY WITH ADJUSTABLE VOLTAGE RANGE



UR5U3011

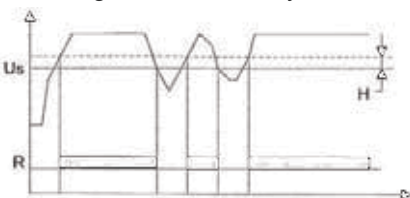
SCHRACK INFO

- Voltage monitoring in 3-phase mains
- Undervoltage monitoring
- Supply voltage = measuring voltage
- 1 change over contact
- Width 17.5 mm
- Installation design

TECHNICAL DATA

1. Functions

Undervoltage monitoring in 3-phase mains (each phase against the neutral wire) with fixed or variable threshold voltage U_S and fixed hysteresis.



2. Time range

Tripping delay : Adjustment range fixed, approx. 200ms

3. Indicators

Green LED L1 ON/OFF: indication of supply voltage L1-N
 Green LED L2 ON/OFF: indication of supply voltage L2-N
 Green LED L3 ON/OFF: indication of supply voltage L3-N
 Yellow LED ON/OFF: indication of relay output

MONITORING RELAYS

3PH. VOLTAGE MONITORING RELAY WITH ADJUSTABLE VOLTAGE RANGE – continued

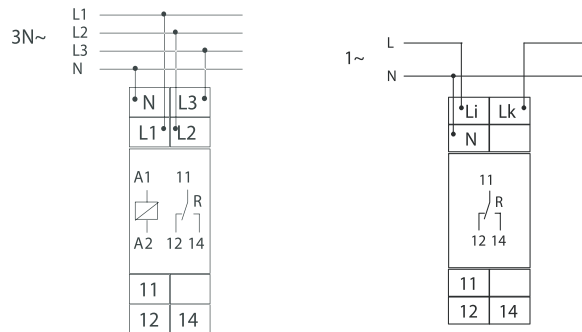
4. Input circuit

Supply voltage: (= measured voltage)
 Terminals: N-L1-L2-L3
 Rated voltage U_N : see table ordering information or printing on the unit
 Tolerance: -30% to +10% of U_N
 Rated consumption: 8VA (0,8W)
 Rated frequency: AC 48 to 63Hz
 Duty cycle: 100%
 Reset time: 500ms
 Hold-up time: -
 Drop out voltage: determined by undervoltage detection (see measured circuit)
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4kV

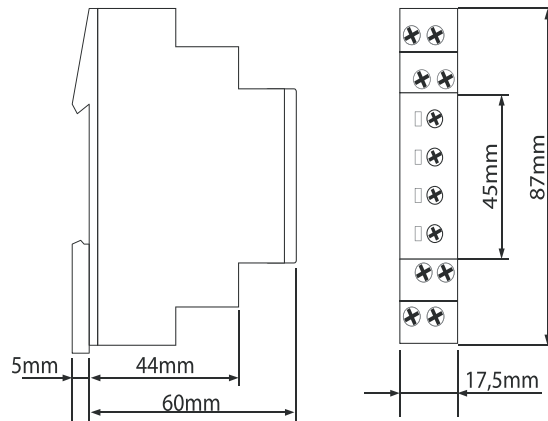
5. Measuring circuit

Measuring variable: AC sinus, 48 to 63Hz
 Measuring input: (= supply voltage)
 Terminals: N-L1-L2-L3
 Overload capacity: determined by tolerance specified for supply voltage
 Input resistance: -
 Switching threshold U_S : see table ordering information or printing on the unit
 Hysteresis H: approx. 5%
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4kV

6. Connections



7. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------|-----------------|-----------|
| Voltage monitoring relay 3-phase | 17,5x87x65 | UR5U3011 |

THERMISTOR MONITORING RELAY UR5R1021



UR5R1021

SCHRACK INFO

- Tripping unit for temperature monitoring of the motor winding with and without short circuit monitoring of the thermistor line(selectable by means of terminals)
- Optional evaluation of one thermal contact
- Test function with integrated reset key
- Rated isolated voltage on the sensor circuit up to 690V
- 1 change over contact
- Width 35mm
- Installation design

TECHNICAL DATA

1. Functions

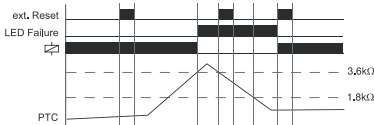
Temperature monitoring of the motor winding (max. 6 PTC) with fault latch for temperature sensors in accordance with DIN 44081, short circuit monitoring of the thermistor line (selectable by means of terminals), integrated test/reset key.

MONITORING RELAYS

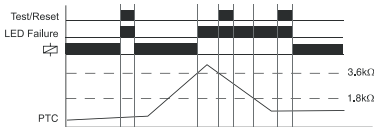
THERMISTOR MONITORING RELAY UR5R1021– continued

Temperature monitoring of the motor winding with fault latch. If the supply voltage U is applied (green LED illuminated) and the cumulative resistance of the PTC-circuit is less than $3.6k\Omega$ (standard temperature of the motor), the output relay switches into on-position. Pressing the test/reset key under this conditions forces the output relay to switch into off-position. It remains in state as long as the test/reset key is pressed and thus the switching function can be checked in case of fault. The test function is not effective by using an external reset key. When the cumulative resistance of the PTC-circuit exceeds $3.6k\Omega$ (at least one of the PTCs has reached the cut-off temperature), the output relay switches into off-position (red LED illuminated). The output relay switches into on-position again (red LED not illuminated), if the cumulative resistance drops below $1.6k\Omega$ by cooling down of the PTC and either a reset key (internal or external) was pressed or the supply voltage was disconnected and re-applied.

Application of an external Reset



Application of internal Test/Reset - key



2. Time ranges

| | Adjustment range |
|------------------------------------|------------------|
| Start-up suppression time (Start): | - |
| Tripping delay (Delay): | - |

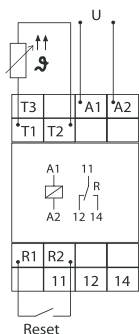
3. Indicators

| | |
|-----------------|------------------------------|
| Green LED ON: | indication of supply voltage |
| Red LED ON/OFF: | indication of failure |

4. Connections

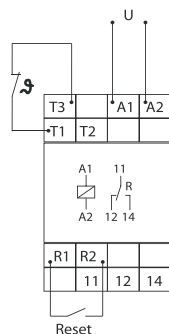
Monitoring

Temperature sensor



Monitoring

Thermal contact



5. Input voltage

| | |
|--------------------------------|--------------------------------------|
| Supply voltage: | 230V AC |
| Terminals: | A1-A2 |
| Rated voltage U _N : | 230V AC |
| Tolerance: | -15% to +10% of U _N |
| Rated consumption: | 1,3VA (1W) |
| Rated frequency: | AC 48 to 63Hz |
| Duty cycle: | 100% |
| Reset time: | 250ms |
| Residual ripple for DC: | 50ms |
| Drop-out voltage: | >30% of the supply voltage |
| Overvoltage category: | III (in accordance with IEC 60664-1) |
| Rated surge voltage: | 6kV |

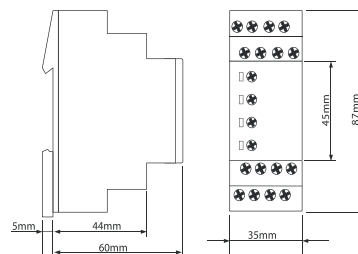
6. Measuring circuit

| | |
|-------------------------------------------|----------------------------------------------------------------------|
| Terminals: | T1-T2 or T1-T3 |
| Initial resistance: | <1.5kΩ |
| Response value (relay in off-position): | ≤ 3.6kΩ |
| Release value (relay in on-position): | ≤ 1.65kΩ |
| Disconnection (short circuit thermistor): | yes at T1-T2 no at T1-T3 |
| Measuring voltage T1-T2: | ≤ 7.5V _{DC} at R ≤ 4.0kΩ (in accordance with EN 60947-8) |
| Overvoltage category: | III (in accordance with IEC 60664-1) |
| Rated surge voltage: | 6kV |

7. Control contact R

| | |
|-----------------------|-------------------------------------------------------|
| Function: | connection of an external reset key |
| Loadable: | no |
| Line length R1-R2: | max. 10m (twisted pair) |
| Control pulse length: | min. 50ms |
| Reset: | potential free normally open contact, terminals R1-R2 |

8. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|-----------------------------|-----------------|-----------|
| Thermistor-monitoring relay | 35x87x65 | UR5R1021 |

MONITORING RELAYS

LEVEL MONITORING RELAY UR5L1021



UR5L1021

SCHRACK INFO

- Level monitoring of conductive liquids
- Multifunction
- Secure isolation of the measuring circuit
- 1 change over contact
- Width 35mm
- Installation design

TECHNICAL DATA

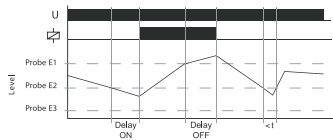
1. Functions

Level monitoring of conductive liquid, timing for tripping delay and turn-off delay separately adjustable and the following functions (selectable by means of rotary switch):

- Pump up pump up or minimum monitoring
 Pump down pump down or maximum monitoring

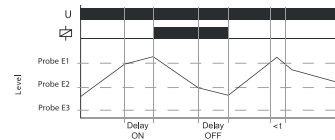
Pump up

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the air-fluid level falls below the minimum probe E2 the set interval of tripping delay (Delay ON) begins. After the expiration of the interval, the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level again rises above the maximum probe E1, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval the output relays R switches into off-position (yellow LED not illuminated).

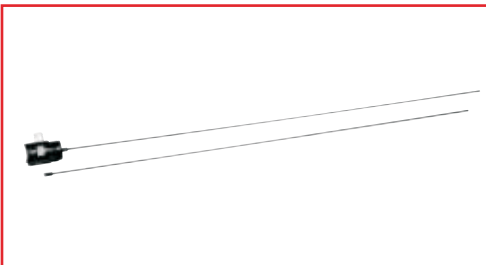


Pump down

Connection of the probe rods E1, E2 and E3. Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the maximum probe E1 gets moistened the set interval of tripping delay (Delay ON) begins. After the expiration of the interval the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level falls below the minimum probe E2, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval, the output relays R switches into off-position (yellow LED not illuminated).



PROBES FOR LEVEL MONITORING



URL9001

SCHRACK INFO

- URL 90010, URL 90020, URL 90030 types are coated with Nylon 66
- Operating temperature max. 70 °C
- Maximum pressure 1000 kPa
- Can be used universally except for special areas of the food industry where Nylon 66 is not approved for use as an insulator.

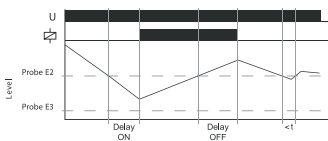
| DESCRIPTION | ORDER NO. |
|------------------------------|-----------|
| Level sensor, 1 rod | URL90010 |
| Level sensor, 2 rods | URL90020 |
| Level sensor, 3 rods | URL90030 |
| Sensor rod extension, 900 mm | URL90011 |

MONITORING RELAYS

LEVEL MONITORING RELAY UR5L1021 – continued

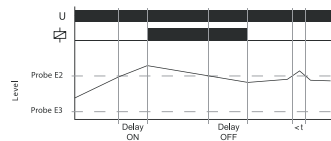
Minimum monitoring (Pump up)

Connection the probe rods E2 and E3 (bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the air-fluid level falls below the probe E2 the set interval of tripping delay (Delay ON) begins. After the expiration of the interval, the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level again rises above the probe E2, the set interval of turnoff delay (Delay OFF) begins. After the expiration of the interval the output relays R switches into off-position (yellow LED not illuminated).



Maximum monitoring (Pump down)

Connection of probe rods E2 and E3 (bridge E1-E3). Alternatively the electrically conducting container can be connected in lieu of the test probe E3. When the probe E2 gets moistened the set interval of tripping delay (Delay ON) begins. After the expiration of the interval the output relays R switches into on-position (yellow LED illuminated). When the air-fluid level sinks below the probe E2, the set interval of turn-off delay (Delay OFF) begins. After the expiration of the interval the output relays R switches into off-position (yellow LED not illuminated).



2. Time ranges

Adjustment range

Tripping delay (Delay ON): 0.5s to 10s

Turn-off delay (Delay OFF): 0.5s to 10s

3. Indicators

Green LED ON: indication of supply voltage

Yellow LED ON/OFF: indication of output relay

4. Input circuit

Terminals: A1-A2

Rated voltage U_N : 230V AC

Tolerance: -15% of +10% of U_N

Rated consumption: 2VA (1.0W)

Rated frequency: AC 48 to 63Hz

Duty cycle: 100%

Reset time: 500ms

Hold-up time: -

Drop-out voltage: >30% of supply voltage

Overvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 6kV

5. Measuring circuit

Measuring input: conductive probes
(Type SK1, SK2, SK3)

Terminals: E1-E2-E3

Sensitivity: 0,25 to 100k Ω (4mS to 10 μ S)

Sensor voltage: 12V AC

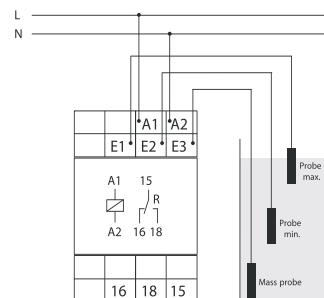
Sensor current: max. 7mA

Wiring distance (capacity of cable 100nF/km):
max. 1000m (set value <50%)
max. 100m (set value 100%)

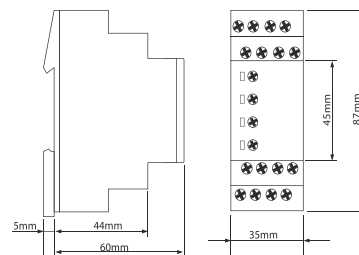
Overvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 6kV

6. Connections



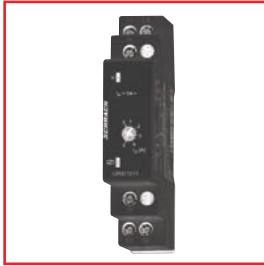
7. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|------------------------|-----------------|-----------|
| Level monitoring relay | 35x87x65 | UR5L1021 |

MONITORING RELAYS

CURRENT MONITORING RELAY UR5I1011



UR5I1011

SCHRACK INFO

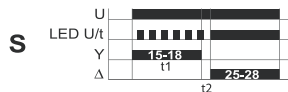
- AC current monitoring in 1-phase mains
- 1 change over contact
- Width 17.5 mm
- Installation design

TECHNICAL DATA

1. Functions

AC current monitoring in 1-phase mains with adjustable threshold and fixed hysteresis.

The supply voltage U must be constantly applied to the device (green LED illuminated). The output relay R switches into on-position (yellow LED illuminated) when the measured current exceeds the value adjusted at the Isregulator. The output relay R switches into off-position (yellow LED not illuminated) when the measured value for the current falls below the set value by more than the fixed hysteresis.



2. Time ranges

Adjustment range

Tripping delay (Delay): -

3. Indicators

Green LED ON: indication of supply voltage

Yellow LED ON/OFF: indication of relay output

4. Input circuit

Supply voltage: 230 V AC

Terminals: Li-N

Tolerance: -15% to +15% of U_N

Rated consumption: 5 VA (0,8 W)

Rated frequency: AC 48 to 63 Hz

Duty cycle: 100%

Reset time: 500 ms

Wave form: Sinus

Hold-up time: -

Drop out voltage: >20% of rated voltage

Overvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 4 kV

5. Measuring circuit

Measuring variable: AC sinus, 48 to 63 Hz

Measuring input: 5 A AC

Terminals: Li, Lk

Overload capacity: 7 A

Input resistance: 10 mΩ

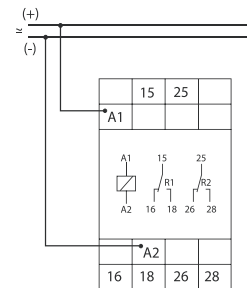
Switching threshold Is: 10% to 100% of In

Hysteresis H: fixed 10%

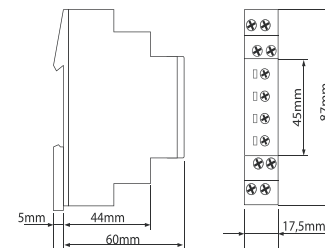
Overvoltage category: III (in accordance with IEC 60664-1)

Rated surge voltage: 4 kV

6. Connections



7. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|----------------------------------|-----------------|-----------|
| Current monitoring relay 1-phase | 17,5x87x65 | UR5I1011 |

PHASE MONITORING RELAY UR5P3011



UR5P3011

SCHRACK INFO

- Voltage monitoring in 3-phase mains
- Monitoring of phase sequence, phase failure, asymmetrie

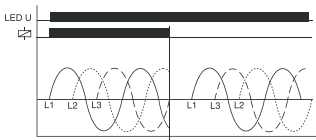
TECHNICAL DATA

1. Functions

Monitoring of phase sequence, phase failure and asymmetry with adjustable asymmetrie, connection of neutral wire optional.

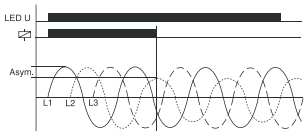
Phase sequence monitoring

When all the phases are connected in the correct sequence and the measured asymmetry is less than the fixed value, the output relay switches into on-position (yellow LED illuminated). When the phase sequence changes, the output relay switches into off-position (yellow LED not illuminated).



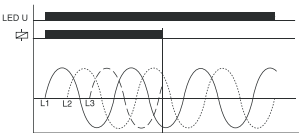
Asymmetry monitoring

The output relay R switches into off-position (yellow LED not illuminated) when the asymmetrie exceeds the value set at the ASYM-regulator. Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection.



Phase failure monitoring

The output relay switches into off-position (yellow LED not illuminated), when one of the three phases fails.



2. Time ranges

Tripping delay: fixed, approx. 100 ms

3. Indicators

Green LED ON: indication of supply voltage

Yellow LED ON/OFF: indication of relay output

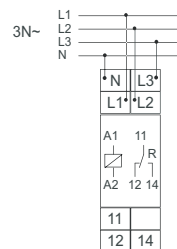
4. Input circuit

Supply voltage: (= measured voltage)
 Terminals: (N)-L1-L2-L3
 Rated voltage U_N : 3(N)~400/230V AC
 Tolerance: -30% to +30% of U_N
 Rated consumption: 8 VA (0,8 W)
 Rated frequency: AC 48 to 63 Hz
 Duty cycle: 100%
 Reset time: 500 ms
 Hold-up time: -
 Drop out voltage: >20% of the supply voltage
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4 kV

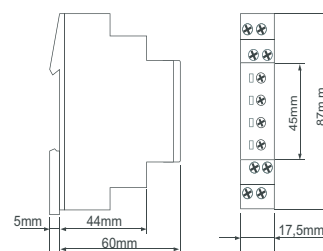
5. Measuring circuit

Measuring variable: 3(N)~, sinus, 48 to 63 Hz
 Measuring input: (= supply voltage)
 Terminals: (N)- L1- L2- L3
 Overload capacity: determined by tolerance specified for supply voltage
 Input resistance: -
 Asymmetry: 5% to 25% adjustable, or disengageable
 Overvoltage category: III (in accordance with IEC 60664-1)
 Rated surge voltage: 4 kV

6. Connecting diagram



7. Dimensions



| DESCRIPTION | DIM. (WxHxD) mm | ORDER NO. |
|--------------------------|-----------------|-----------|
| Monitoring relay 3-phase | 17,5x87x65 | UR5P3011 |