According to IEC/EN 60255-1
- Single-phase
- Measuring ranges from 24 to 400
- Settable response and release value
- Without auxiliary supply
- Optionally available with adjustable time delay
- With LED indicators for operation and state of contacts
- 2 changeover contacts
- Width 45 mm

Monitoring of voltage in DC and AC systems

Indicators
- Upper LED: On, when voltage connected
- Lower LED: On, when output contact activated

Notes
Mounting instruction for units with external series resistor
The external resistor conducts mains voltage and heats up during operation. It has to be mounted at a suitable location in the cabinet so that touch protection is provided. Because of the heat dissipation a suitable distance to neighbour devices has to be kept.

When using a drop resistor the measuring has to be connected to e and f.

Connection Terminals

<table>
<thead>
<tr>
<th>Terminal designation</th>
<th>Signal description</th>
</tr>
</thead>
<tbody>
<tr>
<td>e, f</td>
<td>Nominal voltage</td>
</tr>
<tr>
<td>e, z</td>
<td>Series resistor (DC)</td>
</tr>
<tr>
<td>11, 12, 14, 21, 22, 24</td>
<td>Changeover contact</td>
</tr>
</tbody>
</table>
### Technical Data

#### Input

**Nominal voltage $U_{N}$:**
- AC 24, 42, 110, 127, 230, 240, 290, 400 V
- DC 24, 48, 60 V
- DC 110*, 127*, 220*, 240 V*

*(others on request)*

* with external drop resistor

**Nominal consumption:** 6 VA / 10 W

**Nominal frequency:** 50 / 60 Hz

**Frequency range** (constant parameter):

- ± 5 %

**Temperature influence:** < 0.05 % / K

**Max. overload:** 1.2 $U_{N}$ continuously

#### Setting Ranges

**Setting:** 0.85 ... 1.05 $U_{N}$

**Hysteresis:** 0.75 ... 0.95 of setting value

**Setting accuracy:** ± 5 %

**Repeat accuracy:** ± 0.5 %

**Time delay $t_{d}$:** 0.5 ... 10 s adjustable

(U > 0.6 x $U_{N}$)

#### Output

**Contacts:** 2 changeover contacts

**Thermal current $I_{th}$:** 6 A

**Switching capacity**

- To AC 15
  - NO contact: 2 A / AC 230 V IEC/EN 60947-5-1
  - NC contact: 1 A / AC 230 V IEC/EN 60947-5-1

- To DC 13
  - NO contact: 1 A / DC 24 V IEC/EN 60947-5-1
  - NC contact: 1 A / DC 24 V IEC/EN 60947-5-1

**Electrical contact life**

- At 6 A, AC 230 V cos $\phi$ = 1: 1.5 x 10^6 switching cycles

**Short circuit strength**

- Max. fuse rating: 4 A gG / gL IEC/EN 60947-5-1

- Mechanical life: 30 x 10^6 switching cycles

#### General Data

**Operating mode:** Continuous operation

**Temperature range**

- ± 20 ... + 60 °C

- ± 20 ... + 60 °C

**Altitude:** < 2000 m

**Clearance and creepage distances**

- Rated impulse voltage / pollution degree: 4 kV / 2 IEC 60664-1

- Overvoltage category: III up to 300 V II > 300 V

**EMC**

- Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2

- HF irradiation: 10 V / m IEC/EN 61000-4-3

- Surge voltages: 2 kV IEC/EN 61000-4-4

**Between wires for power supply:** 1 kV IEC/EN 61000-4-5

**Between wire and ground:** 2 kV IEC/EN 61000-4-5

**Interference suppression:** Limit value class B EN 55011

#### Degree of protection

- Housing: IP 40 IEC/EN 60529
- Terminals: IP 20 IEC/EN 60529
- Housing: Thermoplastic with V0 behaviour according to UL subject 94

#### Vibration resistance

- Amplitude 0.35 mm IEC 60068-2-6 frequency 10 ... 55 Hz

#### Dimensions

- Width x height x depth: 45 x 73 x 132 mm

### UL-Data

**Nominal voltage $U_{N}$:** AC 120 V

**Switching capacity:** Pilot duty B150

**Technical data that is not stated in the UL-Data, can be found in the technical data section.**

### CCC-Data

**Thermal current $I_{th}$:** 5 A

**Switching capacity**

- To AC 15
  - NO contact: 2 A / AC 230 V IEC/EN 60947-5-1
  - NC contact: 1 A / AC 230 V IEC/EN 60947-5-1

- To DC 13
  - NO contact: 1 A / DC 24 V IEC/EN 60947-5-1

**Technical data that is not stated in the CCC-Data, can be found in the technical data section.**

### Standard Type

**BA 9036**: AC 230 V 50 Hz

**Article number:** 0045288

- Nominal voltage $U_{N}$: AC 230 V
- Width: 45 mm

**Variants**

- BA 9036/61: With UL approval on request
- BA 9036: Undervoltage / closed circuit operation, with CCC approval on request
- BA 9036/001: Overvoltage / closed circuit operation
- BA 9036/010: Overvoltage / open circuit operation / time delay
- BA 9036/011: Overvoltage / closed circuit operation / time delay
- BA 9036/012: Undervoltage / closed circuit operation / time delay
- BA 9036/013: Undervoltage / open circuit operation / time delay

**Ordering example for variants**

**BA 9036 / _ _ _ AC 230 V 50 Hz**

**Nominal frequency**

**Nominal voltage**

**Variant, if required**

**Type**
Diagram switching delay

Switching delay $t_M$:
The characteristic shows the switching delay depending on the values of $X_{on}$ - $X_{off}$ when switching the voltage on or off. A slow voltage change reduces the delay.

Example:

$U_{setting} = 200 \text{ V}$
$F = \frac{U_{applied}}{U_{setting}} = \frac{230 \text{ V}}{200 \text{ V}} = 1.1$
$t_{on} = \text{approx. } 300 \text{ ms}$
$t_{off} = \text{approx. } 60 \text{ ms}$

Accessories

ZWS 20 SL, ZWS 35 SL

Drop resistor