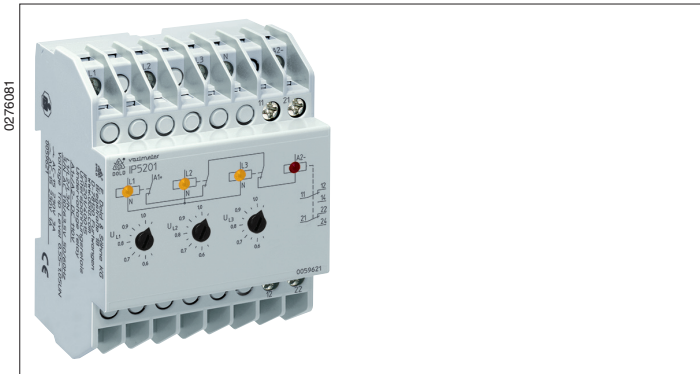


## VARIMETER Undervoltage Relay, 3-phase IP 5201/40015

Translation  
of the original instructions



### Your advantages

- The switching thresholds for undervoltage detection can be set independently of each other for all three phases.
- Protective separation between 3-phase AC voltage and auxiliary voltage circuit

### Features

- According IEC/EN 60255-1, IEC/EN 60947-5-1
- For monitoring 3-phase AC voltages
- Separately adjustable switching voltage for all 3 phases
- With neutral
- Output: 2 changeover contacts
- De-energized on trip
- Width: 70 mm

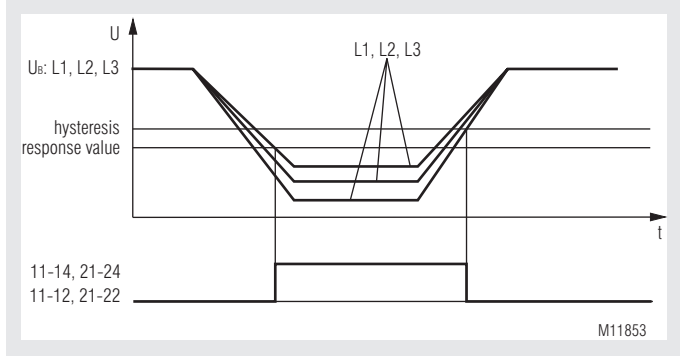
### Product Description

The undervoltage relay IP 5201/40015 monitors 3-phase AC power supplies, e. g. transformer stations at energy supply companies EVU. The early detection of an imminent mains failure means that it is possible to switch over to an emergency power supply in good time. This prevents costly damage and as a user you benefit from the operational reliability and high availability of your system.

### Approvals and Marking



### Function diagram



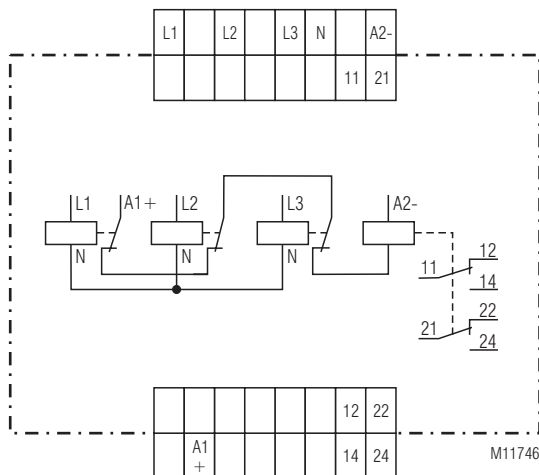
### Applications

If the 3 phases of the power supply fall below a present switching threshold, the undervoltage relay IP 5201/40015 can be used to switch over to an emergency power supply via a DC power supply (e. g. battery).

### Function

The undervoltage relay consists of three individual undervoltage relays with adjustable switching threshold and one interface relay. In good condition, the three switching contacts of the low-voltage relays are open and thus the auxiliary power supply for the interface relay is interrupted. If one of the undervoltage relays falls below the switching threshold, its relay drops out. If all three switching thresholds are not reached, the auxiliary voltage circuit for the interface relay is closed and the output relay of the interface relay responds.

### Circuit Diagram



IP 5201/40015

### Indication

- Yellow LEDs: Indicate that the switching voltage is below the respective switching voltage
- Red LED: On, when interface relay active

### Connection Terminals

Terminal designation	Signal description
A1+, A2-	Auxiliary voltage
L1, L2, L3	Phase voltage
N	Neutral
11, 12, 14 21, 22, 24	Changeover contacts (output relay)

## Technical Data

### Auxiliary Circuit

**Auxiliary voltage  $U_H$ :** DC 48 V, DC 110 V  
**Voltage range:** 0.8 ... 1.1  $U_N$   
**Nominal consumption:** Approx. 1 W

### Input

**Operating voltage  $U_B$ :** 3/N AC 110 V / 63.5 V  
**Response value:** adjustable: 0.55 ... 1.1  $U_B$   
**Max. overload:** 1.15  $U_B$ , continuously  
**Nominal consumption:** Approx. 18 VA  
**Nominal frequency:** 50 / 60 Hz  
**Frequency range:** 45 ... 65 Hz

### Output

**Contacts:** 2 changeover contacts  
**Contact material:** AgSnO<sub>2</sub>, 0,2 µm, gold plated  
**Measured nominal voltage:** AC 250 V  
**Thermal current  $I_{th}$ :** 5 A  
**Switching capacity**  
to AC 15:  
NO contact: 3 A / AC 230 V IEC/EN 60947-5-1  
NC contact: 1 A / AC 230 V IEC/EN 60947-5-1  
**Electrical life**  
to AC 15 at 3 A, AC 230 V: 10<sup>6</sup> switching cycles  
**Short circuit strength**  
**max. fuse rating:** 4 A gG / gL IEC/EN 60947-5-1  
**Mechanical life:** 30 x 10<sup>6</sup> switching cycles

### General Data

**Operating mode:** Continuous operation  
**Temperature range**  
Operation: - 20 ... + 60 °C  
Storage: - 25 ... + 60 °C  
**Relative air humidity:** 93 % at 40 °C  
**Altitude:** < 2000 m  
**Clearance and creepage distances**  
rated impulse voltage /  
pollution degree: 4 kV / 2 IEC 60664-1  
**EMC**  
Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2  
HF irradiation  
80 MHz ... 1 GHz: 10 V / m IEC/EN 61000-4-3  
1 GHz ... 2.5 GHz: 3 V / m IEC/EN 61000-4-3  
2.5 GHz ... 2.7 GHz: 1 V / m IEC/EN 61000-4-3  
Fast transients: 2 kV IEC/EN 61000-4-4  
Surge voltage  
between  
wires for power supply: 2 kV IEC/EN 61000-4-5  
between wire and ground: 2 kV IEC/EN 61000-4-5  
HF-wire guided: 10 V IEC/EN 61000-4-6  
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 Subj. 94  
**Vibration resistance:** Amplitude 0,35 mm  
frequency 10 ... 55 Hz, IEC/EN 60068-2-6  
20 / 060 / 04 IEC/EN 60068-1  
**Climate resistance:**  
**Terminal designation:** EN 50005  
**Wire connection**  
Cross section: 2 x 2,5 mm<sup>2</sup> solid or  
2 x 1,5 mm<sup>2</sup> stranded ferruled  
DIN 46 228-1/-2/-3/-4  
Stripping length: 10 mm  
**Wire fixing:** Flat terminals with self-lifting  
clamping piece IEC/EN 60999-1  
**Fixing torque:** max. 0.8 Nm  
**Mounting:** DIN rail IEC/EN 60715  
**Weight:** 225 g

### Dimensions

**Width x height x depth:** 70 x 90 x 61 mm

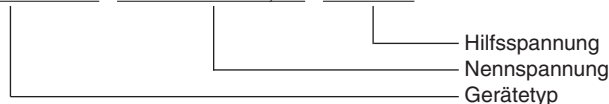
## Standard Types

IP 5201/40015 3/N AC 110 / 63,5 V DC 110 V  
• Article number: 0059621  
• Output: 2 changeover contacts  
• Auxiliary voltage: DC 110 V  
• Width: 70 mm

IP 5201/40015 3/N AC 110 / 63,5 V DC 48 V  
• Article number: 0060289  
• Output: 2 changeover contacts  
• Auxiliary voltage: DC 48 V  
• Width: 70 mm

## Ordering Example

IP 5201/40015 3/N AC 110 / 63,5 V DC 110 V



## Application Example

