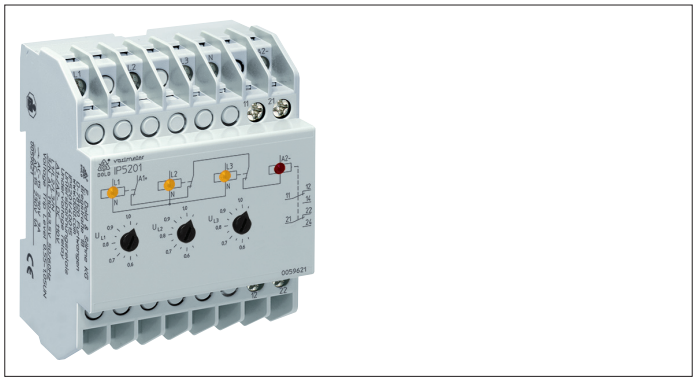
VARIMETER
Undervoltage Relay, 3-phase
IP 5201/40015

Translation of the original instructions

DOLD



Your advantages

- The switching thresholds for untervoltage 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

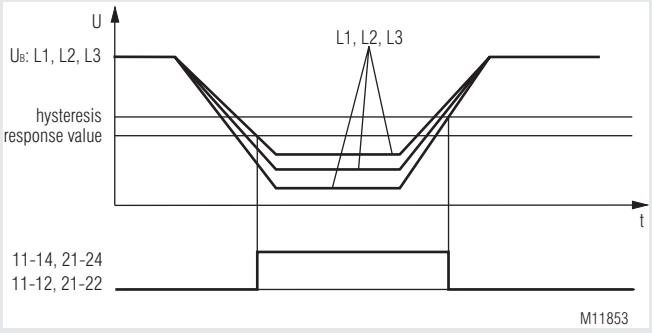
Product Description

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 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 sytem.

Approvals and Marking

CE

Function diagram



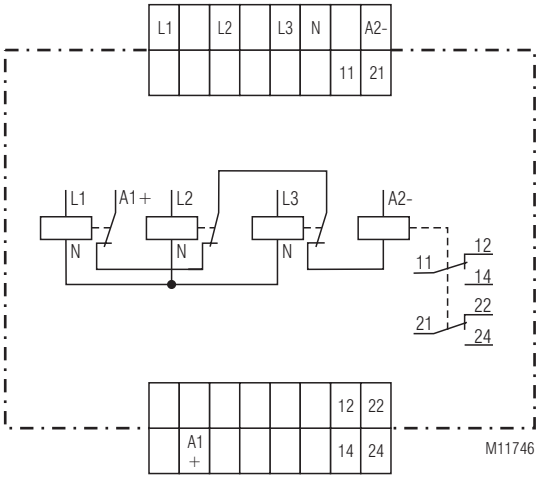
Applications

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:	$AgSnO_2$, 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:	10^5 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		
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
Climate resistance:	20 / 060 / 04	IEC/EN 60068-1
Terminal designation:	EN 50005	
Wire connection		
Cross section:	2 x 2,5 mm^2 solid or 2 x 1,5 mm^2 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

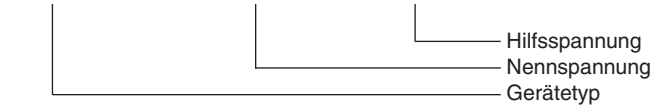
Standard Types

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