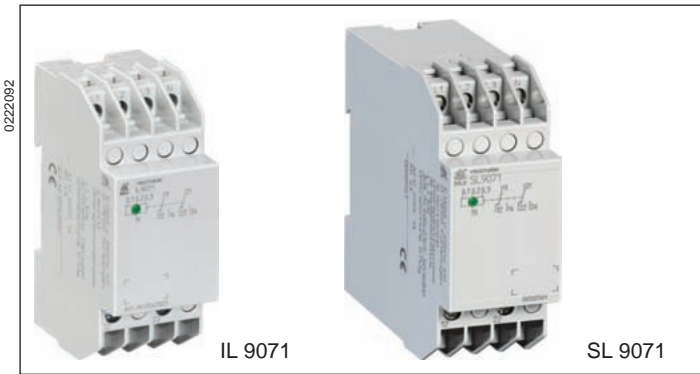
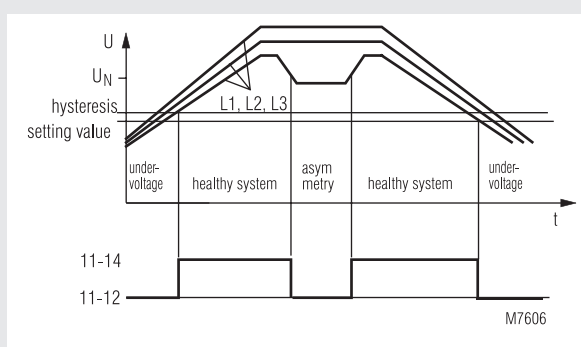


Undervoltage relay IL 9071, SL 9071 VARIMETER



- According to IEC/EN 60 255, DIN VDE 0435-303
- Identification of
 - undervoltage
 - phase failure
 - asymmetry also with reverse voltage
 - missing neutral in the system
 - broken neutral on IL/SL 9071
 - neutral exchanged against phase
- Single phase connection possible
- According to DIN VDE 0100-710 (for rooms used for medical purposes) as an option
- Fixed setting value (variable as an option)
- Closed circuit operation principle
- LED indicator
- With safe disconnection according to IEC/EN 61 140, IEC/EN 60 947-1 between the measuring circuit and the contacts
- Independent of phase sequence
- 2 changeover contacts
- **Devices available in 2 enclosure version:**
 - IL 9071:** depth 61 mm with terminals at the bottom for installations systems and industrial distribution systems according to DIN 43 880
 - SL 9071:** depth 98 mm with terminals at the top for cabinets with mounting plate and cable duct
- Width 35 mm

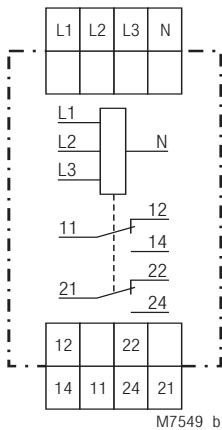
Function diagram



Additional information to this subject

- datasheet undervoltage relay IK/IL 9171
- Relay workshop No. 15 and No. 16:
The meaning of asymmetry in 3 phase systems (only in German)

Circuit diagram



IL 9071.12, SL 9071.12

Approvals and marking



Application

Monitoring of three-phase voltage systems to identify undervoltage, asymmetry or phase failure and switching-on of safety lighting in accordance with DIN VDE 0108.

Neutral monitoring in 3-phase systems. In 3-phase systems with neutral often also single phase load are connected between phase and neutral. If the neutral is missing in a system like this unsymmetric voltages occur that could damage single phase consumers if the voltage rises too high. Also consumers can stop to work if the phase-neutral voltage gets too low. The IL 9071 detects this problem and can switch of the system immediately.

Indication

green LED: on, when the mains system is working properly (contact 11-14 and 21-24 closed)

Notes

For single phase operation the terminals L1, L2 and L3 have to be bridged

Technical Data

Input

Nominal voltage U_N:	3/N AC 400 / 230 V
Overload:	AC 440 V on all measuring inputs, for at least 1 h
Voltage range:	0.7 ... 1.2 U_N
Nominal consumption	approx. 6 VA (L3-N)
Nominal frequency:	50 / 60 Hz
Frequency range:	45 ... 65 Hz
Input current at U_N:	L1-N, L2-N: approx. 1.5 mA L3-N: approx. 25 mA

Setting ranges

Setting value U_{off}	
IL 9071/010, SL 9071/010:	0.7 U_N or 0.85 U_N (hysteresis approx. 4 %)
IL 9071/117, SL 9071/117:	0.7 ... 0.95 U_N (hysteresis approx. 4 %)
Asymmetry identification	
IL 9071/117, IL 9071/010, SL 9071/117, SL 9071/010:	approx. 5 ... 10 % phase asymmetry

Output

Contacts	
IL 9071.12, SL 9071.12:	2 changeover contacts
Thermal current I_{th}:	4 A
Switching capacity	IEC/EN 60 947-5-1
AC 15	
NO contact:	3 A / AC 230 V
NC contact:	2 A / AC 230 V
Electrical life	IEC/EN 60 947-5-1
AC 15 at 1 A, AC 230 V:	5 x 10 ⁵ switching cycles
Short circuit strength	
max. fuse rating:	4 A gL IEC/EN 60 947-5-1
Mechanical life:	30 x 10 ⁶ switching cycles

General Data

Operating mode:	Continuous operation
Temperature range:	- 20 ... + 60°C
Clearance and creepage distances	
rated impuls voltage / pollution degree:	4 kV / 2 IEC 60 664-1
between measuring circuit and contacts	6 kV / 2
EMC	
Electrostatic discharge:	8 kV (air) IEC/EN 61 000-4-2
HF irradiation:	10 V / m IEC/EN 61 000-4-3
Fast transients:	4 kV IEC/EN 61 000-4-4
Surge voltages between wires for power supply:	2 kV IEC/EN 61 000-4-5
between wire and ground:	2 kV IEC/EN 61 000-4-5
Interference suppression:	Limit value class B EN 55 011
Degree of protection:	
Housing:	IP 40 IEC/EN 60 529
Terminals:	IP 20 IEC/EN 60 529
Housing:	Thermoplastic with V0 behaviour according to UL subject 94
Vibration resistance:	Amplitude 0.35 mm, frequency 10 ... 55 Hz, IEC/EN 60 068-2-6
Climate resistance:	20 / 060 / 04 IEC/EN 60 068-1
Terminal designation:	EN 50 005
Wire connection:	2 x 2.5 mm ² solid or 2 x 1.5 mm ² stranded ferruled DIN 46 228-1/-2/-3/-4
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
Mounting:	DIN rail IEC/EN 60 715
Weight	
IL 9071/010:	122 g
SL 9071/010:	168 g

Dimensions

Width x height x depth	
IL 9071:	35 x 90 x 61 mm
SL 9071:	35 x 90 x 98 mm

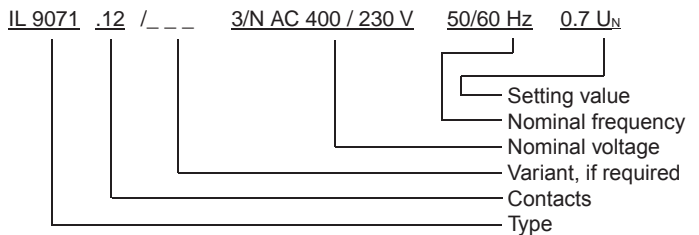
Standard types

IL 9071.12/010	3/N AC 400 / 230 V	0.85 U_N
Article number:	0047074	
SL 9071.12/010	3/N AC 400 / 230 V	0.85 U_N
Article number:	0051006	
• with asymmetry detection		
• 2 changeover contacts		
• Nominal voltage U_N :	AC 230 / 3 AC 400 V	
• Setting value:	0.85 U_N	
• Width:	35 mm	

Variants

IL 9071/117, SL 9071/117:	according to DIN VDE 0100-710, rooms used for medical purposes, variable setting value
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Ordering example for variants



Specification for tender for IL 9071

Undervoltage relay according to IEC/EN 60 255, DIN VDE 0435-303 to be built in consumer units with identification of phase and neutral failure in 3 phase systems with neutral-line 230/400 V, setting value 0.85 U_N , closed circuit operation, 2 changeover contacts, LED indicator.
Width 35 mm.
Type IL 9071.12
Manufactured by: E. DOLD & SÖHNE KG

Undervoltage relay according to IEC/EN 60 255, DIN VDE 0435-303 to be built in consumer units with identification of phase and neutral failure in 3 phase systems with neutral-line 230/400 V, setting value 0.7 U_N , closed circuit operation, 2 changeover contacts, LED indicator.
Width 35 mm.
Type IL 9071.12
Manufactured by: E. DOLD & SÖHNE KG