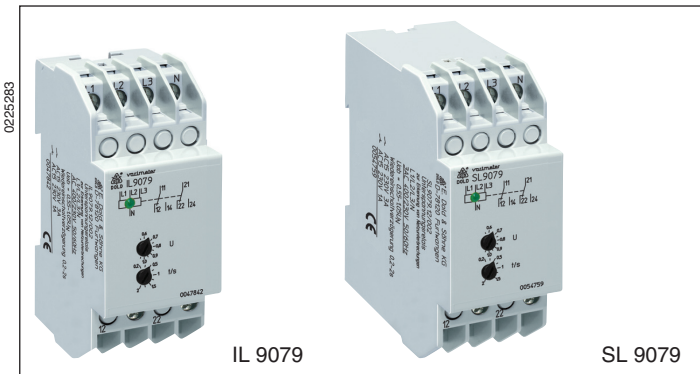


## VARIMETER

### Undervoltage Relay To Detect Auto-Reclosing IL 9079, SL 9079



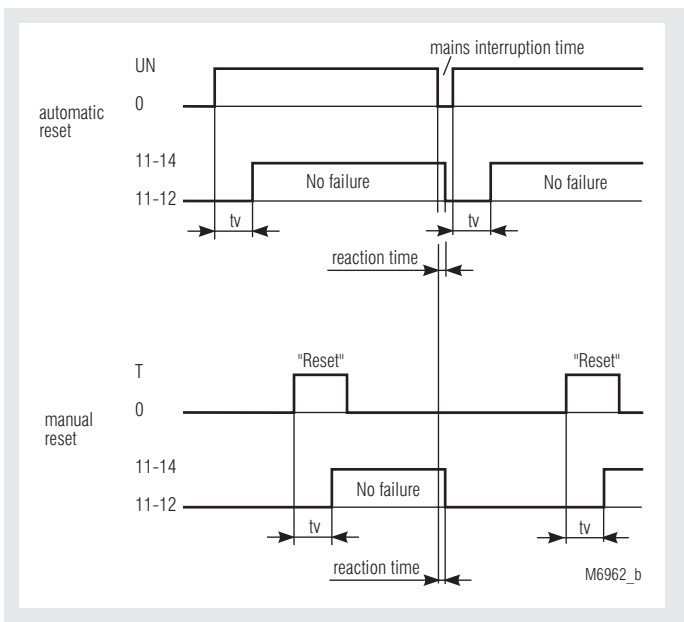
- According to IEC/EN 60 255, DIN VDE 0435-303
- Fast detection of undervoltage or phase failure in three-phase voltage systems
- Detects auto reclosing of 20 ms
- Adjustable response value  $0.55 \dots 1.05 U_N$
- Operate delay to generate a defined reset signal
- Manual reset possible with external circuit
- Single-phase connection possible
- Optionally fixed response value  $0.8 U_N$
- Closed circuit operation principle
- Green LED indicate for closed contact
- Independent of phase sequence
- 3p4w connection
- Optionally for 3p3w systems
- 2 changeover contacts
- **Devices available in 2 enclosure versions:**

**IL 9079:** depth 59 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880

**SL 9079:** depth 98 mm, with terminals at the top for cabinets for mounting plate and cable duct

- Width 35 mm

### Function Diagram



### Approvals and Markings

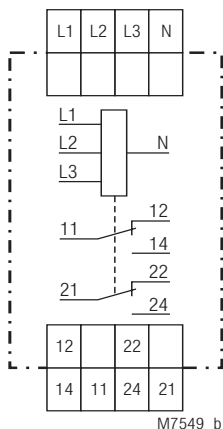


### Application

Monitoring of voltage systems to detect auto reclosing as e.g. generated by the energy supplier in the case of flash-overs or switching procedures. It is possible that in control circuits some of the devices are resetted during auto reclosing and some not. Because of this uncontrollable situations may occur.

By detecting these fast auto reclosings and addition of a certain time delay at reclosing the OFF-time is lengthened and every device has the time to reset. The circuit goes into a defined OFF state and is automatically resetted after the adjusted time delay or by manual reset if the automatic reset is disabled by an external circuit (see connection examples).

### Circuit Diagram



IL 9079.12, SL 9079.12

### Function

The voltage of each phase is measured against N (with devices without N L1 and L2 are measured against L3). If at least 1 phase voltage goes under the response value (e.g.  $0.8 U_N$ ) the green LED goes off and the output relay deenergizes (fault condition). Only when all 3 phases go over the reset value (e.g.  $0.85 U_N$ ) again the output relay energizes after the adjustable operate delay  $t_v$  and the green LED comes on.

### Indicator

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 $U_N$ :

IL/SL 9079.12 and /002: 3/N AC 400 / 230 V  
 IL/SL 9079.12/001 and /003: 3 AC 400 V / 500 V  
 SL 9079/103: 3 AC 400 V / 500 V

**Maximum overload:** 1.1  $U_N$ , permanent

**Nominal consumption:** approx. 8 VA

**Nominal frequency:** 50 / 60 Hz

**Input resistance:** approx. 150 k $\Omega$

### Setting Ranges

#### Response / Reset value

IL/SL 9079.12 and /001: 0.8  $U_N$  / 0.85  $U_N$

IL/SL 9079/002; /003 and  
 SL 9079/103: adjustable 0.8 ... 1.05  $U_N$   
 hysteresis 4 %

**Detection of auto-reclosing:**  $\geq 20$  ms at response value 0.8  $U_N$   
 $\geq 35$  ms at response value 0.6  $U_N$

#### Reaction time on phase failure:

approx. 40 ms at response value 0.8  $U_N$   
 approx. 55 ms at response value 0.6  $U_N$

#### Reclosing delay:

adjustable, 0.2 ... 2 s

### Output

#### Contacts:

IL 9079.12, SL 9079.12: 2 changeover contacts

**Thermal current  $I_{th}$ :** 4 A

#### Switching capacity

to AC 15

NO contact: 3 A / AC 230 V IEC/EN 60 947-5-1

NC contact: 1 A / AC 230 V IEC/EN 60 947-5-1

**Electrical life** IEC/EN 60 947-5-1

to AC 15 at 1 A, AC 230 V: 5 x 10<sup>5</sup> switching cycles

#### Short circuit strength

**max. fuse rating:** 4 A gL IEC/EN 60 947-5-1

**Mechanical life:** 30 x 10<sup>6</sup> switching cycles

### General Data

**Operating mode:** Continuous operation

**Temperature range:** - 20 ... + 60 °C

#### Clearance and creepage distances

rated rated impulse voltage voltage /  
 pollution degree: 4 kV / 2 IEC 60 664-1

#### EMC

Electrostatic discharge: 6 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

20 / 060 / 04 IEC/EN 60 068-1

**Climate resistance:** EN 50 005

#### Terminal designation:

**Wire connection:** 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

**Wire fixing:** Flat terminals with self-lifting

clamping piece IEC/EN 60 999-1

**Fixing torque:** 0.8 Nm

**Mounting:** DIN rail IEC/EN 60 715

#### Weight

IL 9079: 110 g

SL 9079: 137 g

### Dimensions

#### Width x height x depth

IL 9079: 35 x 90 x 59 mm

SL 9079: 35 x 90 x 98 mm

## Standard Types

IL 9079.12/002 3/N AC 400 / 230 V 0.55 ... 1.05  $U_N$  0.2 ... 2 s

Article number: 0047842 stock item

SL 9079.12/002 3/N AC 400 / 230 V 0.55 ... 1.05  $U_N$  0.2 ... 2 s

Article number: 0054759

• 3p4w connection

• Output: 2 changeover contacts

• Nominal voltage  $U_N$ : 3/N AC 400 / 230 V

• Adjustable response value: 0.55 ... 1.05  $U_N$

• Adjustable reclosing delay: 0.2 ... 2 s

• Width: 35 mm

## Variants

IL 9079: for 3p4w systems, fixed response value 0.8  $U_N$

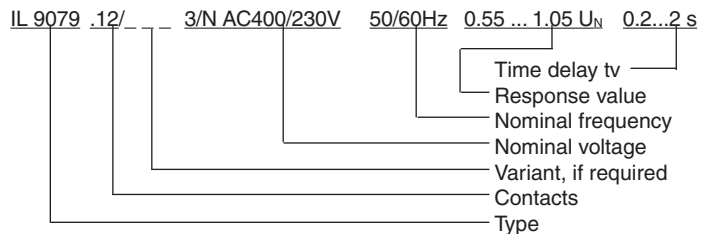
IL 9079/001: for 3p3w systems, fixed response value 0.8  $U_N$

IL 9079/002: for 3p4w systems,  
 adjustable response value 0.55 ... 1.05  $U_N$

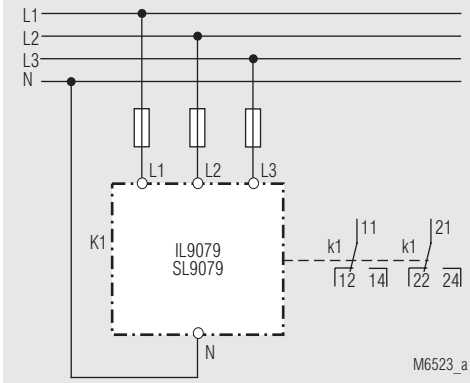
IL 9079/003: for 3p3w systems,  
 adjustable response value 0.55 ... 1.05  $U_N$

IL 9079/103: for 3p3w systems,  
 adjustable response value 0.8 ... 1.05  $U_N$   
 with transformer for mains with harmonic content

## Ordering example for variants

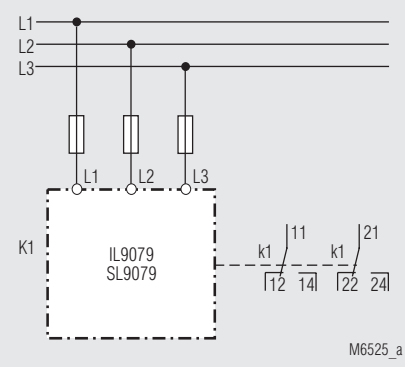


### Connection Examples

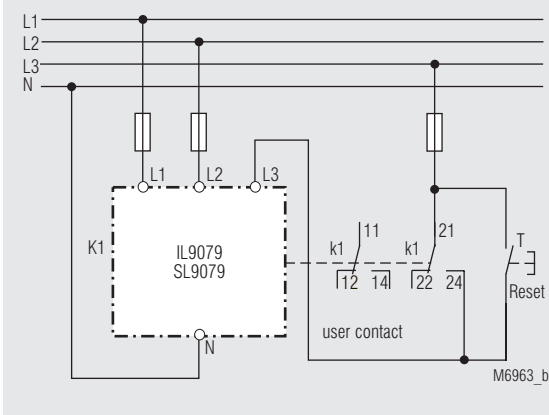


IL/SL 9079 and IL/SL 9079/002

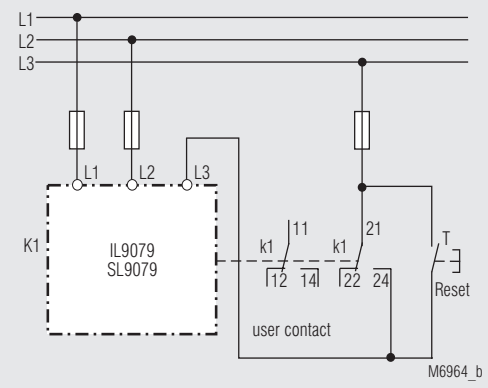
### Connection Examples



IL/SL 9079/001 and /003; SL 9079/103



IL/SL 9079 and IL/SL 9079/002



IL/SL 9079/001 and /003; SL 9079/103

