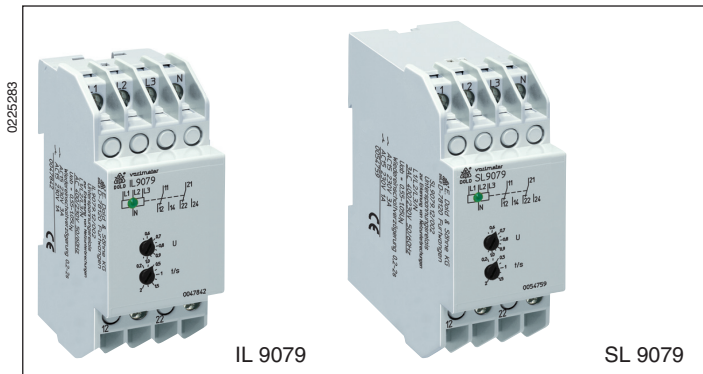


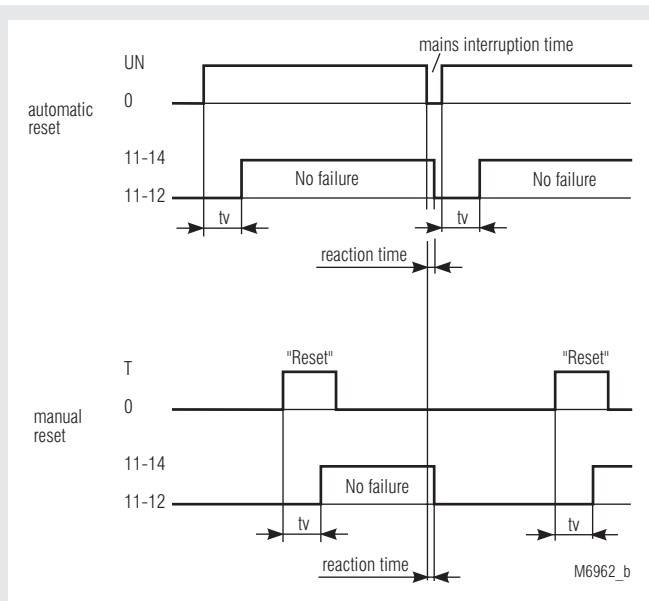
VARIMETER

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



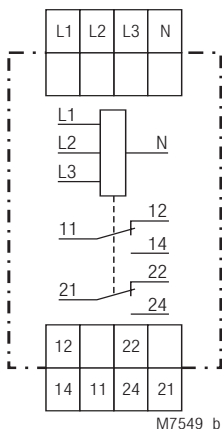
Approvals and Marking



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 reset 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 reset 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.

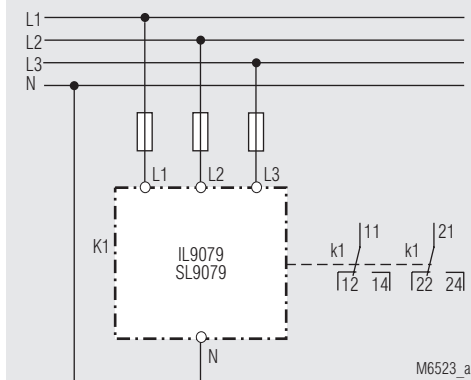
Technical Data	
Input	
Nominal voltage U_N:	
IL/SL 9079.12 and 002:	3/N AC 400 / 230 V
IL/SL 9079.12/001 and /003:	3 AC 400 V / 500 V
SL 9079/103:	3 AC 400 V / 500 V
Maximum overload:	1.1 U_N , permanent
Nominal consumption:	approx. 8 VA
Nominal frequency:	50 / 60 Hz
Input resistance:	approx. 150 k Ω
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 0.55 ... 1.05 U_N hysteresis 4 %
Detection of auto-reclosing:	≥ 20 ms at response value 0.8 U_N ≥ 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 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
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
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 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 0.55 ... 1.05 U_N with transformer for mains with harmonic content

Ordering example for variants

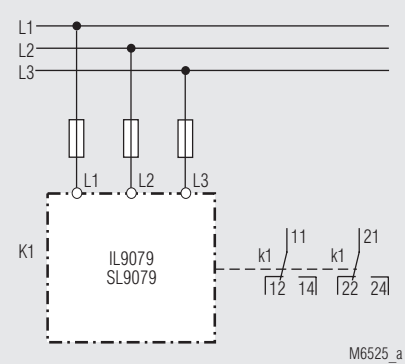
IL 9079	.12/-	3/N AC400/230V	50/60Hz	0.55 ... 1.05 U_N	0.2...2 s
				Time delay t_v	
				Response value	
				Nominal frequency	
				Nominal voltage	
				Variant, if required	
				Contacts	
				Type	

Connection Examples

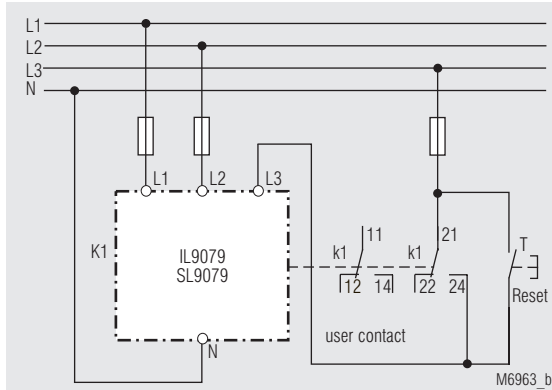


IL/SL 9079 and IL/SL 9079/002

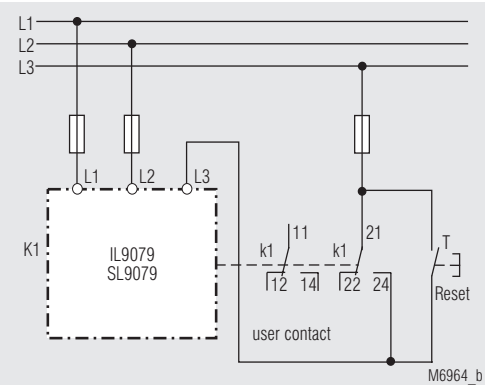
Connection Examples



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

