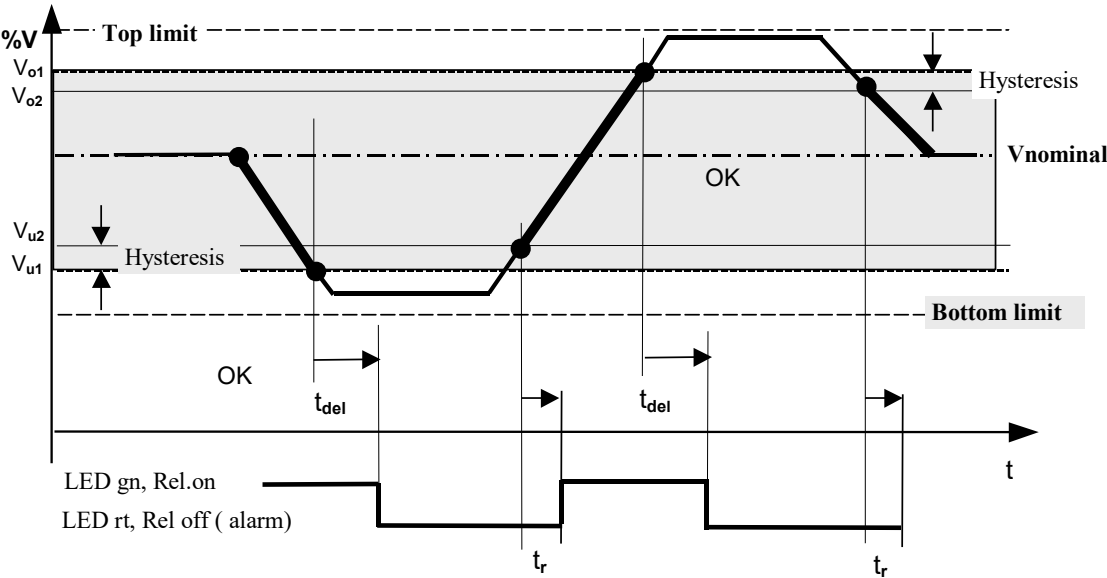


3. **FUNCTIONS**

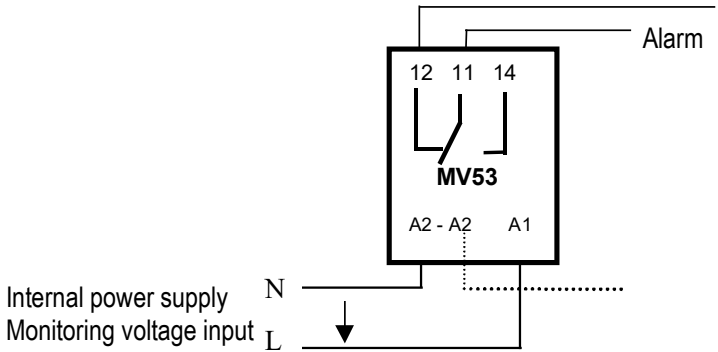
Concepts t_{del} : Alarm delay time t_r : Reset delay time
 V_{o1} : Threshold in +% from nominal value V_{o2} : Threshold for hysteresis
 V_{u1} : Threshold in -% from nominal value V_{u2} : Threshold for hysteresis
 Rel : Output relay
 $V_{nominal}$: e.g. AC230V

Over voltage-under voltage monitoring response



The alarm condition is triggered when the maximal set value (V_{o1}), in +% from the V_{NOM} is exceeded or when the monitored voltage is lower than the minimal set value (V_{u1}) in -% from the V_{NOM} . The alarm condition is reset after a time t_r when the values V_{u2} or V_{o2} are reached as shown in the diagram. See "OPERATION" for possible values of V_{o1} and V_{u1} .

4. **WIRING / CONNECTION**



Fo-61.01-D-401

Datei: MV53

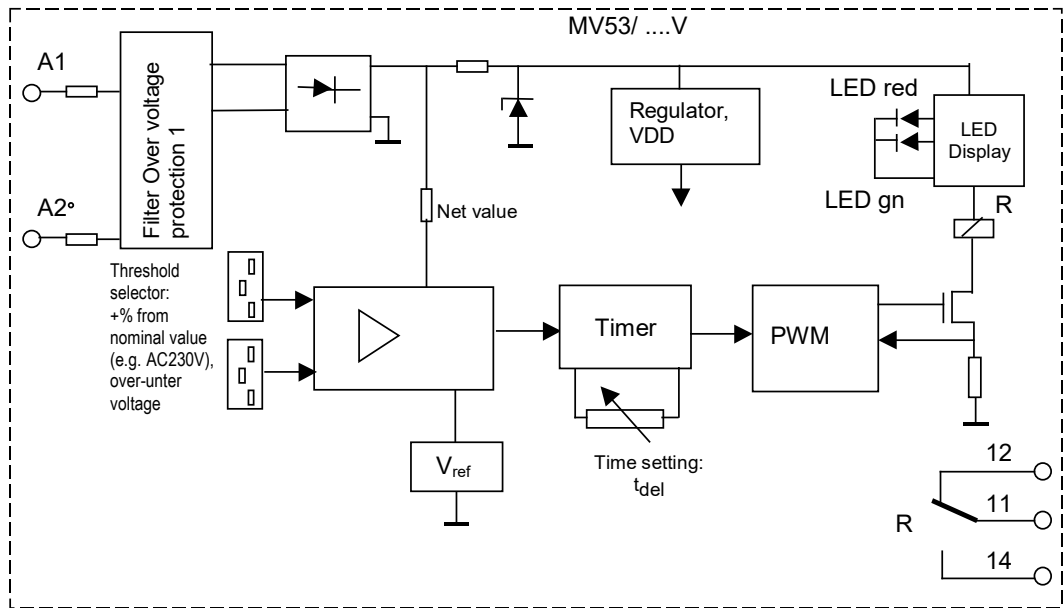
Gez.	Entw.	Gepr.	Reg.	Datum	Ae M	Ausg.	Blatt: 2
	UI			19.4.01		A	von: 5
	UI	Pd	wie	2.10.01		1	M:

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AC- Voltage monitoring relay
15527 - 02 - 57 - 401

5. **BLOCK DIAGRAM**



6. **TECHNICAL DATA**

6.1. **General Data**

6.1.1. Mechanical Data

Case	DIN-Case (DIN 43 880), b22.5 x h90 x d70mm
Protection	IP 40, terminals IP 20
Case material	NORYL SE1 (UL 94V-1) or equivalent
Weight (without packing)	80g
Fastening	TS 35 DIN / EN 50022
Vibration- and shock-proof	IEC 68-2-6 / FC, IEC 571
Connection	Shielded Terminals 2 x 1.5 mm ² , 1 x 2.5 mm ²
Tightening torque	Pozi drive or standard screw driver no. 2 ≤ 0.8 Nm

6.1.2. Ambient conditions

Storage temperature	-40°C ÷ +85°C
Operating temperature	-25°C ÷ +60°C
Relative humidity	10 ÷ 95% non condensing

6.1.3. Working life

Expected Life time	>50 000h
Contact	see output (6.2.4)

6.2. **Electrical data**

Type ... /AC230V

Fo-61.01-D-401

Datei: MV53

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MV53/AC230V, 50-60Hz
AC- Voltage monitoring relay
15527 - 02 - 57 - 401

Nominal monitoring voltage	AC230V
Supply range	AC130V ÷ 270V
Frequency	45Hz ÷ 65Hz
Inrush current	≤1,5A, $\tau \leq 100\mu s$
Over loading capability	300V, 10 sec
Adjustable monitoring	$U_{NOM} = 230V: -35\% \dots -5\%; +2.5\% \dots 17.5\%$ (149V-270V)
Tolerance over voltage:	$\pm 0,5\%$ from Voltage _{NOM} // 0° to 50°C
Tolerance under voltage:	$\pm 2,5\%$ from Voltage _{NOM} // 0° to 50°C
Hysteresis	≤2% (aprox. 5V)
Frequency dependency for monitoring	≤0.02% / Hz
Current consumption	≤20 mA
Power consumption	≤10VA / ≤1.5W
Transient protection	IEC 255 - 4: 5kV, 2.5 W _s // EN 61000-4-5: A1-A2 2kV

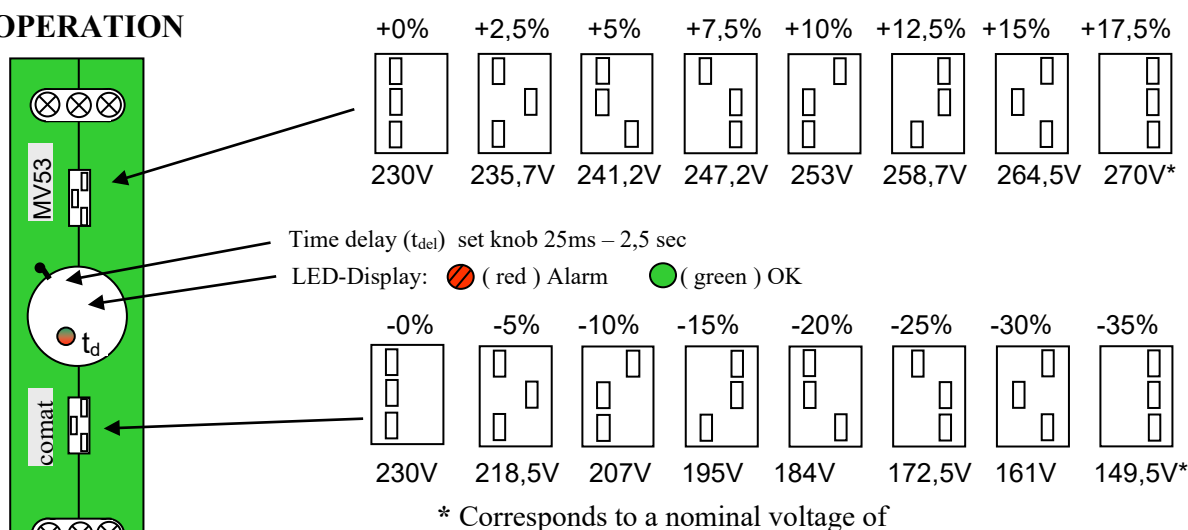
6.2.1. Time response

Alarm reset time	150ms ±25 ms min. alarm time
Signal delay time	≤100ms
Supply failure protection	≥10ms
Minimal alarm time	130ms ±25ms
Power on delay (start up)	≤ 1s
Temperature stability	± 1% over the entire temperature range

6.2.2. Output contact

Output	1 x CO, μ , contact AgNi
Switching voltage	(5) ÷ 250V
Switching current	(10mA) ÷ 6A // 20A/20ms
Switching load	1750VA // ...170W
Mechanical service life	> 2 x 10 ⁷

7. OPERATION



Setting the switches simultaneously in the position indicated will make the monitoring function inoperable (i.e. % from nominal value: ±0%).
The device will stay in alarm condition
 See "OPERATION" for selection table.

Fo-61.01-D-401

Datei: MV53

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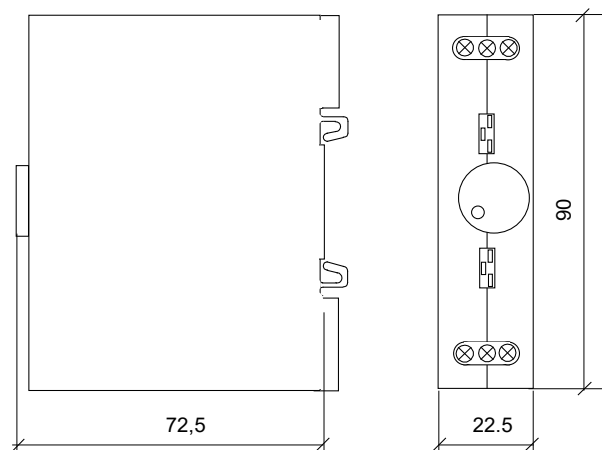
AC- Voltage monitoring relay

15527 - 02 - 57 - 401

8. STANDARDS / DIRECTIVES / CONFORMITY

Vibration safety	IEC 571	Item 6.3
Immunity to interference	IEC 255-4	Appendix E, Class III
	EN 50082-2	EN 61000-4-2 Air: 8kV
	EN 61000-4-4	≥ Level 3
	ENV 50140	10V/m
	ENV 50204	10V/m
	ENV 50141	10V
Interference emission	as per EN 50081-1	EN 55022 Class B
Low voltage	EN 60065	
Measuring relays	IEC 255-6	
Approvals	cURus in preparation	
Conformity, labelling	CE, cURus	

9. CASE



10. APPLICATION

The MV53 voltage monitor is designed for the monitoring of single phase voltages. It should be installed in areas where unacceptable supply conditions would cause damage to plant and control systems.

Fo-61.01-D-401

Datei: MV53

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