

Voltage monitor KUW NO



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1 General

The KUW NO is a device used to monitor a 3-phase (single phase) network for undervoltage and overvoltage. The limit values can be adjusted for the respective application.

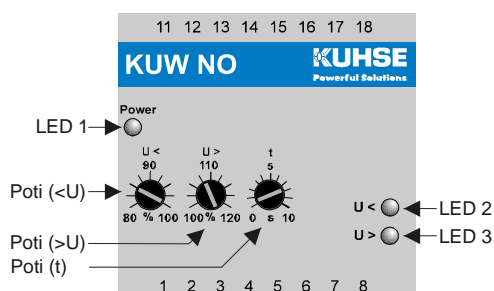
The KUW NO device, in the version with 24 V DC auxiliary voltage, is not potentially separated.

2 Operation

The green power LED 1 is lit in normal mode.

Relay 1 and relay 2 are energised.

2.1 Triggering



In the event of an undercutting of the voltage limit value set in the potentiometer (**U<**)

- LED 2 flashes red whilst the delay time expires;
- if relay 1 falls back after the time delay set in the potentiometer (**t**) has run its course, LED 2 is constantly illuminated;

In the event of an exceedance of the voltage limit value set in the potentiometer (**U>**)

- LED 3 flashes red whilst the delay time expires;
- if relay 2 falls back after the time delay set in the potentiometer (**t**) has run its course, LED 3 is constantly illuminated;

If the time delay in the potentiometer (**t**) is set to 0s, there is a systemic time delayed trigger that is greater than 40 ms and less than 70 ms.

Once triggered, the KUW NO will reset automatically 1s after the reference values are reached.

3 Measurement

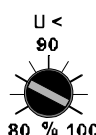
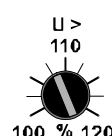
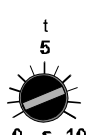
The voltage measurement is a true effective load voltage measurement. All three phases (measuring paths) are measured at the same time.

There are measuring voltages 3x100V AC and 230/400V AC available.

4 Setting the trigger values

The following shows how

- the maximum permissible undervoltage range (potentiometer **U<**),
- the maximum permissible overvoltage range (potentiometer **U>**),
- the time delayed trigger (potentiometer **t**)

	Function	Explanation	Example
	Maximum permissible undervoltage range	When undervoltage triggers is set here	Measured voltage 230 V, potentiometer position 85 % → Undervoltage triggers at 195.5 V.
	Maximum permissible overvoltage range	When overvoltage triggers is set here.	Measured voltage 230 V, potentiometer position 107.5 % → Overvoltage triggers at 247.3 V.
	Time delay for U< and U>	The time after which there is a trigger is set here.	Potentiometer position 7.5s → There will be a trigger if the set limit value is still exceeded or undercut after 7.5 seconds.

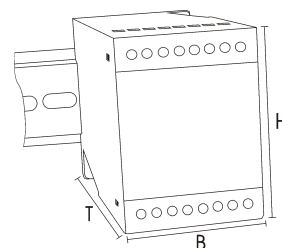
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5 Technical information



**Installation and commissioning only by trained technicians.
Connection in accordance with VDE 0160.**

Auxiliary voltage	KUW NO 110 and 140	24V DC (8.....33 V)
	KUW NO 112	100V AC +25%.- 15%
	KUW NO 142	230V AC +10% - 15%
Measurement range	57-230V (phase to N) , 100-400V (phase to phase) Tolerance better than 1.5% of the end value	
Measured voltage	KUW NO 110 and 112	3x100V AC
	KUW NO 140 and 142	230/400V AC
Frequency	50 Hz	
Power consumption	approx. 3 VA at 230 V AC , 3 W at 24 V DC	
Relay outputs	2 x NO 230 V / 50 Hz / 2 A (potential-free)	
Ambient temperature	-20 ... +55 °C	
Housing dimensions	W / H / D : 55 x 75 x 110 mm 35 mm standard rail fitting	



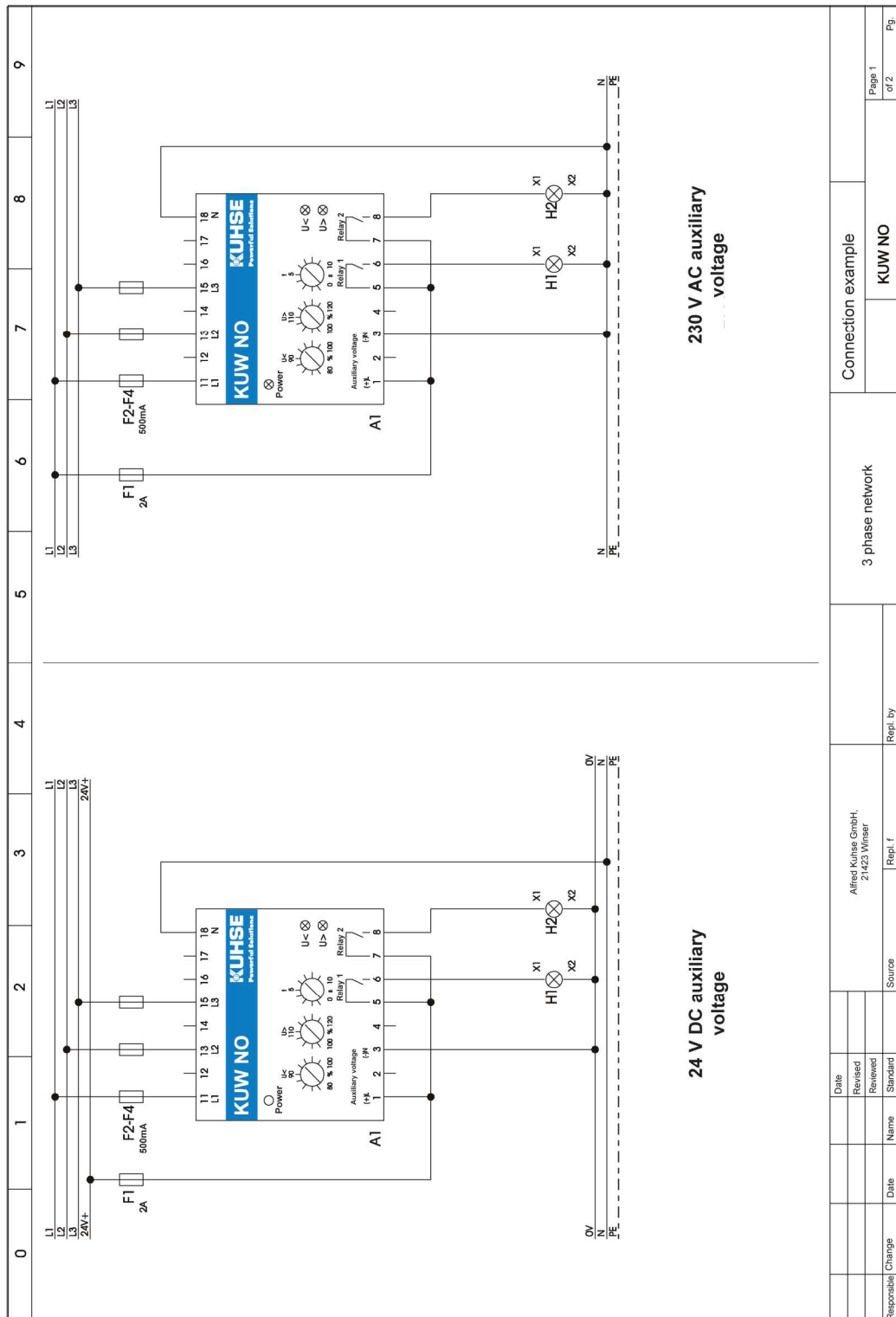
5.1 Trigger values

Trigger delay	adjustable via potentiometer: smallest time delayed trigger:	approx. 0.05 to 10s > 40ms and <70ms
Hysteresis	Measured voltage: 100V AC	2V
	Measured voltage: 230V AC	4V
Setting range	Undervoltage: 80% – 100% of $U_{Reference}$ Overvoltage 100% – 120% of $U_{Reference}$	
Resolution	1V in all measurement ranges	

5.2 Ordering information

Description	Measured voltage	Auxiliary voltage	Part number
KUW NO 110	100V AC	24V DC	2W110UO000
KUW NO 112	100V AC	100V AC	2W112UO000
KUW NO 140	400V AC	24V DC	2W140UO000
KUW NO 142	400V AC	230V AC	2W142UO000

6 Connection example



Date		Revised		Revised		Standard		Source		Repl. f		Repl. by	
Responsible	Change	Date	Name	Date	Name	Date	Name	Date	Name	Date	Name	Date	Name
3 phase network										Connection example		KUNO NO	
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