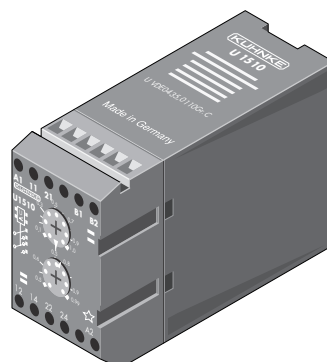




Monitoring Relay 1500

Single-phase Voltage Monitoring Relay U 1510

- Standard type GL
- Operating range $-25\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$
- DC and AC undervoltage measuring



Order Code

Order code	U	1510.	2	-	10 - 100 mV	230 VAC	50 / 60 Hz
Voltage monitoring relay							
U	U						
Monitored variable							
1510 single-phase-undervoltage		1510.					
Contact arrangement							
2 C/O			2				
Monitored voltage range							
10 - 100 mV					10 - 100 mV		
50 - 500 mV					50 - 500 mV		
0.5 - 5 V					0.5 - 5 V		
5 - 50 V					5 - 50 V		
25 - 250 V					25 - 250 V		
50 - 500 V					50 - 500 V		
Supply voltage							
24 VAC						24 VAC	
110 / 115 VAC						110 / 115 VAC	
230 VAC						230 VAC	
240 VAC						240 VAC	
24 VDC* (no frequency stated)						24 VDC	
Frequency (at AC only)							
50 / 60 Hz							50 / 60 Hz

* See page 65 for series resistors for the 24 VDC device (for supply voltages above 24 VDC)

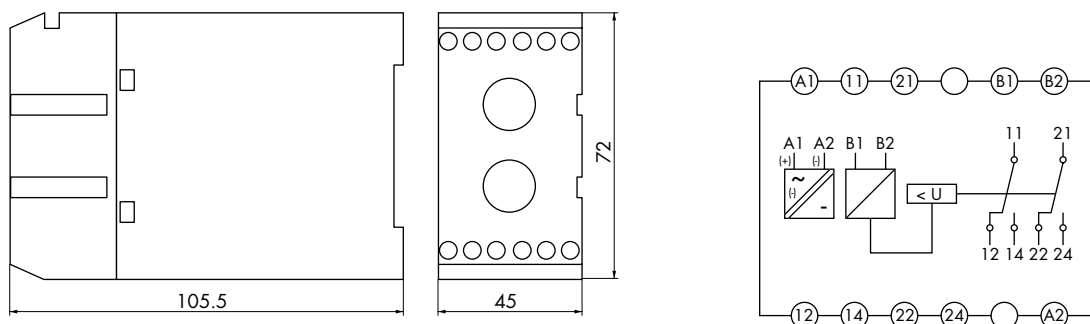
Contact Data

	U 1510
Contact arrangement	2 C/O
Type of contact	Single contact
Contact material	AgCdO
Nominal contact current	5 A
Inrush current	$\leq 5\text{ A}$
Max. switching capacity	1100 VA
Nominal contact voltage	250 VAC



Monitoring Relay 1500

Dimensions, Connection Diagram(s)



General Data

	U 1510
Display	1 green LED lights if the output relay is pulled up
Insulation group VDE 0110b/2.79	C250
Test voltage Auxiliary circuit - output circuit - monitoring circuit	2500 VAC
Vibration resistance	4 g at 25 - 100 Hz (in accordance with GL)
Terminals	Tension relief terminal with head screws metric M 2.6
Terminal torque	max. 0.6 Nm
Terminal capacity solid conductor	2 x 1.5 mm ²
flexible conductor with ferrule	2 x 1.5 mm ²
Operating temperature	-25 °C to +70 °C
Storage temperature	-25 °C to +85 °C
Protection in accordance with DIN 40050	IP40 Housing IP20 Screws IP10 Clamps
Mounting	Rail in accordance with EN50022-35 x 7.5/15 Screw mounting with mounting plate
Weight	approx. 300 g

Auxiliary Circuit

Nominal line voltages	see order code
Nominal line frequency	50 / 60 Hz if AC devices
Voltage ranges	AC = $\pm 20\%$ at 100 % ED +50 % for 10 s 10 % ED DC = 24 VDC +25 %/-10 %
Rated power	2.0 VA $\cos \varphi = 0.7$



Monitoring Relay 1500

Monitoring Circuit

	U 1510		
Pull-in voltage U_{an} adjustable acc. to the upper scale	Input resistance in $k\Omega$	Continuous overload in V	Overload duration 10 s
10 - 100 mV	2	30	50 V
50 - 500 mV	20	100	140 V
0.5 - 5 V	82.5	200	280 V
5 - 50 V	511	500	700 V
25 - 250 V	1000	750	1000 V
50 - 500 V	1000	750	1000 V
Adjustment error	$\leq 4\%$		
Drop-out voltage U_{ab}	Permanently adjustable between 0.5 and $0.99 \times U_{an}$ acc. to the lower scale.		
Temperature dependence	$\leq 0.01\%/K$		
Variance of switching points under identical conditions	$\leq 0.5\%$		
Monitored value	The arithmetic mean value is measured. The scales are adjusted to sinusoidal AC voltage. If just DC voltages without any harmonic contents are measured, the desired switching point should be multiplied by 0.89 and the result set on the scale.		

Series Resistance for the 24 VDC Device

Supply voltage U_v in VDC	48 VDC	60 VDC	110 VDC	220 VDC
Series resistance R_v in Ω	470	750	1800	3900
Power rating P of R_v in W	1.23	1.7	4.1	9.8
Max. power P of R_v in W	1.92	2.7	6.4	15.4