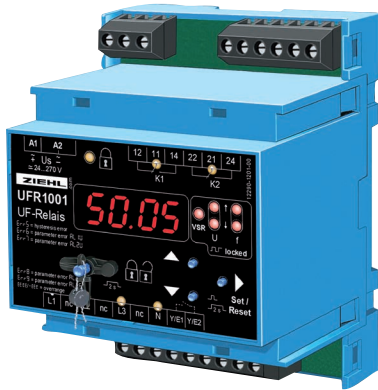


# Voltage- and Frequency Relay UFR1001

with integrated vector shift relay, sealable

## UFR1001



Part number: **S222295**

The voltage- and frequency relay UFR1001 monitors voltage and frequency in two- or three-phase networks with or without neutral and switches off rapidly when required.

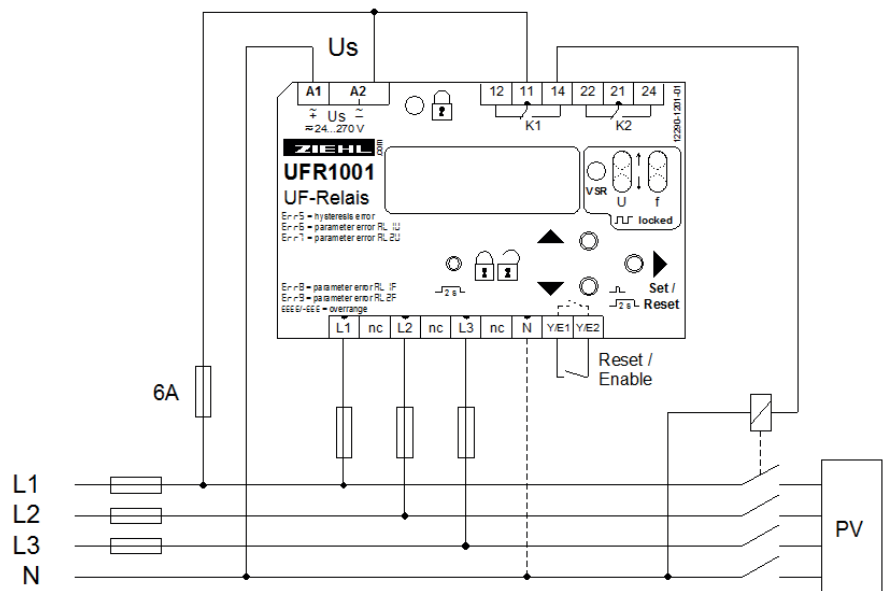
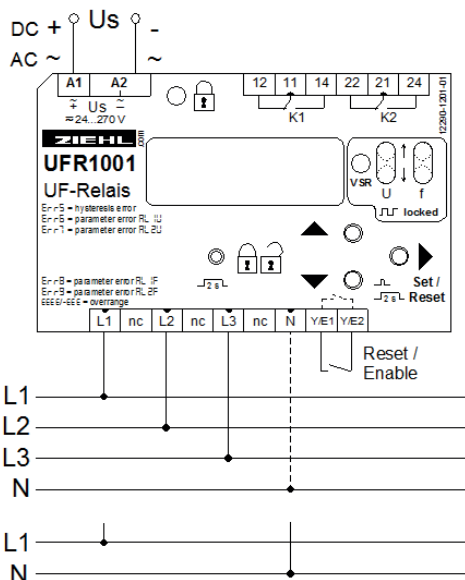
The device can be easily adapted to the requirements of the carrier of the power network.

With the integrated vector-step relay it can also monitor networks at synchronous generators.

After selecting a basic program, for each relay limits can be programmed for over-/undervoltage and over-/underfrequency. In programs with vector-step-monitoring, K2 is used for vector-step only.

Applications are monitoring power-networks at great solar-plants, in block power heating stations, also with synchronous generators (vector shift) or generally monitoring the quality in power networks at machines or power-supplies.

- Monitoring of over- and undervoltage 40...520 V
- monitoring of over- and underfrequency 45...65 Hz
- monitoring of quality of voltage (10-minutes-average)
- monitoring of vector-shift 2...20 °, 1 or 3-phase
- Switching-delay adjustable <0,05...60,0 s
- Switching-back-delay adjustable 0...1000 s
- Alarm-counter for up to 100 alarms (with measured value and reason)
- Added time of alarm up to 999 hours. Displays the time, alarms have been active (while supply voltage applied only)
- LEDs for alarms, allocation of values and states of relays
- 2 output-relays, each for monitoring frequency and/or voltage
- function of relays (nc- or no -operating mode) programmable
- interlocked switching or autoreset
- input for Enable / Reset
- easy programming by help of basic programs
- Sealing of settings is possible
- code-lock against manipulation of settings
- universal power-supply AC/DC 24-270 V
- housing for DIN-rail-mount, 70 mm wide, mounting height 66 mm



## Technical Data UFR1001

Power supply	Rated supply voltage $U_s$	AC/DC 24-270 V, 0/45...65 Hz, <5VA DC: 20,4...297 V, AC: 20,4...297 V
Relay output		2 change-over contacts <b>type 2</b> , see "general technical informations"
Voltage	Measuring voltage phase-phase Measuring voltage phase - N Hysteresis Frequency Error (with N) Error (without N) Measuring functions Switching-delay Switching-back delay (zero-voltage-proof)	AC 40...520 V AC 40...300 V adjustable 1...99 V 45...65 Hz $\pm 0,8\%$ of measured value $\pm 1$ Digit $\pm 1\%$ of measured value $\pm 1$ Digit 3-phase with / without neutral, single phase to neutral adjustable 0,05...60,00 s adjustable 0 (> 200 ms)...1000 s
Frequency	Measuring range Hysteresis Error Switching-delay Switching-back delay	45,00...65,00 Hz 0,05...5,00 Hz $\pm 0,05$ Hz $\pm 1$ Digit adjustable 0,1...99,9 s adjustable 0...240 s
Vector-Shift	Method Measuring range Hysteresis Switching-delay Switching-back delay Delay at $U_s$ on	1- or 3-phase 2,0...20,0 ° 0,1 ° < 50 ms adjustable 3...240 s adjustable 2...20 s
Test Conditions	Rated impulse voltage Overvoltage category Rated Insulation voltage Contamination level Isolation material group On-period Rated ambient temp. range Interference resistance Interference transmission	EN 60 255 4000 V III AC 300 V 2 II 100 % -20 °C...+55 °C EN 60 068-2-1 dry heat EN 61 000-6-2 EN 61 000-6-4
Housing	Design Dimensions (h x w x d) Protection housing Protection terminals Attachment Weight	V 4 90 x 70 x 58 mm, mounting height 66 mm IP 30 IP20 DIN-rail 35 mm or screws M4 app. 200 g