

The two voltage units can be coupled together either at the generation of the pickup signals, or after the timers by appropriately positioning the plug-in links W4 or W5.

The auxiliary tripping relay K3 can be selected to operate in a normally de-energised or normally energised mode by correspondingly positioning the plug-in link W6. LED's on the frontplate signal when the relay picks up respectively trips and these can be reset by pressing the reset button, which is also located on the frontplate. The voltage unit UE1 can be optionally equipped with an auxiliary tripping relay K4 (heavy duty contacts), should two independent tripping outputs be desired.

Self-Monitoring

The central element of the UKT913 is a micro-processor, which performs virtually all the relay's functions, and this lends itself very well to comprehensive self-monitoring of the relay's availability. This concerns on the one hand the A/D conversion of the signals derived from the input signals and the digital processing by the micro-processor, and on the other hand the integrity of the internal auxiliary supplies. Should any of these checks indicate that something is not

in order, the relay is blocked and the green LED on the frontplate extinguishes and the auxiliary relay K2 resets to signal that the relay is no longer standing by.

Auxiliary Supply

The relay can be supplied from a battery at voltages between 36 V and 312 V, the polarity of the connection being of no consequence, or from an a.c. source at voltages between 80 and 242 V, 50/60 Hz.

The auxiliary supply of the relay is continuously monitored and all functions and outputs are blocked the instant a failure of the auxiliary supply is detected.

Testing Facilities

The time delayed voltage relay UKT913 is a solid-state relay, which does not require special maintenance. Its function can be tested periodically with the aid of the portable test set type XS92a. For this purpose, the relay is withdrawn from its casing and inserted into a casing, which is already wired to the test set. The relay can be tested in site, providing a test socket or other means are provided for connecting the test set.

Settings

Thumbwheel switches on the frontplate:

- 1st voltage unit U_{E1}
The function of this voltage unit is blocked when $U_{E1} = 0$ is set.
- 2nd voltage unit U_{E2}
The function of this voltage unit is blocked when either $U_{E2} = 0$ is set or the operating mode negative phasesequence U_2 in combination with a setting $U_{E2} = 0.02 \times U_N$ has been selected.
- time delay t_2 for the 2nd voltage unit

The various plug-in links inside the relay have the following functions:

- | | |
|--|------------|
| - operating mode | WO, W1, W2 |
| - star or delta connection | W3 |
| - link between the two voltage units | W4, W5 |
| - operation of the auxiliary tripping relay K3 (normally de-energised or normally energised) | W6 |
| - relay rated frequency | W7 |

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Technical data

Type UKT913

Input circuit

three-phase ac version

Rated voltage U_N
100 or 200V

Rated frequency f_N
50/60 Hz

Burden at U_N
 ≤ 0.3 VA/phase

Continuous rating for f_N
 $2 \times U_N$

Measuring units

2 independent measuring units

Setting range $U_1 > U_1 < U > U >$, and U_E
0.02 to $1.98 \times U_N$ in steps of $0.02 \times U_N$

Setting range $U_2 >$
0.04 to $1.98 \times U_N$

Blocked at setting
 $U_E = \emptyset$ and $0.02 \times U_N$

Setting range $U_2 >$
0.04 to $1.98 \times U_N$

Blocked at setting
 $U_E = \emptyset$ and $0.02 \times U_N$

Permissible pick-up variation
 $\pm 5\%$ of U_E
 $U_1: \pm 5\%$ of $U_E \pm 2\%$ U_2
 $U_2: \pm 15\%$ of $U_E \pm 2\%$ U_1

Reset ratio according to the set operating mode
 $U >, U_1 >, U_2 > \geq 98\%$
 $U <, U_1 < \leq 102\%$