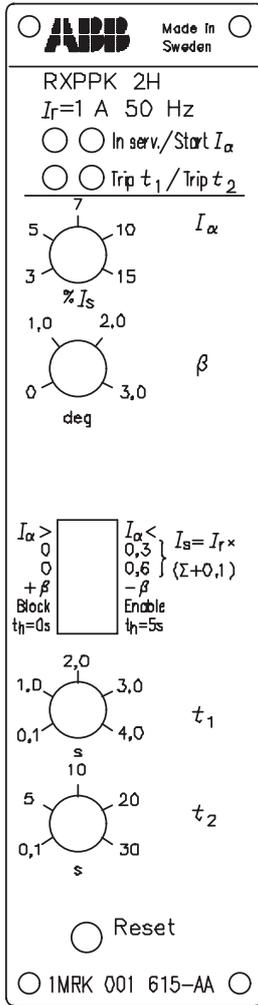


CONNECTION AND SETTING GUIDE



Rated voltage of the relay $U_r = 120\text{V}$.
 Rated current of the relay $I_r = 1\text{A}$ or 5A .
 Rated frequency of the relay $f_r = 50\text{ Hz}$ or 60 Hz .
 Phase angle φ , positive if I lags U.

LED indicators:

In serv. (green): indicates relay in service.
 Start I_α (yellow): indicates operation of $I \times \cos(\varphi - \beta)$ (no time delay).
 Trip t_1 (red): indicates operation after the set t_1 time delay.
 Trip t_2 (red): indicates operation after the set t_2 time delay.

I_α directional over / under current stage:

Potentiometer (P1) for setting of the operate value for the function $I_\alpha >$: Operates when $I \times \cos(\varphi - \beta - 180^\circ) \geq \text{set } I_\alpha$.
 $I_\alpha <$: Operates when $I \times \cos(\varphi - \beta) \leq \text{set } I_\alpha$.

Potentiometer (P2) for setting of the compensation angle β .

6-pole programming switch (S1) for setting of the function characteristics, the scale-constant I_s , the polarity of the compensation angle β , the operation characteristic of the binary input function and the hold-time delay t_h for Trip t_2 .

Potentiometer (P3) for setting of the definite time delay t_1 , for the short time-delay function.

Potentiometer (P4) for setting of the definite time delay t_2 , for the long time-delay function.

Reset push-button

Fig. 1 Front layout

CONNECTION

The RXPPK 2H relay requires a dc-dc converter type RXTUG for auxiliary supply $\pm 24\text{ V}$. Connection of voltage RL shall be made only when the binary input is used.

The relay is delivered with a short-circuiting connector RTXK for mounting on the rear of the terminal base. This connector will automatically short-circuit the current input when the relay is removed from its terminal base.

NOTE! The auxiliary voltage supply should be interrupted or the output circuits should be blocked to avoid the risk of unwanted alarm or tripping, before the relay is plugged into or withdrawn from its terminal base.

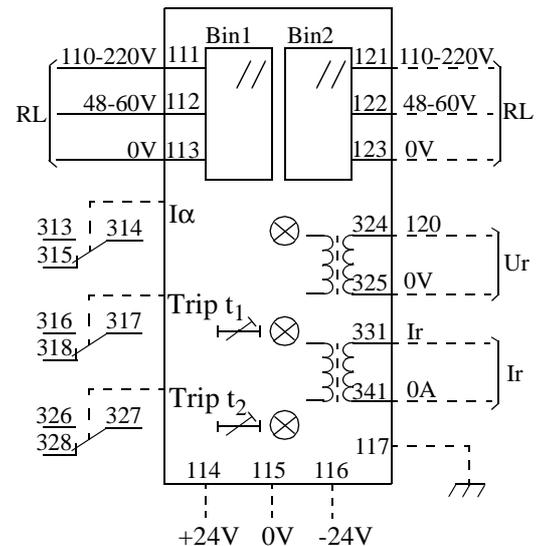


Fig. 2 Terminal diagram

SETTINGS:

All settings can be changed while the relay is in normal service.

1. Setting of the reverse / low-forward current characteristics.

The reverse current characteristic, operates when $I \times \cos(\varphi - \beta - 180^\circ) \geq \text{set } I_{\alpha}$, is set with S1:1 at $I_{\alpha} >$.

The low forward current characteristic, operates when

$I \times \cos(\varphi - \beta) \leq \text{set } I_{\alpha}$, is set with S1:1 at $I_{\alpha} <$.

2. Setting of the scale-constant I_s .

I_s is set with the programming switches S1:2 and S1:3. Available settings are 0,1, 0,4, 0,7 and 1,0 x rated current I_r .)

3. Setting of the operate value for the reverse / low-forward current stage I_{α} .

The operate value I_{α} is set with potentiometer P1 in percent of I_s .

The setting range of P1 is 3 to 15.

4. The time delay t_1 .

The time delay t_1 is set with potentiometer P3 within the range of 0,1 to 4,0 seconds.

5. The time delay t_2 .

The time delay t_2 is set with potentiometer P4 within the range of 0,1 to 30 seconds.

6. Setting of the system inaccuracy compensation angle β .

The compensation angle is set with P2 within the range of 0° to 3° .

The polarity of the angle β is set with S1:4

7. Setting of the remote block / enable function.

The remote block / enable function of the Trip t_1 stage is set with S1:5.

When the function is set to Block, active signal on RL1 (bin 1) will block the Trip t_1 function. When the function is set to Enable, active signal on RL1 will enable the Trip t_1 function.

8. Setting of the hold-time delay t_h .

The hold-time delay seal-in the input for the Trip t_2 function and is set with S1:6 to 0 or 5 seconds. When the hold-time is set to 5 seconds the Trip t_2 function will not reset until the start I_{α} stage has been reset for more than 5 seconds. This will ensure operation when power-swing occurs.

NOTE! The t_2 function should be set to longer time than t_h , to prevent unwanted operation.

9. The remote resetting of the LED indicators.

The second binary input (bin 2) is used for remote reset of the Trip t_1 and Trip t_2 LED indicators. The function is activated when a voltage is applied to input RL2.

INDICATION

There are four LED indicators. The trip indicators seal-in and are reset manually by the Reset push-button, while the start indicator resets automatically when the relay resets. When the Reset push-button is depressed during normal operating conditions, all LEDs except In serv. will light up.

When connecting RXPPK 2H to the supply voltage, the relay performs a self test. The In serv. LED is alight, after performing the self test and when the relay is ready for operation. In case of a fault, the LEDs will start flashing.

TRIPPING AND START OUTPUTS

The RXPPK 2H relay has one start and two tripping outputs. Each output is provided with one change-over contact. All outputs reset automatically when the measured value decreases below the resetting value of the relay.

ESD

The relay contains electronic circuits which can be damaged if exposed to static electricity. Always avoid to touch the circuit board when the relay cover is removed during the setting procedure.