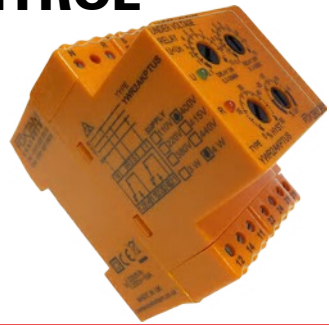


# PHASE FAILURE RELAYS WITH UNDER VOLTAGE CONTROL & TRUE DELAY OFF ON TRIPPING TIME DELAY, DELAY ON REINSTATEMENT TIMER, WITH OPTIONAL PHASE SEQUENCE CONTROL

PRODUCT GROUP  
**D**

**TYPES: YWR2AKPTUx (dpco)**



## FEATURES

- Din rail mounted
- DPCO output
- Available 3 wire or 4 wire
- Adjustable under voltage control
- Adjustable hysteresis
- Optional phase sequence
- Adjustable true delay off time delay
- Adjustable delay on reinstatement timer
- Self powered
- LED indication
- Transformer technology

## DESCRIPTION & MODE OF OPERATION

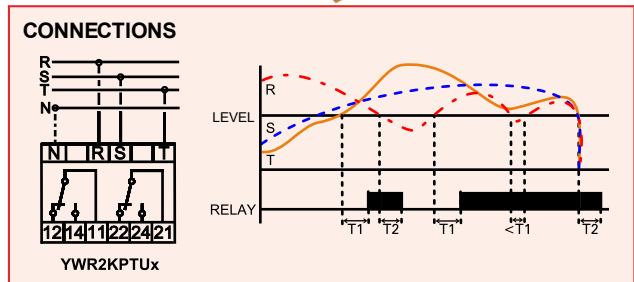
Phase failure relays with adjustable under voltage control and hysteresis, with the option of additional sequence control. In a din rail housing and DPCO output, can be specified as 3 wire or 4 wire and is self powered (no separate auxiliary supply is required). A range of nominal L-L input voltages can be specified from 110V L-L to 440V L-L, an under voltage setpoint can be set adjustable 5-25% of the specified nominal and a return hysteresis adjustable 5-50% of the setpoint. For example, if a 400V unit is set with an under voltage control of 10%, the unit will trip (de-energise) at 360V, if the hysteresis is set at 50%, the return point equates to +50% of the under voltage control, i.e. +50% of 40V = 20V, therefore the unit will re-energise at 380V. The units will also trip on phase sequence (if specified), phase loss and on 4 wire units deviation of the Neutral. All tripping eventualities are subject to a delay, the delay being True Delay Off, adjustable 0.1-10secs as standard. If you loose everything you will still benefit from the delay timer, unlike many other types of phase failure relays. This makes these units ideal for mains to generator changeover systems where short supply interruptions are best ignored, thus eliminating false engine starts, further enhanced with a generator "run down" period on the return of a healthy supply.

On the initial connection of the monitored supply the green LED will illuminate. On the supply being within the set levels, in the correct sequence (if applicable) and the Neutral connected on 4 wire units, the output relay will energise and the red LED will illuminate, after the reinstatement time has elapsed. On a phase loss, sequence error (if applicable), or under voltage situation after the set time delay the output relay will de-energise and the red LED will extinguish. However, note on a low voltage scenario the red LED will extinguish before the relay output have timed out and de-energised. If in a timing situation the fault condition corrects itself, any remaining delay time will be cancelled and the output relay will remain energised.

## ORDERING INFORMATION

TYPE	SEQUENCE	VOLTAGE	SYSTEM	OPTION
YWR2AKPTU (Din rail SPCO)	*S	3 x 110V	3W (3 wire)	On 3 wire variants as a no cost option a separate AC auxiliary supply can be specified. This gives the possibility of additional "control circuit" voltage monitoring. If this is lost or is not present, the unit will de-energise or not energise as applicable.
		3 x 220V	4W (4 wire)	24VAC, 48VAC, 110VAC
		3 x 380V		
		3 x 400V		
		3 x 415V		
		3 x 440V**		

\* Insert S if sequence is required  
\*\* 440V only available as a 3 wire version



## SPECIFICATIONS

### Supply & Measuring

- Nominal supply: 3 x 110V AC, 3 x 220V AC, 3 x 380V AC, 3 x 400V AC, 3 x 415V AC, 3 x 440V AC
- Permanent tolerance: +15%
- System: 3 or 4 wire option\*\*
- Frequency: 50/60Hz
- Umin adjustable: 5-25% of nominal (phase to phase)
- Hysteresis adjustable: 5-50% of Umin
- Min on time: 300mSec required to fully charge true delay off timing capacitor
- Delay on reinstatement: Adjustable 0.3-30mins after return of a healthy supply
- Max power consumption: < 6VA
- Insulation: 2.5KV 50Hz impulse

### Relay outputs:

- Output contacts: DPCO 10Amps/250V AC1
- Mechanical life: 30 Million ops
- Electrical life: 200K ops at max rated load

### General:

- Operating temperature: -20°C to +65°C
- Storage temperature: -20°C to +65°C
- Max cable size: 4mm
- CE marked: Yes
- In accordance with: EN61000-6-1: 2007, EN61000-6-3: 2007, EN61010-1: 2002
- Housing material: Polycarbonate, Auto extinguishable to UL 94 V-0

**By nature a true delay off timer uses different relay technology, by the means of a magnetically latching mechanism. However, if subjected to undue physical shock, for example "in transit" the contacts maybe on initial connection be in the incorrect state. If this is the case this can be easily rectified by the connection and removal of the auxiliary supply voltage. Thus allowing the contacts to time out and return to the correct state.**