RIF-T3-24UC

Multifunctional timer module with adjustable time for extending a switching relay



Data sheet
105278_en_02

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1 Description

Plug-in timer module with three time functions for RIF-1..., RIF-2..., RIF-3..., and RIF-4... relay bases. The timer module is suitable for relays with 24 V DC input voltage (AC operation is also permitted with RIF-1).

The function and time settings are made via DIP switches. Fine adjustments to the time are made using a potentiometer.

Features

- Can be used universally
- Time range from 0.5 s to 100 min
- With switch-on delay
- With passing make contact
- Flasher/pulse generator
- Status LED

Make sure you always use the latest documentation.
It can be downloaded from the product at phoenixcontact.net/products.

This document is valid for the products listed in the “Ordering data”.

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3 Ordering data

Description	Type	Item no.	Pcs./Pkt.
Plug-in module for extending a relay module to create a timer relay, 3 time functions, 4 time ranges, for mounting on RIF-1, RIF-2, RIF-3, and RIF-4, input voltage: 12 V DC ... 24 V DC	RIF-T3-24UC	2902647	5

4 Technical data

Input	
Nominal input voltage U_N	24 V DC (AC operation only permitted for RIF-1)
Input voltage range in reference to U_N	0.4 ... 1.2
Mains frequency	50 Hz / 60 Hz
Status display	Yellow LED
Protective circuit	Varistor
Surge voltage protection	> 56 V
Output	
Limiting continuous current	≤ 250 mA (Relay coil current)
Voltage drop at max. limiting continuous current	< 100 mV
General data	
Setting accuracy	3 % (of scale end value)
Repeat accuracy	1 %
Rated surge voltage	0.4 kV
Rated insulation voltage	50 V DC
Air clearances and creepage distances in a circuit	Basic insulation / IEC 60947-5-1
Overvoltage category	I
Degree of pollution	2
Mounting position	any , Can be inserted into relay base
Dimensions W/H/D	13 mm / 12 mm / 35 mm
Ambient conditions	
Ambient temperature (operation)	-25 °C ... 50 °C (RIF-1, AC coil, 2 changeover contacts at 6 A) -25 °C ... 50 °C (RIF-1, DC coil, 2 changeover contacts at 5 A) -25 °C ... 40 °C (RIF-2, DC coil, 2 changeover contacts at 8 A) -25 °C ... 40 °C (RIF-2, DC coil, 4 changeover contacts at 5 A) -25 °C ... 40 °C (RIF-3, DC coil, 3 changeover contacts at 6.75 A) -25 °C ... 40 °C (RIF-3, DC coil, 2 changeover contacts at 8 A) -25 °C ... 35 °C (RIF-4, DC coil, 3 changeover contacts at 8 A) -25 °C ... 25 °C (RIF-4, DC coil, 3 N/O contacts at 8 A)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Conformance/approvals	
UKCA UKCA-compliant	
Corrosive gas test	ISA-S71.04. G3 Harsh Group EN 60068-2-60
Approvals/conformities	24 V AC / 24 V DC

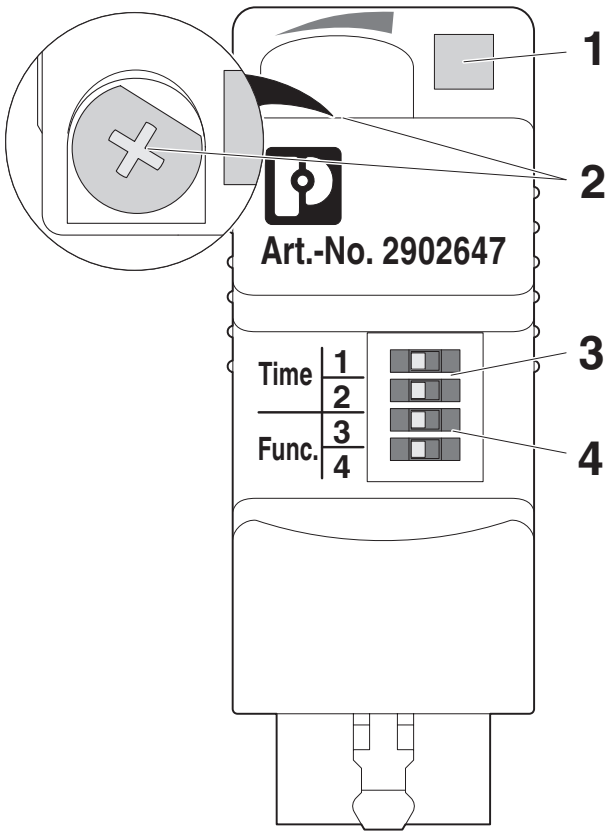
5 Safety notes

WARNING: Danger to life by electric shock!
Never perform work on the device when voltage is present.

- Installation, operation, and maintenance may only be carried out by qualified electricians. Follow the installation instructions as described.
- When installing and operating the device, observe the applicable regulations and safety directives (including national safety directives), as well as the generally recognized technical regulations.
- Observe the safety information, conditions, and limits of use specified in the product documentation. Comply with them.
- Disregarding these safety regulations may result in death, serious personal injury or damage to equipment.
- Before working on the device, disconnect the power.
- Keep the product documentation in a safe place.
- The device cannot be repaired by the user and must be replaced by an equivalent device. Repairs may only be carried out by the manufacturer.
- Only change the position of the DIP switches while the power is disconnected.

6 Structure

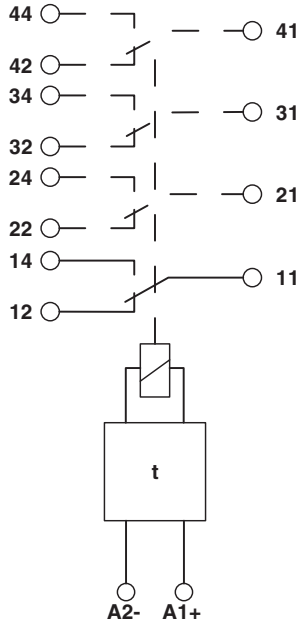
Figure 1 Function elements



1 Yellow LED: status indication
2 Potentiometer for fine adjustment of the time
3 "Time" DIP switch: time range selection
4 "Function" DIP switch: function selection

7 Block diagram

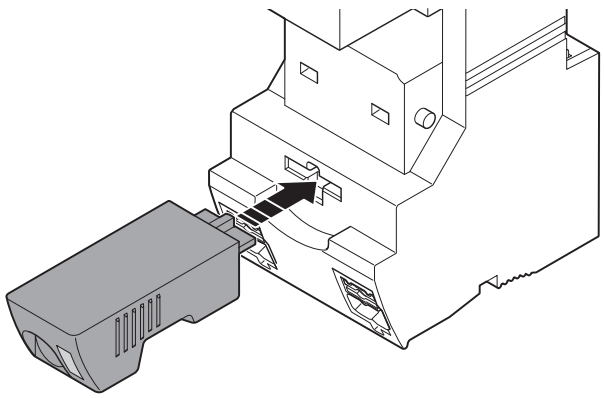
Figure 2 Block diagram



8 Installation

The timer module can be mounted onto the RIF-1..., RIF-2..., RIF-3... and RIF-4... relay bases.

Figure 3 Installation



Insert the module into the function shaft on the input side of the relay module.

9 Time setting

Only adjust the DIP switch settings when the power is disconnected. Otherwise the changes will not be applied.

The time range can roughly be set using DIP switches 1 and 2.

DIP 1	DIP 2	Description
Left	Left	0.5 s ... 10 s
Left	Right	5 s ... 100 s
Right	Left	0.5 min ... 10 min
Right	Right	5 min ... 100 min

Fine adjustment can be carried out using the potentiometer.

The lowest value of the time range is in the left position, the largest value is in the right position on the potentiometer.

10 Function

Only adjust the DIP switch settings when the power is disconnected. Otherwise the changes will not be applied.

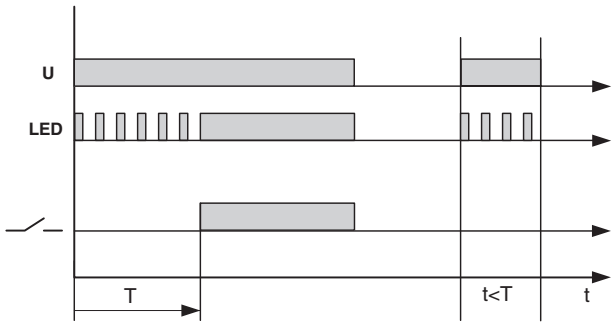
This function can be selected using DIP switches 3 and 4.

DIP 3	DIP 4	Function
Left	Left	With switch-on delay
Right	Left	With passing make contact
Left	Right	Flasher/pulse generator

10.1 With switch-on delay

DIP 3 = left

DIP 4 = left

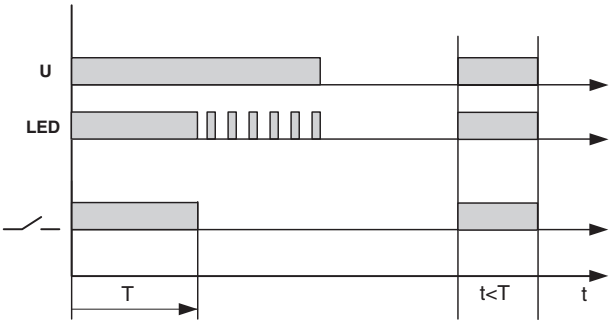


When supply voltage U is applied, the set time T starts running. The LED flashes during this time. At the end of time T, the relay picks up. The LED is steady on. This state is maintained until the supply voltage U is interrupted. If the supply voltage U is interrupted before the end of time T, the elapsed time is cleared. The next time supply voltage U is applied, the time is restarted.

10.2 With passing make contact

DIP 3 = right

DIP 4 = left

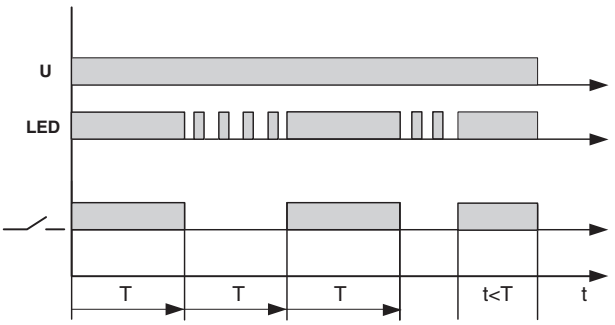


When supply voltage U is applied, the relay picks up. The set time starts running. The LED is steady on. At the end of the time, the relay drops out. The LED flashes for as long as the supply voltage U is still applied.

10.3 Flasher/pulse generator

DIP 3 = left

DIP 4 = right



When supply voltage U is applied, the relay picks up. The set time starts running. The LED is steady on. At the end of the time, the relay drops out. The time starts running again. The LED flashes. The pulse and pause time are the same for the flasher/pulse generator.

11 Diagnostics

The switching status of the timer module is indicated via the LED on the front of the module.

The LED indicates the following states:

– LED flashing: voltage applied
– LED flashing rapidly: incorrect setting, relay has dropped out
– LED on: voltage applied, relay has picked up