

ETD-SL-2T-I

Timer relay with adjustable pulse and pause times

INTERFACE

Data sheet
102572_en_04

© PHOENIX CONTACT - 09/2009



1 Description

Increasingly higher demands are being placed on safety and system availability – across all sectors. Processes are becoming more and more complex, not only in mechanical engineering and the chemical industry, but also in plant and automation technology. Demands on power engineering are also increasing constantly.

The timer relays in the ETD series can be used to control time sequences in production and process technology.

Features

- Adjustable pulse and pause times
- Time range of 50 ms to 100 hours (seven setting ranges)
- Timer function
- Wide-range power supply unit
- Two floating PDTs



WARNING: Risk of electric shock

Never carry out work when voltage is present.



Make sure you always use the the latest documentation.
It can be downloaded at www.phoenixcontact.net/download.

2 Ordering data

| Description | Type | Order No. | Pcs. / Pkt. |
|---|-------------|-----------|-------------|
| Timer relay with adjustable pulse and pause times | ETD-SL-2T-I | 2866174 | 1 |

3 Technical data

| Input data | |
|---------------------------------------|---|
| Input voltage range | 24 V DC ... 240 V DC -20 % ... +25 % 24 V AC ... 240 V AC -15 % ... +10 % |
| Nominal frequency | 48 Hz ... 63 Hz |
| Temperature coefficient, typical | ≤ 0.01 %/K |
| Recovery time | 500 ms |
| Time setting range | 50 ms ... 100 h (7 time end ranges) |
| Function | Ip: Switched-mode beginning with the pause Ii: Switched-mode beginning with the pulse |
| Basic accuracy | ± 1 % (of scale end value) |
| Setting accuracy | ≤ 5 % (of scale end value) |
| Repeat accuracy | ≤ 0.5 % ±5 ms |
| Nominal power consumption | 2.5 VA (1 W) |
| Output data | |
| Contact type | 2 floating PDT contacts |
| Nominal insulation voltage | 250 V AC (in acc. with IEC 60664-1) |
| Interrupting rating (ohmic load) max. | 750 VA (3 A/250 V AC, module aligned, ≤ 5 mm spacing) 1250 VA (5 A/250 V AC, module not aligned, ≥ 5 mm spacing) |
| Output fuse | 5 A (fast-blow) |
| General data | |
| Service life mechanical | Approx. 2×10^7 cycles |
| Service life, electrical | Approx. 2×10^5 cycles at ohmic load, 1000 VA |
| Switching frequency | max. 60 (per minute at 100 VA ohmic load) max. 6 (per minute at 1000 VA ohmic load) |
| Operating mode | 100% operating factor |
| Degree of protection | IP40 (housing) / IP20 (connection terminal blocks) |
| Pollution degree | 2 (according to EN 50178) |
| Surge voltage category | III, basic insulation (as per EN 50178) |
| Rated insulation voltage | 300 V (According to EN 50178) |
| Inflammability class acc. to UL 94 | V0 |
| Assembly | on TS 35 profile rail acc. to EN 60715 |
| Mounting position | Any |
| Width | 22.5 mm |
| Height | 113 mm |
| Length | 90 mm |
| Type of housing | Polyamide PA, self-extinguishing |
| Color | green |
| Weight | 160 g |

Connection data

| | |
|-----------------------------------|---|
| Conductor cross section, solid | 0.5 mm ² ... 2.5 mm ² |
| Conductor cross section, stranded | 0.5 mm ² ... 2.5 mm ² |
| Stripping length | 8 mm |
| Type of connection | Screw connection |
| Tightening torque | 1 Nm |

Ambient conditions

| | |
|---|--|
| Ambient temperature (operation) | -25 °C ... 55 °C -25 °C ... 40 °C (corresponds to UL 508) |
| Ambient temperature (storage/transport) | -25 °C ... 70 °C |
| Permissible humidity (operation) | 15 % ... 85 % |
| Climatic class | 3K3 (in acc. with EN 60721) |

Conformance / approvals

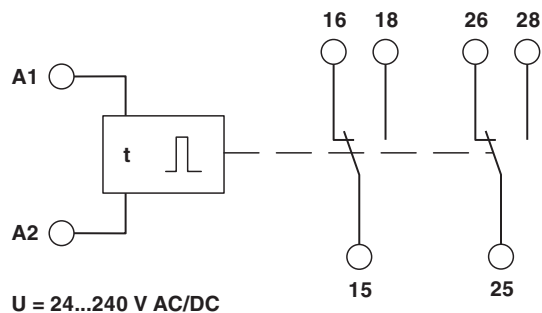
| | |
|------------------|-----------------------|
| Conformity | CE compliant |
| UL, USA / Canada | UL/C-UL listed UL 508 |

Conformance with EMC directive 2004/108/EC

| | |
|---------------------------------------|--------------|
| Immunity to interference according to | EN 61000-6-2 |
| Emitted interference according to | EN 61000-6-4 |

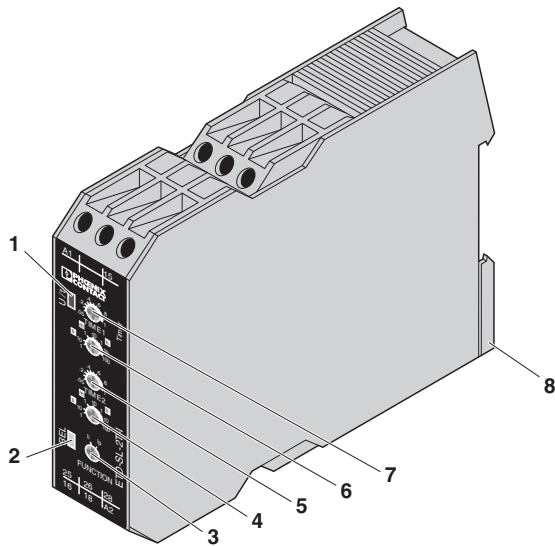
Conformance with LV directive 2006/95/EC

| | |
|--------------------------------------|----------------|
| Industrial timer relays according to | EN 61812-1/A11 |
|--------------------------------------|----------------|

4 Block diagram**5 Safety notes****WARNING: Risk of electric shock**

Never carry out work when voltage is present.

6 Structure



- 1 "U/t" LED: Supply and adjustable time TIME
- 2 "REL" LED: Output relay
- 3 "FUNCTION" rotary switch: Function selection
- 4 Rotary switch "TIME2": Time end range
- 5 "TIME2" potentiometer: Preset value
- 6 Rotary switch "TIME1": Time end range
- 7 "TIME1" potentiometer: Preset value
- 8 Universal snap-on foot for EN DIN rails

7 Installation



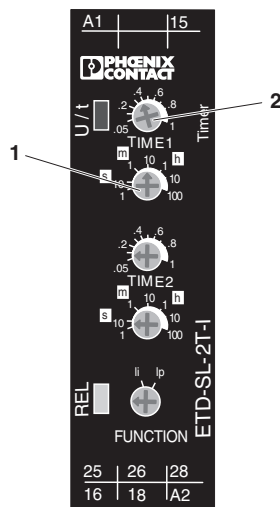
WARNING: Risk of electric shock

Never carry out work when voltage is present.

The module can be snapped onto all 35 mm DIN rails according to EN 60715.

An integrated wide-range power supply unit enables the connection of a supply voltage in the range from 24 V AC/DC to 240 V AC/DC.

8 Time setting



Example:

Setting of time 1

- 1 Specification of the time end range using a rotary switch, e.g. 10 m (10 minutes)
- 2 Fine setting of the time using a potentiometer, e.g. 0.4

Set time: $0.4 * 10 \text{ minutes} = 4 \text{ minutes}$

9 Diagnostics

The LEDs indicate the following error states:

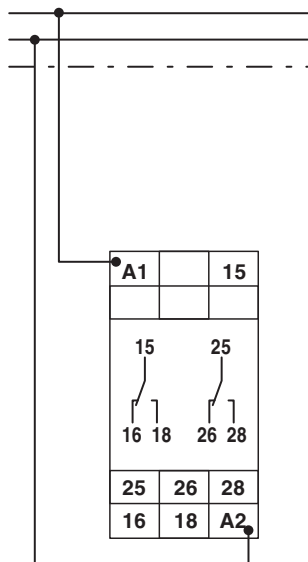
"U/t" LED (Green)

- LED flashes at 0.75 Hz: Voltage present, set time t1 running
- LED flashes at 1.5 Hz: Voltage present, set time t2 running

"REL" LED (Yellow)

- LED ON: Output relay has picked up
- LED OFF: Output relay has dropped out

10 Connection example

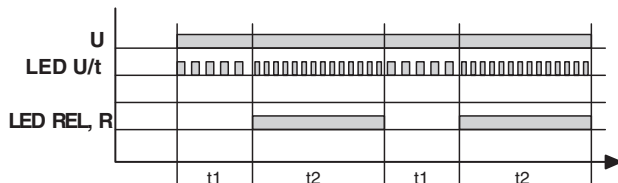


11 Function



ATTENTION: Module can become damaged

Only set the functions when the module is switched off.



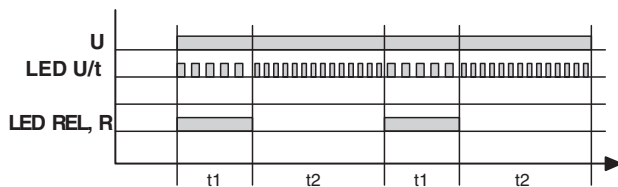
Ip: Switched-Mode Beginning With Pause

When supply voltage U is applied, set time t1 starts running (green "U/t" LED flashes at 0.75 Hz). Once time t1 has elapsed, the output relay picks up (yellow "REL" LED is ON) and set time t2 starts running (green "U/t" LED flashes at 1.5 Hz).

Once time t2 has elapsed, the output relay drops out (yellow "REL" LED is OFF). The output relay is controlled in relation to set times t1 and t2 until the supply voltage is interrupted.

Time t1 = Pause time

Time t2 = Pulse time



Ii: Switched-Mode Beginning With Pulse

When supply voltage U is applied, the output relay picks up (yellow "REL" LED is ON) and set time t1 starts running (green "U/t" LED flashes at 0.75 Hz). Once time t1 has elapsed, the output relay drops out (yellow "REL" LED is OFF) and set time t2 starts running (green "U/t" LED flashes at 1.5 Hz).

Once time t2 has elapsed, the output relay picks up again (yellow "REL" LED is ON). The output relay is controlled in relation to set times t1 and t2 until the supply voltage is interrupted.

Time t1 = Pulse time

Time t2 = Pause time

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9