

TR DIN rail mounted electronic timers (22.5 mm)

2 relay outputs

- Mono-function
- Multi-range (6 ranges)
- Multi-voltage
- 2 relays 8A, 1 instantaneous or timed (functions A and C) or both timed (functions L and K)
- Range selection via rotary switch
- Remote potentiometer (functions A and C)
- Display of output state by 2 LEDs
- External load possible on control contact

Technical specification

Timing

Repetition accuracy (with constant parameters)	± 0.2 %
Variation according to temperature	± 0.05 % / °C
VDE 0435 voltage	± 0.2 %
Display accuracy to VDE 0435	± 10 % / 25 °C
Minimum pulse duration	50 ms
Maximum reset time by de-energisation	100 ms
	during timing
	After timing
	100 ms

Immunity from micro power cuts

20 ms

Supply TRA2 - TRC2 - TRL2 TRK2

Supply voltage 24 V ~ ⋮ and 110 • 240 V ~

Frequency 50/60 Hz

Supply tolerance 85 to 110 % Un (110 % for 240 V)

Operation factor 100 %

Max. absorbed power 1W 24 V ~ 3 VA 230 V ~ 1.5 VA 24 V ~ 20 VA 230 V ~

Output specification TRA2 - TRC2 - TRL2 TRK2

Relay output 2 changeover AgCdO 2 relay AgCdO

Rating 2000 VA - 80 W 1250 VA

Max. breaking current 8 A ~ ⋮ 5 A ~ ⋮

Min. breaking current 100 mA ~ ⋮ 100 mA ~ ⋮

Max. breaking voltage 250 V ~ ⋮ 250 V ~ ⋮

Electrical life 10⁵ operations at 2000 VA resistive 10⁵ operations at 1250 VA resistive

Mechanical life 5 x 10⁶ operations 5 x 10⁶ operations

Input-to-output insulation to IEC 664, requirements IEC 255-5 100 mΩ at 500 V for 1 minute 100 mΩ at 500 V for 1 minute

Dielectric strength 2.5 kV at 1 mA for 1 minute 2.5 kV at 1 mA for 1 minute

Display

Display of output state by LED

Power on Green LED Green LED

Output in operation Red LED Red LED

General specifications

Conformity to standards IEC 664 / IEC 801 / IEC 255 / VDE 0435 / VDE 0110 / IEC 529

Approvals and agreements UL / CSA

Temperature Use -20 °C +60 °C

limits Storage -30 °C +70 °C

Installation category (IEC 664) Category III

Leakage paths and air gap to IEC 664 requirements - VDE 0110 4 kV / 2

Protection according to IEC 529 Terminal IP20

Front face IP50

Vibration limits according to 68 • 2 • 6 f = 10 • 55 Hz - A = 0.35 mm

90 % without condensation

Relative humidity according to 68 • 2 • 3 90 % without condensation

Electromagnetic compatibility IEC 255-4 : Class 3

IEC 801-2 : Level III

IEC 801-4 : Level IV

Mounting on symmetrical DIN rail 35 mm (EN 50022) or on panel by M4 screws

Terminal capacity With ferrule 2 x 1.5 mm²

Without ferrule 2 x 2.5 mm², 1 x 4 mm²

Housing material Self-extinguishing

Weight 110 g

Timing

Types

Part numbers (and voltages)

24 V ~ ⋮ / 110 • 240 V ~ - 50/60 Hz

24 • 240 V ~ ⋮ - 50/60 Hz

Functions

Timing ranges

6 available options 1 s, 10 s, 1 min, 10 min, 1 h, 10 h

4 available options 0,6 s, 2,5 s, 20 s, 160 s

Terminal connections

A1 or A3 or A4 - A2 : Supply

15 - 16 - 18 : Timed output contact

Y1 : Control contact

25 - 26 - 28 : Instantaneous or timed contacts

Z1 - Z2 : Remote potentiometer

Accessories

TRPe compatible potentiometer for remote setting of timing period

79 238 250

Function diagram

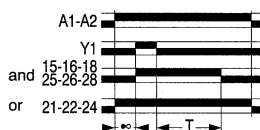
Function A

Delay on energisation



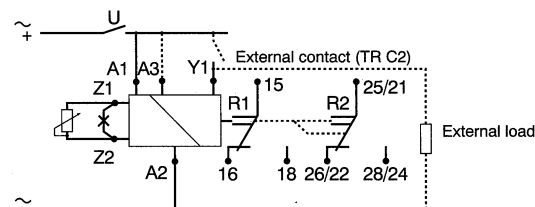
Function C

Timing after impulse



Connections

TR A2, TR C2



Supply :

Terminals A3 - A2 : 24 V ~ ⋮

A1 - A2 : 110 • 240 V ~

Remote setting of timing period

By remote potentiometer (not supplied). For this, remove the link between terminals Z1 and Z2 and connect a linear 470 KΩ ± 10% potentiometer across them. Set the local potentiometer on the front face to zero.

Potentiometer:

470 KΩ ± 10% / 0.2 W / linearity ± 10%

Cable :

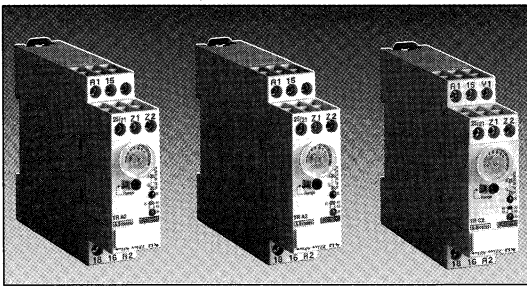
The cable used should preferably be shielded (shielding connected to earth), max. length 2 metres; do not run close to power or supply cables.

Note :

Control contact can be used to supply an external load (function C2).

Other information

Other voltages available to order in appropriate quantities: please enquire

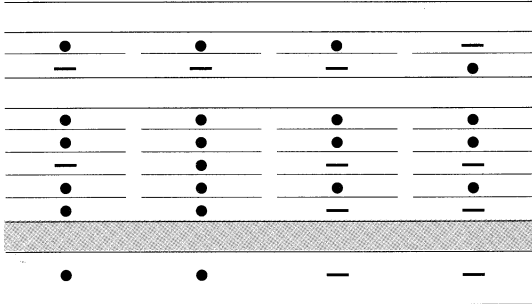


0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.06 s • 160 s

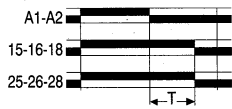
TR A2 TR C2 TR L2 TR K2

88 893 135 88 893 335 88 893 525 88 893 823

Mono-function A Mono-function C Mono-function L - Li Mono-function K



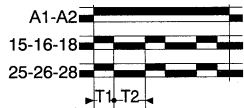
Function K
Delay on de-energisation (power off)



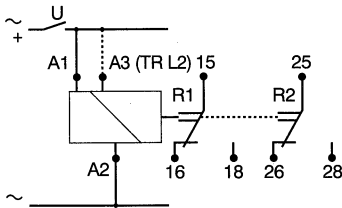
Function L
Asymmetrical recycler



Function Li
Asymmetrical recycler



TR L2, TR K2



Supply :

TRL2

Terminals A3 - A2 : 24 V ~
A1 - A2 : 110 • 240 V ~

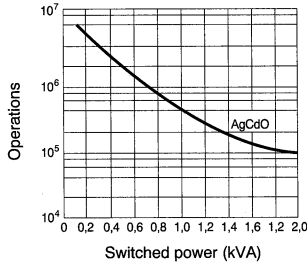
TRK2

Terminals A1 - A2 : 24 • 240 V ~

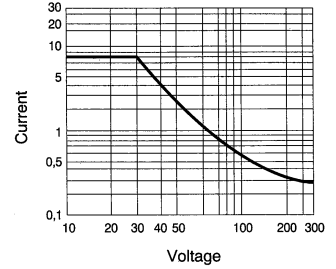
1
2

Output contact characteristics

Life of single contacts switching resistive load

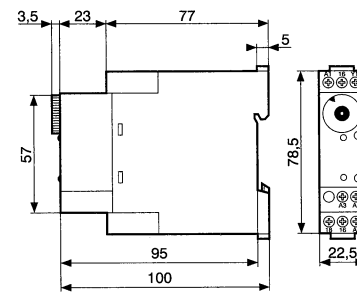


Max. D.C. current with resistive load

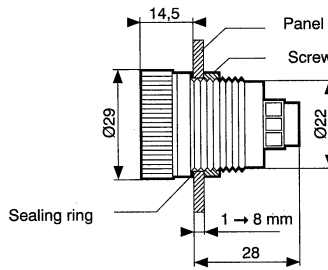


3

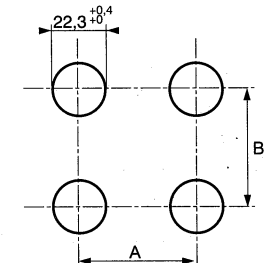
Dimensions



TRPe



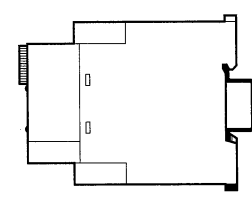
TRPe mounting dimensions



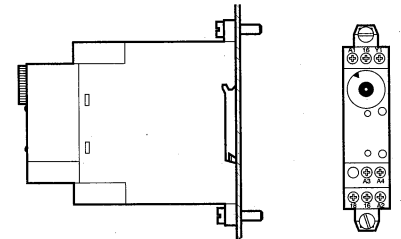
A min. = 50 mm
B min. = 50 mm

Mounting

on DIN rail



on panel by M4 screws



To order, specify :

Standard products

1

Type

2

Part number

3

Accessory

Example : TR A2 electronic timer - 88 893 135 - TRPe potentiometer 79 238 250

Standard products, non stocked

TR DIN rail mounted electronic timers (22.5 mm)

1 relay output

- Multi-function or mono-function
- Multi-range (6 ranges)
- Multi-voltage
- 1 changeover relay 8 A / 250 V ~
- Function and range selection via rotary switches
- Display of output state by 2 LEDs
- External load possible on control contact

Technical specification

Timing

Repetition accuracy (with constant parameters)	± 0.2 %
Variation according to temperature	± 0.05 % / °C
VDE 0435 voltage	± 0.2 %
Display accuracy according to VDE 0435	± 10 % / 25 °C
Minimum pulse duration	50 ms
Maximum reset time by de-energisation	during timing: 100 ms after timing: 100 ms

Immunity from micro power cuts	20 ms
Dwell time (TRQ)	40 - 60 - 80 - 100 ms

Supply

	TR-	TRK
Supply voltage	24 V ~ ≡ and 42 • 48 V ~ ≡ and 110 • 240 V ~	24 • 240 V ~ ≡
Frequency	50/60 Hz	50/60 Hz
Supply tolerance	85 to 110 % Un (110 % for 240 V)	85 to 110 % Un
Operation factor	100 %	100 %
Max. absorbed power	0.5 W 24 V ~ ≡ - 1 W 48 V ~ ≡ - 1.5 VA 24 V ~ - 2 VA 48 V ~ - 12 VA 230 V ~	3 VA 230 V ~

Output specification

	TR-	TRK
Relay output	1 changeover AgCdO	1 changeover AgCdO
Rating	2000 VA - 80 W	1250 VA
Max. breaking current	8 A ~ ≡	5 A ~ ≡
Min. breaking current	100 mA ~ ≡	100 mA ~ ≡
Max. breaking voltage	250 V ~ ≡	250 V ~ ≡
Electrical life	10 ⁵ operations at 2000 VA resistive	10 ⁵ operations at 1250 VA resistive
Mechanical life	5 x 10 ⁶ operations	5 x 10 ⁶ operations
Input-to-output insulation to IEC 664, IEC 255-5	100 mΩ at 500 V for 1 minute	100 mΩ at 500 V for 1 minute
Dielectric strength according to IEC 664, IEC 255-5	2.5 kV at 1 mA for 1 minute	2.5 kV at 1 mA for 1 minute

Display

Display of output state by LED	
Power on	Green LED
Output in operation	Red LED

General specifications

Conformity to standards	IEC 664 / IEC 801 / IEC 255 / VDE 0435 / VDE 0110 / IEC 529
Approvals and agreements	UL / CSA
Temperature limits	-20 °C +60 °C -30 °C +70 °C
Installation category (IEC 664)	Category III
Leakage paths and air gap to IEC 664 - VDE 0110 requirements	4 kV / 2
Protection according to IEC 529	IP20 IP50
Vibration limits according to 68 • 2 • 6	f = 10 • 55 Hz - A = 0.35 mm 90 % without condensation
Relative humidity according to 68 • 2 • 3	90 % without condensation
Electromagnetic compatibility	IEC 255-4 : Class 3 IEC 801-2 : Level III IEC 801-4 : Level IV
Mounting	on symmetrical DIN rail 35 mm (EN 50022) or on panel by 2x M4 screws
Terminal capacity	With ferrule: 2 x 1.5 mm ² Without ferrule: 2 x 2.5 mm ² , 1 x 4 mm ²
Housing material	Self-extinguishing
Weight	110 g

Timing

Types

Part numbers (and voltages)

24 V ~ ≡ / 42 • 48 V ~ ≡ / 110 • 240 V ~ - 50/60 Hz
24 V ~ ≡ / 110 • 240 V ~ - 50/60 Hz
24 • 240 V ~ - 50/60 Hz
220 • 240 V ~ - 380 • 440 V ~ - 50/60 Hz

Functions

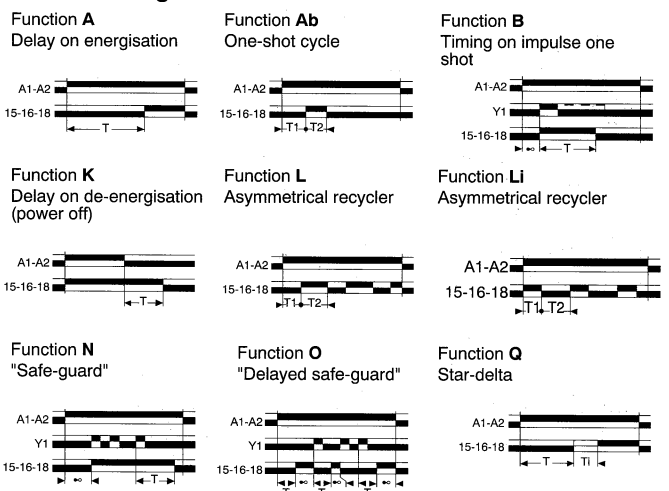
Timing ranges

6 available options	1 s, 10 s, 1 min, 10 min, 1 h, 10 h
4 available options	0,6 s, 2,5 s, 20 s, 160 s

Terminal connections

A1 or A3 or A4 - A2 : Supply
15 - 16 - 18 : Timed output contact
Y1 : Control contact

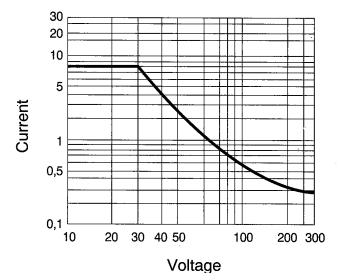
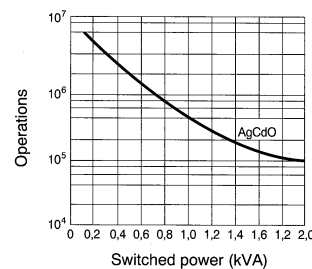
Function diagram



Minimum energisation time

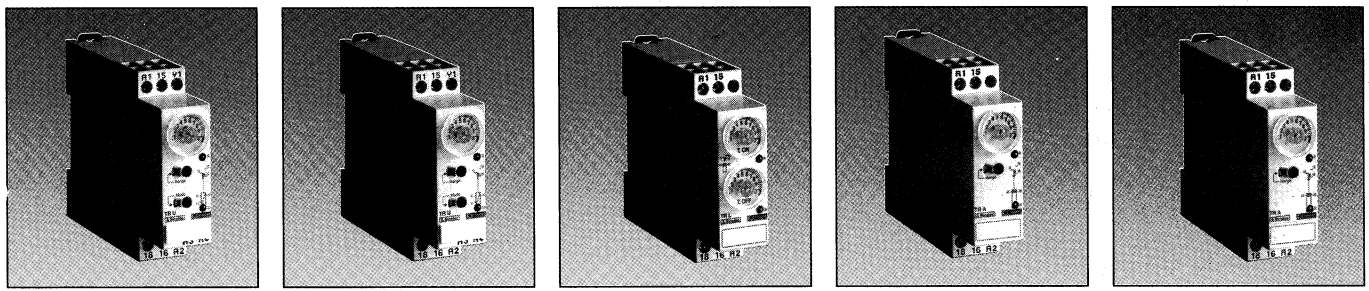
Life of single contacts switching resistive load

Max. D.C. current with resistive load



Other information

Other voltages available to order in appropriate quantities: please enquire



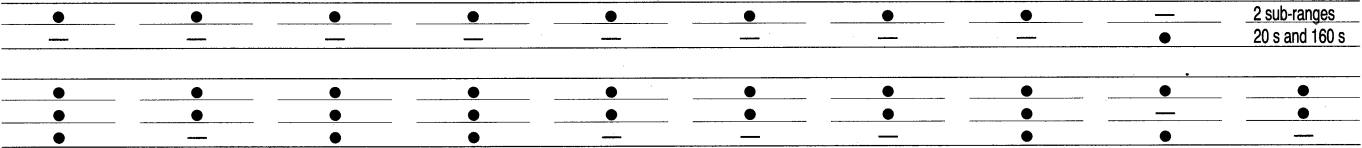
0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.1 s • 10 h 0.06 s • 160 s 2 s • 160 s

TRU **TRA** **TRB** **TRC** **TRH** **TRL** **TRAb** **TR N/O** **TRK** **TRQ**

88 893 016	—	88 893 216	88 893 316	—	—	—	88 893 616	—	88 893 916
—	88 893 115	—	—	88 893 415	88 893 515	88 893 715	—	—	—
—	—	—	—	—	—	—	—	88 893 813	—
—	—	—	—	—	—	—	—	—	88 893 917

Multi-function Mono-function Mono-function Mono-function Mono-function Mono-function Mono-function Mono-function Mono-function Mono-function

A, B, C, H A B C H L - Li Ab N/O K Q

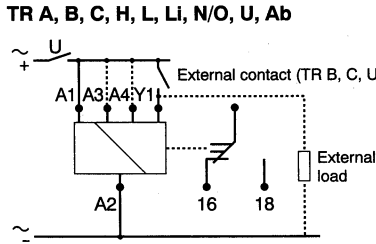
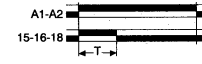


Connections

Function C
Timing after impulse



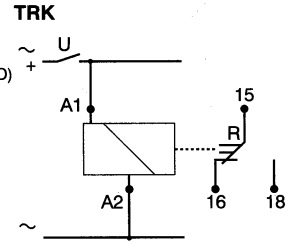
Function H
Timing on energisation
Interval timer - one shot



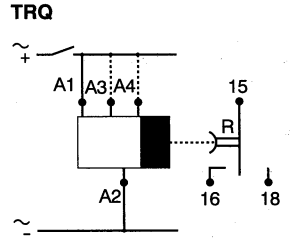
Supply :
TRB, C, N/O, U
Terminals A4 - A2 : 24 V ~ =
A3 - A2 : 42 • 48 V ~ =
A1 - A2 : 110 • 240 V ~ =

TRA, H, L, Ab
Terminals A3 - A2 : 24 V ~ =
A1 - A2 : 110 • 240 V ~ =

Note:
Control contact can be used to supply an external load (function B, C, N/O).



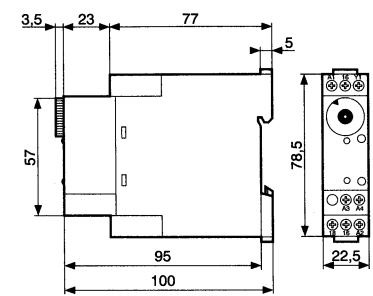
Supply :
Terminals A1 - A2 : 24 • 240 V ~ =



Supply :
88 893 916
Terminals A4 - A2 : 24 V ~ =
A3 - A2 : 42 • 48 V ~ =
A1 - A2 : 110 • 240 V ~ =

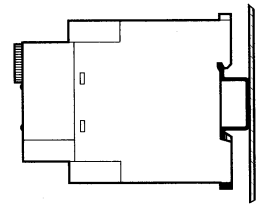
88 893 917
Terminals A3 - A2 : 220 • 240 V ~ =
A1 - A2 : 380 • 440 V ~ =

Dimensions

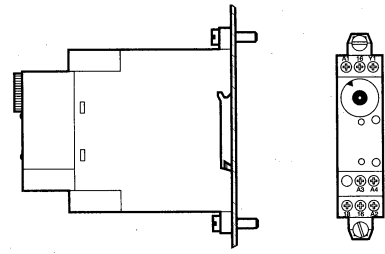


Mounting

on DIN rail



on panel by M4 screws



To order, specify :

Standard products	1 Type	2 Part number
Standard products, non stocked	Example : TRU electronic timer - 88 893 016	