

- Multirange (7 ranges)
- Multifunction (10 functions)
- Multivoltage
- 1 changeover relays 8 A
- Range selection via rotary switch
- Display of output state by 2 LEDs
- External load possible on control contact
- Operating range : 85 to 115 % Un

Timing range :

1s - 10s - 1min - 10min - 1h - 10h - 100h

Mounting on symmetrical DIN rail 35mm

(EN 50022) or on panel

Dimensions (mm) : 103.5 x 78.5 x 22.5

Operating temperature : -20 C + 60 C

Insulation according to standards IEC 255 .5, IEC 664

Protection according to IEC 529 : IP 50

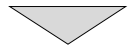
Conformity to standards IEC 1812-1, EN 50081-1/2,

EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC)

Approvals : UL - CSA, cUL pending

Weight : 90 g

To order



Types	Function - Diagramm	Voltages
TUR1	A - Ac - At - B - Bw - C - D - Di - H - Ht	24 V DC / 24 240V AC
TUR3	A - Ac - At - B - Bw - C - D - Di - H - Ht	12 240 V AC / DC
TUR4	A - Ac - At - B - Bw - C - D - Di - H - Ht	12 V AC / DC

Part number
88 865 105
88 865 103
88 865 100

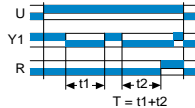
Function A

Delay on energisation



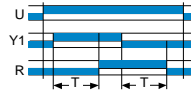
Function At

Timing on energ. with memory



Function Ac

Timing after closing and opening of control contact

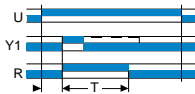


Terminal identification

A1 - A2 :	Supply
15 - 16 - 18	Timed output contacts
Y1 :	Control contact

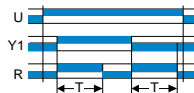
Function B

Timing on impulse one shot



Function Bw

Pulse output (adjustable)



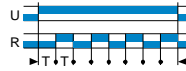
Function C

Timing after impulse 1 timer



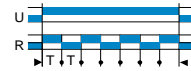
Function D

Flip-flop Pause start

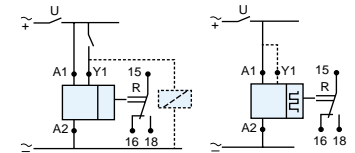


Function Di

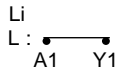
Flip-flop Pulse start



Connections



Functions :
A-At / B / C / H-Ht



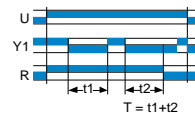
Function H

Timing on energisation



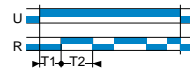
Function Ht

Timing on energisation with memory



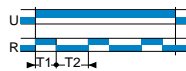
Function L

Asymmetrical recycler Pause start

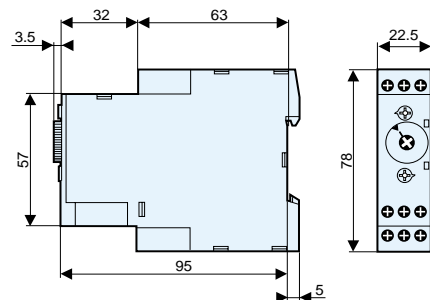


Function Li

Asymmetrical recycler Pulse start



Dimensions



U : Supply - R : Output relay - Y1 : Control contact - T : Timing

Technical specifications**Functions**

Multifunction U : A-At - B - C - H-Ht - Di-D - Ac - Bw.

Timing

Multiple timing ranges : 0.1s to 100h, 7 timing ranges
- 1s - 10s - 1min - 10min - 1h - 10h - 100h

Repetition accuracy (with constant parameters) :

- - 0.5 % (IEC 1812-1).

Drift :

- temperature - 0.05 % / C
- voltage - 0.2 % / V.

Display precision according to IEC 1812-1 : 0 +10 % / 25 C .

Minimum pulse duration :

- typically 30 ms
- typically 100 ms under load

Maximum reset time by de-energisation :

- typically 100 ms

Immunity to breaks in supply voltage : typically >10 ms.

Power supply

Multivoltage power supply : Depending on version

Frequency : 50/60 Hz.

Operating range : 85 to 115 % Un (85 to 120 % Un for 12V AC/DC).

Load factor : 100 %.

Maximum power consumption :

- 0.6 W 24V AC/DC - 1.5 W 230V AC - 32 VA 230V AC.

Output elements**Relay output**

1 changeover relays, AgNi (cadmium-free) 2000 VA / 80 W.

Rated power : 2000 V A / 80W.

Maximum breaking current : 8 A AC 8 A DC.

Minimum breaking current : 10 mA / 5 VDC.

Voltage breaking capacity : 250V AC/VDC.

Electrical life : 10⁵ operations 8 A 250V resistive.

Mechanical life : 5 x 10⁶ operations.

Breakdown voltage acc. to IEC 1812-1 : 2.5 kV / 1 min / 1 mA / 50Hz.

Impulse voltage acc. to IEC 664-1 IEC 1812-1 :

- 5 kV, 1.2 / 50 μs wave.

Display**State displayed by 1 or 2 LEDs :**

- Flashing green when on
- Relay LED yellow during timing.

Green LED operation indicator

▬▬▬▬ Pulsing :

- timer on, no timing in progress
(except functions Di-D and Li-L).

▬▬▬▬ Flashing :

- timing in progress

▬▬▬▬ Permanently lit :

- Relay waiting, no timing in progress.

Input type :

- volt-free contact

- 3-wire PNP output control option

maximum residual voltage : 0.4 V whatever the timer power supply.

General specifications**Conforming to standards :**

IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking)

+ EMC (89/336/EEC + IEC 669-2-3 (17.5 mm)

Approvals : UL - CSA - cUL pending

Temperatures limits :

- use -20 C + 60 C

- stored -30 C + 60 C

Installation category (acc. to IEC 664-1) :

- Voltage surge category

Creepage distance and clearance acc. to IEC 664-1 : 4 kV / 3

Degree of protection acc. to IEC 529

- terminal block IP 20

- casing IP 40

- front face IP 50

Vibration resistance acc. to IEC 68-2-6 : f = 10 55 Hz - A = 0.35 mm

Relative humidity acc. to IEC 68-2-3 : 93 % without condensation

Electromagnetic compatibility :

- Immunity to electrostatic discharges acc. to IEC 1000-42 :

Level III (Air 8 kV / Contact 6 kV)

- Immunity to electrostatic fields acc. to ENV 50140/204

(IEC 1000-4-3) : Level III 10V/m : 80 MHz to 1 GHz)

- Immunity to rapid transient bursts acc. to IEC 1000-4-4 :

Level III (direct 2 kV / Capacitive coupling clamp 1 kV)

- Immunity to shock waves on power supply acc. to IEC 1000-4-5 :

Level III (common mode 2 kV / residual current mode 1kV)

- Immunity to radiofrequency in common mode acc. to ENV

50141 (IEC 1000-4-6) : Level III (10V rms : 0.15 MHz to 80 MHz)

- Immunity to voltage dips and breaks acc. to IEC 1000-4-11 :

30 % / 10 ms, 60 % / 100 ms >, 95 % / 5 s.

- Mains-borne and radiated emissions acc. to EN 55022

(EN 55011 Group 1) : Class B.

Fixing :

- Symmetrical 35 mm DIN rail (EN 50022)

Connection capacity :

- without ferrule 2 x 2.5 mm²

- with ferrule 2 x 2.5 mm²

Casing material : Self-extinguishing

Weight : 22.5 mm casing : 90 g