

› Universal Digital Timer DIN Rail Mount 17.5 mm

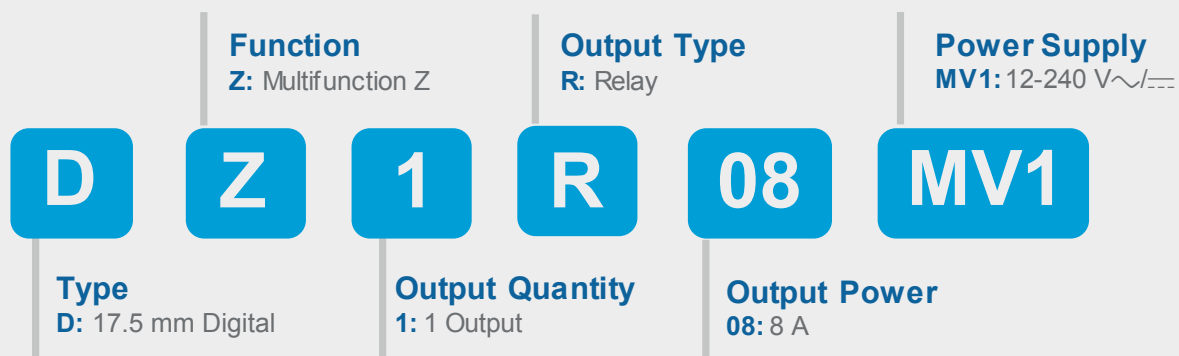
- › Digital timer (LED Screen)
- › Multifunction (23 base functions + options = 138 functions)
- › Precise time configuration
- › Optional features: password setting and time limit setting
- › 2 use modes (basic and advanced)
- › Programmable without power supply
- › Wide time range (from 0.1 seconds up to 100 days)
- › Universal power supply (12-240 V \sim / \equiv)
- › Universal connection



DZ1R08MV1
Multifunction

| Product selection | | | | |
|-------------------|---|---------|-------------------|------------------|
| Type | Function | Output | Supply Voltage | Part Number |
| DZ1R | Multifunction Z: (A, Ab, Ac, Ad, Ah, At, B, Bw, C, D, Di, H, Ht, L, Li, O, N, P, Pt, T, TL, Tt, W) + options | 1 relay | 12 → 240 V \sim | DZ1R08MV1 |

PART NUMBERING SYSTEM



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Description:

Syr-line, the specialized range at Crouzet, aimed to satisfy the most unique requirements of your applications by innovating in design, engineering and development.

The Universal Digital Timer, the new Syr-line timer that fits all your needs.

The Universal Digital Timer offers the same ease of use as analog timers but it is powered with visualization, higher-precision and all the functions you need (up to 138).

For more information about Crouzet's Syr-line range, please visit www.crouzet.com.

DZ1R08MV1

| Input Specifications | |
|--|--|
| Rated supply voltage Un | 12 → 240 V \sim |
| Voltage supply tolerance | -15 %, +10 % |
| AC supply voltage frequency | 50 / 60 Hz \pm 5% |
| Galvanic isolation of supply / inputs | No |
| Power consumption @ Un | Approx. 2.5 VA (V \sim) 1 W (V ---) |
| Immunity to power micro cuts | 10 ms |
| Timing Specifications | |
| Specified time ranges | 0.001 → 9.999 s, 1 s → 99 m 59 s, 1 m → 99 h 59 m, 1 h → 99 d 23 h |
| Minimum control pulse duration IEC 61812-1 | 45 ms for PNP mode 150 ms for NPN mode |
| Recovery time (after by de-energisation) IEC 61812-1 | 120 ms |
| Repeatability IEC 61812-1 | \leq 0.5 % \pm 150 ms Note: For COMMAND function of SUM and PAUSE, Repeatability is $<$ 0.5 % \pm 250ms |
| Setting accuracy IEC 61812-1 | \leq 0.5 % \pm 150 ms Note: For COMMAND function of SUM and PAUSE, Setting Accuracy is $<$ 0.5 % \pm 250ms |
| Temperature drift | \leq 0.5 % \pm 50 ms |
| Voltage drift | \leq 0.5 % \pm 50 ms |
| Output Specifications | |
| Contact arrangement | 1 CO (SPDT) (ChangeOver - Single Pole Double Throw-) |
| Maximum switching voltage | 250 V \sim / 30 V --- |
| Switching current rate (resistive) | NO / NC: 8 A 250 V \sim / 8 A 30 V --- @ 40 °C NO / NC: 5 A 250 V \sim / 5 A 30 V --- @ 50 °C |
| Minimum switching contact | 10 mA / 5 V --- |
| Maximum switching power (resistive) | 2 000 VA / 240 W |
| Electrical life | 10 ⁵ cycles min at 250 V \sim / 8 A resistive (NO only) |
| Maximum rate (at max switching power) | 360 cycles / hour |
| Mechanical life | 10 x 10 ⁶ cycles |
| Rated impulse voltage IEC 60664-1 | 4 kV (1.2 / 50 μ s) |
| Dielectric strength between coil / contacts IEC 60664-1 | 2.5 kV / 1 min / 1 mA / 50 Hz |
| Dielectric strength between open contacts | 1 kV / 1 min / 1 mA / 50 Hz |
| Insulation Specifications | |
| Rated Insulation voltage IEC 60664-1 | 250 V |
| Insulation coordination IEC 60664-1 | Overvoltage category III; pollution degree 2 |
| Rated impulse voltage IEC 60664-1 | 4 kV (1.2 / 50 μ s) |
| Clearance / Creepage distances (IEC 60664-1) | 3 mm / 3.2 mm |
| Dielectric strength EN-61812-1 | 2.5 kV / 1 min / 1 mA / 50 Hz |
| Insulation resistance NFC 93 050 | $>$ 500 MOhms / 250 V --- / 1min |
| General specifications | |
| Display | 1 general control knob 128*32 panel matrix OLED display |
| Casing DIN 43 880 | 17.5 mm |
| Din rail mounting EN 50022 | 35 mm symmetrical DIN rail |
| Mounting position | All positions |
| Housing material UL94 | Enclosure plastic type V0 |
| Degree of protection IEC 60529 | Housing: IP40 / Terminal block: IP20 |
| Terminal capacity single-wire IEC 60947-1 without ferrule (copper conductors only) | 1 x 0.5 → 3.3 mm ² (AWG 20 → AWG 12) 2 x 0.5 → 1.5 mm ² (AWG 20 → AWG 16) |
| Stripping length | 6 mm |
| Maximum tightening torques IEC 60947-1 | 0.5 N.m / 4.4 lbf.in |

DZ1R08MV1

| | |
|---------------------------------------|---|
| Operating temperature IEC 60068-2 | -20 → +50 °C |
| Storage temperature IEC 60068-2 | -40 °C → 30 °C Max (for optimal storage time) |
| Humidity IEC 60068-2-30 | 93 % without condensation |
| Vibration resistance IEC 60068-2-6 | ± 0.15mm from 10 Hz → 60 Hz 2 g from 60 Hz → 150 Hz |
| Shock resistance IEC 60068-2-27 | 15 gn - 11 ms; 3 x 6 axis (Output non-energized) 5 gn - 11 ms; 3 x 6 axis (Output energized) |
| Drop to concrete floor IEC 60068-2-32 | High: 0.75 m |
| Weight | 81 g 100 g with packaging |

Standards Specifications

| | |
|--|---|
| CEE Directive: 2014/30/EU 2014/35/EU | EMC Low voltage |
| Approvals / Marking | CE cULus Listed Industrial Control Equipment |
| Security standard IEC 60664-1 | Insulation coordination for equipment within low-voltage systems |
| Conformity with environmental directives 2015/863/UE 1907/2006 2012/19/UE 2006/66/CE | RoHS Reach WEEE Battery Directive |
| Product standard IEC 61812-1 UL 60947-4-1 | Specified time relays for industrial use Industrial Control Equipment (NRNT- Industrial Control Switches) |
| Electromagnetic compatibility IEC 61000-6-2 IEC 61000-6-3 IEC 61000-6-4 | Immunity for industrial environment Emission residential environment Emission industrial environment |
| Immunity to electrostatic discharges IEC 61000-4-2 | Level III Air ±8 KV / Contact ±6 KV |
| Immunity to radiated, radio-frequency, electromagnetic field IEC 61000-4-3 | Level III 10 V/m (80 MHz → 1 GHz) 80 % AM (1 kHz) 3 V/m (1.4 → 2 GHz) 80 % AM (1 KHz) 1 V/m (2 → 2.7 GHz) 80 % AM (1 KHz) |
| Immunity to rapid transient bursts IEC 61000-4-4 | Level III direct ±2 kV (power supply) capacitive coupling clamp ±1 KV (command input and outputs) |
| Immunity to shock waves on power supply IEC 61000-4-5 | Level III line-to-earth ±2 kV line-to-line ±1 kV |
| Immunity to radiofrequency in common mode IEC 61000-4-6 | Level III 10 Vrms (0.15 → 80 MHz) 80 % AM (1 kHz) |
| Immunity to voltage dips and breaks IEC 61000-4-11 | 0 % residual voltage / 1 cycle (Crit. B), 40 % residual voltage / 10 cycles 50 Hz / 12 cycles 60 Hz (Crit C) 70 % residual voltage / 25 cycles 50 Hz / 30 cycles 60 Hz (Crit C) Short interruptions: 0 % residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Crit C) |

AC/DC main port emissions IEC 61000-6-3
IEC 61000-6-4

DZ1R08MV1

CISPR 16-2-1 (7.4.1), CISPR 16-1-2 (4.3)
0.15 MHz – 0.5 MHz, 66 dB(µV) – 56 dB(µV) quasi-peak, 56 dB(µV) – 46 dB(µV) average
0.5 MHz – 5 MHz, 56 dB(µV) quasi-peak, 46 dB(µV) average
5 MHz – 30 MHz, 60 dB(µV) quasi-peak, 50 dB(µV) average
CISPR 14-1
0.15 MHz – 30 MHz
CISPR 16-2-1 (7.4.1), CISPR 16-1-2 (4.3)
0.15 MHz – 0.5 MHz, 79 dB(µV) quasi-peak, 66 dB(µV) average
0.5 MHz – 30 MHz, 73 dB(µV) quasi-peak, 60 dB(µV) average

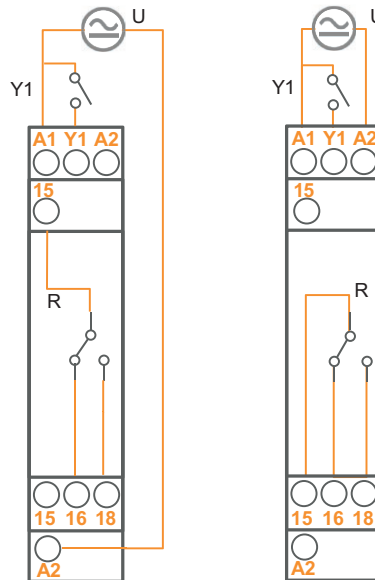
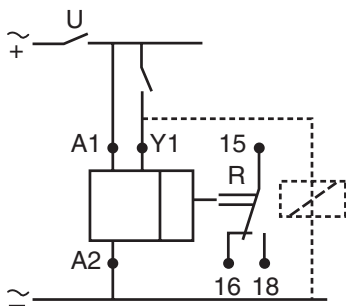
Radiated emissions IEC 61000-6-3
IEC61000-6-4

CISPR 16-2-3
30 MHz – 230 MHz, 30 dB(µV/m) Quasi-peak at 10 m
230 MHz – 1 000 MHz, 37 dB(µV/m) Quasi-peak at 10 m
Or:
30 MHz – 230 MHz, 40 dB(µV/m) Quasi-peak at 3 m in a semi-anechoic chamber
230 MHz – 1 000 MHz, 47 dB(µV/m) Quasi-peak at 3 m in a semi-anechoic

Connections

Universal connection DZ1R08MV1

2 connections options with the same product: type 1 or type 2



U: Supply

Type 1

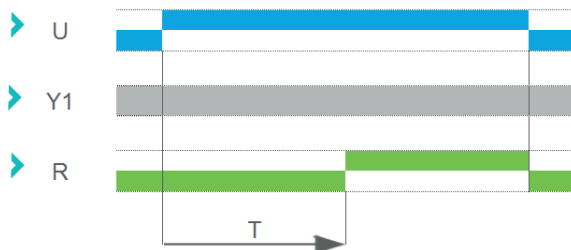
Type 2

Y1: Input signal

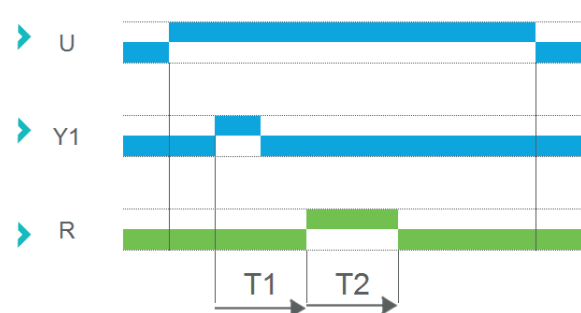
R: Output relay

Basic Time Chart

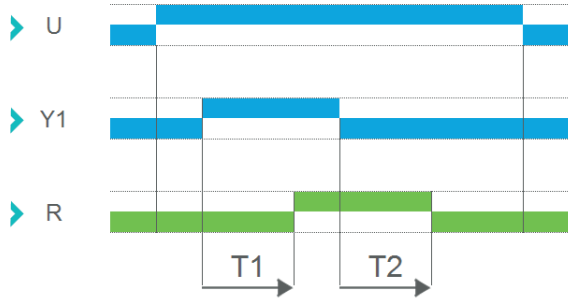
Function A - On-Delay (Delay on make)



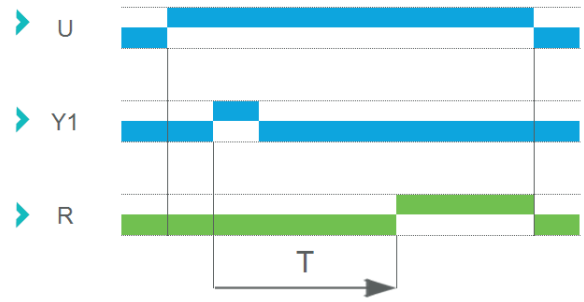
Function Ab - Delayed Interval



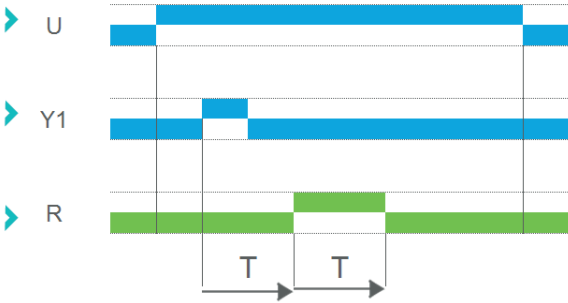
Function Ac - On/Off Delay (Delay on make/break)



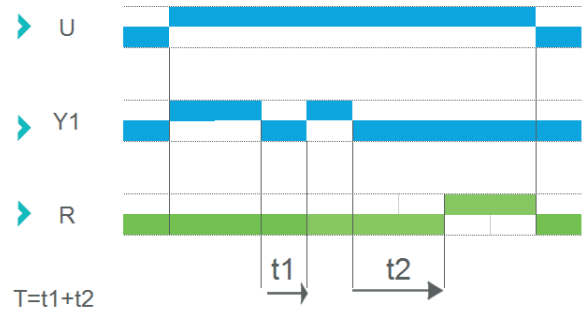
Function Ad - Delay on Start



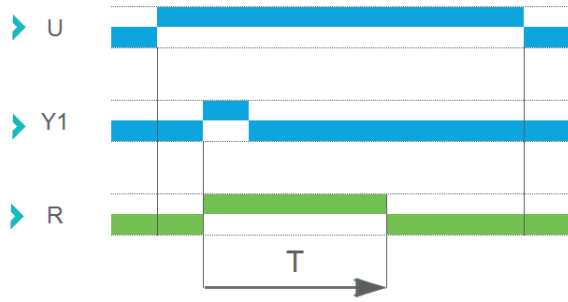
Function Ah - Triggered Flashing Cycle (Single shot flip-flop)



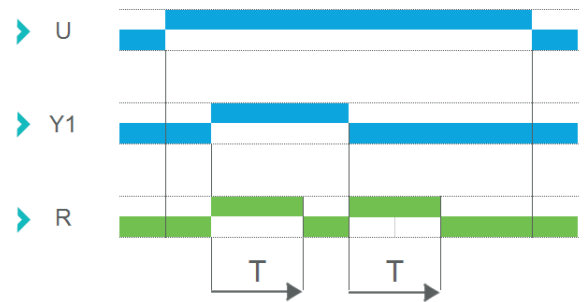
Function At - Summation time relay



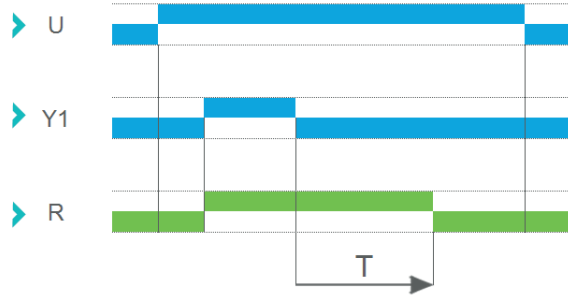
Function B - Single Shot (One Shot)



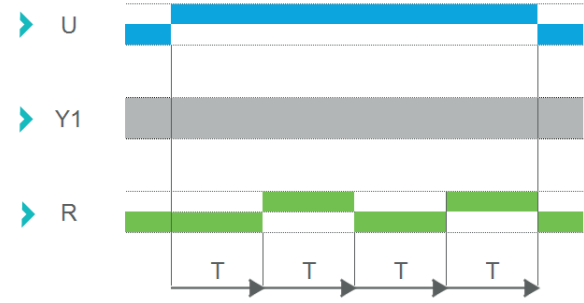
Function Bw - Pulse output



Function C - Off-Delay (Delay on break)



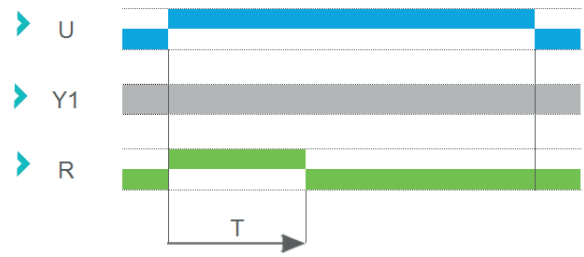
Function D - Flasher (Symmetrical) – OFF Start



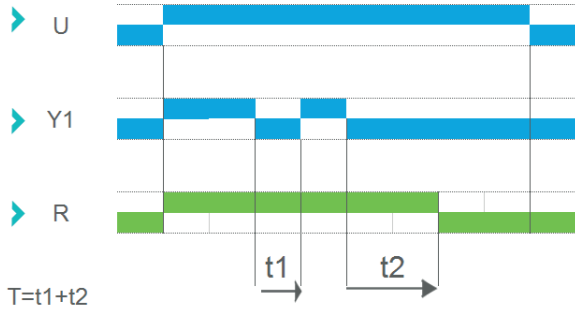
Function Di - Flasher (Symmetrical) – ON Start



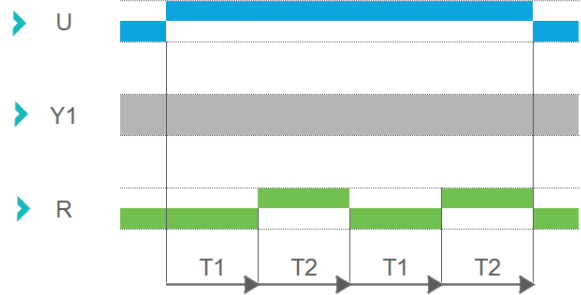
Function H - Interval



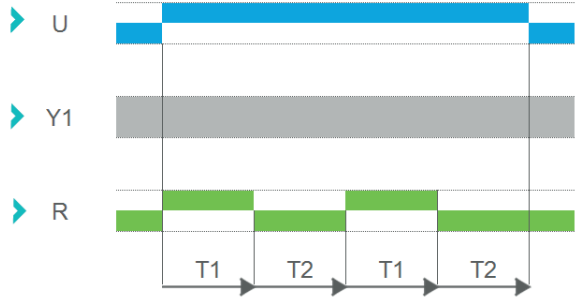
Function Ht - Interval with Memory



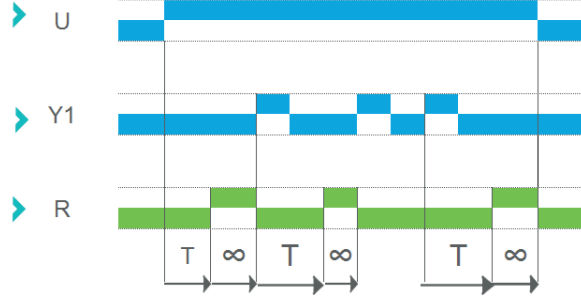
Function L - Repeat Cycle (Asymmetrical) – OFF Start



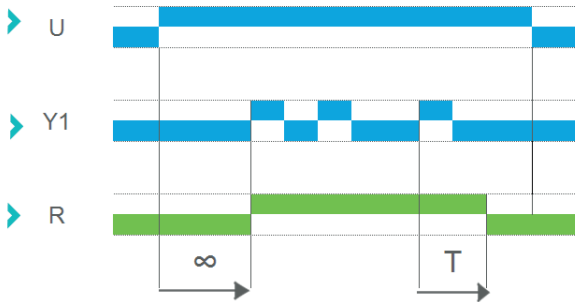
Function Li - Repeat Cycle (Asymmetrical) – ON Start



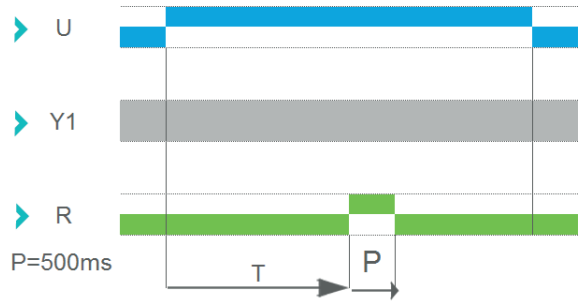
Function O - Delayed watchdog



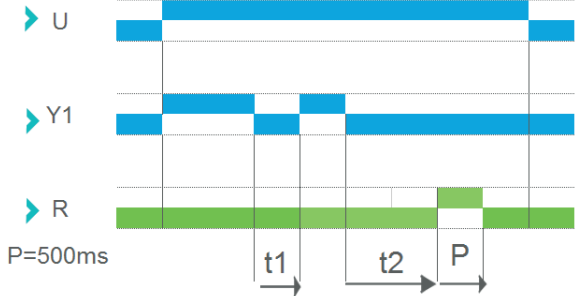
Function N - Watchdog



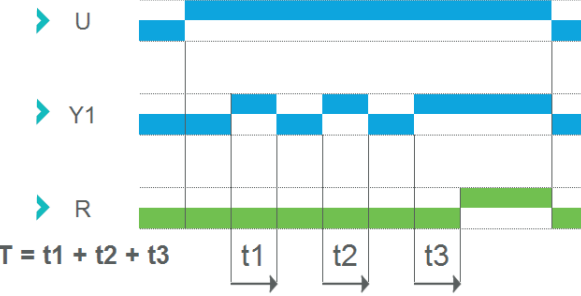
Function P - Pulse delayed relay



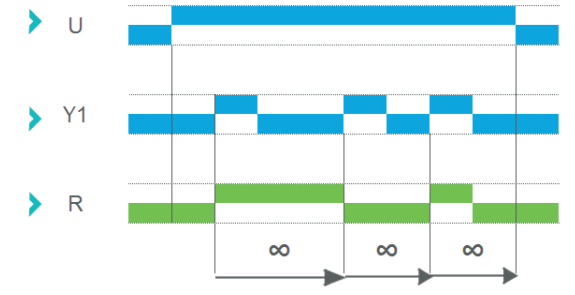
Function Pt - Impulse counter (delay on)



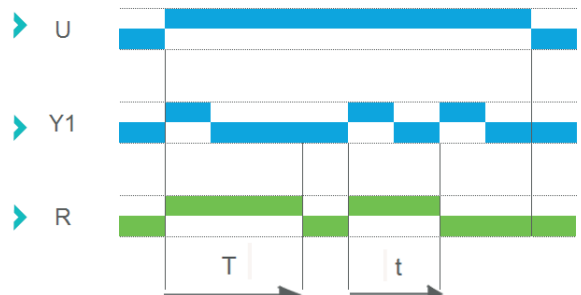
Function T - On-Delay (Delay on make): sum of times



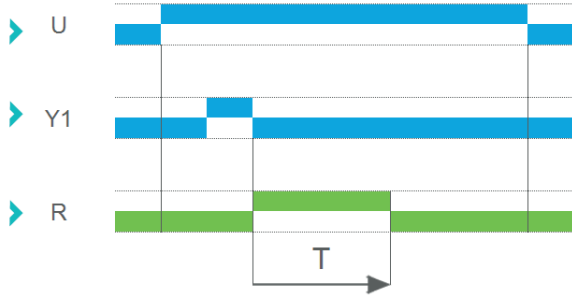
Function TL - Latching (Alternating) – Leading Edge



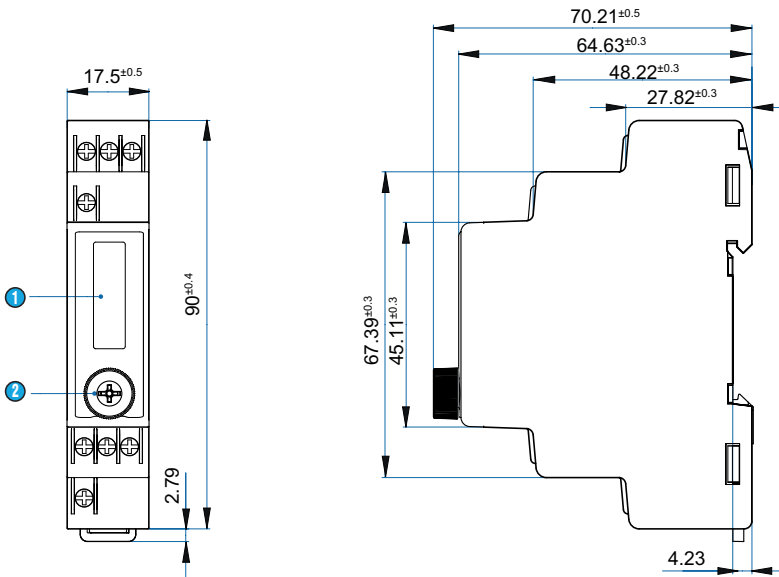
Function Tt - Delayed Latching (Alternating) – Leading Edge



Function W - Timing after pulse of control contact



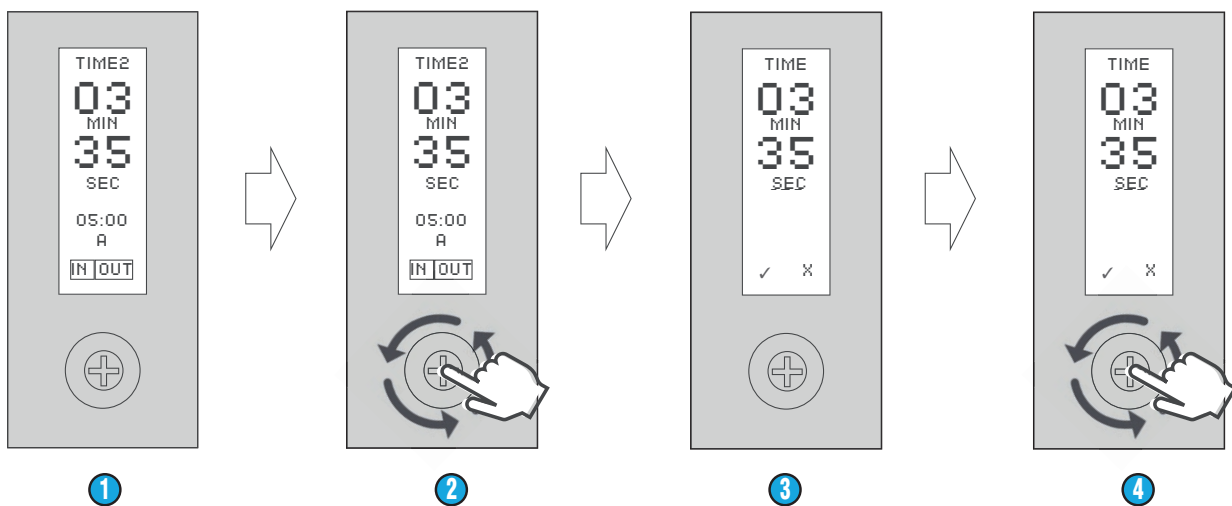
Outline dimensions (mm)



- 1 LED Screen
- 2 Select button

Keys Function

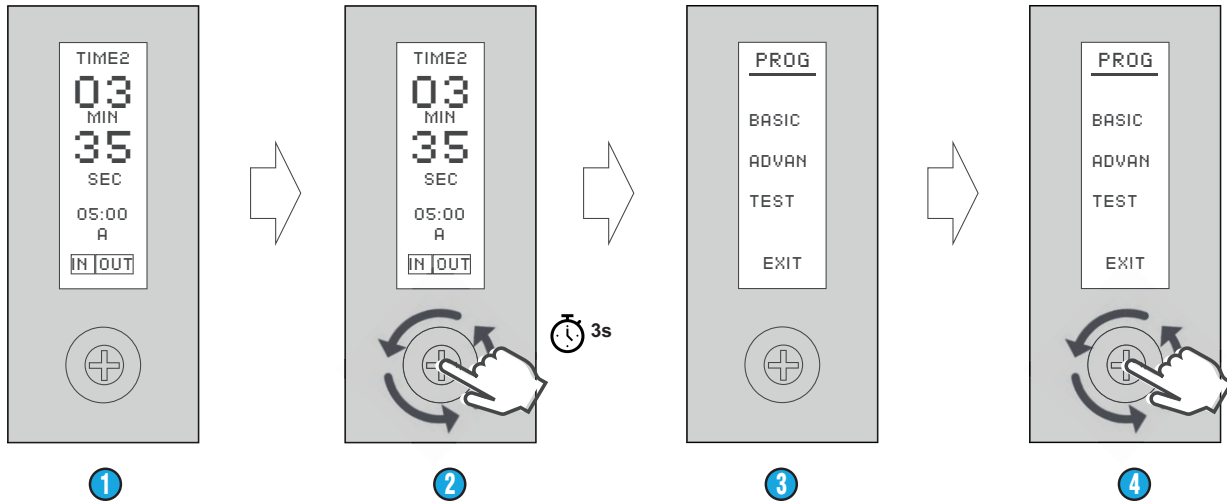
Enter to Timing Change Mode



- 1 Run mode
- 2 Press button less than 3 s
- 3 Timing change mode
- 4 Rotate button: change selection / press button: confirm selection

Keys Function

Enter to Programming Mode



- 1 Run mode
- 2 Press button more than 3 s
- 3 Programming mode
- 4 Rotate button: change selection / press button: confirm selection

Programming Mode



Basic Mode - Timer setting in few seconds

Programming mode choice

| | | | |
|--|--------------------------------------|--------------------------|--------------------------|
| FUNCTION •23 basic functions | RANGE •Milliseconds → Days | COUNT •UP/DOWN | MEMORY •YES/NO |
|--|--------------------------------------|--------------------------|--------------------------|



Advanced Mode - Optional additional parameters

| | | | |
|------------------------------------|---|---|--|
| INPUT TYPE •PNP •NPN | INPUT FUNCTION •OFF •Trigger •Reset •Sum •Stop | TIME CHANGE •Instantaneous •At end | UPPER LIMIT •Max value |
| LOWER LIMIT •Min value | BRIGHTNESS •Low •Medium •High | SCREEN SAVER •OFF •_5S → 60S | LOCK •OFF •Programming •ALL |
| DEFAULT RESET •Reset all | | | |



Test Mode

Test mode choice

| | | |
|--------------------------|-------------------------|------------------------|
| OUTPUT •ON/OFF | DISPLAY •TEST | MEMORY •TEST |
|--------------------------|-------------------------|------------------------|

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