

Universal Digital Timer

DIN-Rail Mount 17.5 mm

Syr-line DZ1R Series

The Universal Digital Timer: the Syr-line timer that fits all your needs. It 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).



12-240
VAC/DC



Universal
Connection

Electrical Control & Protection > Time Relays > DIN-Rail > **Digital**

Highlights

- 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 (0.1 s - 100 days)
- Universal power supply (12-240 VAC/DC)
- Universal connection

Standards



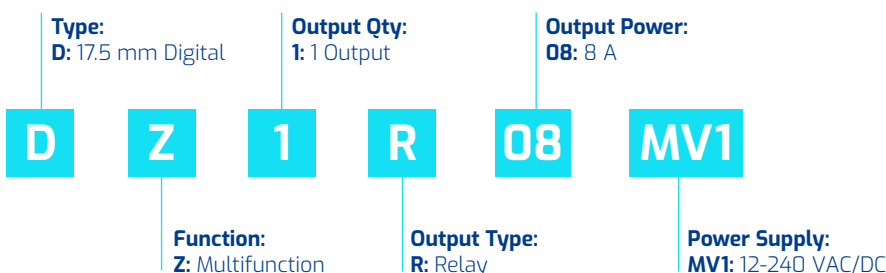
Part Numbers

DZ1R08MV1



Functions: Multifunction Z (A - Ab - Ac - Ad - Ah - At - B - Bw - C - D - Di - H - Ht - L - Li - N - O - P - Pt - T - TL - Tt - W) + options
Series: DZ1R

Part numbering system



More info.



Specifications

DZ1R08MV1

Inputs	
Supply voltage	12-240 VAC/DC
Voltage supply tolerance	-15% +10%
AC supply voltage frequency	50/60 Hz \pm 5%
Galvanic isolation of supply / inputs	No
Max power consumption at Un	Approx. 2.5 VA (VAC) 1 W (VDC)
Immunity to power micro cuts	10 ms
Timing	
Timing ranges	IEC 1812-1: 0.001 s - 9.999 s, 1 s - 99 min 59 s, 1 min - 99 h 59 min, 1 h - 99 d 23 h
Minimum control pulse duration	IEC 1812-1: 45 ms for PNP mode / 150 ms for NPN mode
Recovery time (after by de-energization)	IEC 1812-1: 120 ms
Repeatability	IEC 1812-1: $\leq \pm 0.5\% \pm 150$ ms Note: For COMMAND function of SUM and PAUSE, Repeatability is $< 0.5\% \pm 250$ ms
Setting accuracy (full range)	IEC 1812-1: $\leq \pm 0.5\% \pm 150$ ms Note: For COMMAND function of SUM and PAUSE, Repeatability is $< 0.5\% \pm 250$ ms
Drift temperature	$\leq \pm 0.5\% \pm 50$ ms
Drift voltage	$\leq \pm 0.5\% \pm 50$ ms
Outputs	
Output configuration	1 CO (SPDT) (ChangeOver - Single Pole Double Throw)
Maximum switching voltage	250 VAC / 30 VDC
Switching current rate (resistive)	NO/NC: 8 A 250 VAC / 8 A 30 VDC at 40°C NO/NC: 5 A 250 VAC / 5 A 30 VDC at 50°C
Maximum switching power (resistive)	2000 VA / 240 W
Electrical life (operations)	10 ⁶ cycles min at 250 VAC / 8 A resistive (NO only)
Minimum breaking current	10 mA / 5 VDC
Maximum rate (at max switching power)	360 cycles / h
Mechanical life (operations)	10x10 ⁶ cycles
Dielectric strength	Between coil / contacts (IEC 60664-1): 2.5 kV / 1 min / 1 mA / 50 Hz Between open contacts: 1 kV / 1 min / 1 mA / 50 Hz
Insulation	
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 M Ω / 250 VDC / 1 min

Specifications

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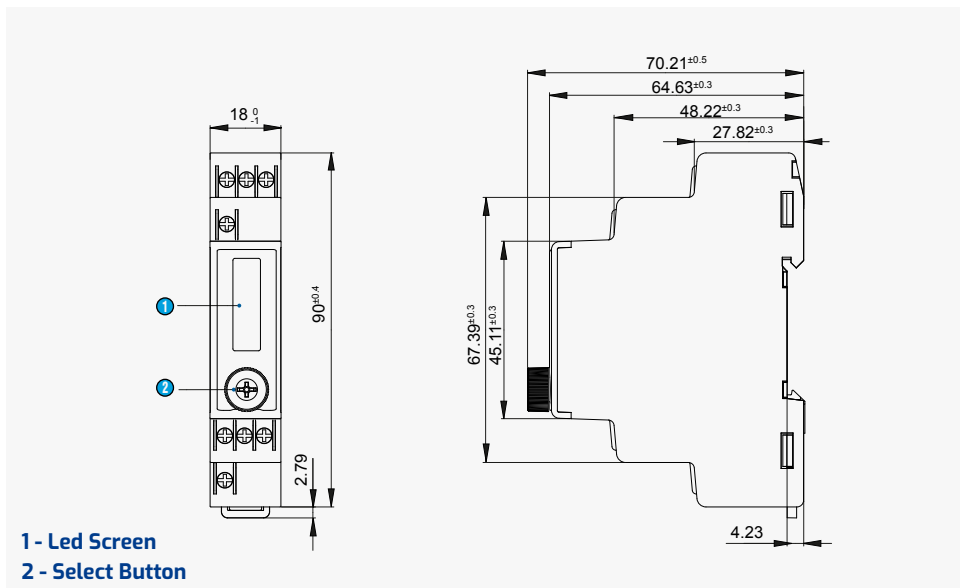
General characteristics	
Display	1 general control knob 128*32 panel matrixOLED display
Casing	DIN 43 880: 17.5 mm
Mounting	EN 50122: 35 mm symmetrical DIN-Rail
Mounting position	All positions
Housing material	UL94: enclosure plastic type V0
Degree of protection	IEC 60529: Housing IP40 / Terminal block IP20
Terminal capacity	Single-wire (IEC 60947-1) without ferrule (copper conductors only): 1x0.5 - 3.3 mm ² (AWG 20 - AWG 12) 2x0.5 - 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
Operating temperature	IEC 60068-2: -20°C to +50°C
Storage temperature	IEC 60068-2: -40°C to +30°C max(for optimal storage time)
Humidity	IEC 60068-2-30: 93% without condensation
Vibration resistance	IEC 60068-2-6: ± 0.15 mm 10 Hz - 60 Hz / 2 g 60 Hz - 150 Hz
Shock resistance	IEC 60068-2-27: 15 gn – 11 ms, 3x6 axis (Output non-energized) 5 gn – 11 ms, 3x6 axis (Output energized)
Drop to concrete floor	IEC 60068-2-32: Height: 0.75 m
Weight	81 g (100 g with packaging)
Standards	
EU Directives	2014/30/EU: EMC 2014/35/EU: 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: RoHS 1907/2006: Reach 2012/19/UE: WEEE 2006/66/CE: Battery Directive
Product standard	IEC 61812-1: Specified time relays for industrial use UL 508 (60947-4-1): Industrial Control Equipment (NRNT- Industrial Control Switches)
Electromagnetic compatibility	IEC 61000-6-2: Immunity for industrial environment IEC 61000-6-3: Emission residential environment IEC 61000-6-4: 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 61000-4-5: Level III Line-to-earth ± 2 kV Line-to-line ± 1 kV

Specifications

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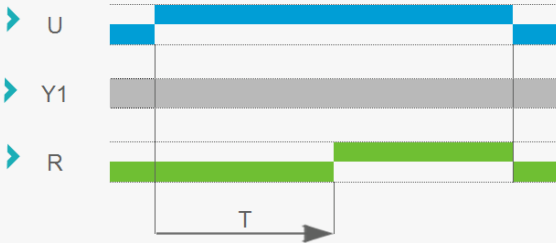
Standards	
Immunity to voltage dips and breaks	IEC 61000-4-11: 0% residual voltage / 1 cycle (Crit. B), 40% residual voltage / 10 cycles 50 Hz / 12 cycles 60 Hz (Crit C), 70% residual voltage / 25 cycles 50 Hz / 30 cycles 60 Hz (Crit C), Short interruptions: 0% residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Crit C)
AC/DC main port emissions	IEC 61000-6-3, IEC 61000-6-4: 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, IEC 61000-6-4: 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 chamber

Dimensions (mm)

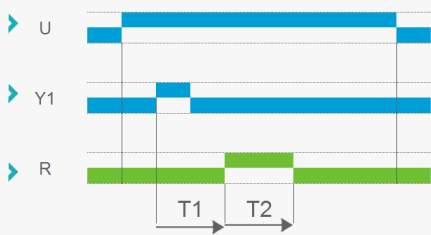


Function diagrams

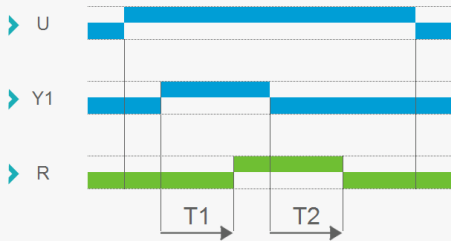
Function A: On-Delay (Delay on make)



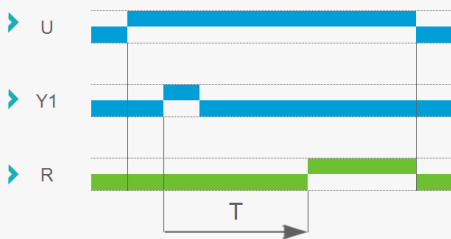
Function Ab: Delayed Interval



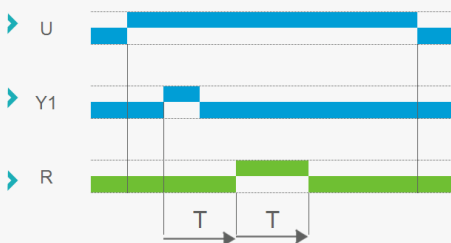
Function Ac: On/Off Delay (Delay on make/break)



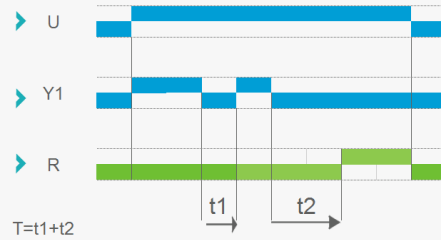
Function Ad: Delay on Start



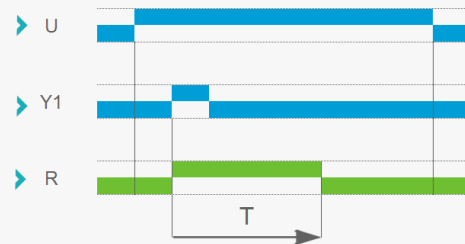
Function Ah: Triggered Flashing Cycle (Single shot flip-flop)



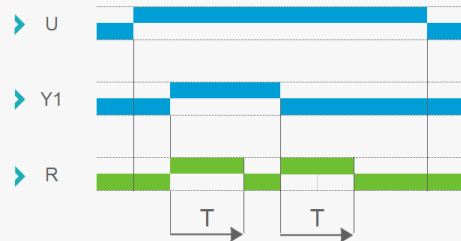
Function At: Summation Time Relay



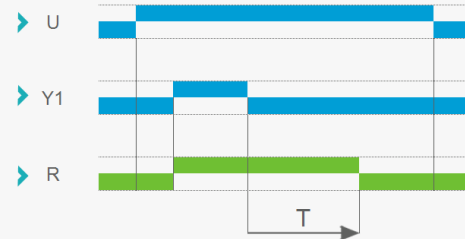
Function B: One-Shot



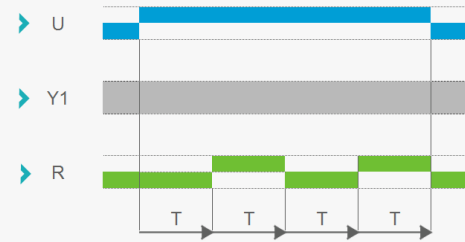
Function Bw: Pulse output



Function C: Off-Delay (Delay on brake)

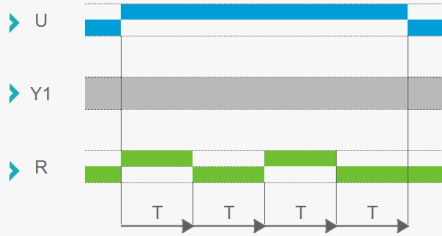


Function D: Flasher (Symmetrical) - OFF Start

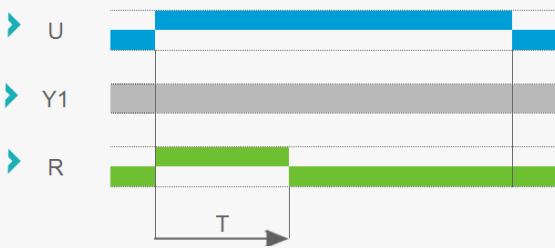


Function diagrams

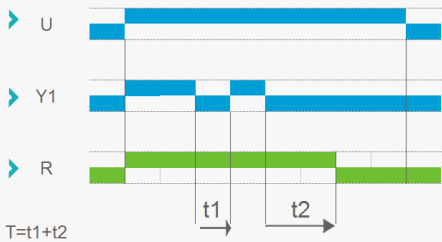
Function Di: Flasher (Symmetrical) - ON Start



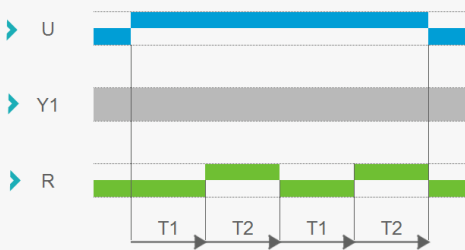
Function H: Interval



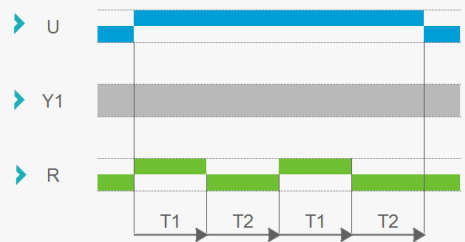
Function Ht: Interval with Memory



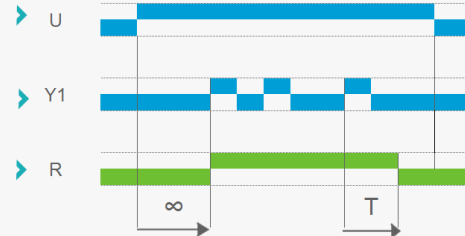
Function L: Repeat Cycle (Asymmetrical) - OFF Start



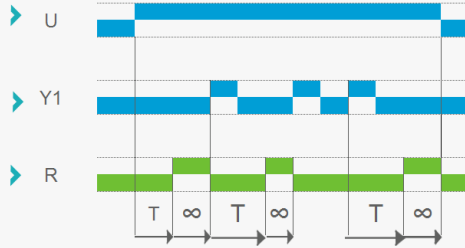
Function Li: Repeat Cycle (Asymmetrical) - ON Start



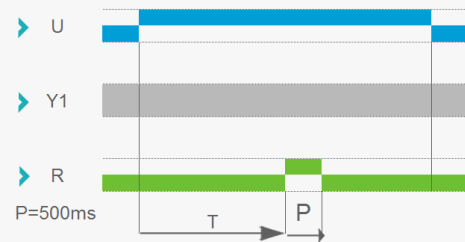
Function N: Watchdog



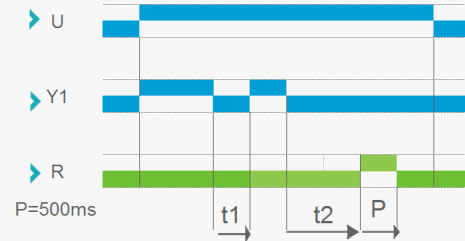
Function O: Delayed watchdog



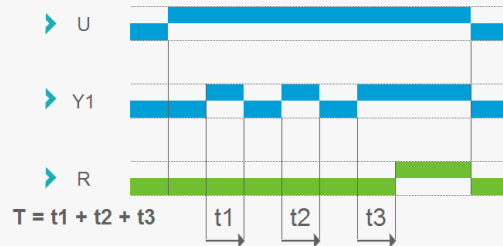
Function P: Pulse delayed relay



Function Pt: Impulse counter (delay on)

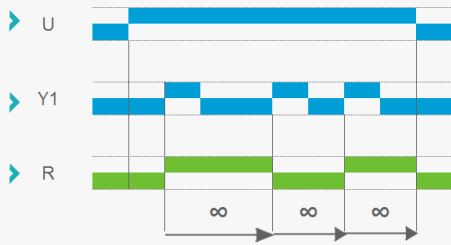


Function T: On-Delay (Delay on make) - Sum of times

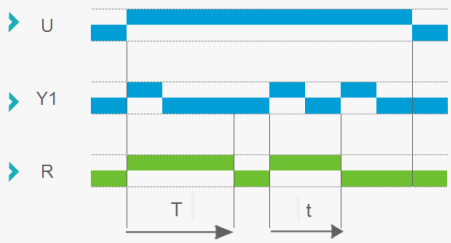


Function diagrams

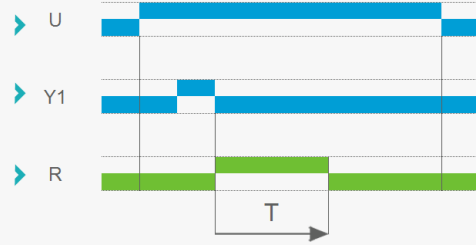
Function TL: Latching (Alternating) - Leading Edge



Function Tt: Delayed Latching (Alternating) - Leading Edge

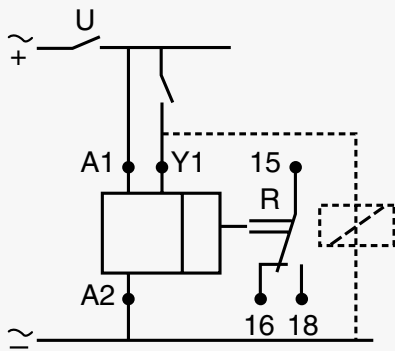


Function W: Timing after Pulse of Control Contact



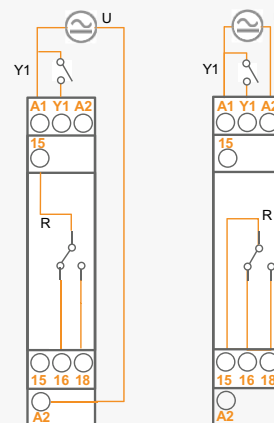
Wiring diagrams

Universal connection



U: Supply
Y1: Input signal
R: Output relay

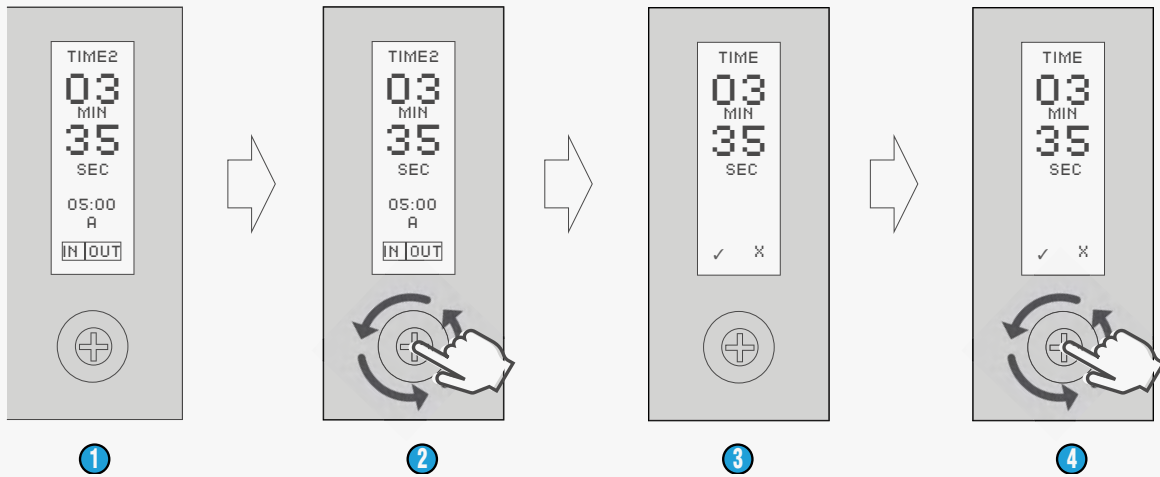
2 connections options with the same product: type 1 or type 2



U: Supply
Y1: Input signal
R: Output relay

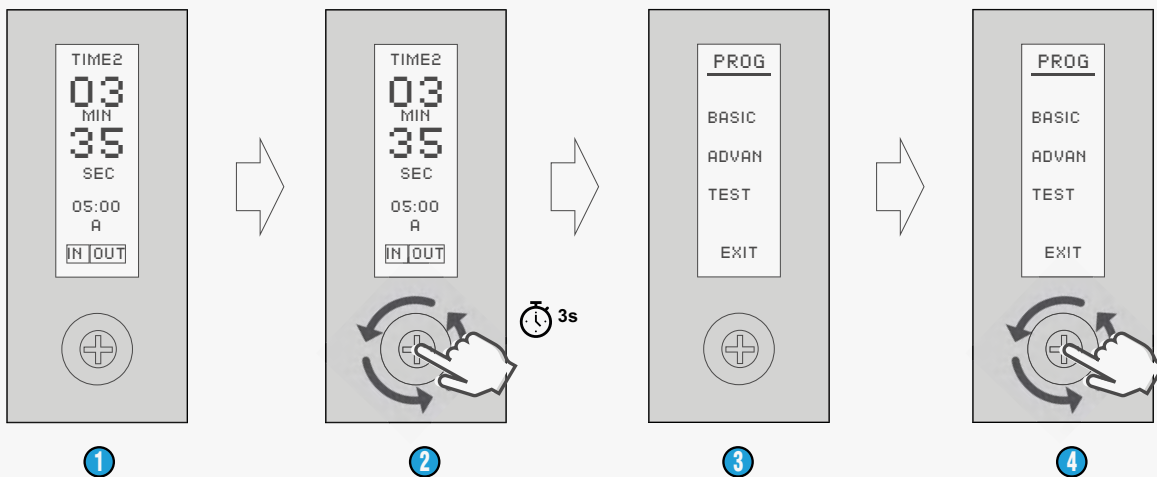
Key functions

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

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

Programming mode choice



Basic Mode - Timer setting in few seconds

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 choice



Test Mode

OUTPUT

- ON/OFF

DISPLAY

- TEST

MEMORY

- TEST

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