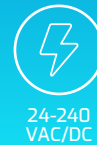


Front Panel Digital Timers TMR48 D

Performance Version 48x48 mm

Syr-line MDA2, MDF1, GDF1, GDS2 Series

Syr-line Digital Timers: higher precision and many programming features with the biggest screen ever seen in the timer relays' market and the most intuitive programming for ease to use and fast configuration.



Electrical Control & Protection > Timer Relays > Front Panel > **Digital**

Highlights

- Large LED or LCD Screen (13.2 mm)
- Multi-function and single-function
- Basic & Advance configuration modes
- Multi-range (0.05 s – 9999 h)
- Multi-voltage (24-240 VAC/DC)
- 1 or 2 relay outputs (Changeover)
- Memory option in event of a break in supply
- Lock function
- Up or down timing
- DIN Sized (48x48 mm) Housing
- Compact body (63 mm long)
- Water & Dust-proof (IP66)
- 8 Pins & 11 Pins connections

Standards



Part Numbers

MDA2R10MV2



Functions A
Series: MDA2

MDF1R10MV2



Functions: A - Ac - Ad - B - C
- H - L - Li - D - Di
Series: MDF1

GDF1R10MV2



Functions: A - Ac - Ad - B - C
- H - L - Li - D - Di
Series: GDF1

GDS2R10MV2



Functions: A - Ab - Ac - Ad
- AMt - At - B - C - H - Ht - L -
Li - T - W - D - Di
Series: GDS2

Part numbering system

Type: MD: Digital 8 Pins GD: Digital 11 Pins	Output Qty: 1: 1 Output 2: 2 Outputs	Output Power: 10: 10 A 05: 5 A			
GD	S	1	R	10	MV2
Function: A: ON-Delay E: Multifunction E F: Multifunction F S: Multifunction S			Output Type: R: Relay		Power Supply: MV2: 24-240 VAC/DC MVA: 100-240 VAC/DC 24U: 24 VAC/DC

More Info.



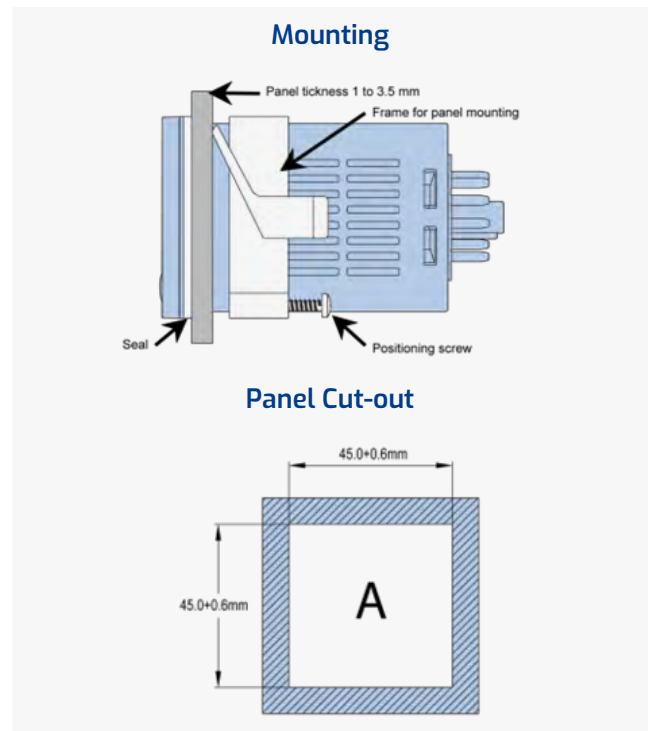
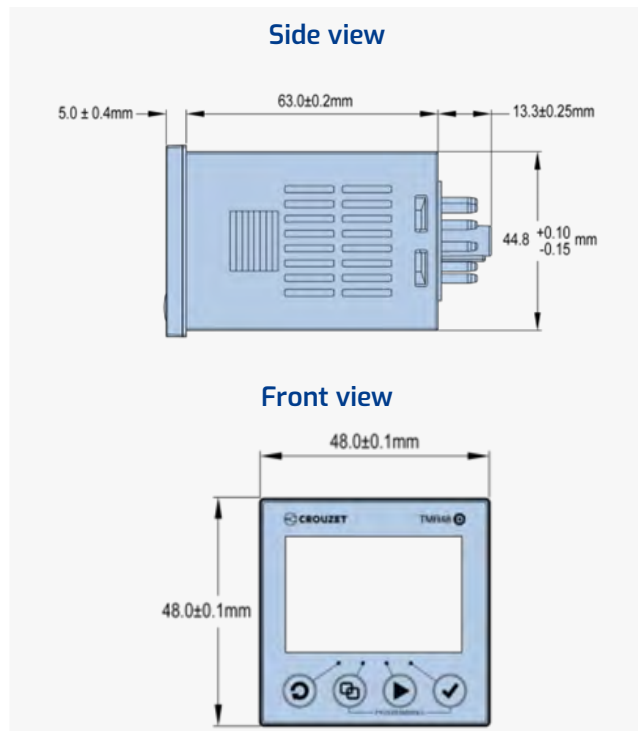
Specifications

	MDA2R10MV2	MDF1R10MV2	GDF1R10MV2	GDS2R10MV2
Inputs				
Supply voltage	24-240 VAC/DC			
Voltage supply tolerance	-15%, +10%			
AC supply voltage frequency	50/60 Hz ± 5%			
Galvanic isolation of supply / inputs	No			
Max power consumption at Un	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, 0.01 s - 99.99 s, 0.1 s - 999.9 s, 1 s - 9999 s, 1 s - 99 min 59 s, 0.1 min - 999.9 min, 1 min - 9999 min, 1 min - 99 h 59 min, 0.1 h - 999.9 h, 1 h - 9999 h			
Minimum control pulse duration	IEC 1812-1: 1 ms or 20 ms selectable			
Recovery time (after by de-energization)	IEC 1812-1: 120 ms max			
Repeatability	IEC 1812-1: ≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Setting accuracy (full range)	IEC 1812-1: ≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Drift temperature	≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Drift voltage	≤ ± 0.03% ± 20 ms (VDC) / 50 ms (VAC)			
Outputs				
Output configuration	2 CO (SPDT)	1 CO (SPDT)		2 CO (SPDT)
Maximum switching voltage	250 VAC / 10 A resistive / 125 VDC / 0.3 A resistive			
Switching current rate (resistive)	NO/NC: 2x10 A at 40°C 250 VAC / 2x10 A at 40°C 30 VDC NO/NC: 2x8 A at 60°C 250 VAC / 2x8A at 60°C 30 VDC		NO/NC: 10 A 250 VAC / 10 A 30 VDC	NO/NC: 2x10 A at 40°C 250 VAC / 2x10 A at 40°C 30 VDC NO/NC: 2x8 A at 60°C 250 VAC / 2x8A at 60°C 30 VDC
Maximum switching power (resistive)	2x2500 VA / 2x300 W	2500 VA / 300 W		2x2500 VA / 2x300 W
Electrical life (operations)	1x10 ⁵ cycles (10 A 250 VAC resistive)			
Minimum breaking current	10 mA / 12 VDC			
Maximum rate (at max switching power)	360 cycles / h			
Mechanical life (operations)	10x10 ⁶ cycles			
Dielectric strength	Between open contacts: 1 kV / 1 min / 1 mA / 50 Hz			
Insulation				
Rated insulation voltage	IEC 60664-1: 300 V			
Insulation coordination	IEC 60664-1: Overvoltage category III; pollution degree 2			
Rated impulse voltage	IEC 60664-1: 4 kV (1.2/50 μs)			
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 MΩ / 250 VDC / 1 min			

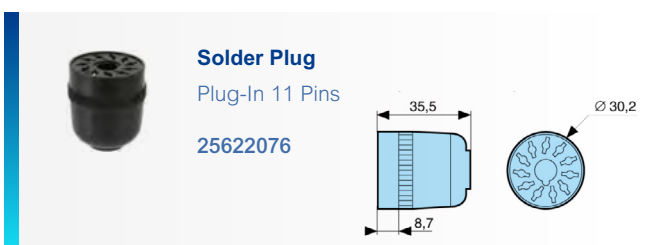
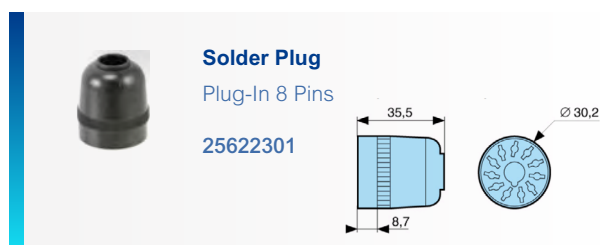
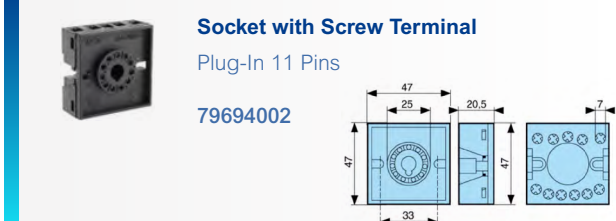
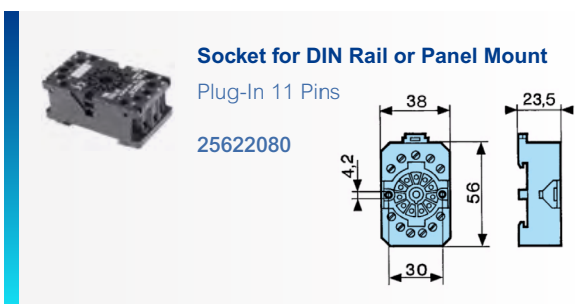
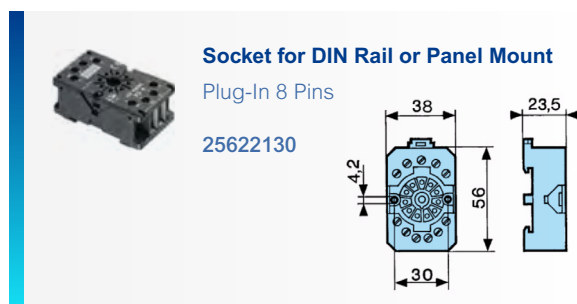
Specifications

	MDA2R10MV2	MDF1R10MV2	GDF1R10MV2	GDS2R10MV2
General characteristics				
Display	4 digits per value 7 segments LCD			
Memory backup	EEPROM (rewrite 1 000 000 times min, 40 years data hold min)			
Casing	48x48 mm (1/16 DIN)			
Mounting	Front panel, by clip Base-mounted on socket			
Mounting position	All positions			
Housing material	UL94: enclosure plastic type V0			
Degree of protection	IEC 60529: Front Face IP66 with front panel seal / Housing IP20			
Operating temperature	IEC 60068-2: -10°C to +60°C			
Storage temperature	IEC 60068-2: -30°C to +70°C			
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	Approx. 105 g (150 g with packing)			
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			
Product standard	IEC 61812-1: Specified time relays for industrial use UL 508 (60947-4-1): Industrial Control Equipment (NRNT- Industrial Control Switches) IEC 61000-4-2: Level III			
Immunity to electrostatic discharges	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 IV Direct ± 4 kV (power supply) Capacitive coupling clamp ± 2 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: Industrial Class II, 0% residual voltage during 1 cycle AC power ports, 70% residual voltage during 25/30 cycles AC power ports, 0% residual voltage, 250/300 cycles AC power ports. Residential: 0% residual voltage during 10 cycle AC power ports, 40% residual voltage during 10 cycles AC power ports, 70% residual voltage during 10 cycles AC power ports, 0% residual voltage, 250/300 cycles AC power ports.			
AC/DC main port emissions	EN55022 / CISPR22 Class B EN 55011 / CISPR11 Class B, Group 1			
Radiated emissions	EN55022 / CISPR22 Class B EN 55011 / CISPR11 Class B, Group 1			

Dimensions (mm)

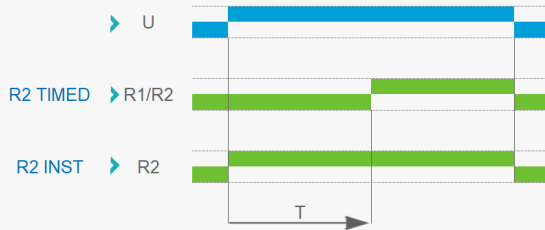


Accessories

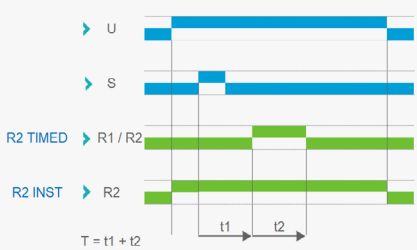


Function diagrams

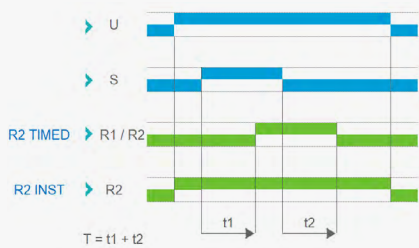
Function A: On-Delay (Delay on make)



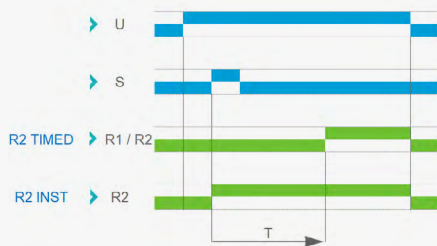
Function Ab: Delayed Interval



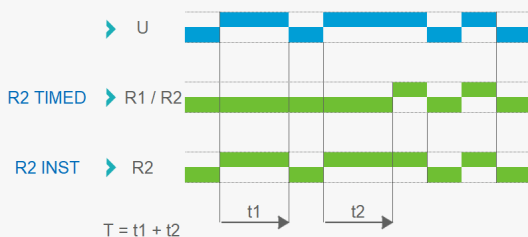
Function Ac: On/Off Delay (Delay on make/break)



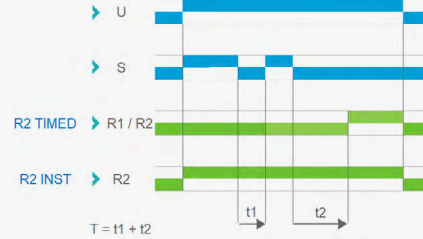
Function Ad: Delay on Start



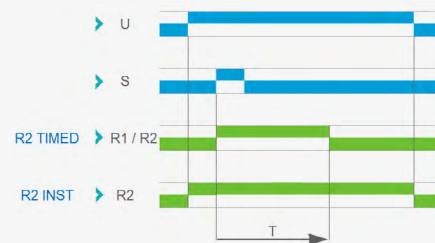
Function AMt: On-Delay (Delay on make, Total memory: one delay)



Function At: Summation Time Relay



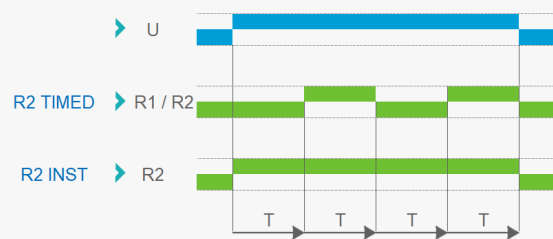
Function B: One-Shot



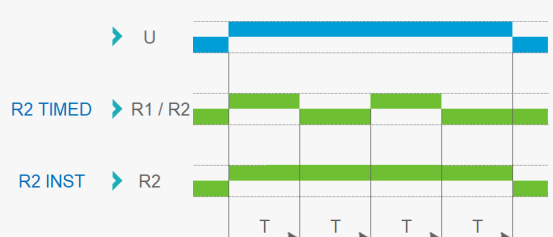
Function C: Off-Delay (Delay on brake)



Function D: Flasher (Symmetrical) - OFF Start

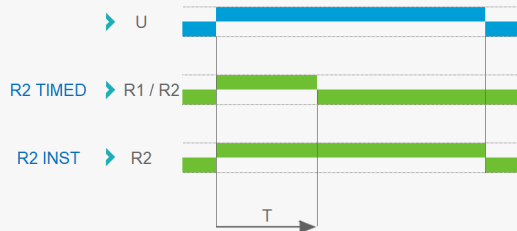


Function Di: Flasher (Symmetrical) - ON Start

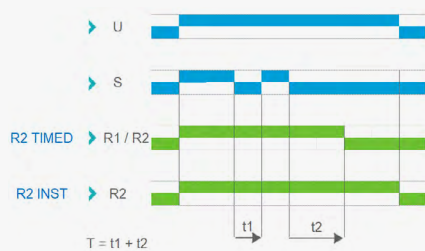


Function diagrams

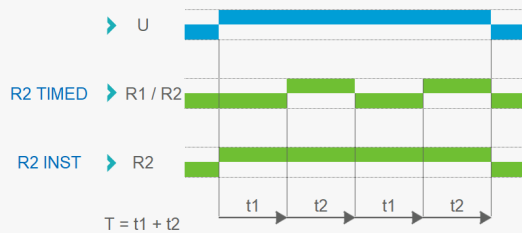
Function H: Interval



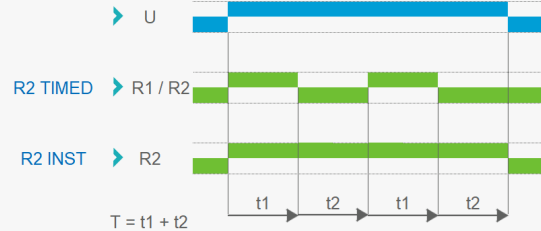
Function Ht: interval summation time relay



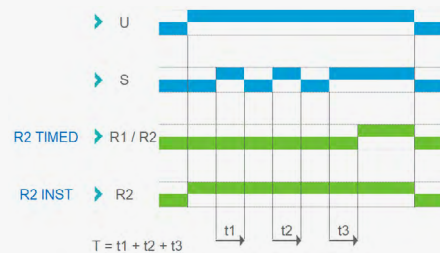
Function L: Recycler (OFF Start)



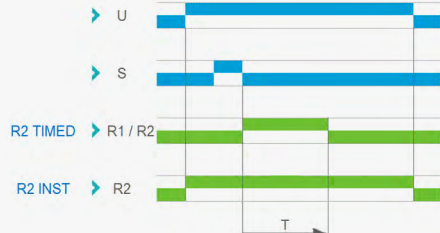
Function Li: Recycler (ON Start)



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

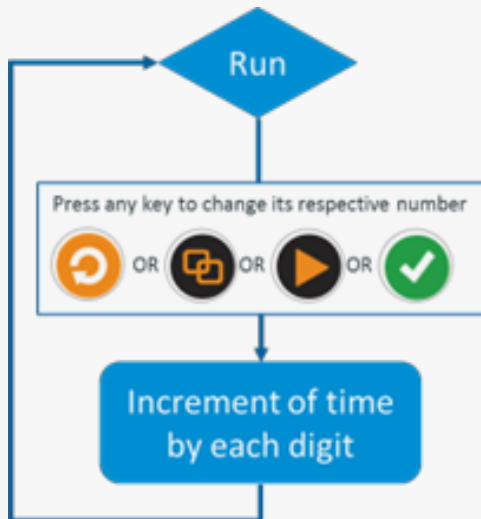


Function W: Timing after pulse of control contact

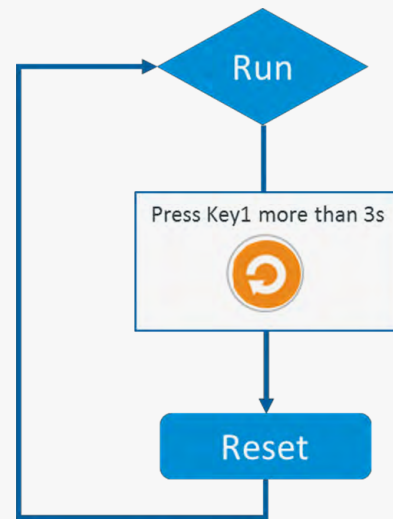


Key functions

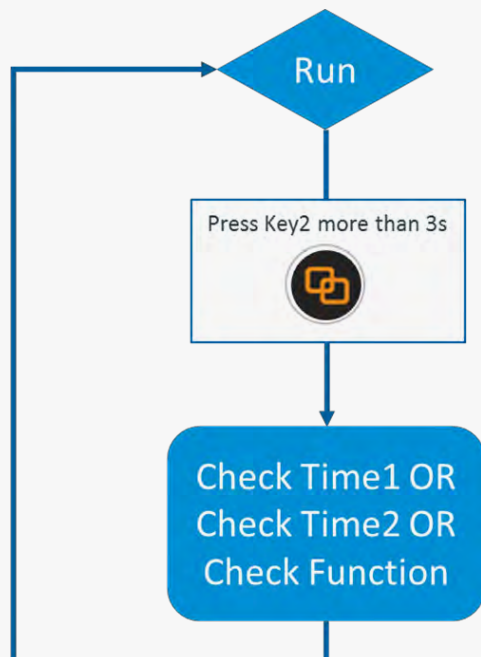
Set time



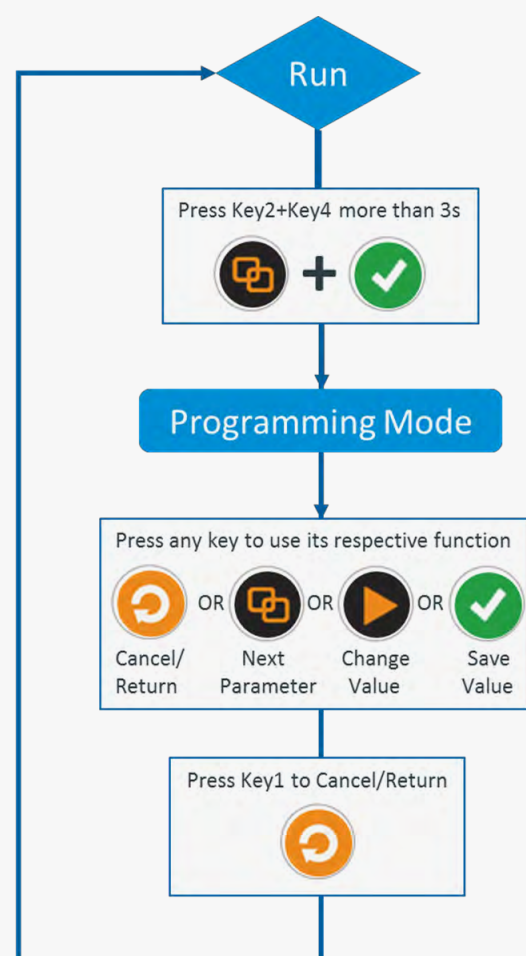
Reset time



Check configured time and function



Programming mode



Programming mode

Programming main menu

#	Parameter	Value
1	PASS Pass If "Lock" function is on, pass needs to be entered	0000 0000
2	bASIC_ProG Basic Prog Enter to Basic Programming Mode	
3	AdVAnCED_ProG Advanced Prog Enter to Advanced Programming Mode	
4	tEst Test Enter to Test Mode	

Basic programming menu

#	Parameter	Value
1	FUncti on Function Select the timing function	A Ab AC Ad ANt At b C A Ab AC Ad AMt At B C H Ht L Li d di t u H Ht L Li D Di T W
2	tI NE_rAnGE Time Range Select the timing range	---s ---s ---s ---s ---m---s ---s ---s ---s ---s ---m---s ---m ---m ---h---m ---h ---h ---m ---m ---h---m ---h ---h
3	CouNt Count Select the timing count up or down	UP Down Up Down
4	MEMoRY Memory Activate memory option (save timing after power off)	off on Off On
5	ouTpuT_2 Output 2 Select if Out 2 works timed or instantaneous (MDA2, GDS2)	tI NE i nSt Timed Instantaneous

Programming mode

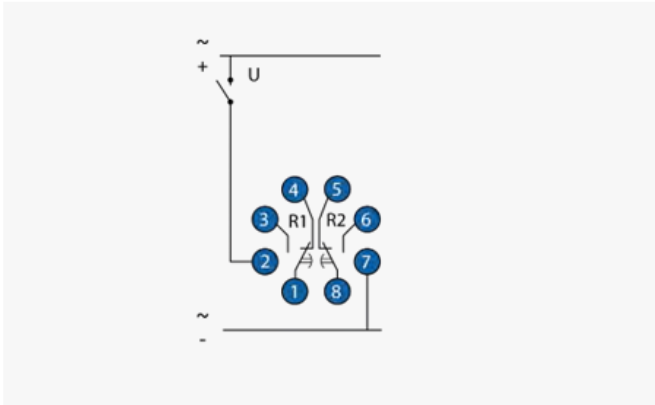
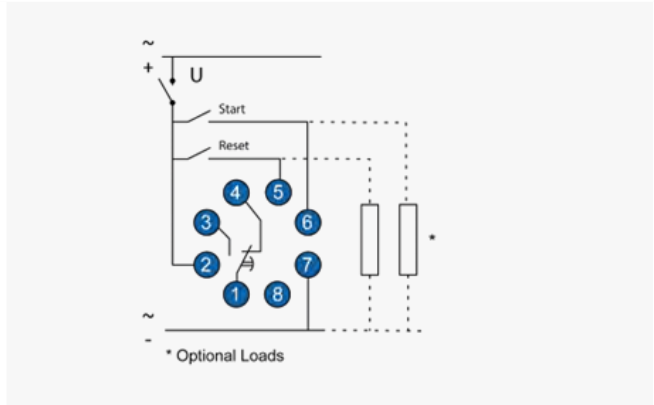
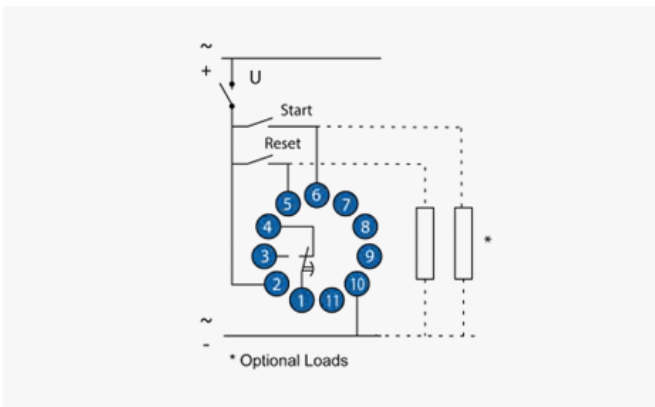
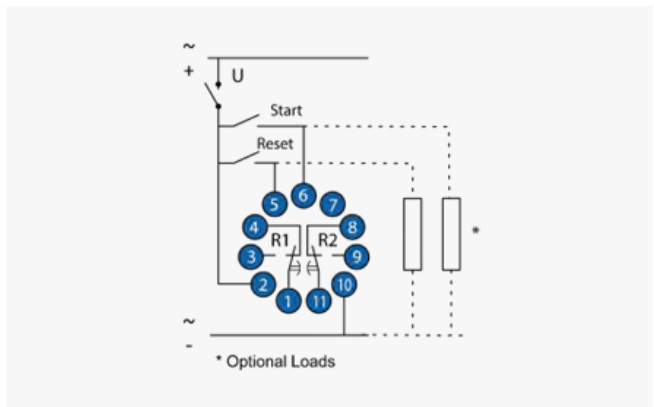
Advanced programming menu

#	Parameter	Value				
1	I N P U T _ T I M E Input Time Select input time wave	0020 ^s 0.020s	0001 ^s 0.001s			
2	I N P U T _ T Y P E Input Type Select input to work with a NPN or PNP signal	P N P PNP	n P n NPN			
3	T I M E _ L I M I T Time Limit Select upper time limit	9999 9999	0000 0000			
4	B R I G H T N E S S Brightness Select screen brightness	100 100%	50 50%			
5	S L E E P _ A F T E R Sleep After Select the time needed to turn off the screen	o F F Off	5 ^s 5s	10 ^s 10s	30 ^s 30s	60 ^s 60s
6	L O C K Lock Select security level 1 (lock configuration) or 2 (lock all)	o F F Off	1 1	2 2		
6.1	P A S S Pass Set password for lock option	0000 0000				
6.2	d o n e Done Indication that the lock is on					
7	d E F A U L T _ S E T T I N G S Default Settings Reset settings to default values	n o No	Y E S Yes			
7.1	S U R E Sure Confirm if reset settings to default values	n o No	Y E S Yes			
7.2	d o n e Done Indication that settings have been reset					

Test mode menu

#	Parameter	Value	
1	o U T 1 Out 1 Turn on/off Relay Output 1	OFF	on
		Off	On
2	o U T 2 Out 2 Turn on/off Relay Output 2 (MDA2, GDS2)	OFF	on
		Off	On
3	d I S P L A Y Display Turn on/off all display segments	OFF	on
		Off	On
4	M E M O R Y Memory Test the memory of the timer	OFF	TEST
		Off	Test
4.1	G o o d Good Indication that the memory is working properly		
4.2	E r r . Error Indication that the memory is not working properly		

Wiring diagrams

MDA2R10MV2

MDF1R10MV2

GDF1R10MV2

GDS2R10MV2


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