

Front Panel Digital Timers TMR48 D

Standard Version 48x48 mm

Syr-line MDE1 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.



24 VAC/DC or
100-240 VAC/DC



IP66



8 Pins

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)
- 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 connections

Standards



Part Number

MDE1R0524U



Functions: A - B - C - D - Di - H

Series: MDE1

MDE1R0524U



Functions: A - B - C - D - Di - H

Series: MDE1

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.



HERE ↓

Specifications

MDE1R0524U

MDE1R05MVA

Inputs	
Supply voltage	24 VAC/DC 100-240 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	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: $\leq \pm 0.03\%$ $\pm$ 20 ms (VDC) / 50 ms (VAC)
Setting accuracy (full range)	IEC 1812-1: $\leq \pm 0.03\%$ $\pm$ 20 ms (VDC) / 50 ms (VAC)
Drift temperature	$\leq \pm 0.03\%$ $\pm$ 20 ms (VDC) / 50 ms (VAC)
Drift voltage	$\leq \pm 0.03\%$ $\pm$ 20 ms (VDC) / 50 ms (VAC)
Outputs	
Outputs configuration	1 CO (SPDT)
Maximum switching voltage	250 VAC / 30 VDC
Switching current rate (resistive)	NO: 5 A 250 VAC / 5 A 30 VDC NC: 3 A 250 VAC / 3 A 30 VDC
Maximum switching power (resistive)	NO: 1250 VA / 150 W NC: 750 VA / 90 W
Electrical life (operations)	1x10 ⁵ cycles NO 7x10 ⁴ cycles NC
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 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

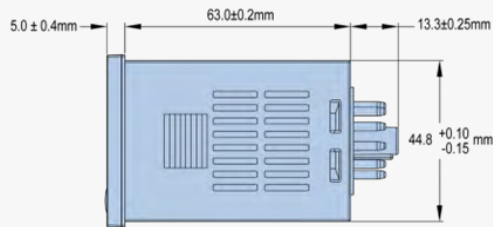
MDE1R0524U

MDE1R05MVA

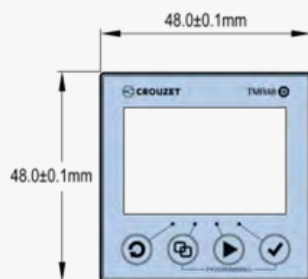
General characteristics	
Display	4 digits per value 7 segments LCD
Memory backup	EEPROM (rewrite 1 000 000 times min, 40 years data hold min)
Casing	48x48 mm (1/16 DIN)
Mounting	Front panel, by clip Base-mounted on socket
Mounting position	All positions
Housing material	UL94: enclosure plastic type V0
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/EU: RoHS 1907/2006: Reach 2012/19/EU: 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)

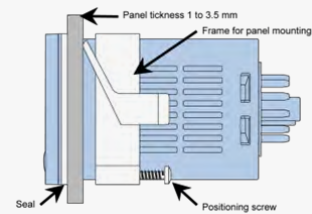
Side view



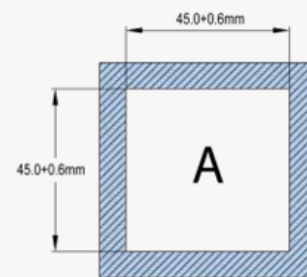
Front view



Mounting



Panel cut-out

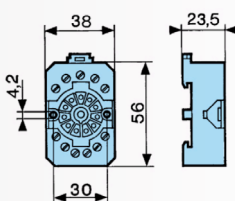


Accessories

Socket for DIN Rail or Panel Mount

Plug-In 8 Pins

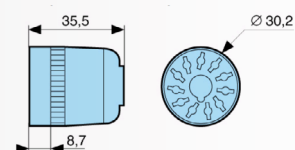
25622130



Solder Plug

Plug-In 8 Pins

25622301



Socket with Screw Terminal

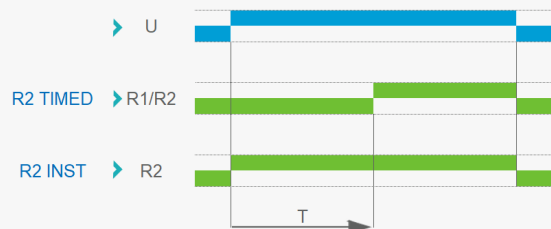
Plug-In 8 Pins

25622203

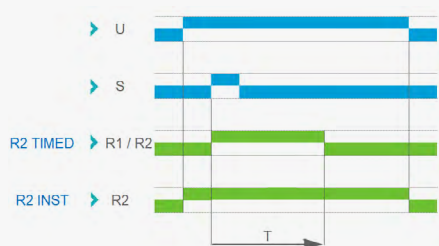


Function diagrams

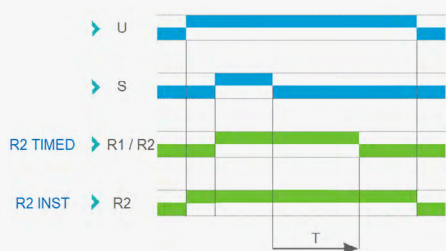
Function A: On-Delay (Delay on make)



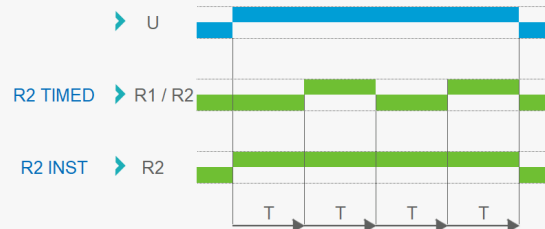
Function B: One-Shot



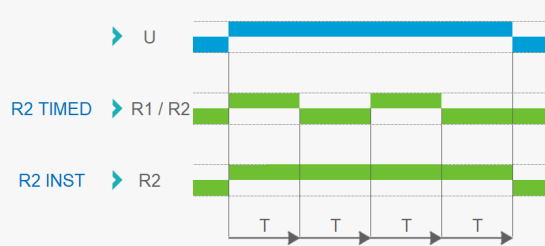
Function C: Off-Delay (Delay on brake)



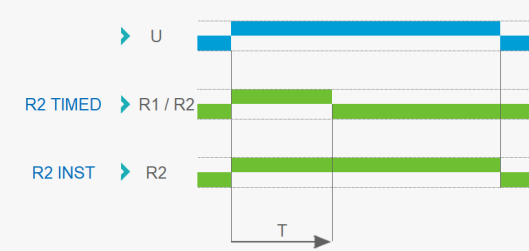
Function D: Flasher (Symmetrical) - OFF Start



Function Di: Flasher (Symmetrical) - ON Start

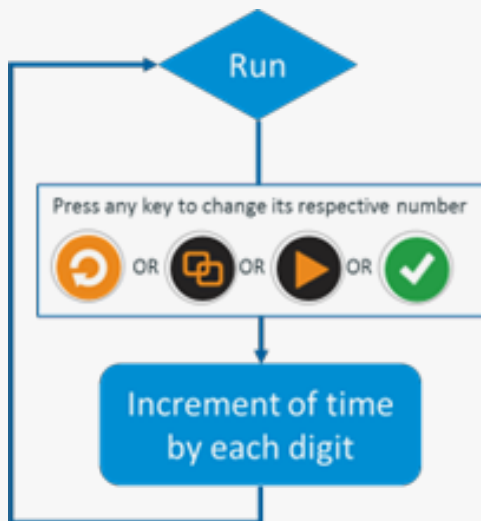


Function H: Interval

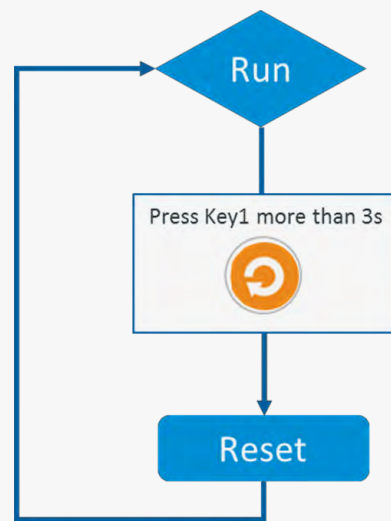


Key functions

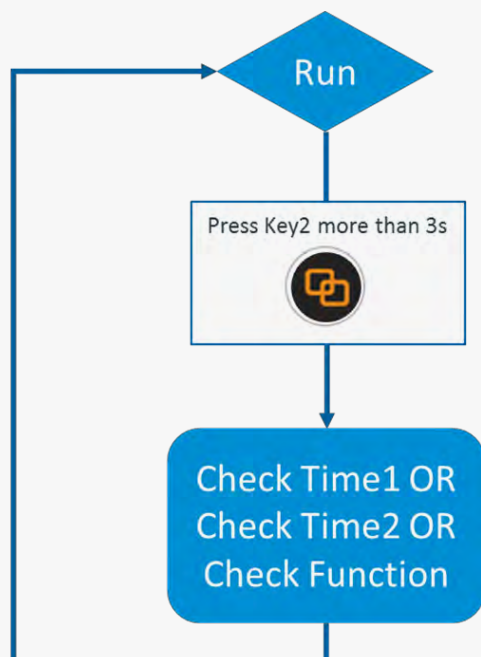
Set time



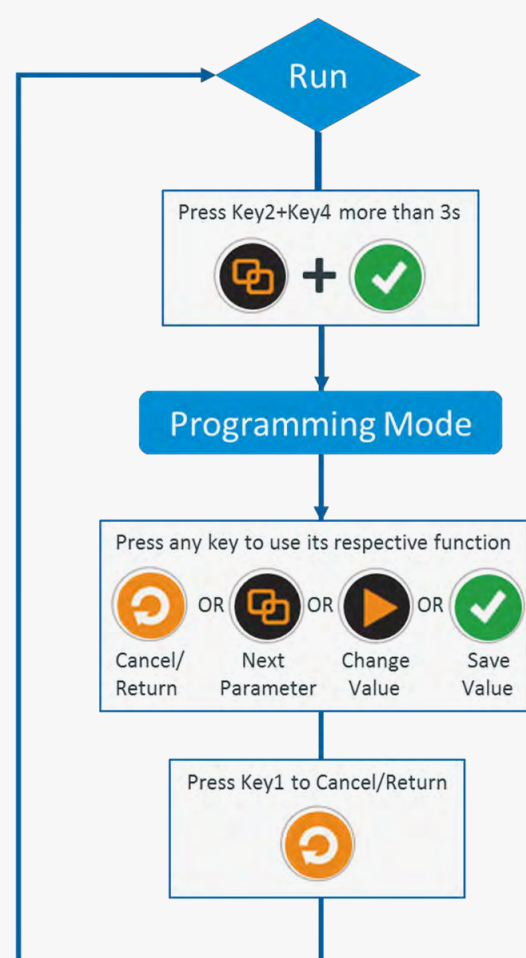
Reset time



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 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

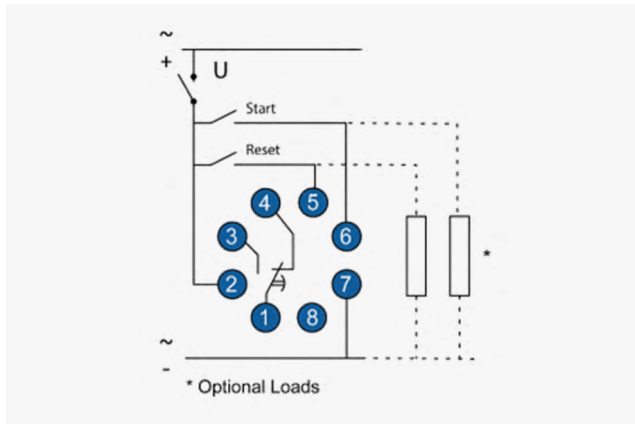
Advanced programming menu

#	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	o f f	o n
		Off	On
2	o U T 2 Out 2 Turn on/off Relay Output 2 (MDA2, GDS2)	o f f	o n
		Off	On
3	d I S P L A Y Display Turn on/off all display segments	o f f	o n
		Off	On
4	M E M O R Y Memory Test the memory of the timer	o f f	t E S T
		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



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