Multi-Mode Relay Timers MK Series

Overview

The MK series relay timers are timing relays designed for process control, machine tool control, safety control and many other types of applications. The timers are DIN-rail mountable with up to 8 functions in one unit.

Fleeting/single shot on make:

The relay switches on immediately when energized and switches off after the time delay, or when deenergized.

Fleeting/single shot on break:

When energizing nothing happens. When deenergized, the relay switches on for the adjusted time and switches off after the time is elapsed.

- Eight time ranges from 0.02 sec to 300hr selectable via rotational switches
- Voltage range 12-240 VAC/VDC
- Eight functions can be set via rotational switch:
- Delay on energization (AV)
- Fleeting on make (EW)
- Delayed pulse (IE)
- Flasher, start with pulse (BI)
- Delay on de-energization (RV)
- Pulse forming function (IF)
- Fleeting on break (AW)
- Delay on energization and de-energization (AV / RV)



MK7850N-82-200-61

Multi-Mode Relay Timers MK Series						
Part Number	rt Number Price Timer Type Timing Range Voltage Output Type Drawing Link					Drawing Link
MK7850N-82-200-61	\$;4tky:	Multi-mode	0.02 seconds to 300 hours selectable	12-240 VAC/VDC	2 changeover contacts, one programmable as instantaneous	<u>PDF</u>

Multi-Mode i	Relay Timers Specifications
Input Specifications	
Nominal Voltage	12–240 VAC/VDC
Nominal Consumption	12VAC ~ 1.5 VA 24VAC ~ 2VA 240VAC ~ 3VA 12VDC ~ 1W 24VDC ~ 1W 240VDC ~ 1W
Nominal Frequency	45 – 400 Hz
Contact Specifications	
Туре	2 changeover contacts, one programmable as instantaneous
Contact Material	AgNi
Measured Nominal Voltage	250VAC
Switching Capacity (according to AC 15)	N.O. Contact 3A / 230VAC N.C. Contact 1A / 230VAC
Electrical Lifetime	1.5 x 10 ⁵ switching cycle (to AC 15 at 1A, 230VAC)
Switching Frequency	36,000 switching cycle / hr
Max Fuse Rating	4A
Mechanical Lifetime	≥ 30 x 10 ⁶ switching cycles
Time Circuit Specifications	
Time Ranges	8 time ranges in one unit, selectable via rotational switch 0.02 ~ 1 sec, 0.06 ~ 6 sec, 0.3 ~ 30 sec 0.03 ~ 3 min, 0.3 ~ 30 min, 3 ~ 300 min 0.3 ~ 30 hr, 3 ~ 300 hr
Time Setting	t1 - continuous, 1:100 on relative scale
Recovery Time	24VDC 15ms 240VDC 50ms 230VAC 80ms
Repeat Accuracy	± 0.5% of selected end of scale value +20ms
Voltage and Temperature Influence	≤ 1% with the complete operating range

Multi-Mode Relay Timers Specifications					
General Specifications					
Connection (screw terminal)	1 x 4mm 2 / 12AWG solid or 1 x 2.5 mm 2 / 14 AWG stranded ferruled or 2 x 1.5 mm 2 / 16 AWG stranded ferruled or 2 x 2.5 mm 2 / 14 AWG solid				
Tightening Torque	0.8 N·m				
Ambient Temperature	-40 to +60°C [-40 to +140°F]				
Storage Temperature	-40 to +70°C [-40 to +158°F]				
Relative Air Humidity	93% at 40°C				
Protection Rating	Housing IP40 / Terminals IP20				
Vibration Resistance	Amplitude 0.35 mm frequency 10 – 55Hz				
Mounting	35mm Din-rail				
Relay Indicator	Green LED: On, when supply connected Yellow LED "R/t": Shows status of output relay and time delay: -Continuously off: Output relay not active; no time delay -Continuously on: Output relay active no time delay -Flashing (short on, long off) output relay not active, time delay -Flashing (long on, short off) output relay active, time delay				
Weight (g [oz])	150.0 [5.29]				
Agency Approvals and Standards *	cULus, CE				
UL Data					
Switching Capacity	Ambient temperature 60°C: Pilot duty B300 5A 250VAC G.P.				
UL Specified Wire Connection	60°C / 75°C copper conductors only Screw terminals fixed: AWG 20 – 12 solid or stranded Torque 0.8 Nm				

^{*}To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

Cyclic Relay Timers MK Series

- 8 time ranges from 0.05 sec to 300hr selectable via rotational switches
- Impulse and break time separately adjustable
- Selectable start with impulse or break
- Voltage range 12–240 VAC/VDC
- · Adjustment aid for quick setting of long time values
- Suitable for 2-wire proximity sensor control
- LED indicators for operation, contact position, and time delay
- 2 changeover contacts



MK7854N-82-61

Cyclic Relay Timers MK Series						
Part Number	Number Price Timer Type Timing Range Voltage Output Type Drawing Link					
MK7854N-82-61	\$;;4tk[:	Cyclic	0.05 seconds to 300 hours selectable	12-240 VAC/VDC	2 changeover contacts	<u>PDF</u>

Cyclic Relay Timers Specifications				
Input Specifications				
Nominal Voltage	12-240 VAC/VDC			
Nominal Consumption	12VAC ~ 1.5 VA 24VAC ~ 2VA 240VAC ~ 3VA 12VDC ~ 1W 24VDC ~ 1W 240VDC ~ 1W			
Contact Specifications				
Туре	2 changeover contacts			
Contact Material	AgNi			
Measured Nominal Voltage	250VAC			
Switching Capacity (according to AC 15)	N.O. Contact 3A / 230VAC N.C. Contact 1A / 230VAC			
Electrical Lifetime	1.5 x 10 ⁵ switching cycle (to AC 15 at 1A, 230VAC)			
Switching Frequency	36,000 switching cycle / hr			
Max Fuse Rating	4A			
Mechanical Lifetime	≥ 30 x 10 ⁶ switching cycles			
Time Circuit Specifications				
Time Ranges	8 time ranges in one unit, selectable via rotational switch $0.05\sim1$ sec, $0.06\sim6$ sec, $0.3\sim30$ sec $0.03\sim3$ min, $0.3\sim30$ min, $3\sim300$ min $0.3\sim30$ hr, $3\sim300$ hr			
Time Setting	t1, t2 - continuous, 1:100 on relative scale			
Recovery Time	24VDC 15ms 240VDC 50ms 230VAC 80ms			
Repeat Accuracy	± 0.5% of selected end of scale value			
Voltage and Temperature Influence	≤ 1% with the complete operating range			

Cyclic Relay Timers Specifications			
General Specifications			
Connection (screw terminal)	1 x 4mm ² / 12AWG solid or 1 x 2.5 mm ² / 14 AWG stranded ferruled or 2 x 1.5 mm ² / 16 AWG stranded ferruled or 2 x 2.5 mm ² / 14 AWG solid		
Tightening Torque	0.8 N·m		
Ambient Temperature	-40 to +60°C [-40 to +140°F]		
Storage Temperature	-40 to +70°C [-40 to +158°F]		
Relative Air Humidity	93% at 40°C		
Protection Rating	Housing IP40 / Terminals IP20		
Vibration Resistance	Amplitude 0.35 mm frequency 10 – 55Hz		
Mounting	35mm Din-rail		
Relay Indicator	Green LED: On, when voltage connected Yellow LED "R/t": Shows status of output relay and time delay: -Flashing (short on, long off): Output relay not active; time delay t2 (break time) -Flashing (long on, short off) output relay active; time delay t1 (pulse time)		
Weight (g [oz])	150.0 [5.29]		
Agency Approvals and Standards *	cULus, CE		
UL Data			
Switching Capacity	Ambient temperature 60°C: Pilot duty B300 5A 250VAC G.P.		
UL Specified Wire Connection	60°C / 75°C copper conductors only Screw terminals fixed: AWG 20 – 12 solid or stranded Torque 0.8 Nm		

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Off-Delay Relay Timers MK Series

- 8 time ranges from 0.05 sec to 300 hr selectable via rotational switch
- Voltage range 12-240 VAC/VDC for auxiliary supply and control input
- Adjustment aid for quick setting of long time values
- Input for interruption of timing
- LED indicators for operation, contact position and time delay
- 2 changeover contacts



MK9962N-82-61

Off-Delay Relay Timers MK Series						
Part Number	Price	Timer Type	Timing Range	Voltage	Output Type	Drawing Link
MK9962N-82-61	\$;;4tk]:	Off-delay	0.05 seconds to 300 hours selectable	12-240 VAC/VDC	2 changeover contacts	<u>PDF</u>

Off-Delay Relay Timers Specifications					
Input Specifications					
Nominal Voltage	12-240 VAC/VDC				
Nominal Consumption	12VAC ~ 1.5 VA 24VAC ~ 2VA 240VAC ~ 3VA 12VDC ~ 1W 24VDC ~ 1W 240VDC ~ 1W				
Contact Specifications					
Туре	2 changeover contacts				
Contact Material	AgNi				
Measured Nominal Voltage	250VAC				
Switching Capacity (according to AC 15)	N.O. Contact 3A / 230VAC N.C. Contact 1A / 230VAC				
Electrical Lifetime	1.5 x 10 ⁵ switching cycle (to AC 15 at 1A, 230VAC)				
Switching Frequency	6,000 switching cycles / hr				
Max Fuse Rating	4A				
Mechanical Lifetime	≥ 30 x 10 ⁶ switching cycles				
Time Circuit Specifications	S				
Time Ranges	8 time ranges in one unit, selectable via rotational switch 0.05 ~ 1 sec, 0.06 ~ 6 sec, 0.3 ~ 30 sec 0.03 ~ 3 min, 0.3 ~ 30 min, 3 ~ 300 min 0.3 ~ 30 hr, 3 ~ 300 hr				
Time Setting	Continuous, 1:100 on relative scale				
Minimum on Time	AC 50 Hz - 15ms DC - 5 ms				
Repeat Accuracy	± 0.5% of selected end of scale value + 20ms				
Voltage and Temperature Influence	≤ 1% with the complete operating range				

Off-Delay Relay Timers Specifications					
General Specifications					
Connection (cage clamp terminal)	1 x 4mm 2 / 12AWG solid or 1 x 2.5 mm 2 / 14 AWG stranded ferruled or 2 x 1.5 mm 2 / 16 AWG stranded ferruled or 2 x 2.5 mm 2 / 14 AWG solid				
Tightening Torque	0.8 N·m				
Ambient Temperature	-40 to +60°C [-40 to +140°F]				
Storage Temperature	-40 to +70°C [-40 to +158°F]				
Relative Air Humidity	93% at 40°C				
Protection Rating	Housing IP40 / Terminals IP20				
Vibration Resistance	Amplitude 0.35 mm frequency 10 – 55Hz				
Mounting	35mm Din-rail				
Relay Indicator	Green LED: on when auxiliary voltage connected Yellow LED "R/t": shows status of output relay and time delay:				
Weight (g [oz])	150.0 [5.29]				
Agency Approvals and Standards *	cULus, CE				
UL Data					
Switching Capacity	Ambient temperature 60°C: Pilot duty B300 5A 250VAC G.P.				
UL Specified Wire Connection	60°C / 75°C copper conductors only Screw terminals fixed: AWG 20 – 12 solid or stranded Torque 0.8 Nm				

^{*}To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

On-Delay Relay Timers MK Series

- 8 time ranges from 0.05 sec to 300 hr selectable via rotational switch
- Voltage range 12-240 VAC/VDC for auxiliary supply and control input
- Adjustment aid for quick setting of long time values
- Input for interruption of timing
- LED indicators for operation, contact position, and time delay
- 2 changeover contacts



MK9906N-82-61

On-Delay Relay Timers MK Series						
Part Number	Price	Timer Type	Timing Range	Voltage	Output Type	Drawing Link
MK9906N-82-61	\$;4tkz:	On-delay	0.05 seconds to 300 hours selectable	12-240 VAC/VDC	2 changeover contacts one programmable as instantaneous	PDF

On-Delay Relay Timers Specifications					
Input Specifications					
Nominal Voltage	12–240 VAC/VDC				
Nominal Consumption	12VAC ~ 1.5 VA 24VAC ~ 2VA 240VAC ~ 3VA 12VDC ~ 1W 24VDC ~ 1W 240VDC ~ 1W				
Contact Specifications					
Туре	2 changeover contacts one programmable as instantaneous				
Contact Material	AgNi				
Measured Nominal Voltage	250VAC				
Switching Capacity (according to AC 15)	N.O. Contact 3A / 230VAC N.C. Contact 1A / 230VAC				
Electrical Lifetime	1.5 x 10 ⁵ switching cycles (to AC 15 at 1A, 230VAC)				
Switching Frequency	36,000 switching cycle / hr				
Max Fuse Rating	4A				
Mechanical Lifetime	≥ 30 x 10 ⁶ switching cycles				
Time Circuit Specifications					
Time Ranges	8 time ranges in one unit, selectable via rotational switch 0.05 ~ 1 sec, 0.06 ~ 6 sec, 0.3 ~ 30 sec 0.03 ~ 3 min, 0.3 ~ 30 min, 3 ~ 300 min 0.3 ~ 30 hr, 3 ~ 300 hr				
Time Setting	Continuous, 1:100 on relative scale				
Recovery Time	24VDC 15ms 240VDC 50ms 230VAC 80ms				
Repeat Accuracy	± 0.5% of selected end of scale value + 20ms				
Voltage and Temperature Influence	≤ 1% with the complete operating range				

On-Delay Relay Timers Specifications					
General Specifications	General Specifications				
Connection (cage clamp terminal)	1 x 4mm 2 / 12AWG solid or 1 x 2.5 mm 2 / 14 AWG stranded ferruled or 2 x 1.5 mm 2 / 16 AWG stranded ferruled or 2 x 2.5 mm 2 / 14 AWG solid				
Tightening Torque	0.8 N·m				
Ambient Temperature	-4 to +60°C [-40 to +140°F]				
Storage Temperature	-40 to +70°C [-40 to +158°F]				
Relative Air Humidity	93% at 40°C				
Protection Rating	Housing IP40 / Terminals IP20				
Vibration Resistance	Amplitude 0.35mm frequency 10 – 55Hz				
Mounting	35mm Din-rail				
Relay Indicator	Green LED: On, when voltage connected Yellow LED "R/t": Shows status of output relay and time delay: - Flashing (long on, short off) output relay not active; time delay - Continuously on: output relay active after time delay				
Weight (g [oz])	150.0 [5.29]				
Agency Approvals and Standards *	cULus, CE				
UL Data					
Switching Capacity	Ambient temperature 60°C: Pilot duty B300 5A 250VAC G.P.				
UL Specified Wire Connection	60°C / 75°C copper conductors only Screw terminals fixed: AWG 20 – 12 solid or stranded Torque 0.8 Nm				

^{*}To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

Off-Delay Relay Timers MK Series

- Release delay, without control signal
- No voltage safe
- Delay up to 3, 30 or 300 sec
- Repeat accuracy \leq ± 0.5 %
- No recovery time
- Voltage range 24–240 VAC/VDC
- LED display for power supply
- 2 changeover contacts



MK7873N-82-61-3S

Off-Delay Relay Timers MK Series							
Part Number Price Timer Type Timing Range Voltage Output Type						Drawing Links	
MK7873N-82-61-3S	\$;04tk_:	Off-delay	0.15 to 3 seconds	24-240 VAC/VDC	2 changeover contacts	PDF	
MK7873N-82-61-30S	\$;04tks:	Off-delay	1.5 to 30 seconds	24-240 VAC/VDC	2 changeover contacts	PDF	
MK7873N-82-61-300S	\$;;04tkt:	Off-delay	15 to 300 seconds	24-240 VAC/VDC	2 changeover contacts	PDF	

Off-Delay Rela	ay Timers Specifications
Input Specifications	
Nominal Voltage	24–240 VAC/VDC
Operating Voltage Range	24–240 VAC/VDC 19.2–264 VAC 21.6–300 VDC
Nominal Consumption	0.8W
Nominal Frequency	45 – 400 Hz
Contact Specifications	
Туре	2 changeover contacts
Contact Material	AgSnO ₂ +0.2 µm AU
Measured Nominal Voltage	250VAC
Switching Capacity (according to AC 15)	N.O. Contact 3A / 230VAC N.C. Contact 1A / 230VAC
Electrical Lifetime	8 x 10⁵ switching cycles
Switching Frequency	time ranges \leq 10 sec - 1400 switching cycles per hr time ranges \geq 30 sec - 700 switching cycles per hr
Max Fuse Rating	6A
Mechanical Lifetime	30 x 10 ⁶ switching cycles
Time Circuit Specifications	
Time Ranges	MK7873N-82-61-3S = 0.15 - 3 sec MK7873N-82-61-30S = 1.5 - 30 sec MK7873N-82-61-300S = 15 - 300 sec
Time Setting	Stepless
Minimum Switch-on Time	24VDC 150ms 200VAC 25ms
Recovery Time	0
Repeat Accuracy	≤ 0.5% of set value
Voltage Influence	≤ 0.5 %
Temperature Influence	< 0.2% / K

Off-Delay Re	lay Timers Specifications		
General Specifications			
Connection (Integrated Screw terminals)	1 x 4mm ² / 12AWG solid or 1 x 2.5 mm ² / 14 AWG stranded ferruled or 2 x 1.5 mm ² / 16 AWG stranded ferruled or 2 x 2.5 mm ² / 14 AWG solid		
Tightening Torque	0.8 N·m		
Ambient Temperature	-20 to +60°C [-4 to +140°F]		
Storage Temperature	-25 to +60°C [-13 to +140°F]		
Relative Air Humidity	93% at 40°C		
Protection Rating	Housing IP40 / Terminals IP20		
Vibration Resistance	Amplitude 0.35 mm frequency 10 – 55Hz		
Mounting	35mm Din-rail		
Relay Indicator	LED: on, when supply connected		
Weight (g [oz])	132.0 [4.65]		
Agency Approvals and Standards *	cULus, CE		
UL Data			
Switching Capacity	Ambient temperature 60°C: Pilot duty B300 5A 250VAC G.P. 5A 24VDC G.P.		
UL Specified Wire Connection	60°C / 75°C copper conductors only Screw terminals fixed: AWG 20 – 12 solid or stranded Torque 0.8 Nm		

^{*}To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

Relay Timers RK Series

Overview

The RK series timers are timing relays that have been designed to be economical and compact to meet the demands of all the modern time control needs. With a few variants of single function and a multi-function model, the RK series covers all common timing functions, time ranges and voltage needs. These timers are suitable for time-dependent control needs in most industrial automation and building automation systems.

Features

RK7814

- 4 time ranges up to 120 sec
- LED indicator for state of contact
- Dual-voltage version 110 127VAC + 24 VAC/VDC
- 1 changeover contact

RK7815, RK7816

- Time ranges up to 10 sec
- LED indicator for state of contact
- 1 changeover contact
- Dual voltage version 110 127 VAC + 24 VAC/VDC

RK7817

- 8 time ranges adjustable from 0.02 sec to 300 hr via rotational switches
- Dual-voltage-version 110 127VAC + 24 VAC/VDC
- 1 changeover contact

8 selectable functions via rotational switches

- Delay on energization (AV)
- Fleeting on make (EW)
- Delayed pulse (IE)
- Flasher, start with pulse (BI)
- Delay on de-energization (RV)
- Pulse forming function (IF)
- Fleeting on break (AW)
- Delay on energization and de-energization (AV / RV)







RK7815-71-61



RK7816-81-61



RK7817-81-61

On-Delay Relay Timer RK Series						
Part Number	Price	Timer Type Timing Range Voltage Output Type Draw				Drawing Link
RK7814-81-61	\$;4tkv:	On-delay	0.05 to 120 seconds selectable	24 VAC/VDC and 110-127 VAC	1 changeover contact	PDF

Fleeting (single shot) Relay Timer RK Series							
Part Number	Price	Timer Type Timing Range		Voltage	Output Type	Drawing Link	
RK7815-71-61	\$;4tkx:	Fleeting (single-shot)	1 to 10 seconds	24 VAC/VDC and 110-127 VAC	1 changeover contact	PDF	

Flasher Relay Timer RK Series						
Part Number	Price	Timer Type	Timing Range Voltage Output Type D			Drawing Link
RK7816-81-61	\$;4tk#:	Flasher	1 to 10 seconds	24 VAC/VDC and 110-127 VAC	1 changeover contact	PDF

Multi-Mode Relay Timer RK Series						
Part Number	Price	Timer Type	pe Timing Range Voltage Output Type Drawing			
RK7817-81-61	\$;4tku:	Multi-mode	0.02 seconds to 300 hours selectable	24 VAC/VDC and 110-127 VAC	1 changeover contact	<u>PDF</u>

	Relay Timers RK Series Specifications					
Part Number	RK7814-81-61	RK7815-71-61	RK7816-81-61	RK7817-81-61		
Input Specifications						
Nominal Voltage	24 VA	AC/VDC 1 + 110-127 VA	√C²	24 VAC/VDC 1 + 110-127 VAC 2		
Nominal Consumption		24VAC ~ 1VA 230VAC ~ 6VA 24VDC ~ 0.4 W		24VAC ~ 1VA 230VAC ~ 7.5 VA 24VDC ~ 0.5 W		
Nominal Frequency			ţ	50/60 Hz		
Frequency Range				± 5%		
Contact Specifications						
Туре			1 chan	geover contact		
Switching Capacity (according to AC 15)				ntact 2A / 230VAC ntact 1A / 230VAC		
Max Wire Size			22–14 AW	G solid or stranded		
Mechanical Lifetime			> 1x10 ⁷	switching cycles		
Electrical Lifetime			> 1x10 ⁵	switching cycles		
Time Circuit Specifications						
Time Ranges	0.05 ~ 0.5 sec, 0.2 ~ 2 sec, 1.5 ~ 15 sec, 12 ~ 120 sec	1 ~ 10 sec		0.02* ~ 1 sec, 0.06* ~ 6 sec, 0.3 ~ 30 sec 0.03 ~ 3 min, 0.3 ~ 30 min, 3 ~ 300 min 0.3 ~ 30 hr, 3 ~ 300 hr (* 0.08 s for AV and IE functions)		
Time Setting	Infini	te, 1:10 on relative sca	le	Infinite, 1:100 on relative scale		
Recovery Time				< 100ms		
Repeat Accuracy	≤ 0.5%	6 of set time delay + 10)ms	≤ 0.8% of set time delay + 20ms		
Voltage Influence				≤ 1%		
Temperature Influence	0.25 % / K			≤ 2% at range 0 – 60°C ≤ 5% at range -20 – 0°C		
General Specifications						
Connection (fixed screw terminal)	0.34 - 2 x 2.5 mm² / 22–14 AWG solid or 0.34 - 2 x 2.5 mm² / 22–14 AWG stranded wire with and without ferrules					
Tightening Torque				0.5 N·m		
Ambient Temperature	-40 t	o +60°C [-40 to +140°	F]	-20 to +60°C [-4 to +140°F]		
Storage Temperature	-40 t	o +70°C [-40 to +158°	F]	-25 to +70°C [-13 to +158°F]		
Relative Air Humidity				% at 40°C		
Protection Rating			Housing IP	40 / Terminals IP20		
Vibration Resistance			Amplitude 0.35 r	mm frequency 10 – 55Hz		
Mounting			35r	mm DIN rail		
Relay Indicator	On, when corresponding output relay is active (contact 15–18 closed)			Green LED: On, when supply connected Yellow LED "R/t": Shows status of output relay and time delay (15-16-18): -Continuous off: Output relay not active;no time delay -Continuous on: Output relay active no time delay -Flashing (short on, long off) Time delay: output relay not active -Flashing (long on, short off) Time delay: output relay active		
Weight (g [oz])	65.0 [2.29]	60.0 [2.11]		70.0 [2.46]		
Agency Approvals and Standards *			С	ULus, CE		
UL Data						
Switching Capacity	Ambient temperature 60°C: Pilot duty B300 4A 240VAC G.P. 4A 30VDC G.P.					
UL Specified Wire Connection	60°C / 75°C copper conductors only AWG 22 – 14 solid or stranded Torque 0.5 N⋅m					

Notes: ¹at terminals A3-A2 ² at terminals A1-A2

www.automationdirect.com Relays and Timers tREL-110

^{*}To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.