

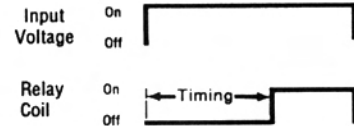
A1M SERIES MULTI-RANGE DELAY ON MAKE

Multiple time ranges and digital time selection with high accuracy and repeatability. **Time Delay Adjustment:** 3 digital switches. **Range:** 0.05 sec. to 999 min. in 5 ranges. **Repeatability:** $\pm 0.1\%$, ± 0.2 sec. over specified timing range. **Accuracy:** $\pm 1\%$ of set time, plus fixed error of 80 ms max. **Reset Time:** 15 sec. max.

Mfr. No.	Input Voltage	Time Delay (ms-min)	UL File Number	CSA File Number
A1M-0999M-461	120VAC	50-999	E59090	LR33434
A1M-0999M-462	24VDC	50-999	E59090	LR33434
A1M-0999M-466	12VDC	50-999	E59090	LR33434
A1M-0999M-467	24VAC	50-999	E59090	LR33434
A1M-0999M-465	240VAC	50-999	E59090	LR33434



A1M Series



Upon application of voltage to the input terminals, the time delay is initiated. At the end of the present time delay, the relay coil is energized and the contacts transfer. For Reset, remove voltage from the input terminals.

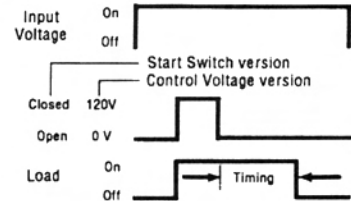
T3M SERIES MULTI-RANGE DELAY ON MAKE

Five user programmable time ranges. 11-pin base, 10 amp/DPDT output. Timing light. **Time Delay Adjustment:** 3 digital switches. **Power Consumption:** 2VA max. **Range:** 0.05 sec. to 999 min. in 5 ranges. **Accuracy:** $\pm 1\%$ of set time, plus fixed error of 75 ms max. **Repeatability:** $\pm 0.1\%$, ± 0.2 sec. over specified range.

Mfr. No.	Input Voltage	Time Delay (ms-min)	UL File Number	CSA File Number
T3M-0999M-461	120VAC	50-999	E59090	LR33434
T3M-0999M-462	24VDC	50-999	E59090	LR33434
T3M-0999M-466	12VDC	50-999	E59090	LR33434
T3M-0999M-467	24VAC	50-999	E59090	LR33434
T3M-0999M-461V	120VAC	50-999	E59090	LR33434



T3M Series



Power is continuously applied to the timer. Depending on the model, either a switch closure or control voltage causes the relay to transfer and remain transferred as long as the switch is held closed or voltage is applied. Opening the switch or removing the control voltage starts the timing cycle. After the timing cycle is over, the relay de-energizes and is ready for a new timing cycle.

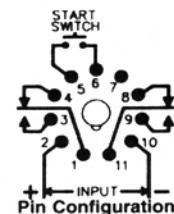
TMM SERIES MULTI-TIME RANGE/FUNCTION

Five user selectable logic modes and five user selectable time ranges. Two 5-position rotary switches select the logic mode and time range. **Time Delay Adjustment:** 3 digital pushbutton switches. **Range:** 0.05 sec. to 999 min. in 5 ranges. **Repeatability:** $\pm 0.1\%$. **Power Consumption:** 2VA max.

Mfr. No.	Input Voltage	Time Delay (ms-min)	UL File Number	CSA File Number
TMM-0999M-461	120VAC	50-999	E59090	LR33434
TMM-0999M-462	24VDC	50-999	E59090	LR33434
TMM-0999M-464	48VDC	50-999	E59090	LR33434
TMM-0999M-466	12VDC	50-999	E59090	LR33434
TMM-0999M-467	24VAC	50-999	E59090	LR33434
TMM-0999M-465	240VAC	50-999	E59090	LR33434



TMM Series



T1 SERIES DELAY ON MAKE

Plug-in base. **Power Consumption:** 3 watts. **External Resistance for Max Time:** 1 megohm. **Time Delay Adjustment:** Knob, or external resistance. **Repeatability:** $\pm 0.5\%$. **Reset Time:** 50 ns. max., 25 ms typ.

Mfr. No.	Time Delay Seconds	Adj. Means	Input Volts	UL File	CSA File
T1K-00030-461	.3-30	Knob	120 AC	E59090	LR-33434
T1K-00060-461	.6-60	Knob	120 AC	E59090	LR-33434
T1K-00120-461	1.2-120	Knob	120 AC	E59090	LR-33434
T1K-00180-461	1.8-180	Knob	120 AC	E59090	LR-33434
T1K-00300-461	3-300	Knob	120 AC	E59090	LR-33434
T1K-00600-461	6-600	Knob	120 AC	E59090	LR-33434
T1K-00900-461	9-900	Knob	120 AC	E59090	LR-33434
T1K-01800-461	30 min.	Knob	120 AC	E59090	LR-33434
T1K-03600-461	1 hr.	Knob	120 AC	E59090	LR-33434
T1K-07200-461	2 hrs.	Knob	120 AC	E59090	LR-33434
T1K-18000-461	5 hrs.	Knob	120 AC	E59090	LR-33434
T1K-36000-461	10 hrs.	Knob	120 AC	E59090	LR-33434
T1K-00005-462	.05-5	Knob	24 DC	E59090	LR-33434
T1K-00010-462	.1-10	Knob	24 DC	E59090	LR-33434
T1K-00030-462	.3-30	Knob	24 DC	E59090	LR-33434
T1K-00060-462	.6-60	Knob	24 DC	E59090	LR-33434
T1K-00120-462	1.2-120	Knob	24 DC	E59090	LR-33434
T1K-00180-462	1.8-180	Knob	24 DC	E59090	LR-33434
T1K-00300-462	3-300	Knob	24 DC	E59090	LR-33434
T1K-00600-462	6-600	Knob	24 DC	E59090	LR-33434
T1K-00010-466	.1-10	Knob	12 DC	E59090	LR-33434
T1K-00030-466	.3-30	Knob	12 DC	E59090	LR-33434
T1K-00060-466	.6-60	Knob	12 DC	E59090	LR-33434
T1K-00120-466	1.2-120	Knob	12 DC	E59090	LR-33434
T1K-00180-466	1.8-180	Knob	12 DC	E59090	LR-33434
T1K-00300-466	3-300	Knob	12 DC	E59090	LR-33434
T1K-00005-467	.05-5	Knob	24 AC	E59090	LR-33434
T1K-00010-467	.1-10	Knob	24 AC	E59090	LR-33434
T1K-00030-467	.3-30	Knob	24 AC	E59090	LR-33434
T1K-00060-467	.6-60	Knob	24 AC	E59090	LR-33434
T1K-00120-467	1.2-120	Knob	24 AC	E59090	LR-33434
T1K-00180-467	1.8-180	Knob	24 AC	E59090	LR-33434
T1K-00300-467	3-300	Knob	24 AC	E59090	LR-33434
T1K-00600-467	10 min.	Knob	12 DC	E59090	LR-33434
T1K-00010-465	.1-10	Knob	240 AC	E59090	LR-33434
T1K-00030-465	.3-30	Knob	240 AC	E59090	LR-33434
T1K-00060-465	.6-60	Knob	240 AC	E59090	LR-33434
T1K-00120-465	1.2-120	Knob	240 AC	E59090	LR-33434
T1F-00002-461	.05-2	Ext.	120 AC	E59090	LR-33434
T1F-00010-461	.1-10	Ext.	120 AC	E59090	LR-33434
T1F-00030-461	.3-30	Ext.	120 AC	E59090	LR-33434
T1F-00060-461	.6-60	Ext.	120 AC	E59090	LR-33434
T1F-00120-461	1.2-120	Ext.	120 AC	E59090	LR-33434
T1F-00180-461	1.8-180	Ext.	120 AC	E59090	LR-33434
T1F-00300-461	3-300	Ext.	120 AC	E59090	LR-33434

S1 SERIES INTERVAL

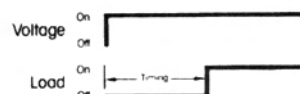
Plug-in base. **Time Delay Adjustment:** Knob. **Repeatability:** $\pm 1\%$. **Reset Time:** 50 msec. **Power Consumption:** 3 watts.

S1K-00002-461	.05-2	Knob	120 AC	E59090	LR-33434
S1K-00005-461	.05-5	Knob	120 AC	E59090	LR-33434
S1K-00010-461	.1-10	Knob	120 AC	E59090	LR-33434
S1K-00030-461	.3-30	Knob	120 AC	E59090	LR-33434
S1K-00060-461	.6-60	Knob	120 AC	E59090	LR-33434
S1K-00120-461	1.2-120	Knob	120 AC	E59090	LR-33434
S1K-00180-461	1.8-180	Knob	120 AC	E59090	LR-33434
S1K-00300-461	3-300	Knob	120 AC	E59090	LR-33434
S1K-00600-461	6-600	Knob	120 AC	E59090	LR-33434
S1K-00010-462	.1-10	Knob	24 DC	E59090	LR-33434
S1K-00060-462	.6-60	Knob	24 DC	E59090	LR-33434
S1K-00010-466	.1-10	Knob	12 DC	E59090	LR-33434
S1K-00060-466	.6-60	Knob	12 DC	E59090	LR-33434
S1K-00180-466	1.8-180	Knob	12 DC	E59090	LR-33434
S1K-00010-467	.1-10	Knob	12 DC	E59090	LR-33434
S1K-00060-467	.6-60	Knob	24 AC	E59090	LR-33434
S1K-00180-467	1.8-180	Knob	24 AC	E59090	LR-33434

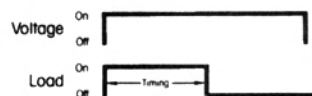
T2 SERIES SINGLE SHOT

Plug-in base. **Time Delay Adjustment:** Knob. **Power Consumption:** 3 watts. **Repeatability:** $\pm 1\%$.

T2K-00010-441	.1-10	Knob	120 AC	E59090	LR-33434
T2K-00060-441	.6-60	Knob	120 AC	E59090	LR-33434
T2K-00180-441	1.8-180	Knob	120 AC	E59090	LR-33434
T2K-00002-461	.05-2	Knob	120 AC	E59090	LR-33434
T2K-00005-461	.05-5	Knob	120 AC	E59090	LR-33434
T2K-00010-461	.1-10	Knob	120 AC	E59090	LR-33434
T2K-00030-461	.3-30	Knob	120 AC	E59090	LR-33434
T2K-00060-461	.6-60	Knob	120 AC	E59090	LR-33434
T2K-00120-461	1.2-120	Knob	120 AC	E59090	LR-33434
T2K-00180-461	1.8-180	Knob	120 AC	E59090	LR-33434
T2K-00300-461	3-300	Knob	120 AC	E59090	LR-33434
T2K-00600-461	6-600	Knob	120 AC	E59090	LR-33434
T2K-01800-461	18-1800	Knob	120 AC	E59090	LR-33434
T2K-03600-461	36-3600	Knob	120 AC	E59090	LR-33434
T2K-00010-462	.1-10	Knob	24 DC	E59090	LR-33434
T2K-00060-462	.6-60	Knob	24 DC	E59090	LR-33434
T2K-00010-466	.1-10	Knob	12 DC	E59090	LR-33434
T2K-00060-466	.6-60	Knob	12 DC	E59090	LR-33434
T2K-00180-466	1.8-180	Knob	12 DC	E59090	LR-33434
T2K-00010-467	.1-10	Knob	24 DC	E59090	LR-33434
T2K-00060-467	.6-60	Knob	24 DC	E59090	LR-33434
T2K-00180-467	1.8-180	Knob	24 DC	E59090	LR-33434

DELAY ON MAKE


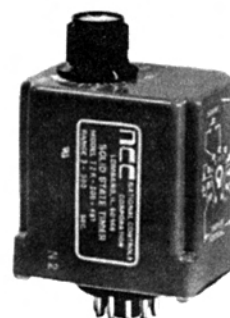
Upon application of power to the input terminals, the time delay cycle starts. At the end of the preset time delay, the output contacts transfer, either connecting or disconnecting the load. Reset is accomplished by removal of the input power.

INTERVAL


Upon application of power to the input terminals, the output contacts transfer and the time delay cycle starts. At the end of the present time delay, the contacts transfer back, either connecting or disconnecting the load. Reset is accomplished by removal of input power.

SINGLE SHOT


Power is applied at all times. Upon a momentary or maintained closure of a normally open control switch, the output contacts transfer, and the time delay starts. At the end of the preset time delay, the contacts transfer back to the original position, and the timer is ready for a new cycle.



Series S1
Series T1
Series T2

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TIMERS & FLASHERS

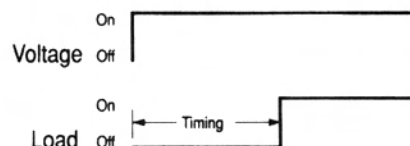
SERIES Q1 ON-DELAY TIMERS

Power Consumption: 3W. max. **External Resistance for Max. Time:** 1 megohm. **Time Delay Adjustment:** External resistor; factory fixed on special order. **Reset Time:** 100 ms max. before time out. 10 ms after time out. **Repeatability:** $\pm 0.5\%$. **Output Rating:** 1 amp max., solid state, normally open series load.

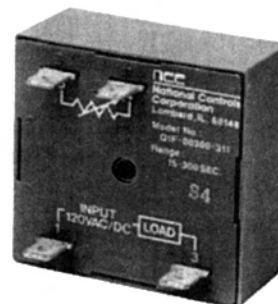
*AC/DC except where noted otherwise.

Mfr. No.	Time Delay Seconds	Input Volts AC/DC*	UL File Number	CSA File Number
Q1F-00001-311	.05-1	120 AC	E65038	33434
Q1F-00005-311	.25-5	120 AC	E65038	33434
Q1F-00010-311	.5-10	120 AC	E65038	33434
Q1F-00060-311	3-60	120 AC	E65038	33434
Q1F-00300-311	15-300	120 AC	E65038	33434
Q1F-00600-311	30-600	120 AC	E65038	33434
Q1F-03600-311	180-3600	120 AC	E65038	33434
Q1F-18000-311	.25-5 hrs.	120 AC	E65038	33434
Q1F-36000-311	.5-10 hrs.	120 AC	E65038	33434
Q1F-00005-315	.25-5	240 AC	E65038	33434
Q1F-00010-315	.5-10	240 AC	E65038	33434
Q1F-00060-315	3-60	240 AC	E65038	33434
Q1F-00300-315	15-300	240 AC	E65038	33434
Q1F-00600-315	30-600	240 AC	E65038	33434
Q1F-03600-315	180-3600	240 AC	E65038	33434
Q1F-18000-315	.25-5 hrs.	240 AC	E65038	33434
Q1F-36000-315	.5-10 hrs.	240 AC	E65038	33434
Q1F-00001-316	.05-1	12 DC	E65038	33434
Q1F-00005-316	.25-5	12 DC	E65038	33434
Q1F-00010-316	.5-10	12 DC	E65038	33434
Q1F-00060-316	3-60	12 DC	E65038	33434
Q1F-00300-316	15-300	12 DC	E65038	33434
Q1F-00600-316	30-600	12 DC	E65038	33434
Q1F-03600-316	180-3600	12 DC	E65038	33434
Q1F-18000-316	.25-5 hrs.	12 DC	E65038	33434
Q1F-36000-316	.5-10 hrs.	12 DC	E65038	33434
Q1F-00001-317	.05-1	24	E65038	33434
Q1F-00005-317	.25-5	24	E65038	33434
Q1F-00010-317	.5-10	24	E65038	33434
Q1F-00060-317	3-60	24	E65038	33434
Q1F-00300-317	15-300	24	E65038	33434
Q1F-00600-317	30-600	24	E65038	33434
Q1F-03600-317	180-3600	24	E65038	33434
Q1F-18000-317	.25-5 hrs.	24	E65038	33434
Q1F-36000-317	.5-10 hrs.	24	E65038	33434

DELAY ON MAKE (SERIES LOAD)



Upon application of input voltage, the time delay starts. At the end of the time delay, the load is energized. Reset is accomplished by removal of input power.



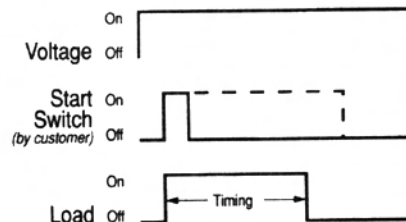
SERIES Q2 ONE-SHOT TIMERS

Power Consumption: 4W. max. **External Resistance for Max Time:** 1 megohm. **Time Delay Adjustment:** External Resistor; factory fixed on special order. **Reset Time:** 50 ms max. **Repeatability:** $\pm 0.5\%$ + 8 msec max. with constant temp. **Output Rating:** 1 amp max., solid state, normally open.

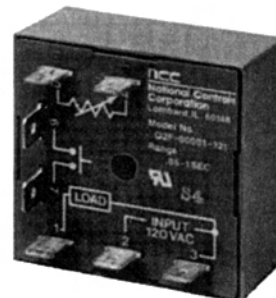
*AC/DC except where noted otherwise.

Mfr. No.	Time Delay Seconds	Input Volts AC/DC*	UL File Number	CSA File Number
Q2F-00001-321	.05-1	120 AC	E65038	33434
Q2F-00005-321	.25-5	120 AC	E65038	33434
Q2F-00010-321	.5-10	120 AC	E65038	33434
Q2F-00060-321	3-60	120 AC	E65038	33434
Q2F-00300-321	15-300	120 AC	E65038	33434
Q2F-00600-321	30-600	120 AC	E65038	33434
Q2F-03600-321	180-3600	120 AC	E65038	33434
Q2F-18000-321	.25-5 hrs.	120 AC	E65038	33434
Q2F-36000-321	.5-10 hrs.	120 AC	E65038	33434
Q2F-00001-325	.05-1	240 AC	E65038	33434
Q2F-00005-325	.25-5	240 AC	E65038	33434
Q2F-00010-325	.5-10	240 AC	E65038	33434
Q2F-00060-325	3-60	240 AC	E65038	33434
Q2F-00300-325	15-300	240 AC	E65038	33434
Q2F-00600-325	30-600	240 AC	E65038	33434
Q2F-03600-325	180-3600	240 AC	E65038	33434
Q2F-18000-325	.25-5 hrs.	240 AC	E65038	33434
Q2F-36000-325	.5-10 hrs.	240 AC	E65038	33434
Q2F-00001-326	.05-1	12 DC	E65038	33434
Q2F-00005-326	.25-5	12 DC	E65038	33434
Q2F-00010-326	.5-10	12 DC	E65038	33434
Q2F-00060-326	3-60	12 DC	E65038	33434
Q2F-00300-326	15-300	12 DC	E65038	33434
Q2F-00600-326	30-600	12 DC	E65038	33434
Q2F-03600-326	180-3600	12 DC	E65038	33434
Q2F-18000-326	.25-5 hrs.	12 DC	E65038	33434
Q2F-36000-326	.5-10 hrs.	12 DC	E65038	33434
Q2F-00001-327	.05-1	24	E65038	33434
Q2F-00005-327	.25-5	24	E65038	33434
Q2F-00010-327	.5-10	24	E65038	33434
Q2F-00060-327	3-60	24	E65038	33434
Q2F-00300-327	15-300	24	E65038	33434
Q2F-00600-327	30-600	24	E65038	33434
Q2F-03600-327	180-3600	24	E65038	33434
Q2F-18000-327	.25-5 hrs.	24	E65038	33434
Q2F-36000-327	.5-10 hrs.	24	E65038	33434

SINGLE SHOT



Input power is applied to the timer at all times. Upon a momentary or maintained closure of a normally open start switch, the load energizes and the time delay starts. At the end of the preset time delay, the load de-energizes and the timer is ready for a new timing cycle.



K1 SERIES DELAY ON MAKE

Solid state, on-delay timers in a variety of case and mounting styles. Low cost units are usable over a wide operating temperature range, have high accuracy over a wide input voltage range, and do not false operate. **Time Delay Adjustment:** Knob or external resistor; others available on special order. **Repeatability:** $\pm 2\%$. **Reset time:** 80 msec. typical. 150 msec. max. **Operating Temperature Range:** -10°F to $+130^{\circ}\text{F}$. **External Resistance for Max. Time:** 300K ohms for up to 2 sec.; 690K ohms for 5 sec.; 1.35 megohms for 10 sec.; 2.5 megohms for 30-300 sec. Units have internal transient protection, and DC models have reverse polarity protection. Available in both flange mount (type numbers ending in 7xx) and plug-in style (type numbers ending in 5xx or 6xx).

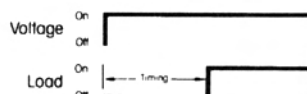
Mfr. No.	Time Delay, Seconds	Adj. Means	Input Volts	UL File Number	CSA File Number
RELAY OUTPUT					
K1K-00002-661	.1-2	Knob	120 AC	E59090	LR33434
K1K-00005-661	.1-5	Knob	120 AC	E59090	LR33434
K1K-00010-661	.1-10	Knob	120 AC	E59090	LR33434
K1K-00030-661	.3-30	Knob	120 AC	E59090	LR33434
K1K-00060-661	.6-60	Knob	120 AC	E59090	LR33434
K1K-00120-661	1.2-120	Knob	120 AC	E59090	LR33434
K1K-00180-661	1.8-180	Knob	120 AC	E59090	LR33434
K1K-00300-661	3-300	Knob	120 AC	E59090	LR33434
K1K-00002-667	.1-2	Knob	24 AC	E59090	LR33434
K1K-00005-667	.1-5	Knob	24 AC	E59090	LR33434
K1K-00010-667	.1-10	Knob	24 AC	E59090	LR33434
K1K-00030-667	.3-30	Knob	24 AC	E59090	LR33434
K1K-00060-667	.6-60	Knob	24 AC	E59090	LR33434
K1K-00120-667	1.2-120	Knob	24 AC	E59090	LR33434
K1K-00180-667	1.8-180	Knob	24 AC	E59090	LR33434
K1K-00300-667	3-300	Knob	24 AC	E59090	LR33434
K1K-00005-662	.1-5	Knob	24 DC	E59090	LR33434
K1K-00010-662	.1-10	Knob	24 DC	E59090	LR33434
K1K-00030-662	.3-30	Knob	24 DC	E59090	LR33434
K1K-00060-662	.6-60	Knob	24 DC	E59090	LR33434
K1K-00120-662	1.2-120	Knob	24 DC	E59090	LR33434
K1K-00180-662	1.8-180	Knob	24 DC	E59090	LR33434
K1K-00005-666	.1-5	Knob	12 DC	E59090	LR33434
K1K-00010-666	.1-10	Knob	12 DC	E59090	LR33434
K1K-00030-666	.3-30	Knob	12 DC	E59090	LR33434
K1K-00060-666	.6-60	Knob	12 DC	E59090	LR33434
K1K-00120-666	1.2-120	Knob	12 DC	E59090	LR33434
K1K-00180-666	1.8-180	Knob	12 DC	E59090	LR33434
K1K-00300-666	3-300	Knob	12 DC	E59090	LR33434
K1F-00002-761	.1-2	Ext.	120 AC	E59090	LR33434
K1F-00005-761	.1-5	Ext.	120 AC	E59090	LR33434
K1F-00010-761	.1-10	Ext.	120 AC	E59090	LR33434
K1F-00030-761	.3-30	Ext.	120 AC	E59090	LR33434
K1F-00060-761	.6-60	Ext.	120 AC	E59090	LR33434
K1F-00120-761	1.2-120	Ext.	120 AC	E59090	LR33434
K1F-00002-561	.1-2	Ext.	120 AC	E59090	LR33434
K1F-00005-561	.1-5	Ext.	120 AC	E59090	LR33434
K1F-00010-561	.1-10	Ext.	120 AC	E59090	LR33434
K1F-00030-561	.3-30	Ext.	120 AC	E59090	LR33434
K1F-00060-561	.6-60	Ext.	120 AC	E59090	LR33434
K1F-00120-561	1.2-120	Ext.	120 AC	E59090	LR33434
K1F-00180-561	3 min.	Ext.	120 AC	E59090	LR33434
K1F-00030-561	5 min.	Ext.	120 AC	E59090	LR33434
K1F-00010-567	.1-10	Ext.	24 AC	E59090	LR33434
K1F-00300-567	3-300	Ext.	24 AC	E59090	LR33434
K1F-00010-562	.1-10	Ext.	24 AC	E59090	LR33434
K1F-00030-562	.3-30	Ext.	24 AC	E59090	LR33434
K1F-00120-562	1.2-120	Ext.	24 AC	E59090	LR33434
K1F-00010-566	.1-10	Ext.	12 DC	E59090	LR33434
K1F-00030-566	.3-30	Ext.	12 DC	E59090	LR33434
K1F-00120-566	1.2-1200	Ext.	12 DC	E59090	LR33434

Z1 SERIES DELAY ON MAKE

Printed circuit board construction. **Power Consumption:** 3 watts. **Time Delay Adjustment:** Trim pot. **Reset Time:** 50 msec. **Repeatability:** $\pm 1\%$.

Mfr. No.	Time Delay, Seconds	Adj. Means	Input Volts	UL File Number	CSA File Number
Z1T-00010-061	.1-10	Pot.	120 AC	E59090	LR33434
Z1T-00060-061	.6-60	Pot.	120 AC	E59090	LR33434
Z1T-00180-061	1.8-180	Pot.	120 AC	E59090	LR33434
Z1T-00010-062	.1-10	Pot.	24 DC	E59090	LR33434
Z1T-00060-062	.6-60	Pot.	24 DC	E59090	LR33434
Z1T-00180-062	1.8-180	Pot.	24 DC	E59090	LR33434
Z1T-00010-067	.1-10	Pot.	24 AC	E59090	LR33434
Z1T-00060-067	.6-60	Pot.	24 AC	E59090	LR33434
Z1T-00180-067	1.8-180	Pot.	24 AC	E59090	LR33434

DELAY ON MAKE

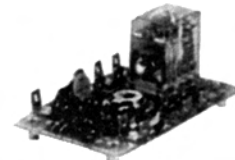


Upon application of power to the input terminals, the time delay cycle starts. At the end of the preset time delay, the output contacts transfer, either connecting or disconnecting the load. Reset is accomplished by removal of the input power.



Series A1

Series K1



Series Z1

A1 SERIES DELAY ON MAKE

Repeatability: $\pm 5\%$. **Delay Adjustment:** Knob, lock bushing. **Reset Time:** 50 msec. **Power Consumption:** 3 watts.

Mfr. No.	Time Delay, Seconds	Adj. Means	Input Volts
A1K-00001-461	.05-1	Knob	120 AC
A1K-00002-461	.05-2	Knob	120 AC
A1K-00005-461	.05-5	Knob	120 AC
A1K-00010-461	.1-10	Knob	120 AC
A1K-00030-461	.3-30	Knob	120 AC
A1K-00060-461	.6-60	Knob	120 AC
A1K-00120-461	1.2-120	Knob	120 AC
A1K-00180-461	1.8-180	Knob	120 AC
A1K-00300-461	3-300	Knob	120 AC
A1K-00600-461	6-600	Knob	120 AC
A1K-01800-461	18-1800	Knob	120 AC
A1K-03600-461	36-3600	Knob	120 AC
A1K-07200-461	72-7200	Knob	120 AC
A1K-18000-461	5 hrs.	Knob	120 AC
A1K-36000-461	10 hrs.	Knob	120 AC

10
TIMERS & FLASHERS

Solid state, time delay relays from National feature standard time delays up to 10 hours, superior transient protection, low cost and 10 ampere DPDT relay output. Units have an operating temperature range of -10°F to +130°F. Many types not listed are available on special order.

T3 SERIES DELAY ON BREAK

Plug-in base. Time Delay Adjustment: Knob. Power Consumption: 3 watts. Repeatability: ±1%.

Mfr. No.	Time Delay, Seconds	Adj. Means	Input Volts	UL File #	CSA File #
T3K-00010-441	.1-10	Knob	120 AC	E 59090	LR 33434
T3K-00030-441	.3-30	Knob	120 AC	E 59090	LR 33434
T3K-00180-441	1.8-180	Knob	120 AC	E 59090	LR 33434
T3K-00005-461	.05-2	Knob	120 AC	E 59090	LR 33434
T3K-00010-461	.1-10	Knob	120 AC	E 59090	LR 33434
T3K-00030-461	.3-30	Knob	120 AC	E 59090	LR 33434
T3K-00060-461	.6-60	Knob	120 AC	E 59090	LR 33434
T3K-00120-461	1.2-120	Knob	120 AC	E 59090	LR 33434
T3K-00180-461	1.8-180	Knob	120 AC	E 59090	LR 33434
T3K-00300-461	3-300	Knob	120 AC	E 59090	LR 33434
T3K-00600-461	6-600	Knob	120 AC	E 59090	LR 33434
T3K-00900-461	9-900	Knob	120 AC	E 59090	LR 33434
T3K-01800-461	18-1800	Knob	120 AC	E 59090	LR 33434
T3K-03600-461	36-3600	Knob	120 AC	E 59090	LR 33434
T3K-00010-462	.1-10	Knob	24 DC	E 59090	LR 33434
T3K-00060-462	.6-60	Knob	24 DC	E 59090	LR 33434
T3K-00180-462	1.8-180	Knob	24 DC	E 59090	LR 33434
T3K-00010-466	.1-10	Knob	12 DC	E 59090	LR 33434
T3K-00060-466	.6-60	Knob	12 DC	E 59090	LR 33434
T3K-00180-466	1.8-180	Knob	12 DC	E 59090	LR 33434
T3K-00010-467	.1-10	Knob	24 AC	E 59090	LR 33434
T3K-00060-467	.6-60	Knob	24 AC	E 59090	LR 33434
T3K-00180-467	1.8-180	Knob	24 AC	E 59090	LR 33434

Z3 SERIES DELAY ON BREAK

Printed circuit board construction. Time Delay Adjustment: Trim pot. Power Consumption: 3 watts. Repeatability: ±2%.

Z3T-00010-061	.1-10	Pot.	120 AC	E 59090	LR 33434
Z3T-00060-061	.6-60	Pot.	120 AC	E 59090	LR 33434
Z3T-00180-061	1.8-180	Pot.	120 AC	E 59090	LR 33434
Z3T-00300-061	3-300	Pot.	120 AC	E 59090	LR 33434

K3 SERIES DELAY ON BREAK

Plug-in base. Time Delay Adjustment: Knob. Repeatability: ±2%.

K3K-00005-661	.05-5	Knob	120 AC	E 59090	LR 33434
K3K-00010-661	.1-10	Knob	120 AC	E 59090	LR 33434
K3K-00060-661	.6-60	Knob	120 AC	E 59090	LR 33434
K3K-00120-661	1.2-120	Knob	120 AC	E 59090	LR 33434
K3K-00180-661	1.8-180	Knob	120 AC	E 59090	LR 33434

CKK SERIES REPEAT CYCLE

Plug-in base. Time Delay Adjustment: Knob. Power Consumption: 3 watts. Repeatability: ±2%.

CKK-00002-461	.05-2	Knob	120 AC	E 59090	LR 33434
CKK-00005-461	.05-5	Knob	120 AC	E 59090	LR 33434
CKK-00010-461	.1-10	Knob	120 AC	E 59090	LR 33434
CKK-00030-461	.3-30	Knob	120 AC	E 59090	LR 33434
CKK-00060-461	.6-60	Knob	120 AC	E 59090	LR 33434
CKK-00120-461	1.2-120	Knob	120 AC	E 59090	LR 33434
CKK-00180-461	1.8-180	Knob	120 AC	E 59090	LR 33434
CKK-00300-461	3-300	Knob	120 AC	E 59090	LR 33434
CKK-00600-461	6-600	Knob	120 AC	E 59090	LR 33434
CKK-01800-461	18-1800	Knob	120 AC	E 59090	LR 33434
CKK-03600-461	1 hr.	Knob	120 AC	E 59090	LR 33434
CKK-07200-461	2 hrs.	Knob	120 AC	E 59090	LR 33434
CKK-18000-461	5 hrs.	Knob	120 AC	E 59090	LR 33434
CKK-36000-461	10 hrs.	Knob	120 AC	E 59090	LR 33434
CKK-00010-462	.1-10	Knob	24 DC	E 59090	LR 33434
CKK-00030-462	.3-30	Knob	24 DC	E 59090	LR 33434
CKK-00060-462	.6-60	Knob	24 DC	E 59090	LR 33434
CKK-00180-462	1.8-180	Knob	24 DC	E 59090	LR 33434
CKK-00010-466	.1-10	Knob	12 DC	E 59090	LR 33434
CKK-00030-466	.3-30	Knob	12 DC	E 59090	LR 33434
CKK-00060-466	.6-60	Knob	12 DC	E 59090	LR 33434
CKK-00180-466	1.8-180	Knob	12 DC	E 59090	LR 33434

K2 SERIES SINGLE SHOT

Plug-in base. Time Delay Adjustment: Knob. Power Consumption: 3 watts. Repeatability: ±2%.

K2K-00005-661	.05-5	Knob	120 AC	E 59090	LR 33434
K2K-00010-661	.1-10	Knob	120 AC	E 59090	LR 33434
K2K-00060-661	.6-60	Knob	120 AC	E 59090	LR 33434
K2K-00120-661	1.2-120	Knob	120 AC	E 59090	LR 33434
K2K-00180-661	1.8-180	Knob	120 AC	E 59090	LR 33434



Series CKK

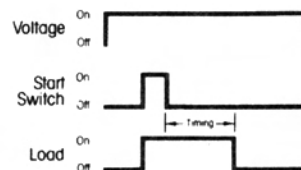


Series Z1

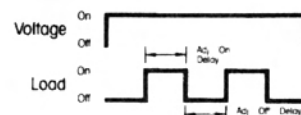


Series T3

DELAY ON BREAK



Power is applied at all times. Upon closure of a normally open control switch, the output contacts transfer, and remain in this position as long as the switch is closed. When the control switch is opened, the time delay starts. At the end of the preset time delay, the contacts transfer back, and the timer is ready for a new cycle.



Upon application of power to the input terminals, the "off" delay is initiated. At the end of the "off" preset period, the contacts transfer from the "off" to the "on" position and the "on" delay starts. At the end of the preset "on" time, the contacts transfer back, and a new cycle begins. The cycles will continue to alternate until power is removed.

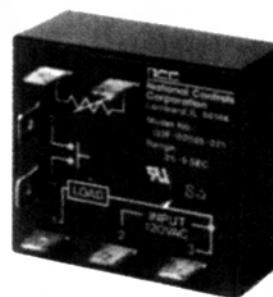
SERIES Q3 OFF-DELAY TIMERS

Power Consumption: 4W, max. **External Resistance for Max. Time:** 1 megohm. **Time Delay Adjustment:** External resistor; factor fixed on special order. **Reset Time:** 50 ms. max. **Repeatability:** $\pm 0.5\%$ +8 msec max. with constant temp. **Output Rating:** 1 Amp max., solid state normally open.

*AC/DC except where noted otherwise.

DELAY ON BREAK


Input power is applied to the timer at all times. Upon closure of a normally open isolated start switch, the load energizes and remains so as long as the switch is closed. When the start switch opens, the timing cycle begins. At the end of the preset time delay, the output energizes, and the timer is ready for a new cycle.

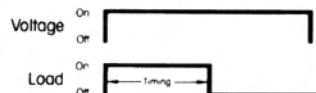


Mfr. No.	Time Delay Seconds	Input Volts AC/DC*	UL File	CSA File
Q3F-00001-321	.05-1	120 AC	65038	LR 33434
Q3F-00005-321	.25-5	120 AC	65038	LR 33434
Q3F-00010-321	.5-10	120 AC	65038	LR 33434
Q3F-00060-321	3-60	120 AC	65038	LR 33434
Q3F-00300-321	15-300	120 AC	65038	LR 33434
Q3F-00600-321	30-600	120 AC	65038	LR 33434
Q3F-03600-321	180-3600	120 AC	65038	LR 33434
Q3F-18000-321	.25-5 hrs	120 AC	65038	LR 33434
Q3F-36000-321	.5-10 hrs	120 AC	65038	LR 33434
Q3F-00001-325	.05-1	240 AC	65038	LR 33434
Q3F-00005-325	.25-5	240 AC	65038	LR 33434
Q3F-00010-325	.5-10	240 AC	65038	LR 33434
Q3F-00060-325	3-60	240 AC	65038	LR 33434
Q3F-00300-325	15-300	240 AC	65038	LR 33434
Q3F-00600-325	30-600	240 AC	65038	LR 33434
Q3F-03600-325	180-3600	240 AC	65038	LR 33434
Q3F-18000-325	.25-5 hrs	240 AC	65038	LR 33434
Q3F-36000-325	.5-10 hrs	240 AC	65038	LR 33434
Q3F-00001-326	.05-1	12 DC	65038	LR 33434
Q3F-00005-326	.25-5	12 DC	65038	LR 33434
Q3F-00010-326	.5-10	12 DC	65038	LR 33434
Q3F-00060-326	3-60	12 DC	65038	LR 33434
Q3F-00300-326	15-300	12 DC	65038	LR 33434
Q3F-00600-326	30-600	12 DC	65038	LR 33434
Q3F-03600-326	180-3600	12 DC	65038	LR 33434
Q3F-18000-326	.25-5 hrs	12 DC	65038	LR 33434
Q3F-36000-326	.5-10 hrs	12 DC	65038	LR 33434
Q3F-00001-327	.05-1	24	65038	LR 33434
Q3F-00005-327	.25-5	24	65038	LR 33434
Q3F-00010-327	.5-10	24	65038	LR 33434
Q3F-00060-327	3-60	24	65038	LR 33434
Q3F-00300-327	15-300	24	65038	LR 33434
Q3F-00600-327	30-600	24	65038	LR 33434
Q3F-03600-327	180-3600	24	65038	LR 33434
Q3F-18000-327	.25-5 hrs	24	65038	LR 33434
Q3F-36000-327	.5-10 hrs	24	65038	LR 33434

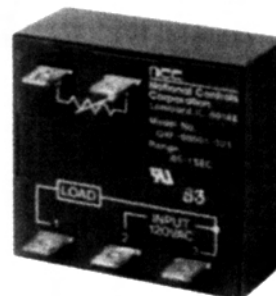
SERIES Q4 INTERVAL TIMERS

Power Consumption: 3W, max. **External Resistance for Max. Time:** 1 megohm. **Time Delay Adjustment:** External resistor; factory fixed on special order. **Reset Time:** 50 ms. max. **Repeatability:** $\pm 0.5\%$ +8 msec max. with constant temp. **Output Rating:** 1 Amp max., solid state normally open.

*AC/DC except where noted otherwise.

INTERVAL


Upon application of input power, the load energizes and the timing cycle begins. At the end of the preset time delay, the load is de-energized. Reset is accomplished by removal of input power.



Mfr. No.	Time Delay Seconds	Input Volts AC/DC*	UL File	CSA File
Q4F-00001-321	.05-1	120 AC	65038	LR 33434
Q4F-00005-321	.25-5	120 AC	65038	LR 33434
Q4F-00010-321	.5-10	120 AC	65038	LR 33434
Q4F-00060-321	3-60	120 AC	65038	LR 33434
Q4F-00300-321	15-300	120 AC	65038	LR 33434
Q4F-00600-321	30-600	120 AC	65038	LR 33434
Q4F-03600-321	180-3600	120 AC	65038	LR 33434
Q4F-18000-321	.25-5 hrs	120 AC	65038	LR 33434
Q4F-36000-321	.5-10 hrs	120 AC	65038	LR 33434
Q4F-00001-325	.05-1	240 AC	65038	LR 33434
Q4F-00005-325	.05-5	240 AC	65038	LR 33434
Q4F-00010-325	.5-10	240 AC	65038	LR 33434
Q4F-00060-325	3-60	240 AC	65038	LR 33434
Q4F-00300-325	15-300	240 AC	65038	LR 33434
Q4F-00600-325	30-600	240 AC	65038	LR 33434
Q4F-03600-325	180-3600	240 AC	65038	LR 33434
Q4F-18000-325	.25-5 hrs	240 AC	65038	LR 33434
Q4F-36000-325	.5-10 hrs	240 AC	65038	LR 33434
Q4F-00001-326	.05-1	12 DC	65038	LR 33434
Q4F-00005-326	.25-5	12 DC	65038	LR 33434
Q4F-00010-326	.5-10	12 DC	65038	LR 33434
Q4F-00060-326	3-60	12 DC	65038	LR 33434
Q4F-00300-326	15-300	12 DC	65038	LR 33434
Q4F-00600-326	30-600	12 DC	65038	LR 33434
Q4F-03600-326	180-3600	12 DC	65038	LR 33434
Q4F-18000-326	.25-5 hrs	12 DC	65038	LR 33434
Q4F-36000-326	.5-10 hrs	12 DC	65038	LR 33434
Q4F-00001-327	.05-1	24	65038	LR 33434
Q4F-00005-327	.25-5	24	65038	LR 33434
Q4F-00010-327	.5-10	24	65038	LR 33434
Q4F-00060-327	3-60	24	65038	LR 33434
Q4F-00300-327	15-300	24	65038	LR 33434
Q4F-00600-327	30-600	24	65038	LR 33434
Q4F-03600-327	180-3600	24	65038	LR 33434
Q4F-18000-327	.25-5 hrs	24	65038	LR 33434
Q4F-36000-327	.5-10 hrs	24	65038	LR 33434

TIMERS & FLASHERS

SERIES Q6 REPEAT CYCLE TIMERS

Power Consumption: 4W. max. External Resistance for Max. Time: 1 megohm. Time Delay Adjustment: External resistor; factory fixed on special order. Reset Time: 150 msec. max. Repeatability: $\pm 0.5\%$ ± 8 msec. max. with constant temperature. Output Rating: 1 amp max., solid state, normally open.

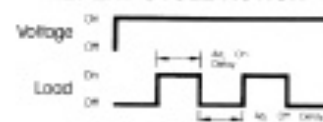
Mfr. No.	Time Delay Seconds	Input Volts AC/DC	UL File Number
Q6F-00001-321	.05-1	120 AC	E65038
Q6F-00005-321	.25-5	120 AC	E65038
Q6F-00010-321	.5-10	120 AC	E65038
Q6F-00060-321	3-60	120 AC	E65038
Q6F-00300-321	15-300	120 AC	E65038
Q6F-00600-321	30-600	120 AC	E65038
Q6F-03600-321	180-3600	120 AC	E65038
Q6F-18000-321	.25-5 hrs.	120 AC	E65038
Q6F-36000-321	.5-10 hrs.	120 AC	E65038
Q6F-00001-325	.05-1	240 AC	E65038
Q6F-00005-325	.25-5	240 AC	E65038
Q6F-00010-325	.5-10	240 AC	E65038
Q6F-00060-325	3-60	240 AC	E65038
Q6F-00300-325	15-300	240 AC	E65038
Q6F-00600-325	30-600	240 AC	E65038
Q6F-03600-325	180-3600	240 AC	E65038
Q6F-18000-325	.25-5 hrs.	240 AC	E65038
Q6F-36000-325	.5-10 hrs.	240 AC	E65038
Q6F-00001-326	.05-1	12 DC	E65038
Q6F-00005-326	.25-5	12 DC	E65038
Q6F-00010-326	.5-10	12 DC	E65038
Q6F-00060-326	3-60	12 DC	E65038
Q6F-00300-326	15-300	12 DC	E65038
Q6F-00600-326	30-600	12 DC	E65038
Q6F-03600-326	180-3600	12 DC	E65038
Q6F-18000-326	.25-5 hrs.	12 DC	E65038
Q6F-36000-326	.5-10 hrs.	12 DC	E65038
Q6F-00001-327	.05-1	24	E65038
Q6F-00005-327	.25-5	24	E65038
Q6F-00010-327	.5-10	24	E65038
Q6F-00060-327	3-60	24	E65038
Q6F-00300-327	15-300	24	E65038
Q6F-00600-327	30-600	24	E65038
Q6F-03600-327	180-3600	24	E65038
Q6F-18000-327	.25-5 hrs.	24	E65038
Q6F-36000-327	.5-10 hrs.	24	E65038

* AC/DC except where noted otherwise.

ACCESSORIES

Mfr. No.	Description
SOCKETS	
MS0-0008P-012	8-pin
MS0-0011P-012	11-pin
MS0-00KUP-012	11-pin (spade)
HOLD DOWN STRAPS	
ASY-STRAP-7.00L	For A, T, S, and CKK
ASY-STRAP-5.75L	For K Timers
TIMER KNOBS	
MKN-TK191-011	For A, T, S
MKN-SMALL-011	For K and CKK
DIAL PLATES	
MDP-0100%-011	1 to 100% dial
MDP-00002-011	.05 to 2 sec. dial
MDP-00005-011	.05 to 5 sec. dial
MDP-00010-011	.1 to 10 sec. dial
MDP-00030-011	.3 to 30 sec. dial
MDP-00060-011	.6 to 60 sec. dial
MDP-00120-011	1.2 to 120 sec. dial
MDP-00180-011	1.8 to 180 sec. dial
MDP-00300-011	3 to 300 sec. dial

REPEAT CYCLE ACTION



Upon application of input power, the off delay period starts. At the end of the off delay, the load is activated and the on delay period starts. At the end of the on period, the load is deactivated and a new cycle begins.

