

Analog Timer

TTL Series



Part Number Description

TTL-T	-	1	2	3
1 Contact		1 : temp. DPDT (2N/O + 2N/C)	2 : temp. SPDT (2N/O + 2N/C), order SPST (2N/O + 2N/C)	
2 Time Unit		S : Seconds (1, 3, 6, 10, 30, 60)	M : Minutes (3, 6, 10, 30, 60)	H : Hours (3, 6, 12, 24)
3 Supply Voltage		110VAC	220VAC	24VDC

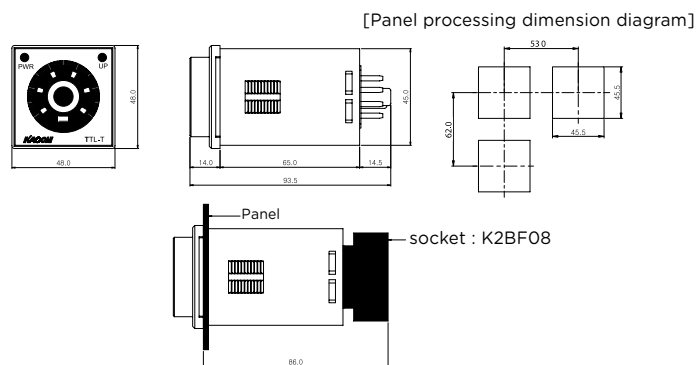
General Specification

Model	TTL- T1	TTL- T2
Function	Power ON delay	
Timing Range	sec(1, 3, 6, 10, 30, 60), min(3, 6, 10, 30, 60), hour(3, 6, 12, 24)	
Rated Supply Voltage	110VAC, 220VAC 50/60Hz, 24VDC	
Operating Voltage Range	90 - 110% of the Supply Voltage	
Power Consumption	Approx. 10VA(240VAC 60Hz), Approx. 2W(24VDC, 12VDC) DC(Optional)	
Recovery Time	Max. 200ms	
Control	Contact Form	Power ON delay(2N/O + 2N/C) Power ON delay(1N/O + 1N/C) / Instantaneous(1N/O + 1N/C)
Output	Contact Capacity	250VAC 3A resistance load
life cycle	Mechanical	Min. 10,000,000
	Electrical	Max. 100,000 (250VAC 3A resistance load)
Accuracy of operating time	Max. ±0.3%	
Setting Error	±5%	
Influence of Voltage	Max. ±0.5% FS	
Influence of Temperature	Max. ±2% FS	
Insulation Resistance	100MΩ (for 500VDC)	
Dielectric Resistance	2000VAC 50/60Hz for 1 minute	
Noise Immunity	The wave form noise (pulse 1us) ±2kV by the noise simulator	
Vibration	Malfunctorial	10-55Hz (1 minute duration) Dual Wave Length 0.5mm 10 minutes for Each Direction of X, Y, Z
Resistance	Destruction	10-55Hz (1 minute duration) Dual Wave Length 0.75mm 1 hour for Each Direction of X, Y, Z
Shock	Malfunctorial	100m/s ² (10G) Three Times for Each Direction of X, Y, Z
Resistance	Destruction	300m/s ² (30G) Three Times for Each Direction of X, Y, Z
Ambient Temperature	-10 ~ +55°C (with no icing)	
Storage Temperature	-25 ~ +65°C (with no icing)	
Ambient Humidity	35 ~ 80%RH	
Weight	Approx. 75g (except for the packaging material)	

Product Selection

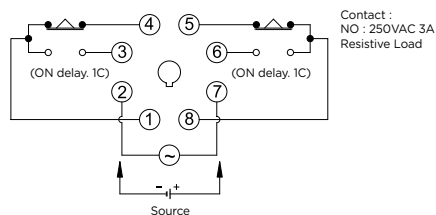
	Contact form	Time Unit	Time Range	Part Number			Contact Form	Time Unit	Time Range	Part Number		
				220VAC	110VAC	24VDC				220VAC	110VAC	24VDC
	Power ON delay DPDT (2N/O + 2N/C)	sec	1	TTL-T1-1S	TTL-T1-1S	TTL-T1-1S	Power ON delay SPDT (1N/O + 1N/C), Instantaneous SPST (1N/O + 1N/C)	sec	1	TTL-T2-1S	TTL-T2-1S	TTL-T2-1S
			3	TTL-T1-3S	TTL-T1-3S	TTL-T1-3S			3	TTL-T2-3S	TTL-T2-3S	TTL-T2-3S
			6	TTL-T1-6S	TTL-T1-6S	TTL-T1-6S			6	TTL-T2-6S	TTL-T2-6S	TTL-T2-6S
			10	TTL-T1-10S	TTL-T1-10S	TTL-T1-10S			10	TTL-T2-10S	TTL-T2-10S	TTL-T2-10S
			30	TTL-T1-30S	TTL-T1-30S	TTL-T1-30S			30	TTL-T2-30S	TTL-T2-30S	TTL-T2-30S
			60	TTL-T1-60S	TTL-T1-60S	TTL-T1-60S			60	TTL-T2-60S	TTL-T2-60S	TTL-T2-60S
		min	3	TTL-T1-3M	TTL-T1-3M	TTL-T1-3M		3	TTL-T2-3M	TTL-T2-3M	TTL-T2-3M	
			6	TTL-T1-6M	TTL-T1-6M	TTL-T1-6M		6	TTL-T2-6M	TTL-T2-6M	TTL-T2-6M	
			10	TTL-T1-10M	TTL-T1-10M	TTL-T1-10M		10	TTL-T2-10M	TTL-T2-10M	TTL-T2-10M	
			30	TTL-T1-30M	TTL-T1-30M	TTL-T1-30M		30	TTL-T2-30M	TTL-T2-30M	TTL-T2-30M	
			60	TTL-T1-60M	TTL-T1-60M	TTL-T1-60M		60	TTL-T2-60M	TTL-T2-60M	TTL-T2-60M	
			hour	3	TTL-T1-3H	TTL-T1-3H		TTL-T1-3H	3	TTL-T2-3H	TTL-T2-3H	TTL-T2-3H
	6	TTL-T1-6H		TTL-T1-6H	TTL-T1-6H	6	TTL-T2-6H	TTL-T2-6H	TTL-T2-6H			
	12	TTL-T1-12H		TTL-T1-12H	TTL-T1-12H	12	TTL-T2-12H	TTL-T2-12H	TTL-T2-12H			
	24	TTL-T1-24H		TTL-T1-24H	TTL-T1-24H	24	TTL-T2-24H	TTL-T2-24H	TTL-T2-24H			

Dimension

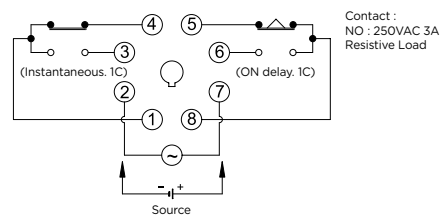


Diagram

TTL-T1

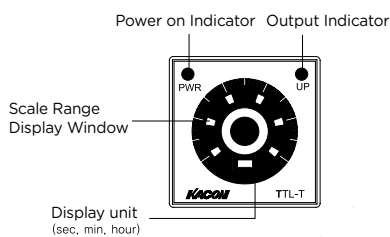


TTL-T2



Timer Function

Time Range



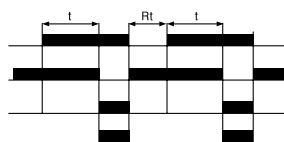
Set Time	Timing Range	Set Time	Timing Range	Set Time	Timing Range
1 sec	0 - 1 sec	3 min	0 - 3 min	3 hour	0 - 3 hour
3 sec	0 - 3 sec	6 min	0 - 6 min	6 hour	0 - 6 hour
6 sec	0 - 6 sec	10 min	0 - 10 min	12 hour	0 - 12 hour
10 sec	0 - 10 sec	30 min	0 - 30 min	24 hour	0 - 24 hour
30 sec	0 - 30 sec	60 min	0 - 60 min		
60 sec	0 - 60 sec				

Timing Charts

Mode Time Table

T1

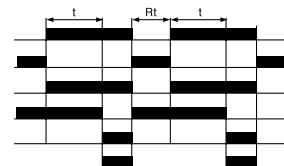
Power 2-7
ON delay NC 1-4 (8-5)
ON delay NO 1-3 (8-6)
Up LED



Mode Time Table

T2

Power 2-7
Instantaneous NC 1-4
Instantaneous NO 1-3
ON delay NC 8-5
ON delay NO 8-6
Up LED



t : Set Time

Rt : Reset time (Minimum 50ms)

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Caution

● Environment

Do not use the device in the places where:

- the rated temperature or humidity are exceeded;
- the condensation occurs due to the temperature change;
- the flammable or corrosive gas is generated;
- dusts and oil are plentiful or vibration and shock are severe;
- strong alkali or acid substances are used;
- direct sunlight exists; and
- there are devices that generate strong magnetic force or electric noise nearby.

● Noise

1) For the test of impulse voltage between the power terminals, a voltage of 2kV with a pulse width of 1 μ s is applied. For the test of external noise voltage, a voltage of 1kV with a pulse width of 1 μ s is applied using a noise simulator. For the impulse noise voltage above these values, connect an AC mp condenser or oil condenser (0.1 - 1 μ F) between the power supply terminals.

2) When testing the withstand voltage, impulse voltage and insulation resistance with the device assembled with the control panel,

- Separate this product from the circuit completely.
- Short all terminals

(to prevent damage to the internal circuit when some units on the control panel have poor withstand voltage and insulation.)

Accessories (TTL, TTS, TTL Series)

TTL-PR
(ivory color)



TTL-PK
(black)



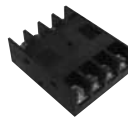
TTL-BK



TTS-BK



Socket <K2BF08(8pin), K2BF11(11pin)>



K2BF-F1
(Socket fixture hook)

