T21 Timing Relay

Specification

Model	AC	T21 – 1 / 3 / 6 / 3H – 4A20
	DC	T21 – 1 / 3 / 6 / 3H – 4D24
Appearance		
Power supply voltage	AC	200 – 230 V a.c. 50/60 Hz
	DC	24 V d.c.
Operating voltage range		Power supply voltage ±10 %
Power Consumption	AC	3.1 VA max (230 V a.c. 60 Hz)
	DC	1.5 W max (24 V d.c.)
Reset time		100 ms max
Time Range	1	0.1 sec ~ 10 min
	3	0.3 sec ~ 30 min
	6	0.6 sec ~ 60 min
	3H	0.3 hrs ~ 24 hrs
Accuracy of operating time		±1 % FS max
Setting Error		±10 % FS max
Control output	Output mode	Power on delay, Interval, Flicker OFF Start, Flicker ON Start
	Contact construction	4a4b
	Capacity	250 V a.c. 3A Resistive load
Life expectancy		Mechanical : 10 million operations min, Electrical : 200,000 operations min
Insulation resistance		100 MΩ min (at 500 V d.c., Between current-carrying terminals and exposed noncurrent-carrying metal parts.)
Dielectric strength		2000 V a.c. 50/60 Hz 1 minute (Between current-carrying terminals and exposed noncurrent-carrying metal parts.)
Noise immunity		±2 kV (Between power terminal, pulse width ±1 , square wave noise by noise simulator)
Vibration resistance		10 – 55 Hz (For 1 min), Double amplitude 0.75mm X, Y, Z each direction for 1 hour
Shock resistance		300 ㎨ X, Y, Z each direction for 3 times
Ambient temperature		–10 ~ 50 ℃ (Without condensation)
Storage temperature		–25 ~ 65 ℃ (Without condensation)
Ambient humidity		35 ~ 85 % RH
Weight		Approx. 42 g

Suffix code

Model	Code		Information
T21–	□	□ □	Timing Relay
Time Range	1		1 sec, 10 sec, 1 min, 10 min
	3		3 sec, 30 sec, 3 min, 30 min
	6		6 sec, 60 sec, 6 min, 60 min
	3H		3 hrs, 6 hrs, 12 hrs, 24 hrs
Contact		4	4a4b
Power supply voltage		A20	200 – 230 V a.c.
		D24	24 V d.c.

Analog Timer

T38N, T48N, T57N Power On Delay Timer

Specification

Model	Exposure type	T38N	T48N	T57NE
	Panel type			T57NP
Appearance		CE 	CE 	CE 
W×H×D (mm)		40.5 X 50.5 X 74	48 X 48 X 78.7	50.0 X 62.0 X 86.2 57.5 X 84.4 X 83.7
Function		POWER ON DELAY TIMER		
Power supply		24 – 240 V a.c. 50/60 Hz, 24 – 240 V d.c.		
Allowable voltage variation		±10 % of Power supply Voltage		
Power consumption		Less than 4.5 VA (at 240 V a.c. 60 Hz), Less than 1.5 W (at 24 V d.c.)		
Return time		Less than 100 ms		
maximum time	01	0.01 ~ 1 s / 0.01 ~ 1 m / 0.01 ~ 1 h		
	03	0.01 ~ 3 s / 0.01 ~ 3 m / 0.01 ~ 3 h		
	06	0.01 ~ 6 s / 0.01 ~ 6 m / 0.01 ~ 6 h		
	10	0.01 ~ 10 s / 0.01 ~ 10 m / 0.01 ~ 10 h		
	30	0.01 ~ 30 s / 0.01 ~ 30 m / 0.01 ~ 30 h		
	60	0.01 ~ 60 s / 0.01 ~ 60 m / 0.01 ~ 60 h		
	12H	0.01 ~ 12 h / 0.01 ~ 24 h / 0.01~ 48 h ('24h' and '48h' time setting '12h' : '×2' and '×4')		
Time error	Repeat error	Less than ±0.3 % (ratio against Max. scale)		
	Setting error	Less than ±5 % (ratio against Max. scale)		
Control output	Output mode	POWER ON DELAY		
	Contact	A type (Time – limit 1c + Instantaneous 1a) / B type (Time – limit 1c + Instantaneous 1c) / C type(Time – limit 2c)		
	Contact capacity	250 V a.c. 3 A (Resistive load)		
Life span of relay		Mechanical : More than 10 million times / Electrical : More than 100,000 times		
Dielectric strength		2,000 V a.c. 50/60 Hz for 1 minute		
Noise Immunity		±2 kV (Between unit's power terminals), square wave by noise simulator (pulse width : 1)		
Insulation resistance		More than 100 MΩ (Based on 500 V d.c. mega standard)		
Vibration (Durability)		10 – 55 Hz (cycle :1 minute), Double amplitude 0.5 mm X·Y·Z each direction for 2h.		
Shock (Durability)		300 m/s² (30 G) X·Y·Z each direction 3 times		
Ambient temperature		–10 ~ 55 ℃ Without condensation		
Storage temperature		–25 ~ 65 ℃ Without condensation		
Ambient humidity		30 ~ 85 % RH		

Suffix code

Model	Code				Information
Dimension	□–	□	□	□	Analog timer
	T38N				T38N timer (40 X 50 mm)
	T48N				T48N timer (48 X 48 mm)
	T57N				T57N timer (58 X 84 mm)
Installation type		P			Panel type (T38N panel adapter sold separately)
		E			Exposure type (Select with T48N panel type)
Range (Dip switch selection)			01		1 sec, 1 min, 1 hour
			03		3 sec, 3 min, 3 hour
			06		6 sec, 6 min, 6 hour
			10		10 sec, 10 min, 10 hour
			30		30 sec, 30 min, 30 hour
			60		60 sec, 60 min, 60 hour
			12		12 hour, 24 hour, 48 hour
Control output				A	Time limit : 1c contact, Constantaneous : 1a contact
				B	Time limit : 1c contact, moment : 1c contact
				C	Time limit : 2 x 1c
				D	TF62N twin timer fixing code
				F	TF62D dual timer fixing code
Power supply voltage					24 – 240 V a.c. / d.c. 50 – 60 Hz (dual usage)

※ Installation type selection is only applied to the model T57N, TF62N and TF62D (Model T38N requires separate purchase of panel adapter)

TF62N, TF62D Twin / Dual Timer

Specification

Model	Exposure type	TF62NE	TF62DE
	Panel type	TF62NP	TF62DP
Appearance		CE 	CE 
W×H×D (mm)		50.0 X 62.0 X 91.2 57.5 X 84.5 X 83.7	50.0 X 62.0 X 91.2 57.5 X 84.5 X 83.7
Function		TWIN TIMER	DUAL TIMER
Power supply		24 – 240 V a.c. 50/60 Hz, 24 – 240 V d.c.	
Allowable voltage variation		±10 % of Power supply Voltage	
Power consumption		Less than 4.5 VA (at 240 V a.c. 60 Hz), Less than 1.5 W (at 24 V d.c.)	
Return time		Less than 100 ms	
maximum time	01	0.01 ~ 1 s / 0.01 ~ 1 m / 0.01 ~ 1 h	
	03	0.01 ~ 3 s / 0.01 ~ 3 m / 0.01 ~ 3 h	
	06	0.01 ~ 6 s / 0.01 ~ 6 m / 0.01 ~ 6 h	
	10	0.01 ~ 10 s / 0.01 ~ 10 m / 0.01 ~ 10 h	
	30	0.01 ~ 30 s / 0.01 ~ 30 m / 0.01 ~ 30 h	
	60	0.01 ~ 60 s / 0.01 ~ 60 m / 0.01 ~ 60 h	
	12H	'12' model is not availale	
Time error	Repeat error	Less than ±0.3 % (ratio against Max. scale)	
	Setting error	Less than ±5 % (ratio against Max. scale)	
Control output	Output mode	FLICKER (ON Start)	FLICKER (ON–A Start)
	Contact	D type (Time – limit 1c)	F type (Time – limit 2c)
	Contact capacity	250 V a.c. 3 A (Resistive load)	
Life span of relay		Mechanical : More than 10 million times / Electrical : More than 100,000 times	
Dielectric strength		2,000 V a.c. 50/60 Hz for 1 minute	
Noise Immunity		±2 kV (Between unit's power terminals), square wave by noise simulator (pulse width : 1)	
Insulation resistance		More than 100 MΩ (Based on 500 V d.c. mega standard)	
Vibration (Durability)		10 – 55 Hz (cycle :1 minute), Double amplitude 0.5 mm X·Y·Z each direction for 2h.	
Shock (Durability)		300 m/s² (30 G) X·Y·Z each direction 3 times	
Ambient temperature		–10 ~ 55 ℃ Without condensation	
Storage temperature		–25 ~ 65 ℃ Without condensation	
Ambient humidity		30 ~ 85 % RH	

Suffix code

Model	Code				Information
Dimension	□–	□	□	□	Analog timer
	TF62N				TF62N twin timer (58 X 84 mm)
	TF62D				TF62D dual timer (58 X 84 mm)
Installation type		P			Panel type (T38N panel adapter sold separately)
		E			Exposure type (Select with T48N panel type)
Range (Dip switch selection)			01		1 sec, 1 min, 1 hour
			03		3 sec, 3 min, 3 hour
			06		6 sec, 6 min, 6 hour
			10		10 sec, 10 min, 10 hour
			30		30 sec, 30 min, 30 hour
			60		60 sec, 60 min, 60 hour
			12		12 hour, 24 hour, 48 hour (※ But exclude the model TF62N and TF62D)
Control output				A	Time limit : 1c contact, Constantaneous : 1a contact
				B	Time limit : 1c contact, moment : 1c contact
				C	Time limit : 2 x 1c
				D	TF62N twin timer fixing code
				F	TF62D dual timer fixing code
Power supply voltage					24 – 240 V a.c. / d.c. 50 – 60 Hz (dual usage)

※ Installation type selection is only applied to the model T57N, TF62N and TF62D (Model T38N requires separate purchase of panel adapter)

Analog Timer

MA4N series Analog multi timer

Specification

MODEL		MA4N-A	MA4N-B	MA4N-C
Appearance		CE 		
W X H X D (mm)		48 X 48 X 94		
Device selection		2c (time limit) ※ 11 pin type	2c (time limit+ constantaneous) ※ 11pin type.	2c (time limit), 2c (time limit+ constantaneous) ※ processed by mode selection (8pin type)
Function		Multi operation, Multi time		POWER ON DELAY, Multi time
Power voltage		24 – 240 V a.c./d.c. 50 – 60 Hz (Dual usage)		
Operating voltage		±10 % of power voltage		
Power consumption		AC : Approx. 5.3 VA Max, DC : 2.5 W		
Time setting range		0.12 sec ~ 300 hours		
Min. signal amplitude		START input, INHIBIT input, RESET input: Min. 20 ms		–
Input		• Non voltage Input • Impedance in a short circui t: Max. 2 kΩ • Residual voltage in a short circuit: Max. 0.7 V d.c. • Impedance in open: Min. 100 kΩ		–
Control output	Contact	Specified time DPDT (2c)		Specified time SPDT (1c), Instantaneous time SPDT (1c)
	Contact capacity	250 V a.c. 5 A (Resistive load)		
Variation of operation time		Max. ±0.3 % (Rate against full scale)		
Setting error		Max. ±0.5 %		
Voltage error		Max. ± 5 % ±0.05 sec		
Temperature error		Max. ±2 %		
Dielectric strength		2,000 V a.c. 50/60 Hz for 1minute		
Vibration	Malfunction Resistance	10 – 55 Hz double amplitude 0.75 mm		
	Mechanical Durability	10 – 55 Hz double amplitude 0.5 mm		
Shock	Malfunction Resistance	100 ㎨		
	Mechanical Durability	300 ㎨		
Life	Mechanical	Over 10 million operations (Open & Short frequency : 180 / min)		
	Electrical	Over 100,000 (250 V a.c. 3 A load resistance)		
Ambient temperature & humidity		0 ~ 50 ℃ / 30 ~ 85 % RH		

MA4SD series Star-Delta timer

Specification

MODEL		MA4SD	MA4SDI
Appearance			
W X H X D (mm)		48 X 48 X 94	
Power supply voltage		100 – 240 V a.c. 50/60 Hz, 24 - 240 V d.c.	
Allowable voltage		Power supply voltage ±10 %	
Power consumption		Approx. 3.8 VA (100 – 240 V a.c. 60 Hz), Approx. 1.9 W (24 - 240 V d.c.)	
Resetting time		100 ms max	
Operating time range		1 ~ 300 sec	
⅄ Operating time difference		Repeated error : ±0.3 % max, Setting error : ±5 % max, Voltage error : ±0.5 % max, Temperature tolerance : ±2 % max (Percentage of full scale)	
△ Conversion time error		±25 % max	
Control output	Output mode	Power ON Start	
	Contact composition	⅄ Contact : 1 a, △Contact : 1 a	⅄ Contact : 1a, △Contact : 1 a, Instantaneous contact : 1 a
	Contact capacity	250 V a.c. 5 A resistive load	
Relay Life span		Mechanical : 5 million times min, Electrical : 100 thousand times min (250 V a.c. 5 A resistive load)	
Insulation resistance		100 MΩ min (at 500 V d.c. Between current-carrying teminals and exposed noncurrent-carrying metal parts.)	
Dielectric strength		2,000 V a.c. 50/60 Hz 2 minute (Between current-carrying terminal and exposed noncurrent-carrying metal parts.)	
Noise immunity		±2 kV (Between power terminal, pulse width ±1 , square wave noise by noise simulator)	
Vibration resistance		10 – 55 Hz (For 1 min), Double amplitude 0.75 mm, X, Y, Z each direction for 1 hour	
Shock resistance		300 ㎨(30G) X, Y, Z each direction for 3 times	
Ambient temperature		-10 ~ 55 ℃ (icing or dew condensation not allowed)	
Storage temperature		-25 ~ 65 ℃ (icing or dew condensation not allowed)	
Ambient humidity		35 ~ 85 % RH	
Weight		Approx. 95g (Including fixing bracket)	