

### GT3A Series – Analog Timers

**Key features:**

- 4 selectable operation modes on each model
- External start, reset, and gate inputs
- Panel mount or socket mount
- Large variety of timing functions
- Power and output status indicating LEDs



**Specifications**

	GT3A-1	GT3A-2	GT3A-3	GT3A-4,-5,-6
Operation	Multi-mode			Multi-mode with inputs (11 pins)
Time Range	0.1s to 180 hours			
Rated Voltage	100 to 240V AC, 50/60Hz 12V DC 24V AC, 50/60Hz / 24V DC			
Contact Ratings	125V AC/250V AC, 3A; 30V DC, 1A (resistive load)		125V AC/250V AC, 5A; 30V DC, 5A (resistive load)	
Minimum Applicable Load	5V, 10mA (reference value)			
Voltage Tolerance	AF20 (100V AC): 85 to 264V AC AD24: 20.4 to 26.4V AC/21.6 to 26.4V DC D12: 10.8 to 13.2V DC			
Error	±0.2%, ±10 msec (repeat, voltage, temperature)			
Setting Error	±10% maximum			
Reset Time	60msec maximum			
Insulation Resistance	100MW minimum			
Dielectric Strength	Between power and output terminals: 2,000V AC, 1 minute Between contacts of different poles: 2,000V AC, 1 minute Between contacts of the same pole: 750V AC, 1 minute			
Power Consumption (approximate)	Delayed SPDT	Delayed SPDT + instantaneous SPDT	Delayed DPDT	Delayed DPDT
	10.8VA (200V AC, 60Hz)	13.5VA (200V AC, 60Hz)	14.4VA (200V AC, 60Hz)	4.7VA (100V AC, 60Hz), 14.4VA (200V AC, 60Hz)
	—	12VDC/1W 24VDC/0.7W 24VAC/1.2VA	12VDC/1.1W 24VDC/0.6W 24VAC/1.3VA	12VDC/0.8W 24VDC/0.6W 24VAC/1.3VA
Mechanical Life	10,000,000 operations minimum		5,000,000 operations minimum	
Electrical Life	50,000 operations minimum (rated load)		100,000 operations minimum (rated load)	
Weight (approximate)	63g	73g	79g	80g
Vibration Resistance	100m/sec <sup>2</sup> (approximate 10G)			
Shock Resistance	Operating extremes: 100m/sec <sup>2</sup> (approximate 10G) Damage limits: 500m/sec <sup>2</sup> (approximate 50G)			
Operating Temperature	-10 to +50°C			
Operating Humidity	45 to 85% RH			
Storage Temperature	-30 to +80°C			
Housing Color	Gray			

Switches & Pilot Lights

Signaling Lights

Relays & Sockets

Timers

Contactors

Terminal Blocks

Circuit Breakers

## Part Numbers

## GT3A-1, -2, -3

Mode Of Operation	Rated Voltage Code	Time Range	Output	Contact	Complete Part No.	
					8-Pin	11-Pin
A: ON-delay 1 B: Interval 1 C: Cycle 1 D: Cycle 3	AF20: 100 to 240V AC (50/60Hz)	0.1 seconds to 180 hours	250V AC, 3A, 30V DC, 1A (resistive load)	Delayed SPDT	GT3A-1AF20	GT3A-1EAF20
	AF20: 100 to 240V AC (50/60Hz) D12: 12V DC AD24: 24V AC (50/60Hz)/24V DC				Delayed SPDT + Instantaneous SPDT	GT3A-2AF20
				Delayed DPDT		GT3A-2D12
					Delayed DPDT	GT3A-2AD24
				Delayed DPDT		GT3A-3AF20
	GT3A-3D12				GT3A-3ED12	
GT3A-3AD24	GT3A-3EAD24					

1. For wiring schematics and timing diagrams for GT3A-1, -2, -3, see pages page 845 and page 846 respectively.
2. For more details about time ranges, see instructions on page page 850.
3. For socket and accessory part numbers, see page 860.

## GT3A-4, -5, -6

Mode of Operation	Rated Voltage Code	Time Range	Output	Contact	Input	Complete Part No.	
						A (11-pin)	B (11-pin)
A: ON-Delay 2 B: Cycle 2 C: Signal ON/OFF-Delay 1 D: Signal OFF-Delay 1	AF20: 100 to 240V AC (50/60Hz) D12: 12V DC AD24: 24V AC (50/60Hz)/24V DC	0.1 seconds to 180 hours	250V AC, 5A, 24V DC, 5A (resistive load)	Delayed DPDT	Start Reset Gate	GT3A-4AF20	GT3A-4EAF20
						GT3A-4D12	GT3A-4ED12
						GT3A-4AD24	GT3A-4EAD24
A: Interval 2 B: One-Shot Cycle C: Signal ON/OFF-Delay 2 D: Signal OFF-Delay 2	AF20: 100 to 240V AC (50/60Hz) AD24: 24V AC (50/60Hz)/24V DC	0.1 seconds to 180 hours	250V AC, 5A, 24V DC, 5A (resistive load)	Delayed DPDT	Start Reset Gate	GT3A-5AF20	GT3A-5EAF20
						GT3A-5AD24	GT3A-5EAD24
A: One-Shot B: One-Shot ON-Delay C: One-Shot 2 D: Signal ON/OFF-Delay 3	AF20: 100 to 240V AC (50/60Hz) AD24: 24V AC (50/60Hz)/24V DC	0.1 seconds to 180 hours	250V AC, 5A, 24V DC, 5A (resistive load)	Delayed DPDT	Start Reset Gate	GT3A-6AF20	GT3A-6EAF20
						GT3A-6AD24	GT3A-6EAD24

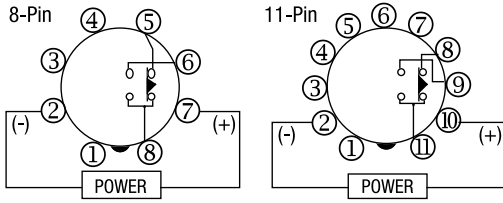
4. For wiring schematics and timing diagrams GT3A-4,-5,-6, see pages 832, 833, and 833 respectively.
5. For more details about time ranges, see instructions on page 850.
6. A (11-pin) and B (11-pin) differ in the way inputs are wired.
7. For socket and accessory part numbers, see page 860.
8. For the timing diagrams overview, see page 832.

Timing Diagrams/Schematics

GT3A-1 Timing Diagrams

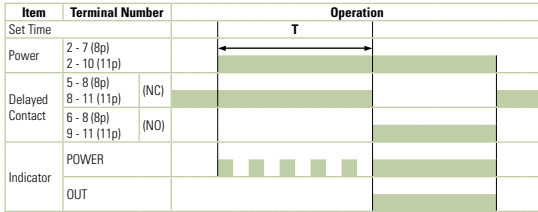
Delayed SPDT

Operation Mode Selection



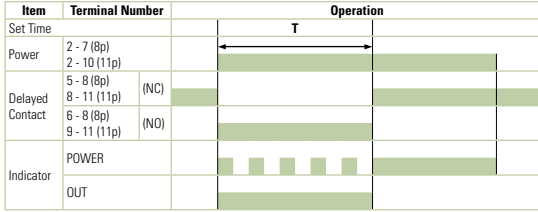
ON-Delay 1

MODE



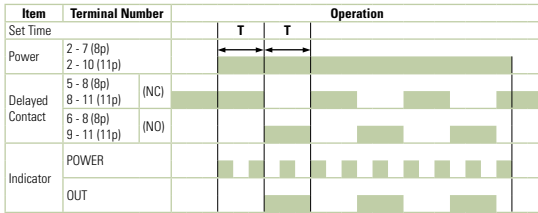
Interval 1

MODE



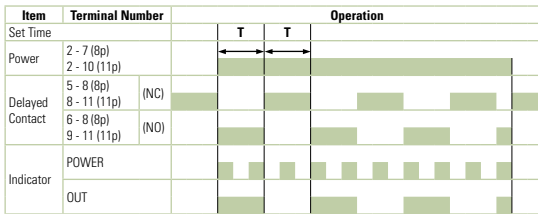
Cycle 1 (OFF first)

MODE



Cycle 3 (ON first)

MODE



Switches & Pilot Lights

Signaling Lights

Relays & Sockets

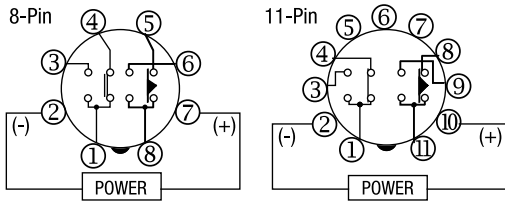
Timers

Contactors

Terminal Blocks

Circuit Breakers

**GT3A-2 Timing Diagrams**  
**Delayed SPDT + Instantaneous SPDT**



Operation Mode Selection

**ON-Delay 1**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T
Power	5 - 8 (8p) 8 - 11 (11p) (NC)	[Green bar]
Delayed Contact	6 - 8 (8p) (NO) 9 - 11 (11p)	[Green bar]
Instantaneous Contact	1 - 4 (NC) 1 - 3 (NO)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

**Interval 1**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T
Power	5 - 8 (8p) 8 - 11 (11p) (NC)	[Green bar]
Delayed Contact	6 - 8 (8p) (NO) 9 - 11 (11p)	[Green bar]
Instantaneous Contact	1 - 4 (NC) 1 - 3 (NO)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

**Cycle 1 (OFF first)**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T T
Power	5 - 8 (8p) 8 - 11 (11p) (NC)	[Green bar]
Delayed Contact	6 - 8 (8p) (NO) 9 - 11 (11p)	[Green bar]
Instantaneous Contact	1 - 4 (NC) 1 - 3 (NO)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

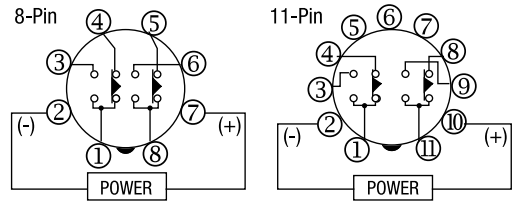
**Cycle 3 (ON first)**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T T
Power	5 - 8 (8p) 8 - 11 (11p) (NC)	[Green bar]
Delayed Contact	6 - 8 (8p) (NO) 9 - 11 (11p)	[Green bar]
Instantaneous Contact	1 - 4 (NC) 1 - 3 (NO)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

**GT3A-3 Timing Diagrams**  
**Delayed DPDT**



Operation Mode Selection

**ON-Delay 1**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T
Power	1 - 4, 5 - 8 (8p) 1 - 4, 8 - 11 (11p) (NC)	[Green bar]
Delayed Contact	1 - 3, 6 - 8 (8p) (NO) 1 - 3, 9 - 11 (11p)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

**Interval 1**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T
Power	1 - 4, 5 - 8 (8p) (NC) 1 - 4, 8 - 11 (11p)	[Green bar]
Delayed Contact	1 - 3, 6 - 8 (8p) (NO) 1 - 3, 9 - 11 (11p)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

**Cycle 1 (OFF first)**

MODE



Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T T
Power	1 - 4, 5 - 8 (8p) (NC) 1 - 4, 8 - 11 (11p)	[Green bar]
Delayed Contact	1 - 3, 6 - 8 (8p) (NO) 1 - 3, 9 - 11 (11p)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]

**Cycle 3 (ON first)**

MODE



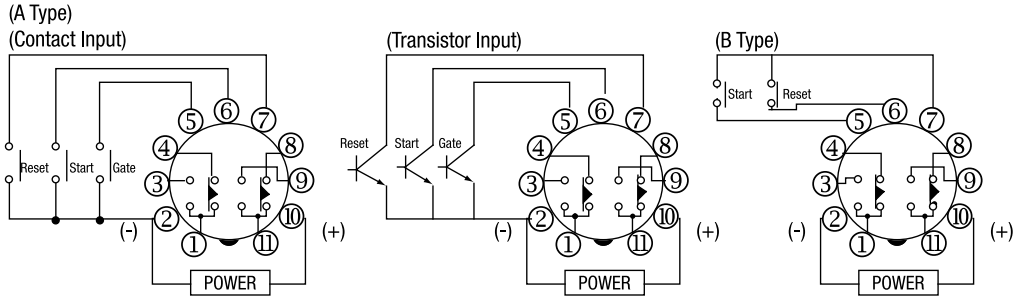
Item	Terminal Number	Operation
Set Time	2 - 7 (8p) 2 - 10 (11p)	T T
Power	1 - 4, 5 - 8 (8p) (NC) 1 - 4, 8 - 11 (11p)	[Green bar]
Delayed Contact	1 - 3, 6 - 8 (8p) (NO) 1 - 3, 9 - 11 (11p)	[Green bar]
Indicator	POWER OUT	[Pulsed green bar]



Note: Pins 1, 3, and 4 are the instantaneous contacts.

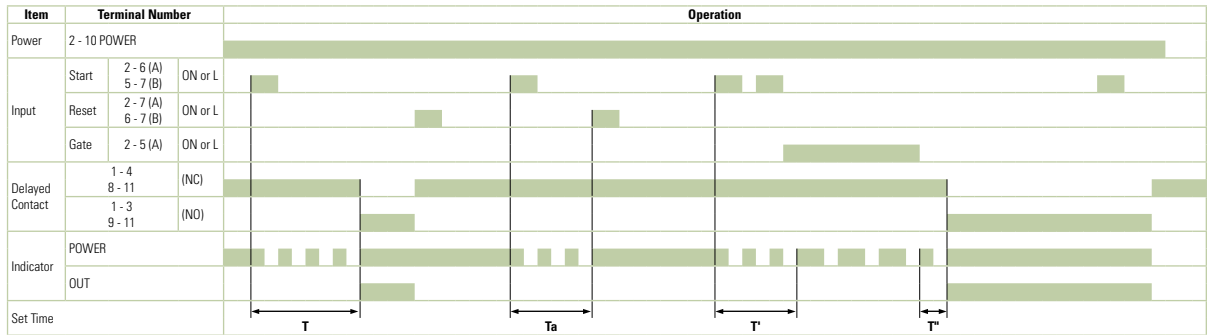
GT3A-4 Timing Diagrams  
Delayed DPDT

Operation  
Mode Selection



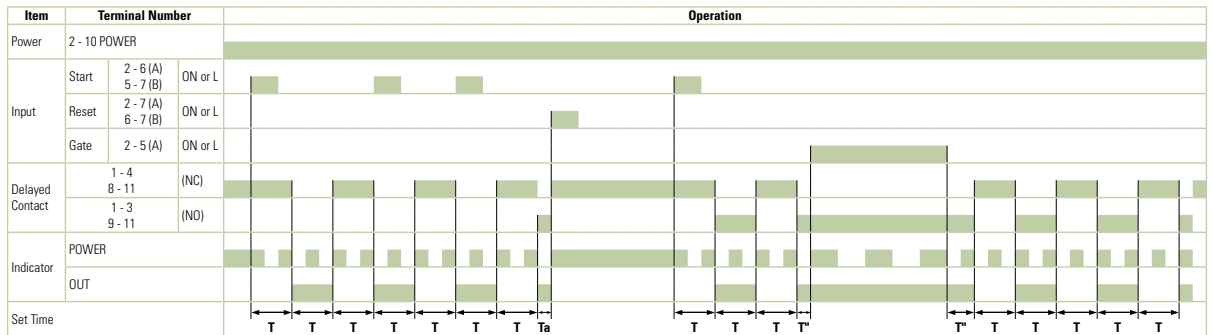
ON-Delay 2

MODE



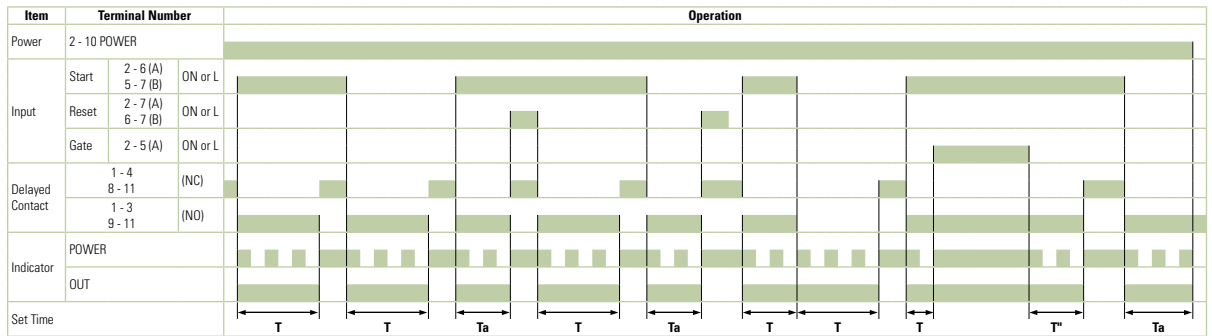
Cycle 2

MODE



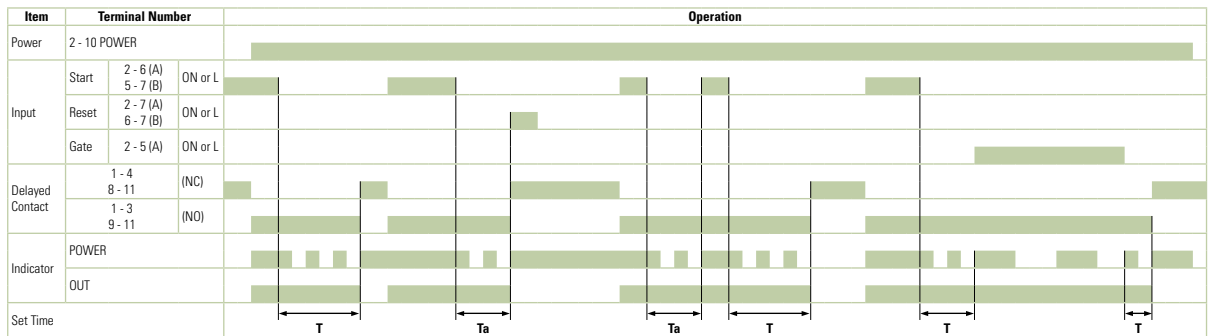
Signal ON/OFF-Delay 1

MODE



Signal OFF-Delay 1

MODE



T = Set time Ta = Shorter than set time  
T = T' + T''

Switches & Pilot Lights

Signaling Lights

Relays & Sockets

Timers

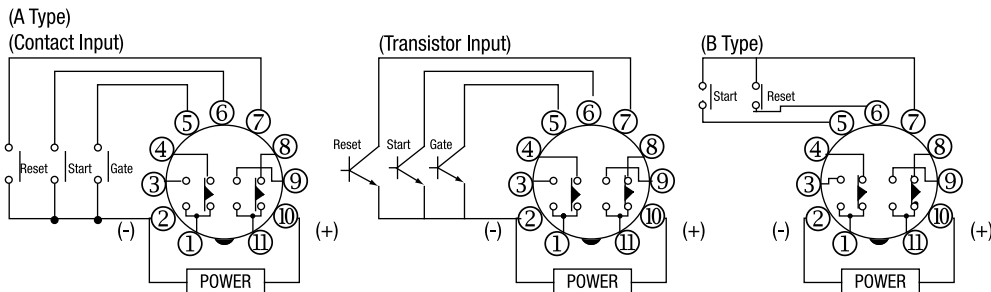
Contactors

Terminal Blocks

Circuit Breakers

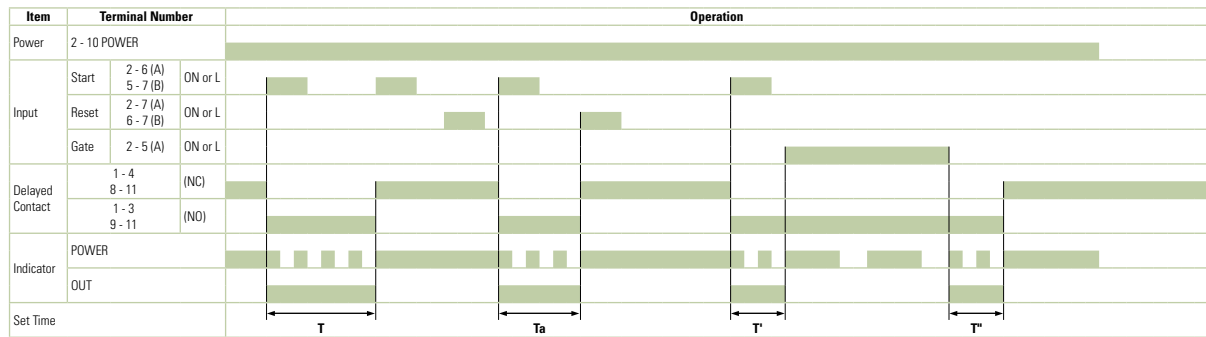
GT3A-5 Timing Diagrams  
Delayed DPDT

Operation  
Mode Selection



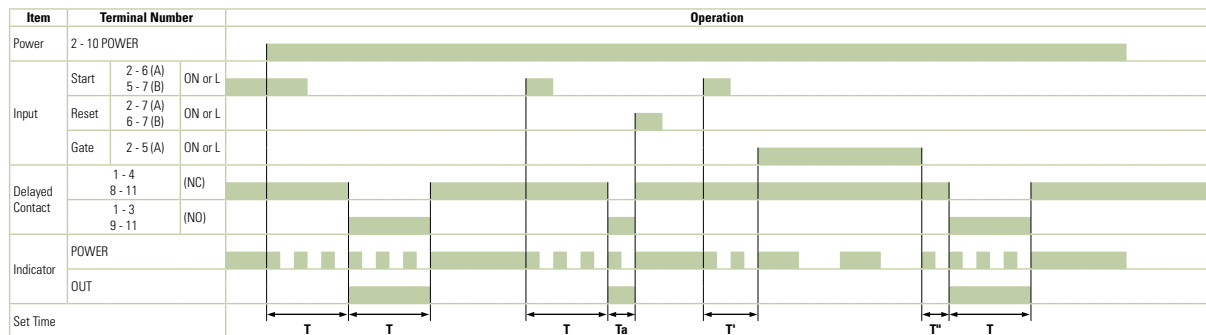
Interval 2

MODE



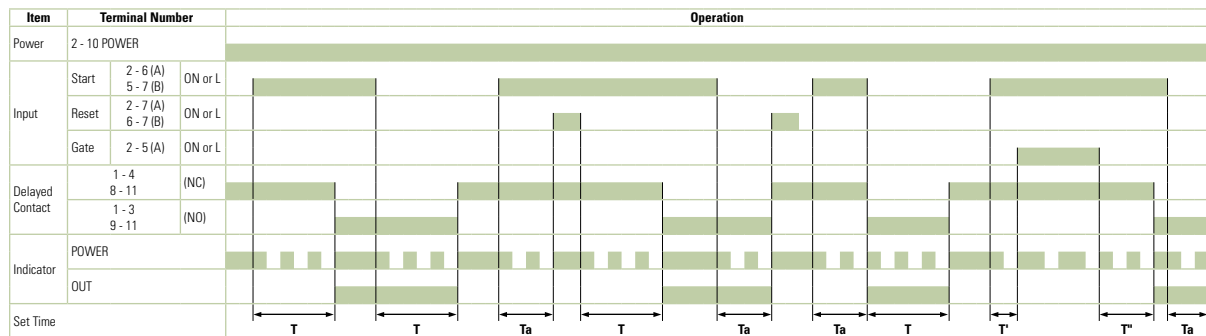
One-Shot Cycle

MODE



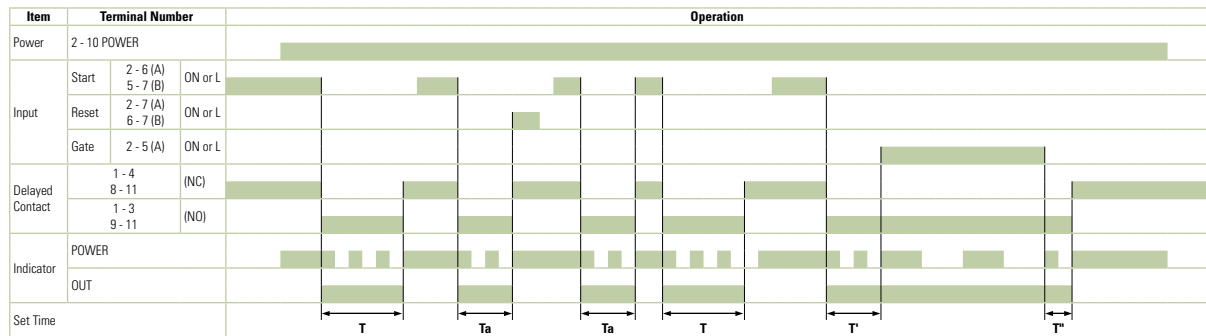
Signal ON/OFF-Delay 2

MODE



Signal OFF-Delay 2

MODE



T = Set time Ta = Shorter than set time  
T = T' + T'

Switches & Pilot Lights

Signaling Lights

Relays & Sockets

Timers

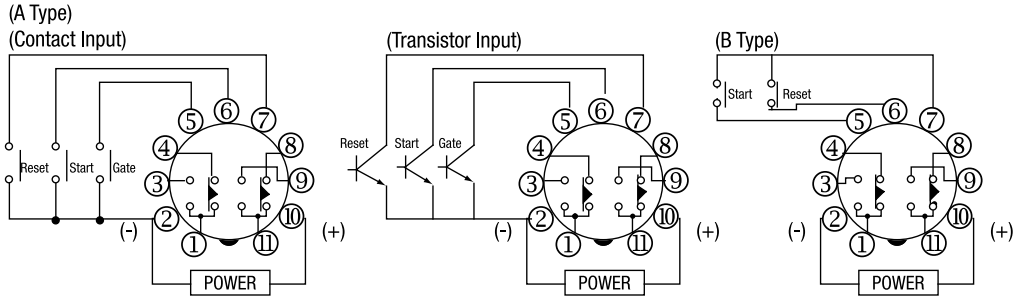
Contactors

Terminal Blocks

Circuit Breakers

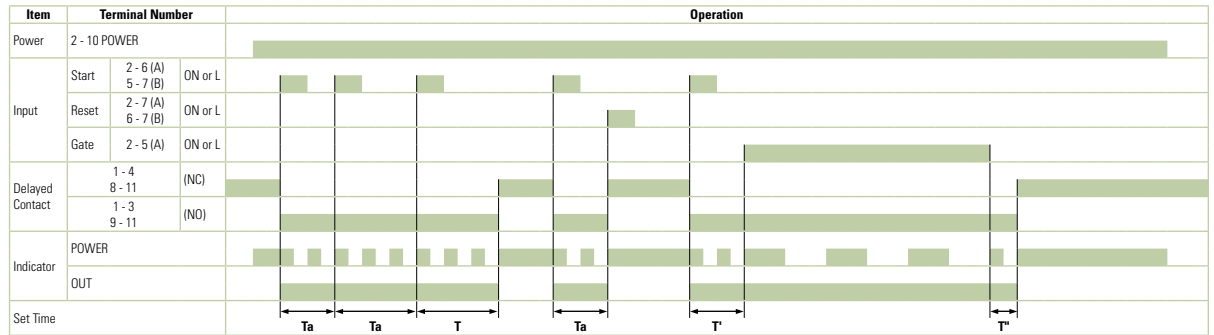
GT3A-6 Timing Diagrams  
Delayed DPDT

Operation  
Mode Selection



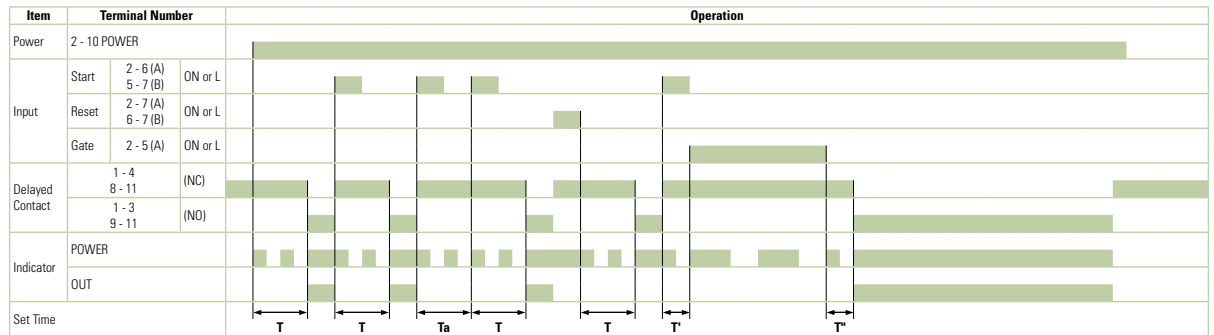
One-Shot 1

MODE



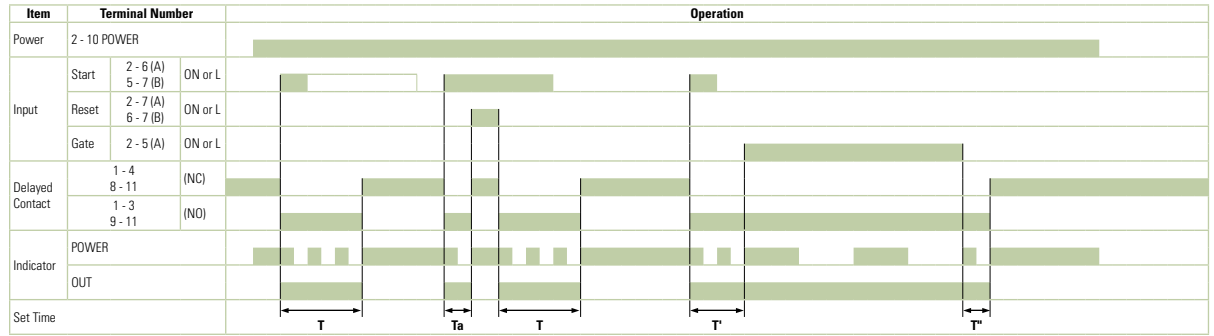
One-Shot ON-Delay

MODE



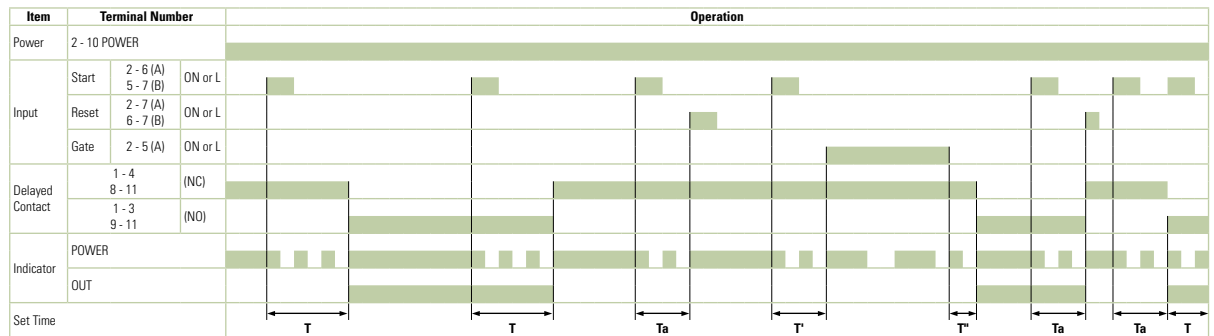
One-Shot 2

MODE



Signal ON/OFF-Delay 3

MODE



T = Set time Ta = Shorter than set time  
T = T' + T'

Switches & Pilot Lights

Signaling Lights

Relays & Sockets

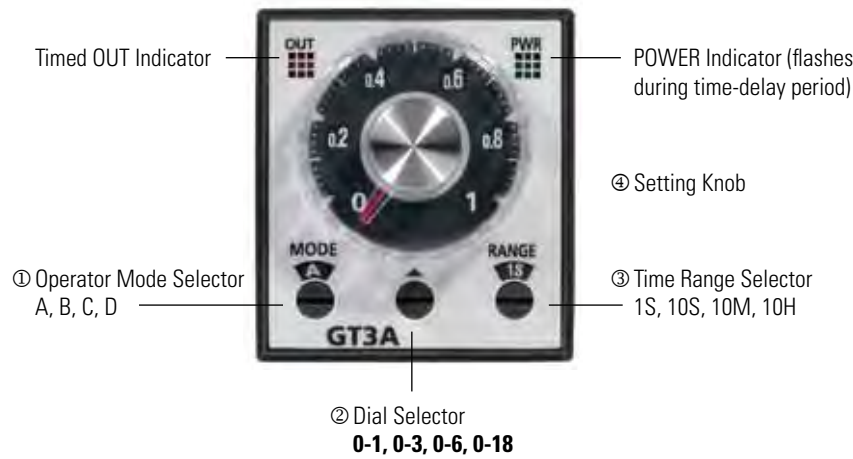
Timers

Contactors

Terminal Blocks

Circuit Breakers

Instructions: Setting GT3A Series Timers



Step 1.	Desired Mode of Operation		Selection		Remarks
Select the desired mode of operation.	<b>For Timers</b>	<b>Mode of Operation</b>	<b>① Operation Mode Selector</b>		The desired operation mode can be selected from the A, B, C, and D modes using the Operation Mode Selector. Change the operation mode from A to B, C, and D in turn by turning the operation mode selector clockwise using a flat screwdriver which is a maximum of 0.156" (4mm) wide. The selected mode is displayed in the window.
	GT3A-1	ON-delay 1	A		
	GT3A-2	Interval 1	B		
	GT3A-3	Cycle 1	C		
		Cycle 3	D		
	GT3A-4	ON-delay 2	A		
		Cycle 2	B		
		Signal ON/OFF-delay 1	C		
		Signal OFF-delay 1	D		
	GT3A-5	Interval 2	A		
		One-shot cycle	B		
		Signal ON/OFF-delay 2	C		
		Signal OFF-delay 2	D		
	GT3A-6	One-shot 1	A		
One-shot ON-delay		B			
One-shot 2		C			
Signal ON/OFF-delay 3		D			
Step 2.	Desired Time Range		Selection		Remarks
Select the time range that contains the desired time period.	<b>Time Ranges</b>		<b>② Dial Selector</b>	<b>③ Time Range Selector</b>	The desired time range is selected by setting both ② Dial Selector and ③ Time Range Selector.
	0.1 seconds to 1 second		0-1	1S	
	0.1 seconds to 3 seconds		0-3		
	0.1 seconds to 6 seconds		0-6		
	0.15 seconds to 18 seconds		0-18		
	0.1 seconds to 10 seconds		0-1	10S	
	0.3 seconds to 30 seconds		0-3		
	0.6 seconds to 60 seconds		0-6		
	1.8 seconds to 180 seconds		0-18		
	6 seconds to 10 minutes		0-1	10M	
	18 seconds to 30 minutes		0-3		
	36 seconds to 60 minutes		0-6		
	108 seconds to 180 minutes		0-18		
	6 minutes to 10 hours		0-1	10H	
	18 minutes to 30 hours		0-3		
	36 minutes to 60 hours		0-6		
108 minutes to 180 hours		0-18			
Step 3.	<b>Selection</b>				
Set the precise period of time desired by using the ④ Setting Knob.					

Switches & Pilot Lights

Signaling Lights

Relays & Sockets

Timers

Contactors

Terminal Blocks

Circuit Breakers