

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 ² (approximate 10G)			
Shock Resistance	Operating extremes: 100m/sec ² (approximate 10G) Damage limits: 500m/sec ² (approximate 50G)			
Operating Temperature	-10 to +50°C			
Operating Humidity	45 to 85% RH			
Storage Temperature	-30 to +80°C			
Housing Color	Gray			

**For more information, please visit www.devanco.ca
or call toll free at 855-931-3334**

Part Numbers

GT3A-1, -2, -3

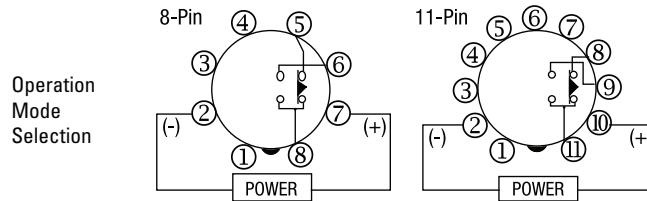
Mode Of Operation	Rated Voltage Code	Time Range	Output	Contact	Complete Part No.		
					8-Pin	11-Pin	
A: ON-delay 1 B: Interval 1 C: Cycle 1 D: Cycle 3	AF20: 100 to 240V AC (50/60Hz)	0.1 seconds to 180 hours	250V AC, 3A, 30V DC, 1A (resistive load)	Delayed SPDT	GT3A-1AF20	GT3A-1EAF20	
	AF20: 100 to 240V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

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					GT3A-5AF20	GT3A-5EAF20
						GT3A-5AD24	GT3A-5EAD24
						GT3A-6AF20	GT3A-6EAF20
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	GT3A-6AD24	GT3A-6EAD24				

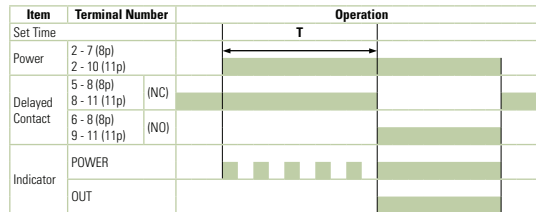
Timing Diagrams/Schematics

GT3A-1 Timing Diagrams
Delayed SPDT



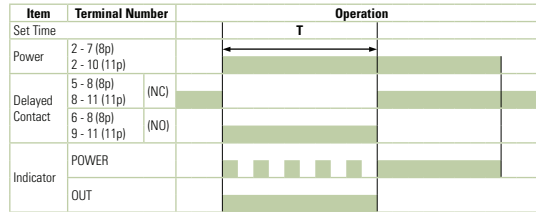
ON-Delay 1

MODE



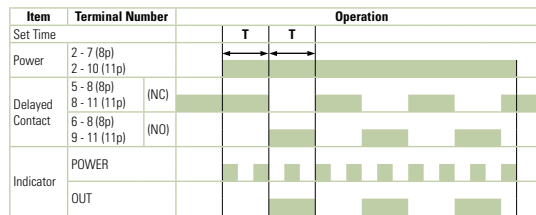
Interval 1

MODE



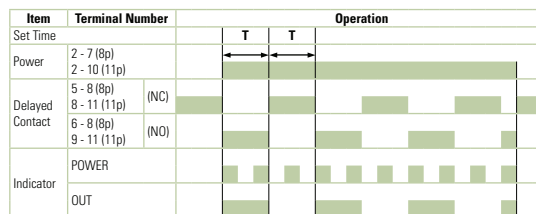
Cycle 1
(OFF first)

MODE



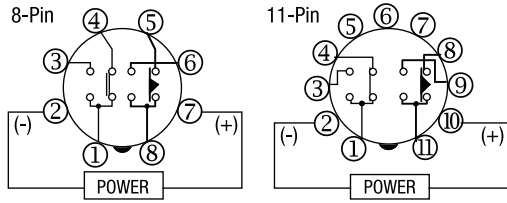
Cycle 3
(ON first)

MODE



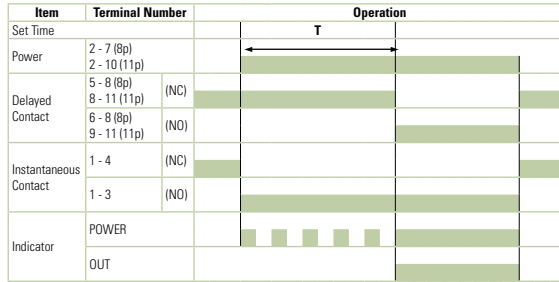
GT3A-2 Timing Diagrams
Delayed SPDT + Instantaneous SPDT

Operation Mode Selection



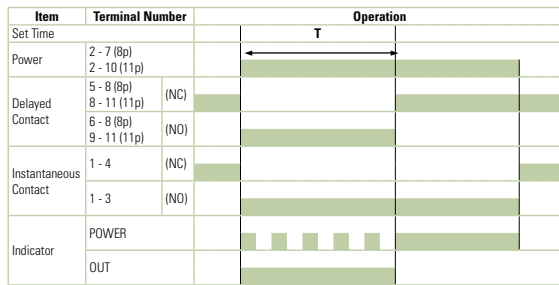
ON-Delay 1

MODE



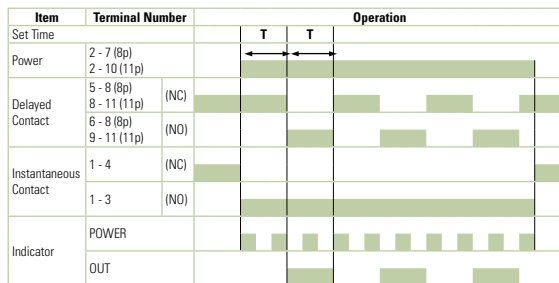
Interval 1

MODE



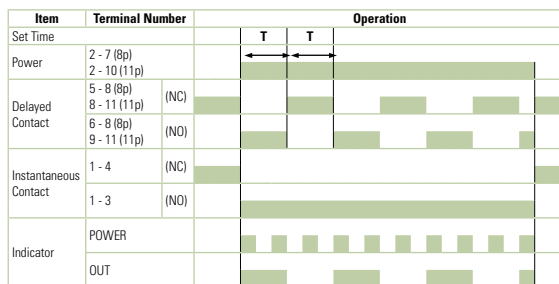
Cycle 1 (OFF first)

MODE



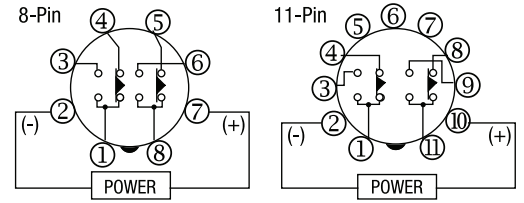
Cycle 3 (ON first)

MODE



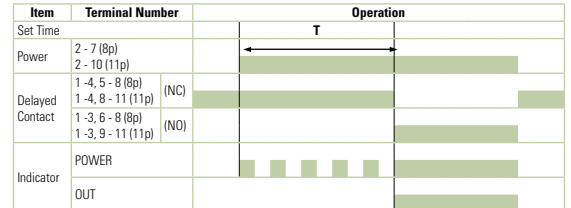
GT3A-3 Timing Diagrams
Delayed DPDT

Operation Mode Selection



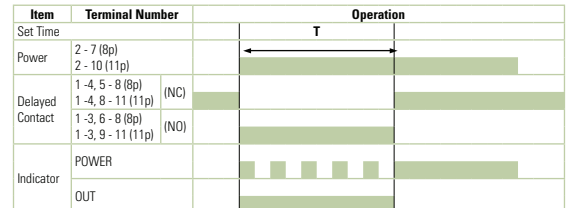
ON-Delay 1

MODE



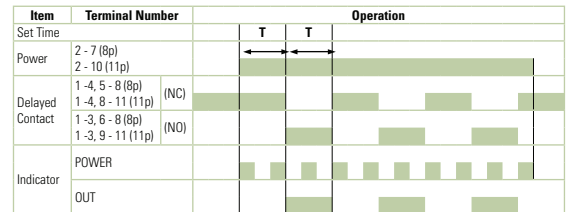
Interval 1

MODE



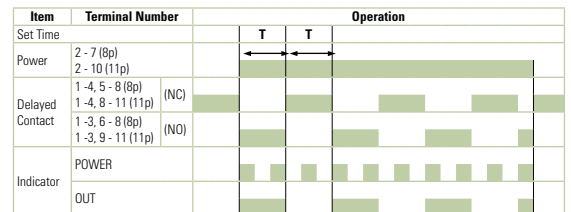
Cycle 1 (OFF first)

MODE



Cycle 3 (ON first)

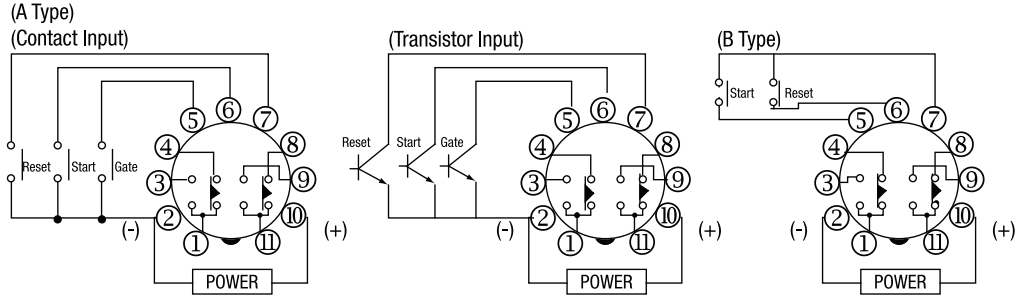
MODE



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

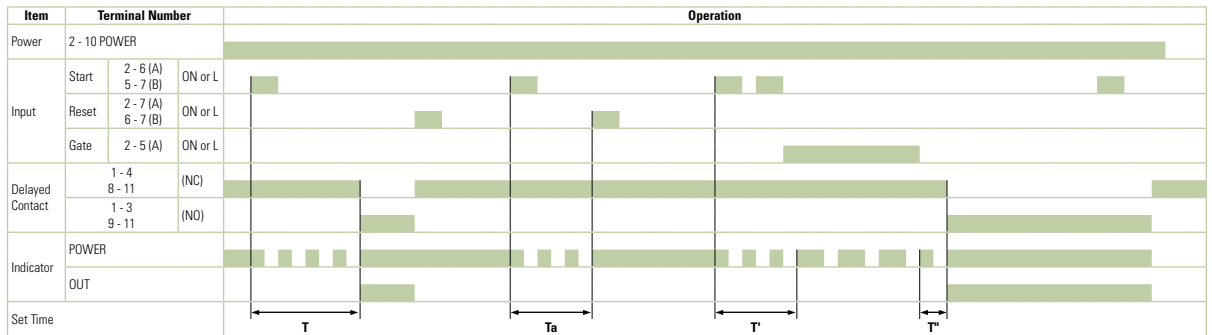
GT3A-4 Timing Diagrams
Delayed DPDT

Operation
Mode Selection



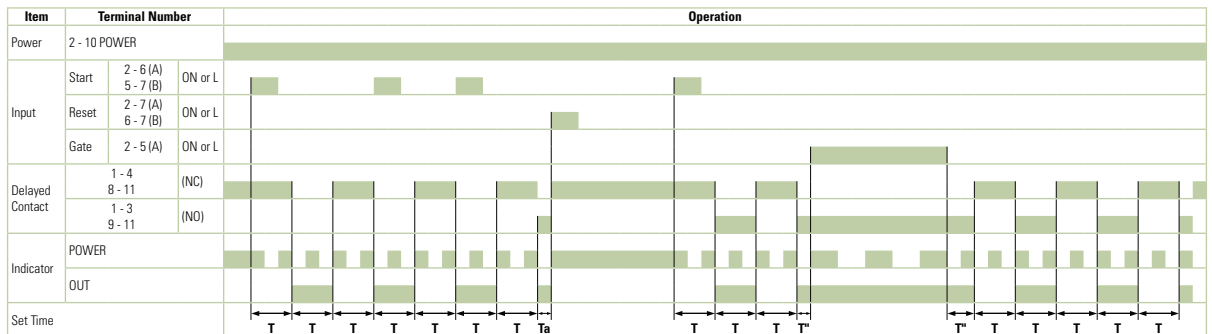
ON-Delay 2

MODE



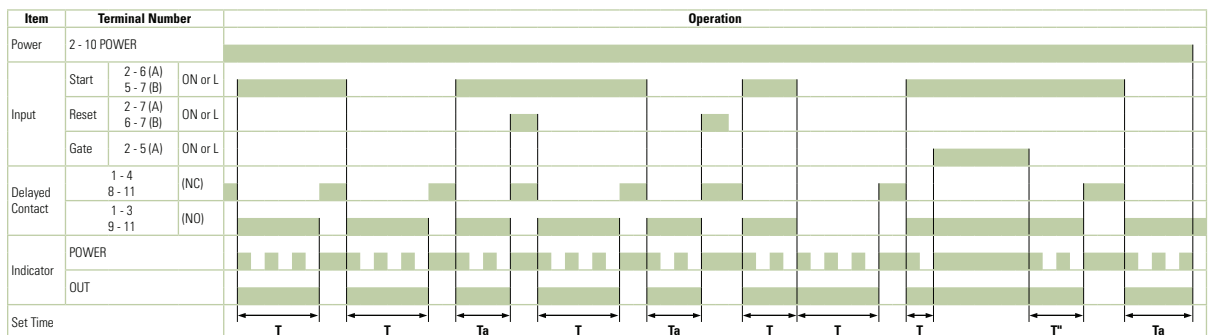
Cycle 2

MODE



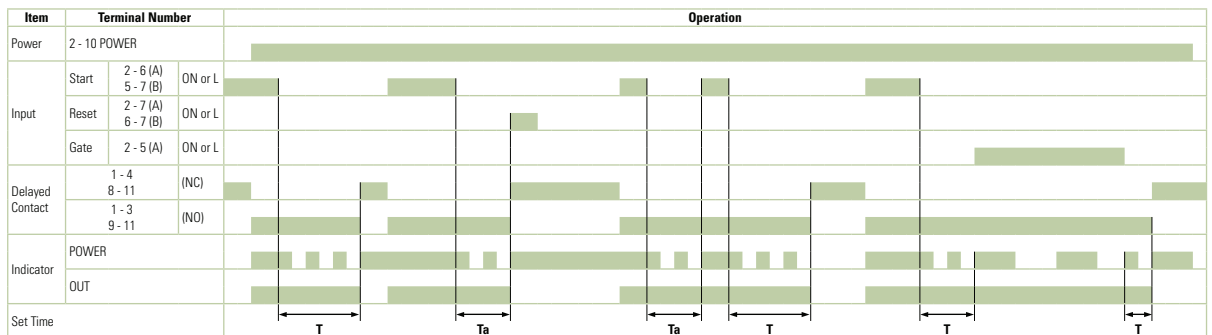
Signal ON/OFF-Delay 1

MODE



Signal OFF-Delay 1

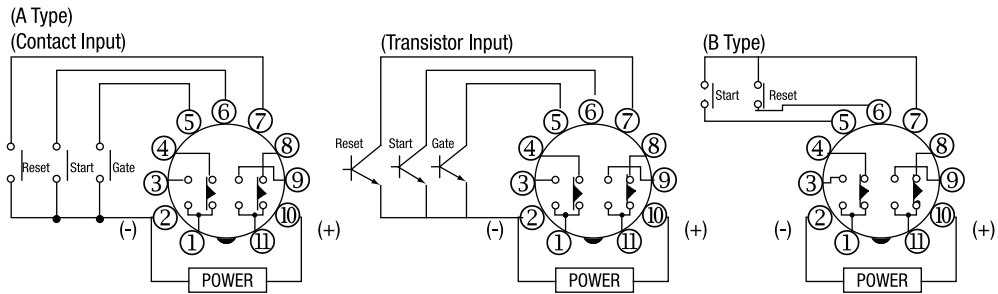
MODE



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

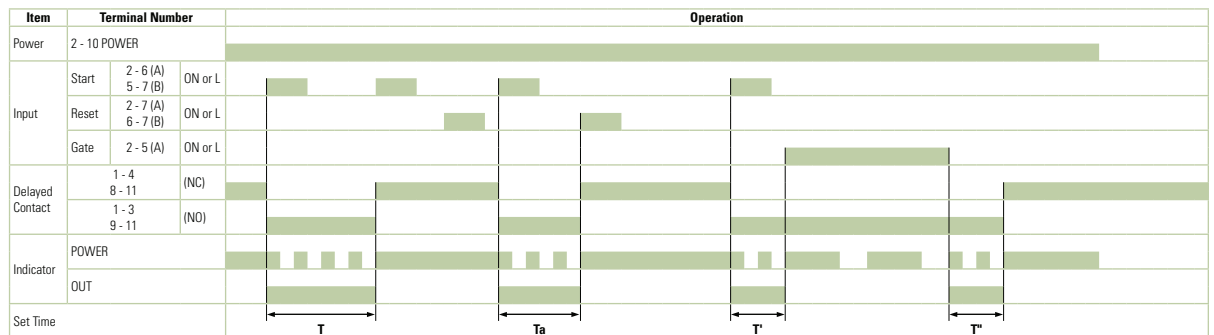
GT3A-5 Timing Diagrams
Delayed DPDT

Operation
Mode Selection



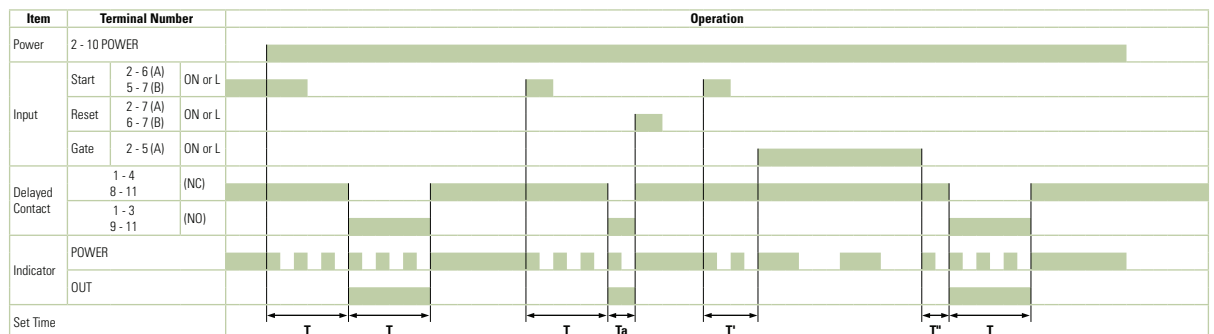
Interval 2

MODE



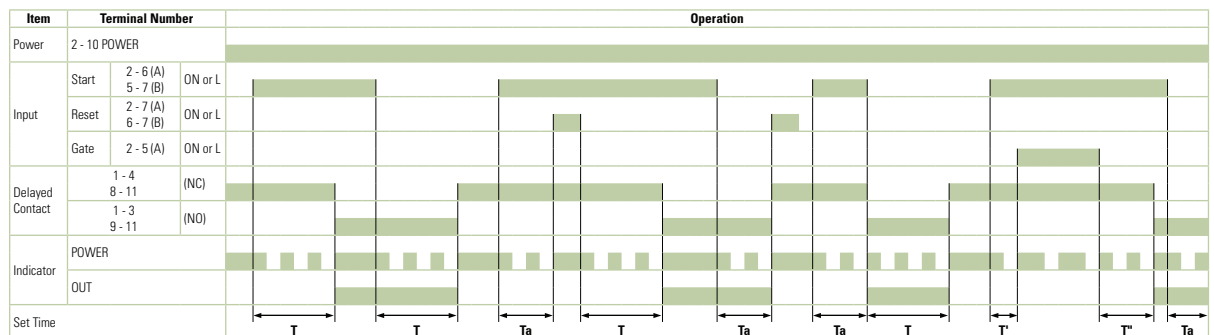
One-Shot Cycle

MODE



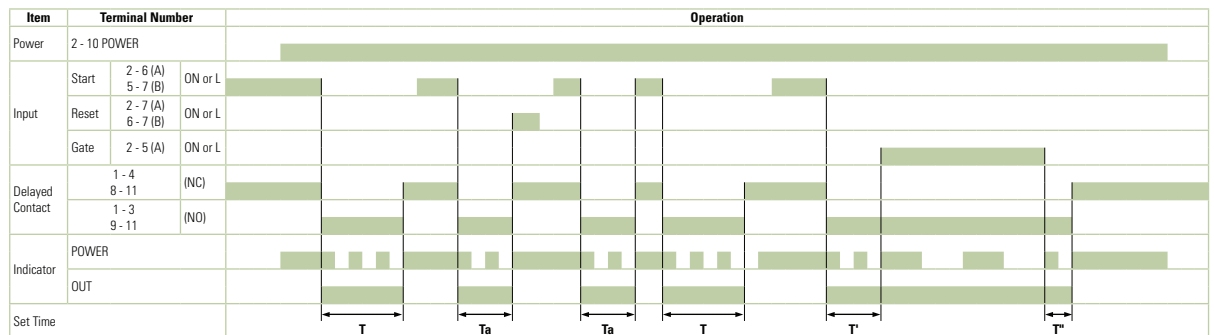
Signal ON/OFF-Delay 2

MODE



Signal OFF-Delay 2

MODE

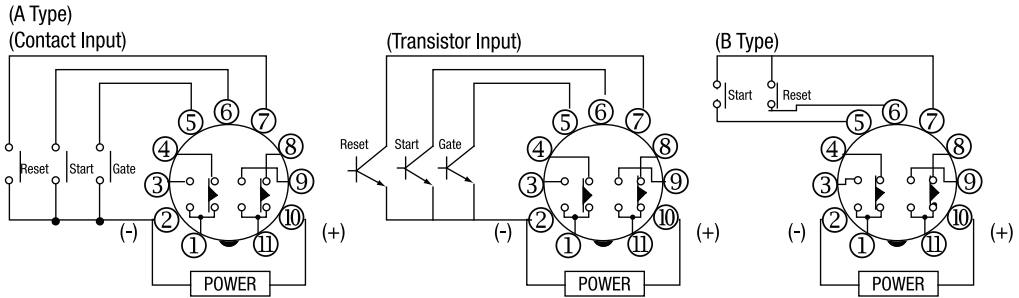


T = Set time Ta = Shorter than set time
T = T' + T''



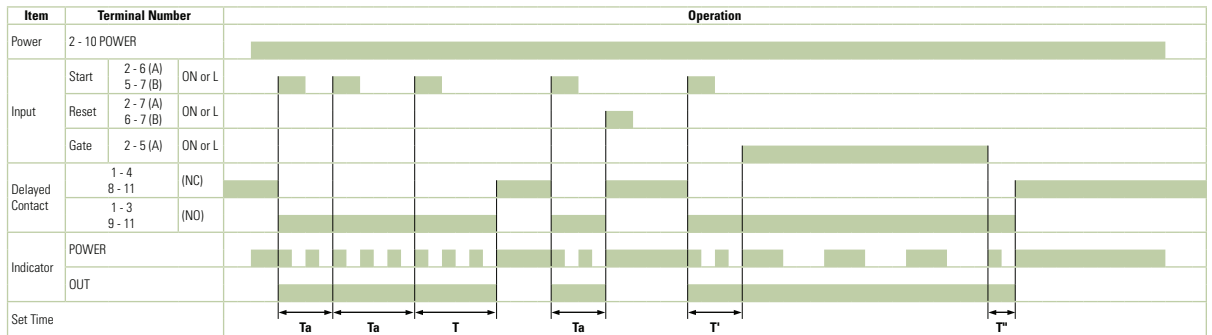
GT3A-6 Timing Diagrams
Delayed DPDT

Operation
Mode Selection



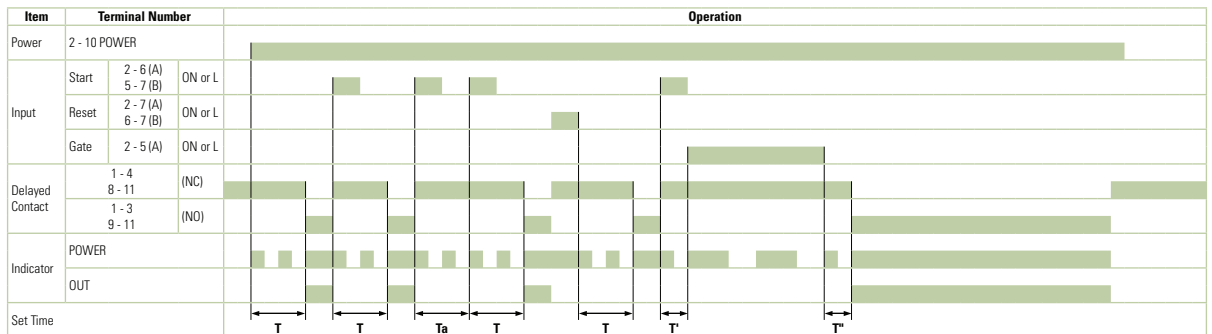
One-Shot 1

MODE



One-Shot ON-Delay

MODE



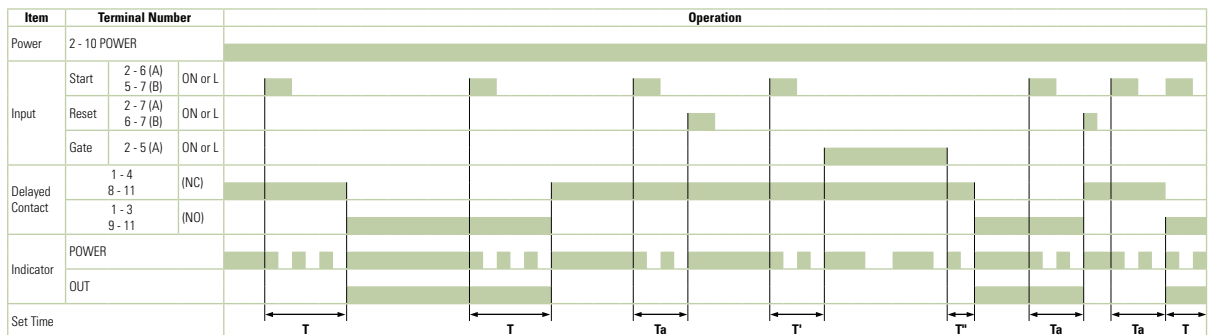
One-Shot 2

MODE



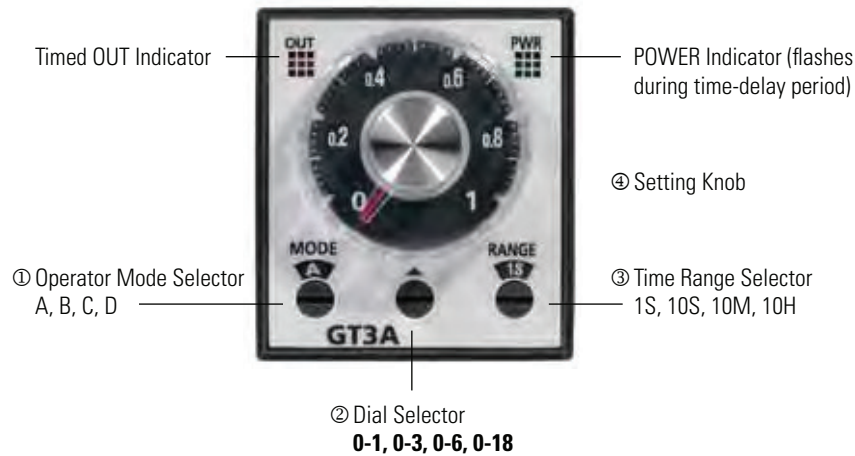
Signal ON/OFF-Delay 3

MODE



T = Set time T_a = Shorter than set time
 $T = T' + T''$

Instructions: Setting GT3A Series Timers



Step 1.	Desired Mode of Operation		Selection		Remarks
Select the desired mode of operation.	For Timers	Mode of Operation	① Operation Mode Selector		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		
	GT3A-6	Signal OFF-delay 2	D		
		One-shot 1	A		
One-shot ON-delay		B			
One-shot 2		C			
				D	
Step 2.	Desired Time Range		Selection		Remarks
Select the time range that contains the desired time period.	Time Ranges		② Dial Selector	③ Time Range Selector	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.			Selection		
Set the precise period of time desired by using the ④ Setting Knob.					

GT3 Series

Accessories

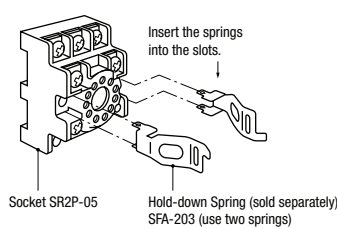
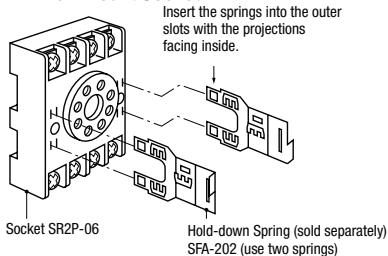
DIN Rail Mounting Accessories

DIN Rail/Surface Mount Sockets and Hold-Down Springs

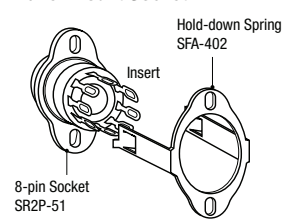
DIN Rail Mount Socket				Applicable Hold-Down Springs	
Style	Appearance	Use with Timers	Part No.	Appearance	Part No.
8-Pin Screw Terminal (dual tier)		GT3A-1, 2, 3 (8-pin) GT3F-1, 2 (8-pin) GT3W (8-pin)	SR2P-05		SFA-203
11-Pin Screw Terminal (dual tier)		GT3A-1, 2, 3 (11-pin) GT3A-4, 5, 6 GT3F-1, 2 (11-pin) GT3W (11-pin)	SR3P-05		
8-Pin Fingersafe Socket		GT3A-1, 2, 3 (8-pin) GT3F-1, 2 (8-pin) GT3W (8-pin)	SR2P-05C		
11-Pin Fingersafe Socket		GT3A-1, 2, 3 (11-pin) GT3A-4, 5, 6 GT3F-1, 2 (11-pin) GT3W (11-pin)	SR3P-05C		
8-Pin Screw Terminal		GT3A-1, 2, 3 (8-pin) GT3F-1, 2 (8-pin) GT3W (8-pin)	SR2P-06		SFA-202
11-Pin Screw Terminal		GT3A-1, 2, 3 (11-pin) GT3A-4, 5, 6 GT3F-1, 2 (11-pin) GT3W (11-pin)	SR3P-06		
DIN Mounting Rail Length 1000mm		—	BNDN1000		

Installation of Hold-Down Springs

DIN Rail Mount Socket



Panel Mount Socket



Panel Mounting Accessories

Panel Mount Sockets and Hold-Down Springs

Panel Mount Socket				Applicable HD Springs	
Style	Appearance	Use with Timers	Part No.	Appearance	Part No.
8-Pin Solder Terminal		GT3A- (8-pin) GT3W- (8-pin) GT3F- (8-pin)	SR2P-51		SFA-402
11-Pin Solder Terminal		GT3A- (11-pin) GT3W- (11-pin) GT3F- (11-pin)	SR3P-51		

Flush Panel Mount Adapter and Sockets that use an Adapter

Accessory	Description	Appearance	Use with Timers	Part No.
Panel Mount Adapter	Adaptor for flush panel mounting GT3 timers		All GT3 timers	RTB-G01
Sockets for use with Panel Mount Adapter	8-pin screw terminal	 (Shown: SR6P-M08G for Wiring Socket Adapter)	All 8-pin timers	SR6P-M08G
	11-pin screw terminal		All 11-pin timers	SR6P-M11G
	8-pin solder terminal		All 8-pin timers	SR6P-S08
	11-pin solder terminal		All 11-pin timers	SR6P-S11



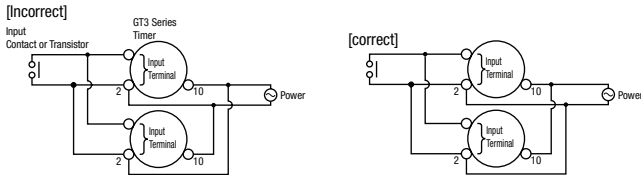
No hold down springs are available for flush panel mounting.

Instructions: Wiring Inputs for GT3 Series

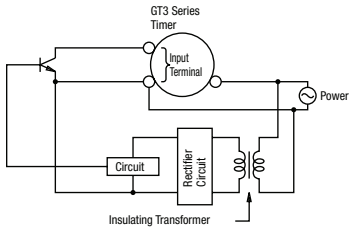
Inputs

To avoid electric shock, do not touch the input signal terminal during power voltage application.

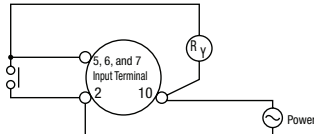
When connecting the input signal terminals of two or more GT3A timers to the same contact or transistor, the input terminals of the same number should be connected. (Connect Terminals No.2 in common.)



In a transistor circuit for controlling input signals, with its primary and secondary power circuits isolated, do not ground the secondary circuit.



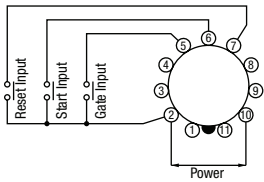
Connect the input signal terminals of the GT3A timers to Terminal No.2 only. Never apply voltage to other terminals; otherwise, the internal circuit may be damaged.



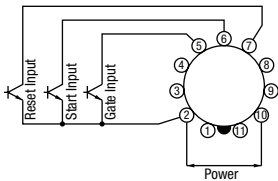
Input signal lines must be made as short as possible and installed away from power cables and power lines. Use shielded wires or a separate conduit for input wiring.

Inputs Instructions, continued

For contact input, use gold-plated contacts to make sure that the residual voltage is less than 1V when the contacts are closed.

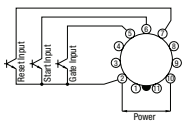


For transistor input, use transistors with the following specifications; VCE = 40V, VCES = 1V or less, IC = 50 mA or more, and ICBO = 50μA or less. The resistance should be less than 1kΩ when the transistor is on. When the output transistor switches on, a signal is input to the timer.



Inputs: GT3A-1, -2, -3

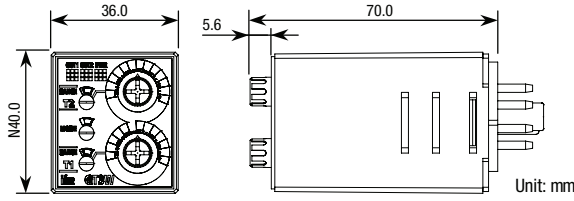
Transistor output equipment such as proximity switches and photoelectric switches can input signals if they are voltage/current output type, with power voltage ranges from 18 to 30V and have 1V. When the signal voltage switches from H to L, a signal is input to the timer



Inputs: GT3A-4, -5, -6

Start Input	The start input initiates a time-delay operation and controls output status.	No-voltage contact inputs and NPN open collector transistor inputs are applicable.
Reset Input	When the reset input is activated, the time is reset, and contacts return to original state.	24V DC, 1mA maximum
Gate Input	The time-delay operation is suspended while the gate input is on (pause).	Input response time: 50msec maximum

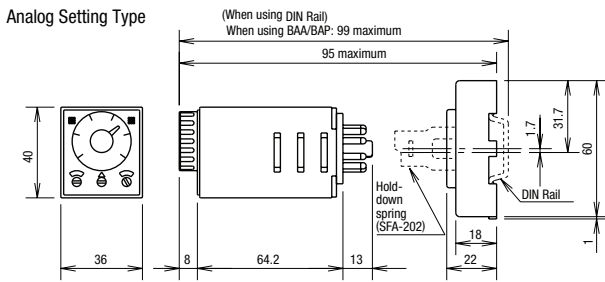
Dimensions



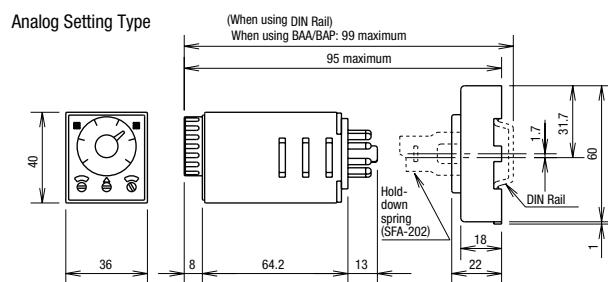
NOTE: GT3W series are UL Listed when used in combination with following IDEC's sockets:
 GT3W-A11, A33: SR2P-06* pin type socket.
 GT3W-A11E: SR3P-05* pin type socket.
 (*-May be followed by A,B,C or U)

The socket to be used with these timers are rated:
 -Conductor Temperature Rating 60°C min.
 -Use 14AWG max.(2mm²max.) Copper conductors only
 -Terminal Torque 1.0 to 1.3 N-m

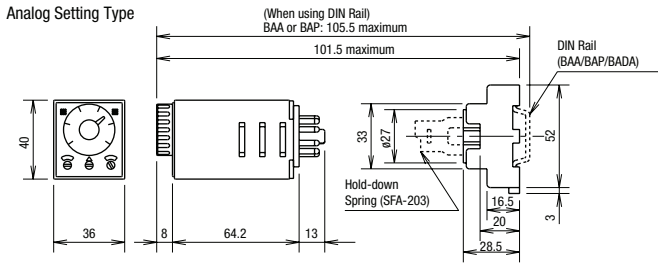
Analog GT3 Timer, 8-Pin with SR2P-06



Analog GT3 Timer, 11-Pin with SR3P-06

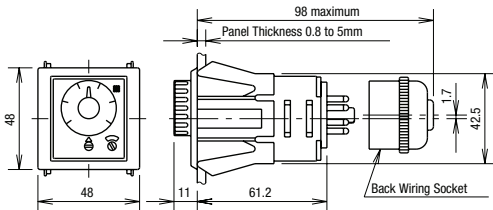


Analog GT3 Timer, 11-Pin with SR3P-05

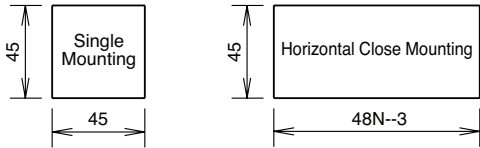


Panel Mount Adapter

Analog GT3 Timer, 8-Pin and 11-Pin with SR6P-S08 or SR6P-S11

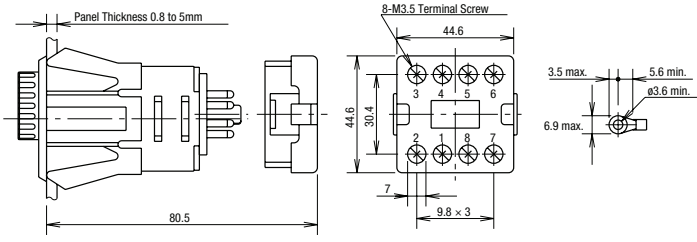


Mounting Hole Layout

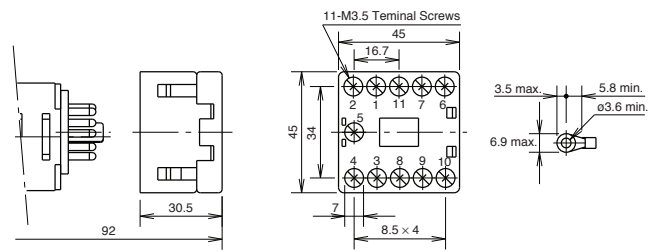


Tolerance: +0.5 to 0
 N: No. of timers mounted

GT3 Timer, 8-Pin with SR6P-M08G



GT3 Timer, 11-Pin with SR6P-M11G



General Instructions for All Timer Series

Load Current

With inductive, capacitive, and incandescent lamp loads, inrush current more than 10 times the rated current may cause welded contacts and other undesired effects. The inrush current and steady-state current must be taken into consideration when specifying a timer.

Contact Protection

Switching an inductive load generates a counter-electromotive force (back EMF) in the coil. The back EMF will cause arcing, which may shorten the contact life and cause imperfect contact. Application of a protection circuit is recommended to safeguard the contacts.

Temperature and Humidity

Use the timer within the operating temperature and operating humidity ranges and prevent freezing or condensation. After the timer has been stored below its operating temperature, leave the timer at room temperature for a sufficient period of time to allow it to return to operating temperatures before use.

Environment

Avoid contact between the timer and sulfurous or ammonia gases, organic solvents (alcohol, benzine, thinner, etc.), strong alkaline substances, or strong acids. Do not use the timer in an environment where such substances are prevalent. Do not allow water to run or splash on the timer.

Vibration and Shock

Excessive vibration or shocks can cause the output contacts to bounce, the timer should be used only within the operating extremes for vibration and shock resistance. In applications with significant vibration or shock, use of hold down springs or clips is recommended to secure a timer to its socket.

Time Setting

The time range is calibrated at its maximum time scale; so it is desirable to use the timer at a setting as close to its maximum time scale as possible. For a more accurate time delay, adjust the control knob by measuring the operating time with a watch before application.

Input Contacts

Use mechanical contact switch or relay to supply power to the timer. When driving the timer with a solid-state output device (such as a two-wire proximity switch, photoelectric switch, or solid-state relay), malfunction may be caused by leakage current from the solid-state device. Since AC types comprise a capacitive load, the SSR dielectric strength should be two or more times the power voltage when switching the timer power using an SSR.

Generally, it is desirable to use mechanical contacts whenever possible to apply power to a timer or its signal inputs. When using solid state devices, be cautious of inrushes and back-EMF that may exceed the ratings on such devices. Some timers are specially designed so that signal inputs switch at a lower voltage than is used to power the timer (models designated as "B" type).

Timing Accuracy Formulas

Timing accuracies are calculated from the following formulas:

$$\text{Repeat Error} = \pm \frac{1 \times \text{Maximum Measured Value} - \text{Minimum Measured Value}}{2 \text{ Maximum Scale Value}} \times 100\%$$

$$\text{Voltage Error} = \pm \frac{T_v - T_r}{T_r} \times 100\%$$

T_v : Average of measured values at voltage V
 T_r : Average of measured values at the rated voltage

$$\text{Temperature Error} = \pm \frac{T_t - T_{20}}{T_{20}} \times 100\%$$

T_t : Average of measured values at °C
 T_{20} : Average of measured values at 20°C

$$\text{Setting Error} = \pm \frac{\text{Average of Measured Values} - \text{Set Value}}{\text{Maximum Scale Value}} \times 100\%$$

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