GT3W Series — Dual Time Range Timers

Key features of the GT3W series include:

- **Sequential start and independent ON/OFF timing functions**
- **2 time settings in one timer**
- **4 selectable operation modes on each model**
- **Mountable in sockets or flush panel**
- **Power and output status indicating LEDs**
- **Time ranges up to 6 hours**

TÜV PRODUCT SERVICE Cert. No. BL980113332391 (LVD) E9971113332388 (EMC)

CSA Certified File No.LR58183 LR96764 LR83814

UL Recognized File No.E55996

CE

Specifications

Operation	Recycle
Time Range	T1: 0.1 seconds to 6 hours T2: 0.1 seconds to 6 hours
Rated Voltage	100 to 240V AC(50/60Hz) 24V DC/AC(50/60Hz) 12V DC
Contact Rating	240V AC/3A, 30V DC/5A (resistive load)
Contact Form	DPDT
Voltage Tolerance	A100: 85 to 132V AC A200: 170 to 264V AC AD24: 24.4 to 26.4V AC, 21.6 to 26.4V DC (ripple 10% maximum)
Repeat Error	±0.2% maximum
Voltage Error	±1% maximum
Temperature Error	±2% maximum (over 0 to 40°C, reference temperature 20°C)
Setting Error	±10% maximum
Reset Time	0.1 second maximum (reset before time-up: 1 second or more)
Insulation Resistance	100MΩ 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
Vibration Resistance	60m/sec^2 (approximate 6G)
Shock Resistance	Damage limits: 500m/sec^2 (approximate 50G)
Power Consumption (approximate)	100V AC: 3.5VA (60Hz) 200V AC: 7.0VA (60Hz) 24V DC: 0.6W
Mechanical Life	20,000,000 operations minimum
Electrical Life	100,000 operations minimum rated load
Operating Temperature	–10 to +50°C
Storage Temperature	–30 to +80°C
Operating Humidity	45 to 85% RH
Weight (approximate)	65g
Housing Color	Gray

GT3W Table of Contents

Part Numbering List

Mode of Operation	Contact	Output	Rated Voltage Code	Time Range		Complete Part No.	
				T_1	T_2	8-Pin	11-Pin
AA (sequential start) **AB** (ON-delay with course and fine) **BA** (recycler and instantaneous) **BB** (recycler)	DPDT	240V AC, 3A, 120V AC, 5A 30V DC, 5A	AF20: 100 to 240V AC (50/60Hz) AD24: 24V DC/AC (50/60Hz) D12: 12V DC	0.1s to 1 hour	0.1s to 1 hour	GT3W-A11AF20	GT3W-A11EAF20
						GT3W-A11AD24	GT3W-A11EAD24
						GT3W-A11D12	GT3W-A11ED12
					0.6s to 6 hours	GT3W-A16AF20	GT3W-A16EAF20
						GT3W-A16AD24	GT3W-A16EAD24
						GT3W-A16D12	GT3W-A16ED12
				0.6s to 6 hours	0.1s to 1 hour	GT3W-A61AF20	GT3W-A61EAF20
						GT3W-A61AD24	GT3W-A61EAD24
						GT3W-A61D12	GT3W-A61ED12
					0.6s to 6 hours	GT3W-A66AF20	GT3W-A66EAF20
						GT3W-A66AD24	GT3W-A66EAD24
						GT3W-A66D12	GT3W-A66ED12

1. For schematics, see page G-48.
2. For socket and accessory part number information, see page G-50.
3. 8- and11-pin models differ only in the number of pins (extra pins are not used).
4. For the timing diagram overview, see page G-4.

Time Range Settings

	Time Range	
Code	**Scale (0 to 1.0)**	**Scale (0 to 6)**
1S	0.1 to 1s	0.6 to 6s
10S	1 to 10s	6 to 60s
1M	0.05 to 1 minute	0.2 to 6 minute
10M	0.5 to 10 minute	2 to 60 minute
1H	0.05 to 1 hour	0.2 to 6 hours

5. For details on setting time ranges, see the instructions on page G-46.

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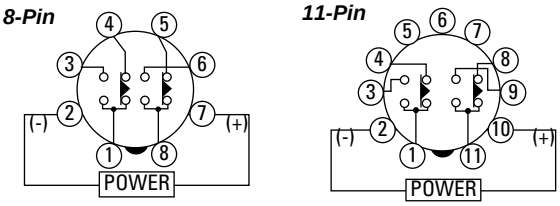
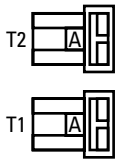
Timing Diagrams/Schematics

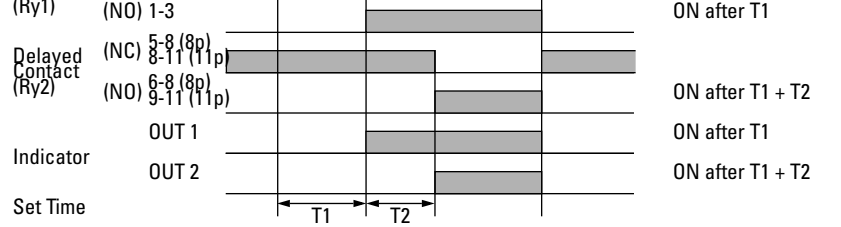
GT3W Timing Diagrams



Sequential Start
(delayed SPDT + delayed SPDT)
Sequential Start Outputs
Use the T_1 knob to set the first timing interval. Use the T_2 knob to set the second timing interval. Apply power to the input terminals. After T_1 times out, the first contact closes and T_2 begins to time out. The second contact closes after $T_1 + T_2$. Both contacts remain on until power is removed.

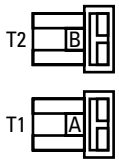
AA

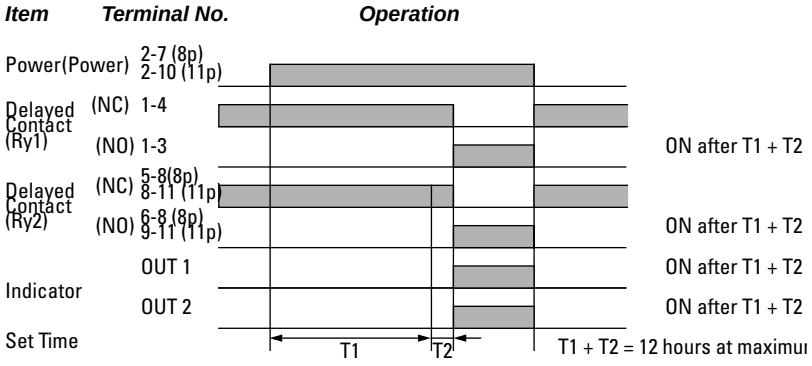




ON-Delay with Course/Fine
(delayed DPDT)
Use the T_1 knob to set the larger time units (hours, for example). Use the T_2 knob to fine-tune time settings (seconds, for example). Both contacts close simultaneously after the time out of $T_1 + T_2$. This mode is used to set a precise time setting such as 4 hours and 23 seconds or to extend the time range up to 12 hours.

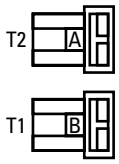
AB

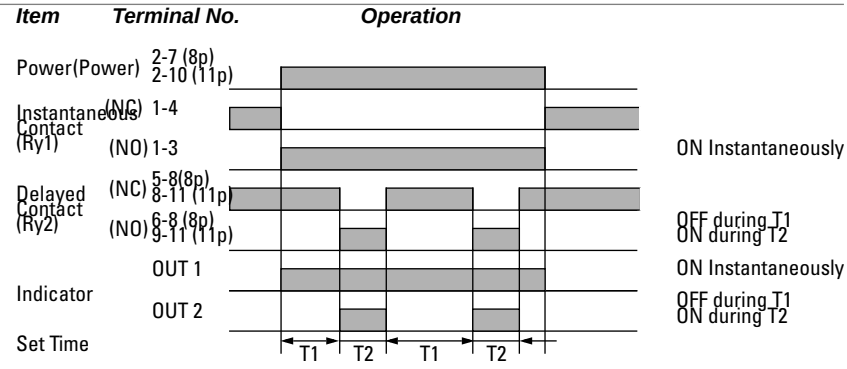




Recycler and Instantaneous
(delayed SPDT + SPDT)
Use the T_1 knob to set the time off interval. Use the T_2 knob to set the time on interval. Apply power to the input terminals. The first contact closes instantaneously and remains on until power is removed. The second contact begins in the off position and turns on after T_1 times down, then remains on until T_2 times out. The second contact continues to cycle between on and off until it is reset by removing power.

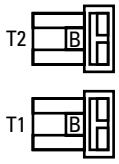
BA

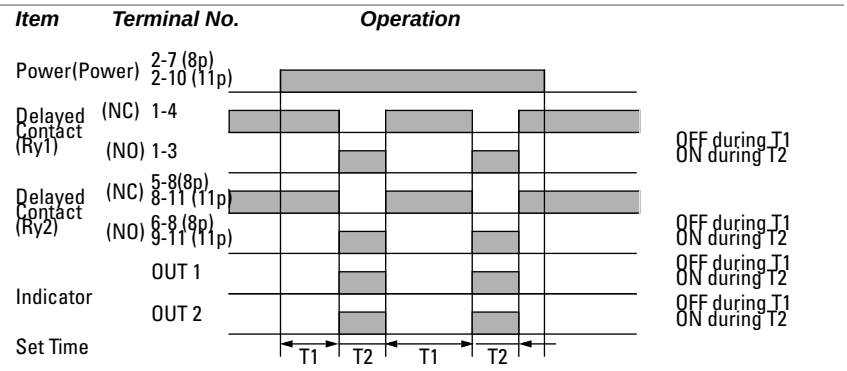




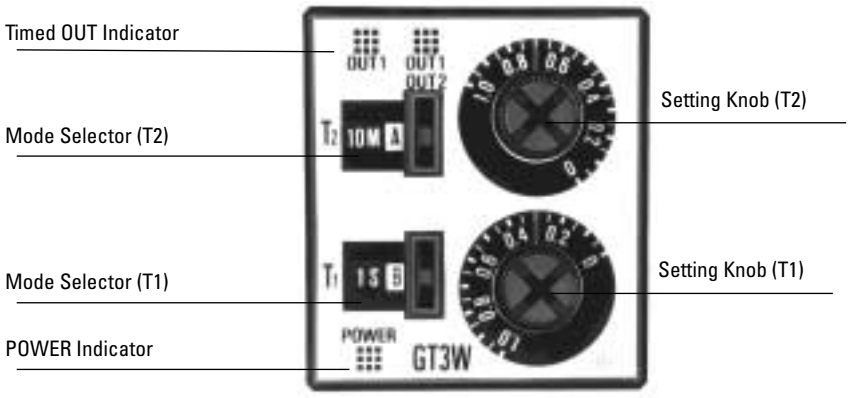
Recycler
(delayed DPDT)
Use the T_1 knob to set the time off interval. Use the T_2 knob to set the time on interval. Apply power to the input terminals. Both contacts begin in the off position and turn on simultaneously after T_1 times out. They remain on until T_2 times out, when they turn off simultaneously. The contacts continue to cycle between on and off until the yare reset by removing power.

BB





Instructions: Setting GT3W Timer



Steps	Desired Operation	Selection	Remarks
1. Determine the desired timing function.	Sequential start	AA	Do not set mode until the time ranges have been determined.
	ON-delay with course/fine	AB	
	Recycler with instantaneous	BA	
	Recycler	BB	
2. Determine the desired time range.	1 second (6 second)	1S	Numbers in parenthesis refer to models that read 0–6 on Setting Knob. (The value of the Mode Selector is multiplied by the value on the Setting Knob.) Set both Mode Selectors to read the appropriate time and letter. Adjust actual delay times with the Setting Knobs.
	10 seconds (60 seconds)	10S	
	1 minute (6 minutes)	1M	
	10 minutes (60 minutes)	10M	
	1 hour (6 hours)	1H	

Switch Setting

The switches should be turned using a flat screwdriver, 0.156" (4mm) wide or less. Note that incomplete setting may cause malfunction.

Since changing the setting during timer operation may cause malfunction, power should be turned off before changing the setting.

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Accessories: GT3 Series

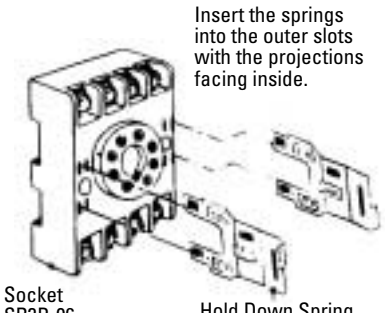
DIN Rail Mounting Accessories

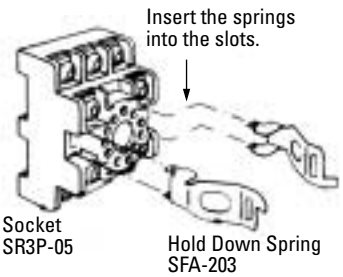
Part Numbers: DIN Rail/Surface Mount Sockets and Hold-Down Springs

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) GT3D-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 GT3D-1, 2, 3 (11-pin) GT3D-4, 8 GT3F-1, 2 (11-pin) GT3W (11-pin)	SR3P-05		
8-Pin Fingersafe Socket		GT3A-1, 2, 3 (8-pin) GT3D-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 GT3D-1, 2, 3 (11-pin) GT3D-4, 8 GT3F-1, 2 (11-pin) GT3W (11-pin)	SR3P-05C		
8-Pin Screw Terminal		GT3A-1, 2, 3 (8-pin) GT3D-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 GT3D-1, 2, 3 (11-pin) GT3D-4, 8 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





Once installed into the sockets, the hold-down springs cannot be removed.

Panel Mounting Accessories

Part Numbers: 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) GT3D- (8-pin) GT3W- (8-pin) GT3F- (8-pin)	SR2P-51		SFA-402
11-Pin Solder Terminal		GT3A- (11-pin) GT3D- (11-pin) GT3W- (11-pin) GT3F- (11-pin)	SR3P-51		

1. For information on installing the hold-down springs, see page G-51.

Part Numbers: 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

2. No hold down springs are avaialble for flush panel mounting.

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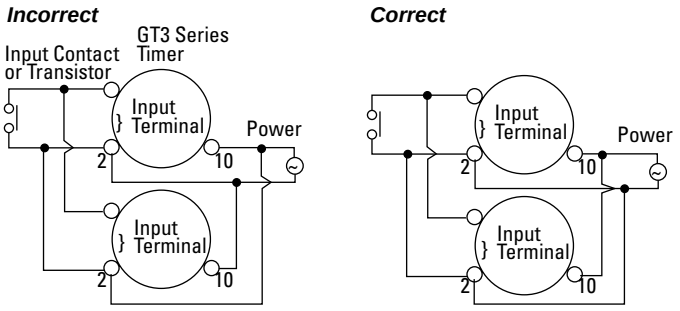
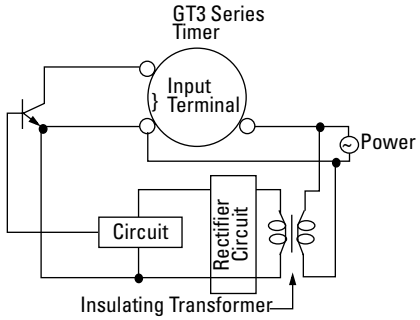
Instructions: Wiring Inputs for GT3 Series

Inputs

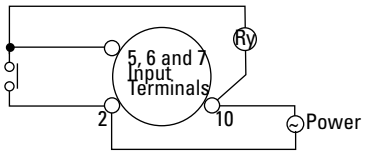
To avoid electric shock, do not touch the input signal terminal during power voltage application.
When connecting the input signal terminals of two or more GT3A timers to the same contact or transistor, the input terminals of the same number should be connected. (Connect Terminals No.2 in common.)



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



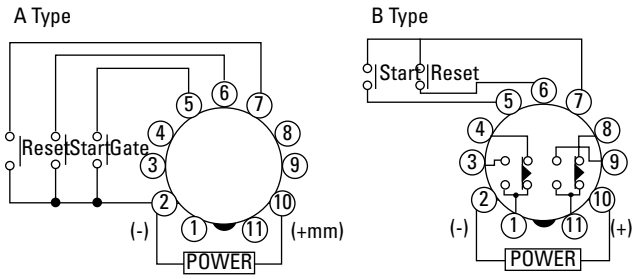
Connect the input signal terminals of the GT3A timers to Terminal No.2 only. Never apply voltage to other terminals; otherwise, the internal circuit may be damaged.



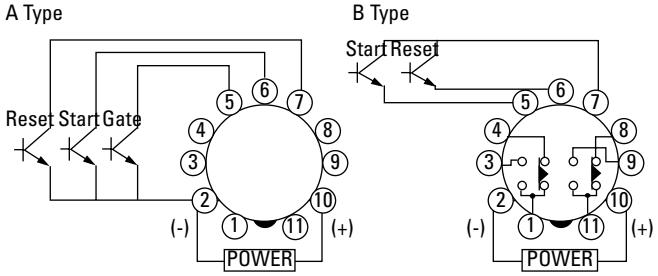
Input signal lines must be made as short as possible and installed away from power cables and power lines. Use shielded wires or a separate conduit for input wiring.

Inputs Instructions: continued

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



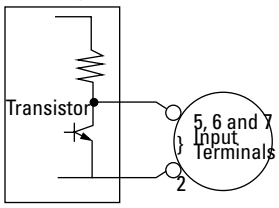
For transistor input, use transistors with the following specifications; V_{CE} = 40V, V_{CES} = 1V or less, I_C = 50 mA or more, and I_{CBO} = 50µA or less. The resistance should be less than 1kΩ when the transistor is on. When the output transistor switches on, a signal is input to the timer.



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 have1V. When the signal voltage switches from H to L, a signal is input to the timer.

Transistor Output Circuit



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. 24V DC, 1mA maximum Input response time: 50msec maximum
Reset Input	When the reset input is activated, the time is reset, and contacts return to orignial state.	
Gate Input	The time-delay operation is suspended while the gate input is on (pause).	

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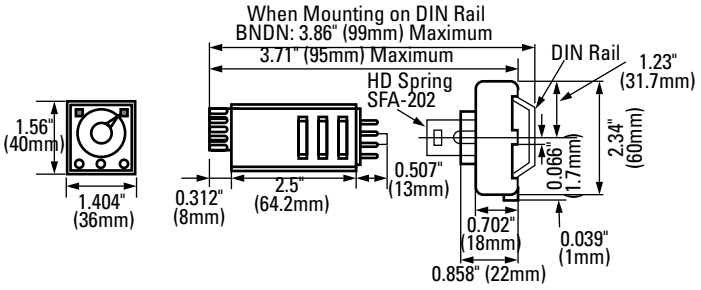
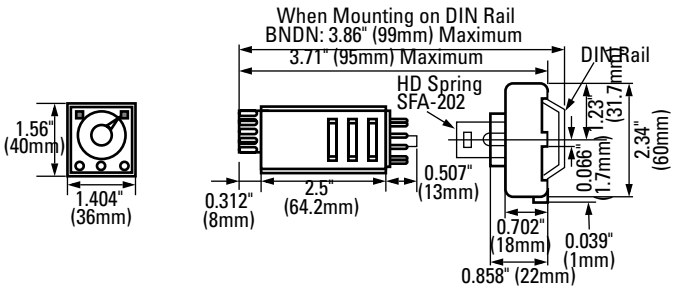
Dimensions: GT3 Series

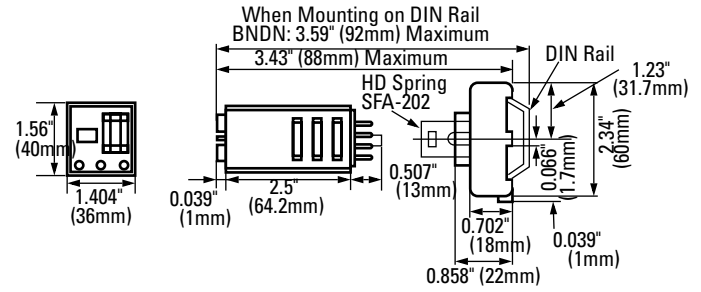
Analog GT3 Timer, 8-Pin with SR2P-06



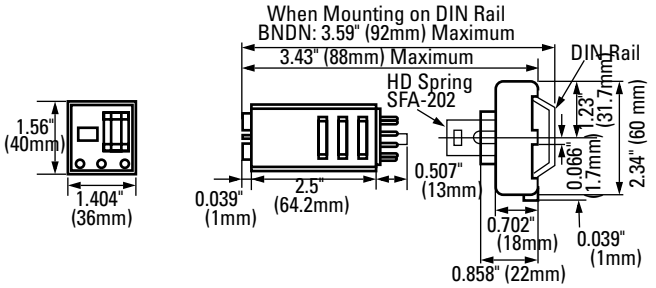
Analog GT3 Timer, 11-Pin with SR3P-06



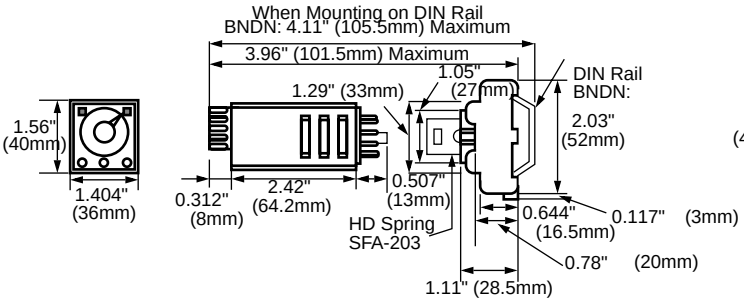
Digital GT3 Timer, 8-Pin with SR2P-06



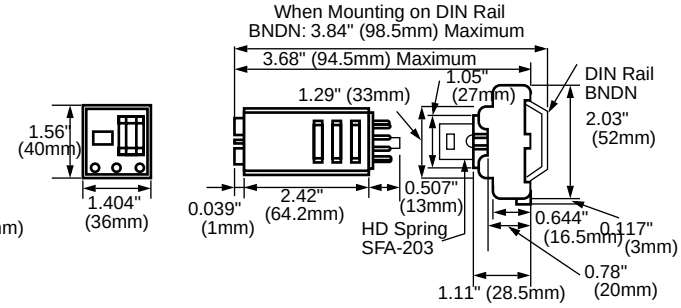
Digital GT3 Timer, 11-Pin with SR3P-06



Analog GT3 Timer, 11-Pin with SR3P-05

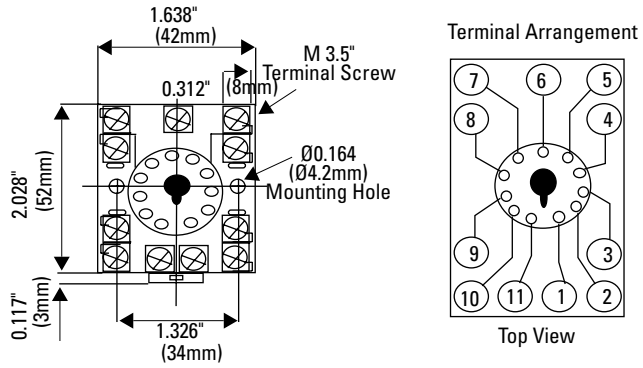


Digital GT3 Timer, 11-Pin with SR3P-05

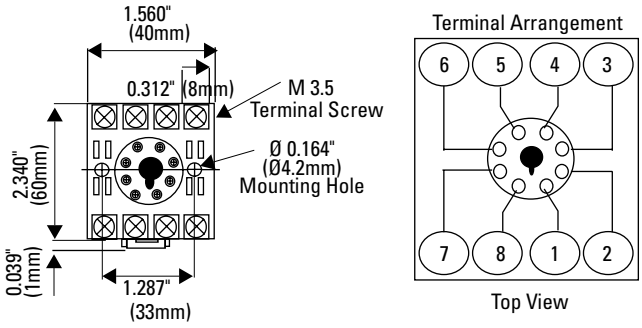


DIN Rail Mount Sockets

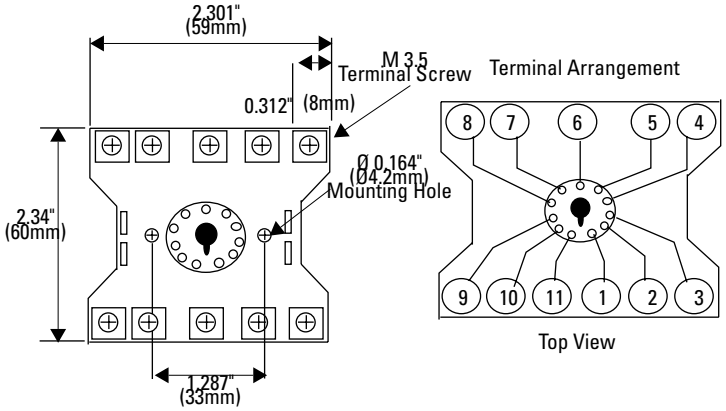
11-Pin SR3P-05



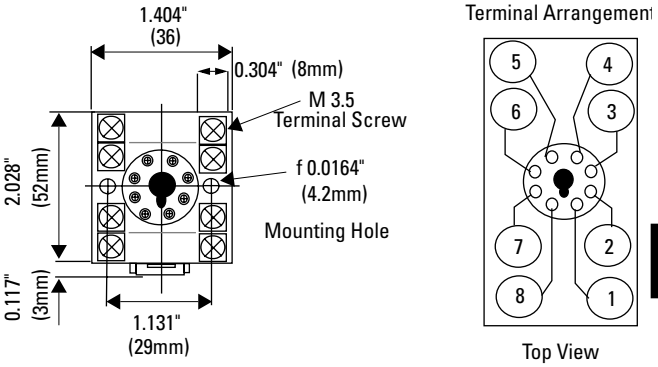
8-Pin SR2P-06



11-Pin SR3P-06



8-Pin SR2P-05



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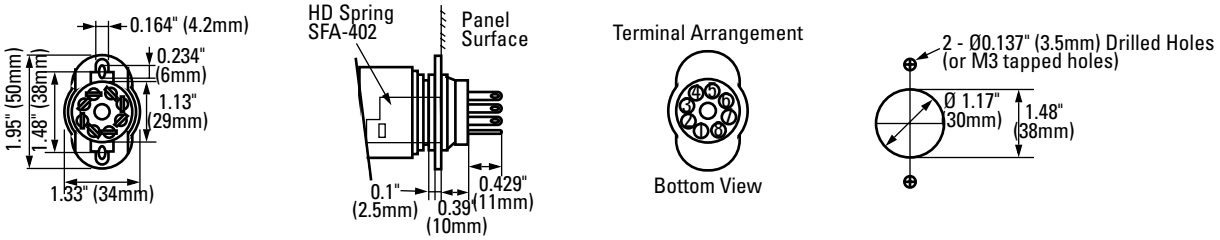
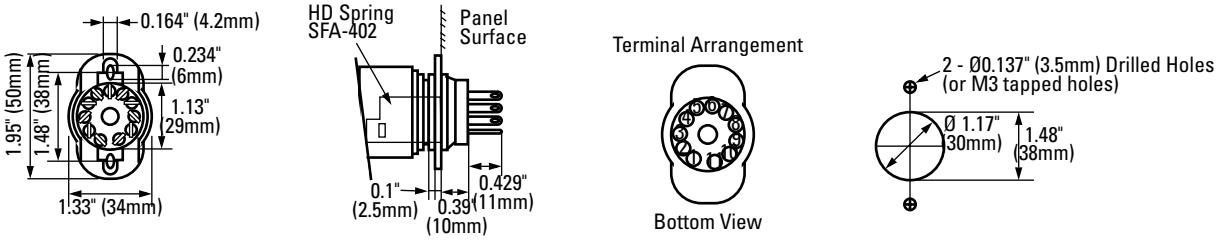
Panel Mount Sockets

Dimensions in inches (mm)

8-Pin with Solder Terminal SR2P-51

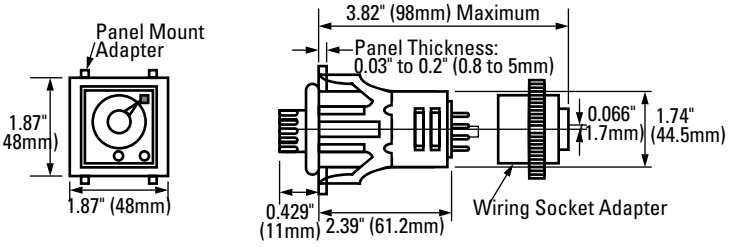


11-Pin with Solder Terminal SR3P-51

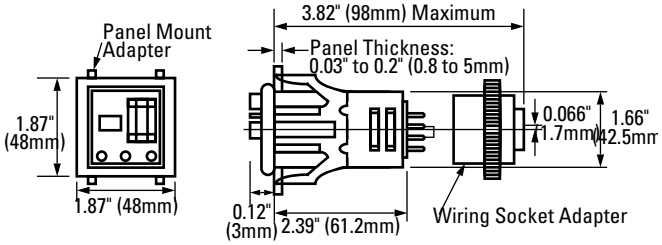


Panel Mount Adapter

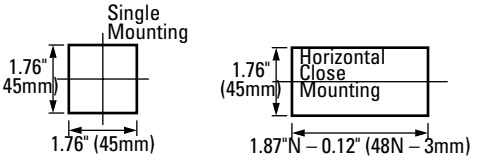
Analog GT3 Timer, 8-Pin and 11-Pin with SR6P-S08 or SR6P-S11



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

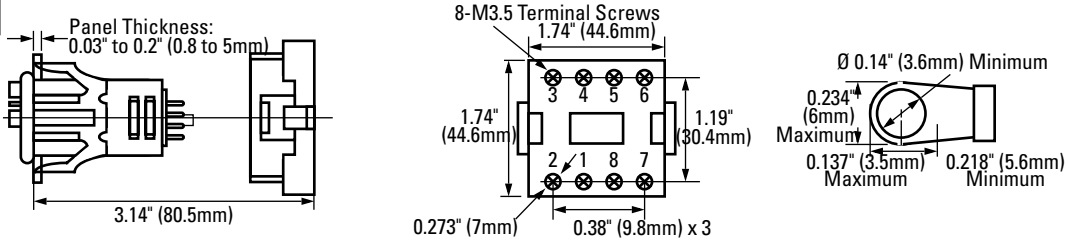


Mounting Hole Layout



Tolerance: + 0.02" (0.5mm) to 0.
N: No. of Timers Mounted

Analog and Digital GT3 Timer, 8-Pin with SR6P-M08G



Analog and Digital GT3 Timer, 11-Pin with SR6P-M11G