

## GT3F Series — True OFF Delay Timers



## Key features of the GT3F series include:

- Mountable in sockets or flush panel
- “True” power OFF-delay up to 10 minutes
- No external control switch necessary
- Available with reset inputs



UL, c-UL Listed  
File No. E55996



	GT3F-1	GT3F-2
<b>Operation</b>	True power OFF-delay	
<b>Time Range</b>	0.05 seconds to 600 seconds	
<b>Rated Voltage</b>	100 to 240V AC, 50/60Hz 24V AC/DC	
<b>Contact Rating</b>	250V AC/30V DC, 5A (resistive load)	250V AC/30V DC, 3A (resistive load)
<b>Contact Form</b>	SPDT	DPDT
<b>Minimum Power Application Time</b>	1 second	
<b>Voltage Tolerance</b>	AF20: 100 to 240V AC AD24: 21.6 to 26.4VDC, 20.4 to 26.4VAC	
<b>Repeat Error</b>	±0.2%, ±10 msec	
<b>Voltage Error</b>	±0.2%, ±10 msec	
<b>Temperature Error</b>	±0.2%, ±10 msec	
<b>Setting Error</b>	±10% maximum	
<b>Insulation Resistance</b>	100MΩ minimum	
<b>Dielectric Strength</b>	Between power and output terminals: 2,000V AC, 1 minute (SPDT) 1,500V AC, 1 minute (DPDT) Between contacts on different poles: 1,000V AC, 1 minute (DPDT) Between contacts of the same pole: 750V AC, 1 minute	
<b>Power Consumption</b>	AF20: 3.7VA (200V AC, 60Hz) AD24: 0.8W (DC), 1.2VA (AC)	
<b>Mechanical Life</b>	20,000,000 operations minimum	
<b>Electrical Life</b>	100,000 operations minimum	
<b>Vibration Resistance</b>	100m/sec <sup>2</sup> (approximate 10G)	
<b>Shock Resistance</b>	Operating extremes: 100 m/sec <sup>2</sup> (approximate 10G) Damage limits: 500 m/sec <sup>2</sup> (approximate 50G)	
<b>Operating Temperature</b>	-10 to +50°C	
<b>Storage Temperature</b>	-30 to +80°C	
<b>Operating Humidity</b>	45 to 85% RH	
<b>Weight (approximate)</b>	77g	79g

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1. An inrush current flows during the minimum power application time. AF20: approximate 0.3A, AD24: approximate 0.6A
2. GT3F does not read the preset time range shown on the knob after power is turned off. Note that minimizing the preset time, by turning the knob to zero, does not shorten the delay time after power is removed.

## Part Numbering List

### Part Numbers: GT3F

Mode of Operation	Rated Voltage Code	Time Range	Output	Contact	Optional Input	Complete Part Number	
						8-Pin	11-Pin
Power OFF-delay	AF20: 100 to 240VAC (50/60Hz)	0.05 seconds to 600 seconds	250V AC, 5A, 30V DC, 5A (resistive load)	Delayed SPDT	Reset	GT3F-1AF20	GT3F-1EAF20
						GT3F-1AD24	GT3F-1EAD24
	AD24: 24V AC/DC		250V AC, 3A, 30V DC, 3A (resistive load)	Delayed DPDT	None (8p) Reset (11p)	GT3F-2AF20	GT3F-2EAF20
						GT3F-2AD24	GT3F-2EAD24



1. Optional reset input resets the contact to the OFF state before time out.

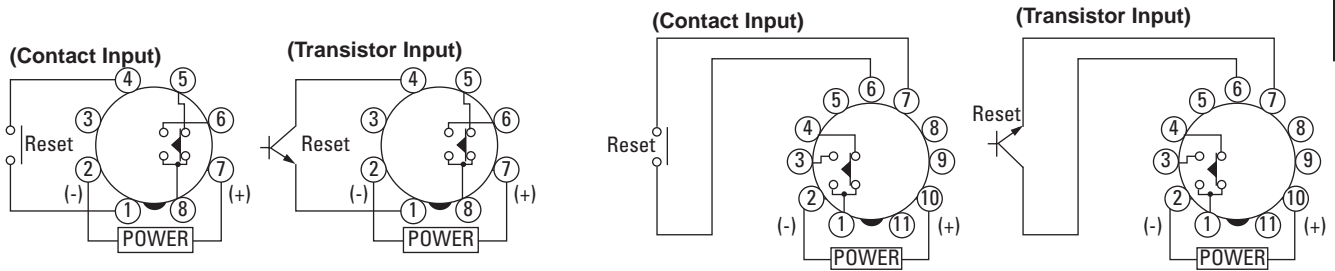
## Timing Diagrams/Schematics

### GT3F-1 Timing Diagrams

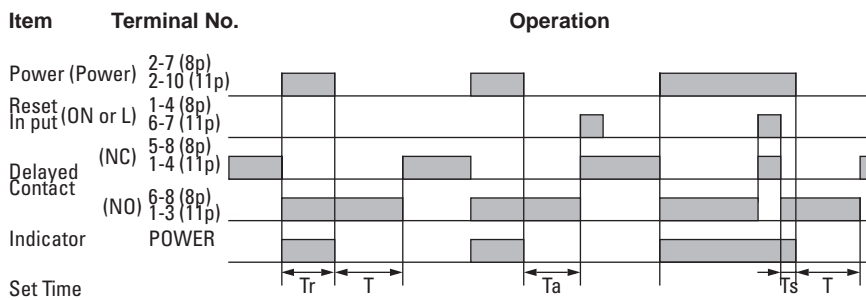
GT3F-1 (8-pin)

GT3F-1E (11-pin)

Delayed SPDT Output, with Reset Input



G Timers



T = Set Time  
 Ta = Shorter than Set Time  
 Ts = 1 Second  
 Tr = Minimum Power Application Time  
 • GT3F-1: 1 Second



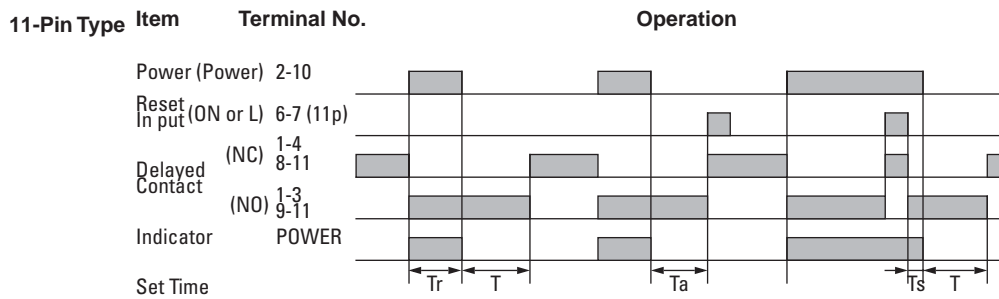
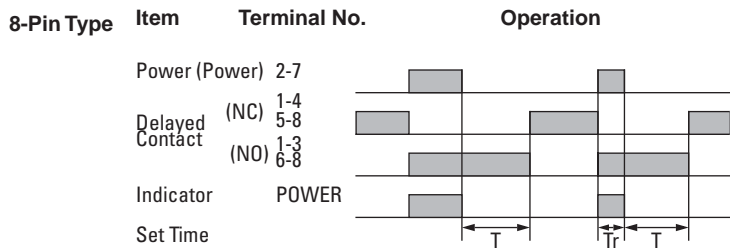
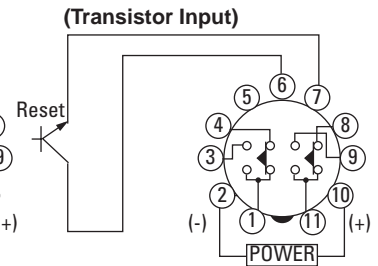
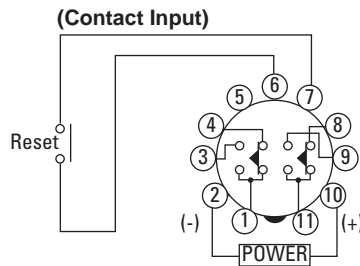
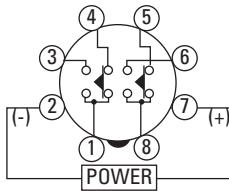
2. For time ranges, see page G-39.
3. For sockets and accessory part numbers, see page G-48.
4. When power is applied, the NO output contact closes. When power is removed, the timing period begins. When time has elapsed, the NO contact opens.
5. For the timing diagram overview, see page G-4.

**GT3F-2 Timing Diagrams**

**GT3F-2 (8-pin)**

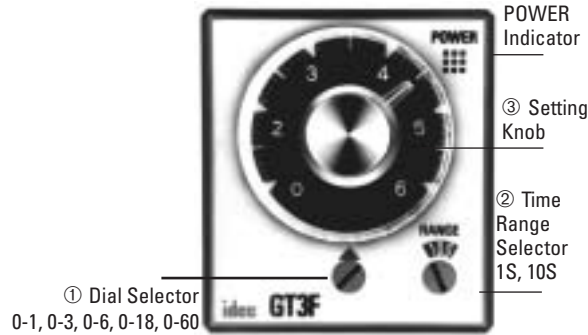
**GT3F-2E (11-pin)**

**Delayed DPDT Output**



When power is applied, the NO contact closes. When power is removed, the timing period begins. When time has elapsed, the NO contact opens. Optional reset input will return contacts to original state before time elapses.

**Instructions: Setting GT3F Timers**



Steps	Desired Operation	Selection		Remarks
<b>1. Select a time range that contains the desired period of time.</b>	<b>Base Time Ranges</b>	<b>① Dial Selector</b>	<b>② Time Range Selector</b>	Time range can be selected from 1S and 10S using a flat screwdriver and five different dials of 0 to 1, 0 to 3, 0 to 6, 0 to 18, and 0 to 60 are displayed in the six windows by turning the Dial Selector, allowing for selecting the best suited scale. Note that the switch does not turn infinitely.
	0.05s to 1s	0 to 1	1S	
	0.05s to 3s	0 to 3		
	0.05s to 6s	0 to 6		
	0.1s to 10s	0 to 1	10S	
	0.3s to 30	0 to 3		
	0.6s to 60	0 to 6		
	1.8s to 180s	0 to 18		
	6s to 600s	0 to 60		
<b>2. The set time is selected by turning the ③ Setting Knob.</b>				Setting Examples:  1) When the Setting Knob ③ is set at 2.5, with Dial Selector ① 0 to 3 and Time Range Selector ② 1S selected, then the set time is 2.5 seconds.  2) When the Setting Knob ③ is set at 5.0, with Dial Selector ① 0 to 60 and Time Range Selector ② 10S selected, then the set time is 500 seconds.

**Accessories: GT3 Series**

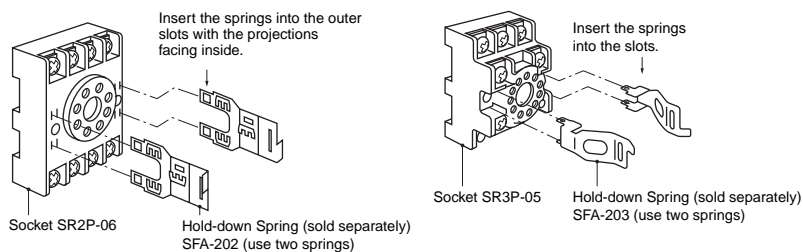
**DIN Rail Mounting Accessories**

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

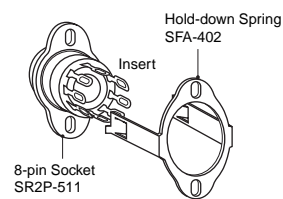
DIN Rail Mount Socket				Applicable Hold-Down Springs	
Style	Appearance	Use with Timers	Part No.	Appearance	Part No.
8-Pin Screw Terminal (dual tier)		GT3A-1, 2, 3 (8-pin) GT3D-1, 2, 3 (8-pin) GT3F-1, 2 (8-pin) GT3W (8-pin) GT3S	SR2P-05		SFA-203
11-Pin Screw Terminal (dual tier)		GT3A-1, 2, 3 (11-pin) 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) GT3S	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		SFA-202
8-Pin Screw Terminal		GT3A-1, 2, 3 (8-pin) GT3D-1, 2, 3 (8-pin) GT3F-1, 2 (8-pin) GT3W (8-pin) GT3S	SR2P-06		
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**






**Panel Mount Socket**



## 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) GT3S	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-48.

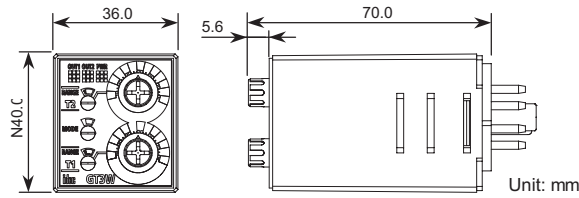
### Part Numbers: Flush Panel Mount Adapter and Sockets that use an Adapter

Accessory	Description	Appearance	Use with Timers	Part No.
<b>Panel Mount Adapter</b>	Adaptor for flush panel mounting GT3 timers		All GT3 timers	RTB-G01
<b>Sockets for use with Panel Mount Adapter</b>	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



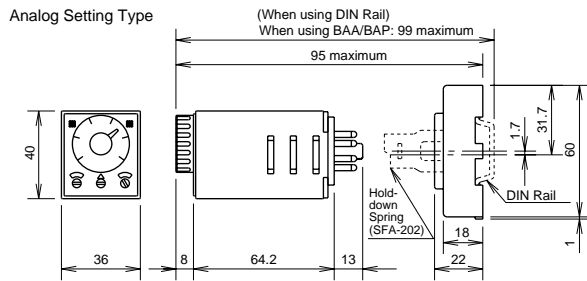
2. No hold down springs are available for flush panel mounting.

**Dimensions: GT3 Series**

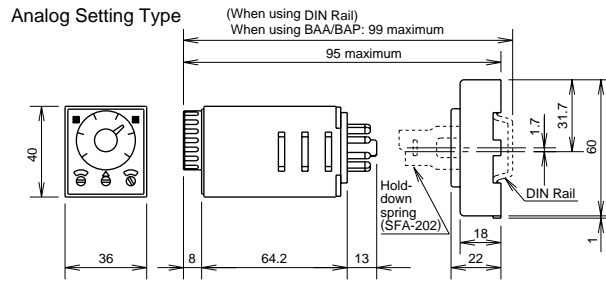


NOTE: GT3W series are UL Listed when used in combination with following IDEC's sockets:  
 GT3W-A11, A33: SR2P-06\* pin type socket.  
 GT3W-A11E, A33: SR3P-05\* pin type socket.  
 (\*-May be followed by A,B,C or U)  
 The socket to be used with these timers are rated:  
 -Conductor Temperature Rating 60°C min.  
 -Use 14AWG max.(2mm<sup>2</sup>max.) Copper conductors only  
 -Terminal Torque 1.0 to 1.3 N-m

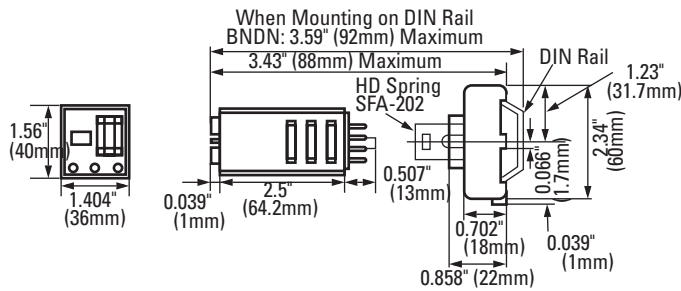
**Analog GT3 Timer, 8-Pin with SR2P-06**



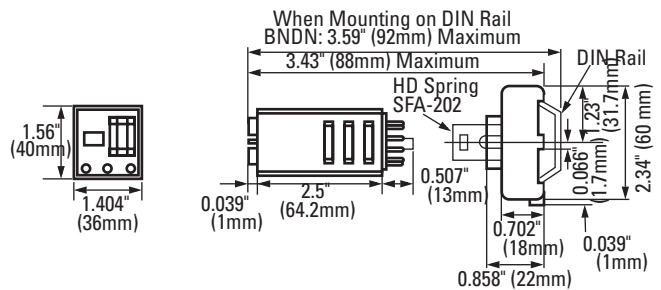
**Analog GT3 Timer, 11-Pin with SR3P-06**



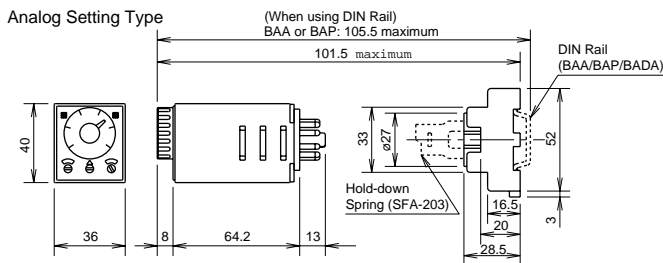
**Digital GT3 Timer, 8-Pin with SR2P-06**



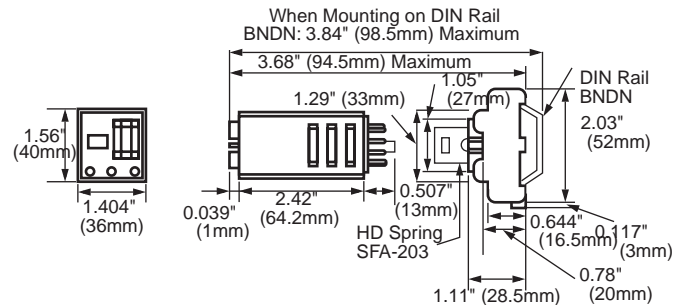
**Digital GT3 Timer, 11-Pin with SR3P-06**



**Analog GT3 Timer, 11-Pin with SR3P-05**

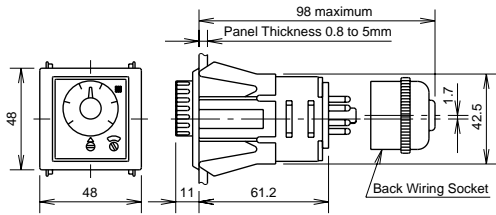


**Digital GT3 Timer, 11-Pin with SR3P-05**

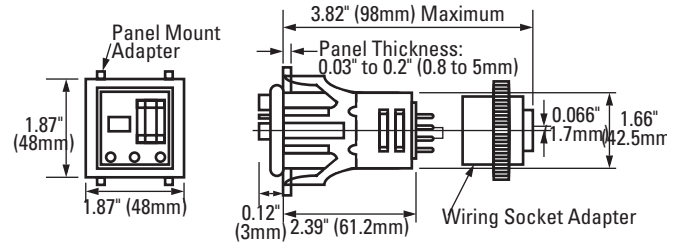


**Panel Mount Adapter**

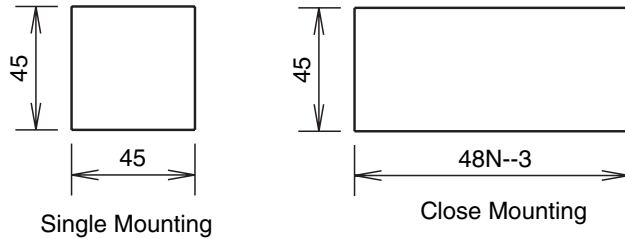
**Analog GT3 Timer, 8-Pin and 11-Pin with SR6P-S08 or SR6P-S11**



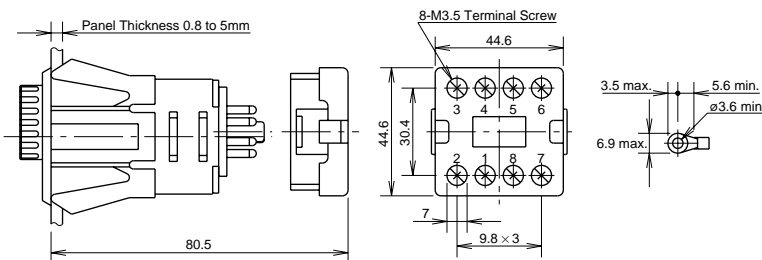
**Digital GT3 Timer, 8-Pin and 11-Pin with SR6P-S08 or SR6P-S11**



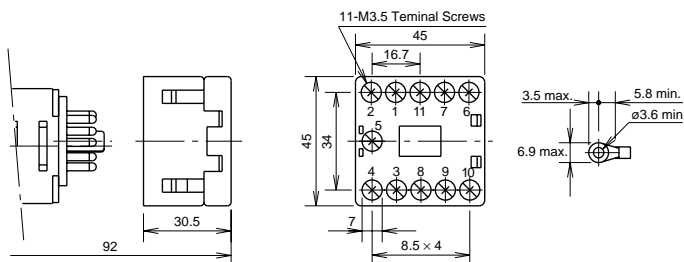
**Mounting Hole Layout**



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



**Analog and Digital 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, benzene, 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:

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

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

$T_v$ : 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

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