

GE1A Series – ON Delay Timers

Single Function

Key features of the GE1A series include:

- DPDT or SPDT + instantaneous SPDT
- 8-pin, octal base
- 8 time ranges
- Repeat error $\pm 0.2\%$ maximum
- Large, clear knob for easy setting
- Instant monitoring of operational status by LED indicators



UL, c-UL Listed
File No. E55996



Specifications

Rated Operating Voltage	24V AC/DC 100 to 120V AC 220 to 240V AC	
Voltage Tolerance	AC: 85 to 110% DC: 90 to 110%	
Contact Rating	240V AC/5A 24V DC/5A	
Contact Form	DPDT or SPDT+ instantaneous SPDT	
Repeat Error	$\pm 0.2\% \pm 10\text{msec}$ maximum	
Voltage Error	$\pm 0.5\% \pm 10\text{msec}$ maximum	
Temperature Error	$\pm 3\%$ maximum	
Setting Error	$\pm 10\%$ maximum	
Reset Time	0.1 sec maximum	
Insulation Resistance	100M Ω minimum (500V DC megger)	
Dielectric Strength	Between power and output terminals: 1,500V AC, 1 minute Between contact circuits: 750V AC, 1 minute	
Vibration Resistance	Damage limits: Amplitude 0.75mm, 10 to 55 Hz Operating extremes: Amplitude 0.5mm, 10 to 55 Hz	
Shock Resistance	Damage limits: 500m/s ² (Approx. 50G)	
Power Consumption	GE1A-B	24V AC type: 1.6 VA
		24V DC type: 1.0W
		110V AC type: 3.8 VA
	GE1A-C	220V AC type: 7.7 VA
		24V AC type: 2.0 VA
		24V DC type: 0.8W
	110V AC type: 3.5 VA	
	220V AC type: 8.0 VA	
Electrical Life	100,000 operations minimum (at full rated load)	
Mechanical Life	10,000,000 operations minimum	
Operating Temperature	-10 to +55°C (without freezing)	
Operating Humidity	35 to 85% RH (without freezing)	

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Numbering List

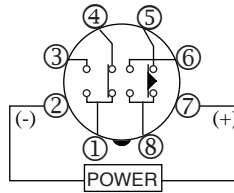
Mode of Operation	Contact	Output	Rated Voltage	Time Range	Complete Part Number	
ON-Delay	Delayed SPDT + Instantaneous SPDT	24V DC/120V AC, 5A 240V AC, 5A	24V AC/DC	0.1s to 10m	GE1A-B10MAD24	
			110-120V AC		GE1A-B10MA110	
			220-240V AC		GE1A-B10MA220	
			24V AC/DC	0.1m to 10h	GE1A-B10HAD24	
			110-120V AC		GE1A-B10HA110	
			220-240V AC		GE1A-B10HA220	
	Delayed DPDT			24V AC/DC	0.1s to 10m	GE1A-C10MAD24
				110-120V AC		GE1A-C10MA110
				220-240V AC		GE1A-C10MA220
				24V AC/DC	0.1m to 10h	GE1A-C10HAD24
				110-120V AC		GE1A-C10HA110
				220-240V AC		GE1A-C10HA220

Switches & Pilot Lights

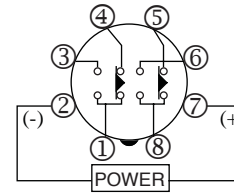
Display Lights

Timing Diagrams/Schematics

GE1A-B
Delayed SPDT + Instantaneous SPDT



GE1A-C
Delayed DPDT



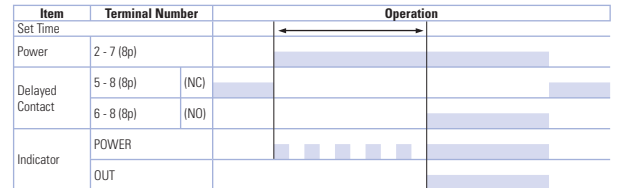
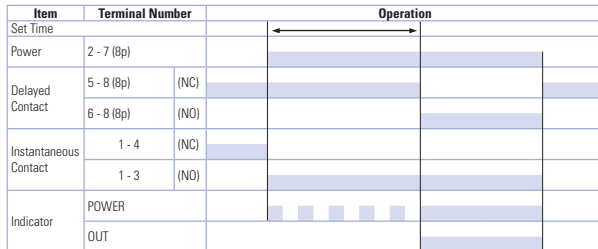
Operation
Mode Selection

Relays & Sockets

ON-Delay 1

MODE

A



Timers

Terminal Blocks

Circuit Breakers

Accessories

Mounting Accessories & Sockets

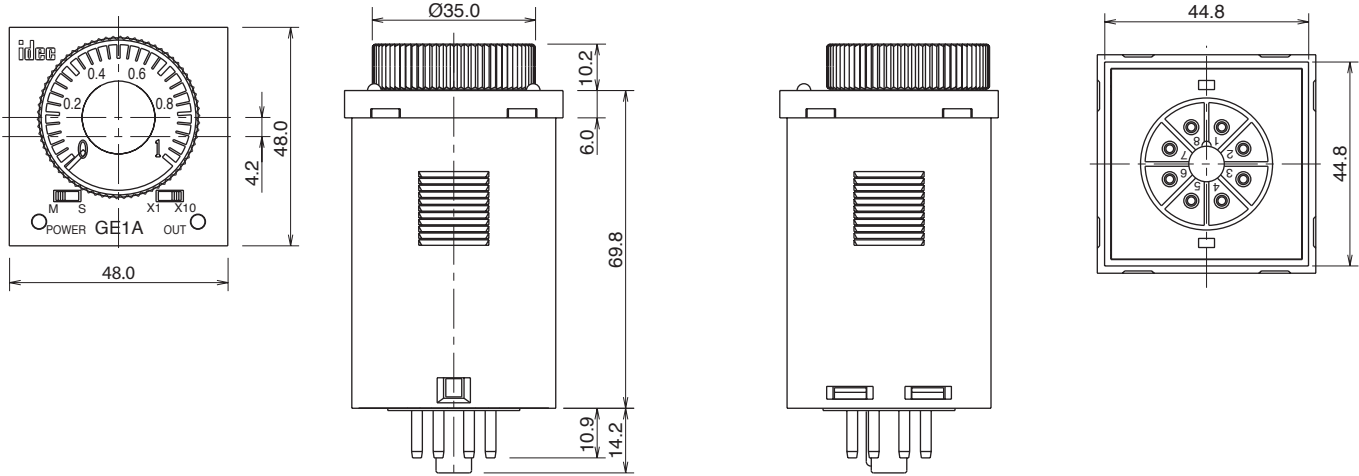
	Style	Appearance	Part No.	
Switches & Pilot Lights	8-Pin Screw Terminal (dual tier)		SR2P-05	
	DIN Rail/Surface Mounting Accessories	8-Pin Fingersafe Socket		SR2P-05C
		8-Pin Screw Terminal		SR2P-06
Display Lights	DIN Mounting Rail Length 1000mm		BNDN1000	
Relays & Sockets	8-Pin Solder Terminal		SR2P-51	
	Panel Mounting Accessories	Screw Terminal Socket		SR6P-M08G
Terminal Blocks		Panel Mount Adapter		GE9Z-AD

Other Accessories

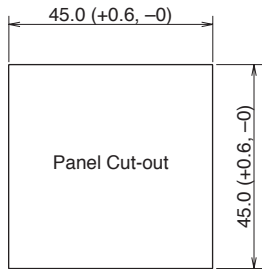
	Style	Appearance	Part No.
Circuit Breakers	Dust Cover		GE9Z-C48

Dimensions

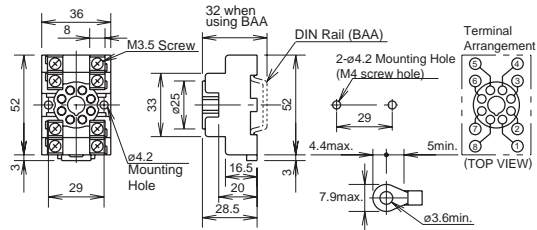
GE1A Timer



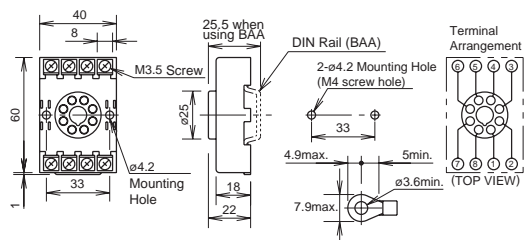
GE1A Timer Panel Cutout



8-Pin SR2P-05



8-Pin SR2P-06



GT5P Series – ON Delay Timers

Key features of the GT5P series include:

- SPDT, 5A contacts
- 8-pin, octal base
- 9 time ranges
- Repeat error $\pm 0.2\%$ maximum
- Control settings by hand or screwdriver
- Power ON and timing out LED indicators
- Uses the same sockets and hold down clips as IDEC's RR2P 8-pin relays


 UL Recognized
File No. E55996

 CSA Certified
File No. LR66809

Specifications

Rated Operating Voltage		100 to 120V AC (50/60Hz) 200 to 240V AC (50/60Hz) 24V AC/DC 12V DC
Voltage Tolerance		AC type: $\pm 15\%$ DC type: $\pm 10\%$ (ripple 10% maximum)
Contact Rating	Resistive load	120V AC/24V DC, 5A 240V AC, 3A
	Inductive load	240V AC, 0.8A 120V AC, 1.4A 24V DC, 1.7A
Allowable Contact Power (resistive load)		960VA AC 120W DC
Contact Form		SPDT
Voltage		250V AC, 150V DC
Repeat Error		$\pm 0.2\%$ $\pm 10\text{msec}$
Voltage Error		$\pm 0.5\%$ $\pm 10\text{msec}$
Temperature Error		$\pm 3\%$ maximum (over -10 to 50°C , reference temperature 20°C)
Setting Error		$\pm 10\%$ maximum
Reset Time		When turning power off after time up: 0.1 sec maximum When turning power off before time up: 1 sec maximum
Insulation Resistance		100M Ω minimum
Dielectric Strength		2000V AC, 1 minute (except between contacts of the same pole)
Vibration Resistance		100N (approximate 10G)
Shock Resistance		Operating extremes: 100N (approximate 10G) Damage limits: 500N (approximate 50G)
Power Consumption		100V AC type: 1.5VA (at 50Hz) 200V AC type: 1.6VA (at 50Hz) 24V DC type: 0.9W
Electrical Life		100,000 operations minimum (at rated load)
Mechanical Life		20,000,000 operations minimum
Operating Temperature		-10 to $+50^\circ\text{C}$
Operating Humidity		45 to 85% RH



1. Inductive load (reference), $\cos \phi = 0.3$ to 0.4 or $L/R = 15\text{msec}$.
2. Minimum applicable load: 5VDC/10mA (reference).

Part Numbering List

Mode of Operation	Contact	Output	Rated Voltage	Time Range	Complete Part No.
ON-Delay	SPDT	24V DC/120V AC, 5A 240V AC, 3A	100 to 120V AC	1S	—
				3S	GT5P-N3SA100
				6S	—
				10S	GT5P-N10SA100
				30S	GT5P-N30SA100
				60S	GT5P-N60SA100
				3M	GT5P-N3MA100
				6M	GT5P-N6MA100
				10M	GT5P-N10MA100
			200 to 240V AC	1S	GT5P-N1SA200
				3S	—
				6S	GT5P-N6SA200
				10S	GT5P-N10SA200
				30S	GT5P-N30SA200
				60S	GT5P-N60SA200
				3M	GT5P-N3MA200
				6M	GT5P-N6MA200
				10M	GT5P-N10MA200
			24V AC/DC	1S	GT5P-N1SAD24
				3S	—
				6S	GT5P-N6SAD24
				10S	GT5P-N10SAD24
				30S	—
				60S	GT5P-N60SAD24
				3M	—
				6M	GT5P-N6MAD24
				10M	GT5P-N10MAD24
			12V DC	1S	—
				3S	—
				6S	—
				10S	GT5P-N10SD12
				30S	GT5P-N30SD12
				60S	GT5P-N60SD12
				3M	—
				6M	—
				10M	GT5P-N10MD12



For sockets and accessories, see page 851.

Timing Diagram/Schematic/Electrical Life Curves

Switches & Pilot Lights

Display Lights

Relays & Sockets

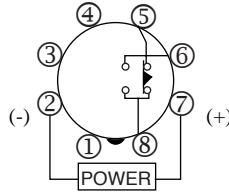
Timers

Terminal Blocks

Circuit Breakers

SPDT

Operation Mode

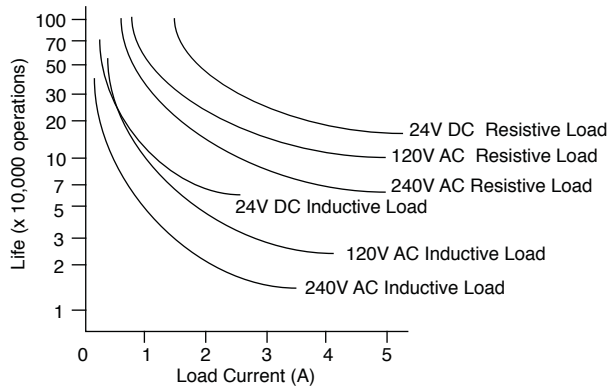


Do not apply voltage to terminals 1, 3, and 4.

ON-Delay

Item	Terminal Number	Operation
Set Time		← Operation →
Power	2 - 7 (8p)	[Bar chart showing power pulse]
Delayed Contact	5 - 8 (8p) (NC)	[Bar chart showing delayed NC contact]
	6 - 8 (8p) (NO)	[Bar chart showing delayed NO contact]
Indicator	POWER	[Bar chart showing power indicator]
	OUT	[Bar chart showing output indicator]

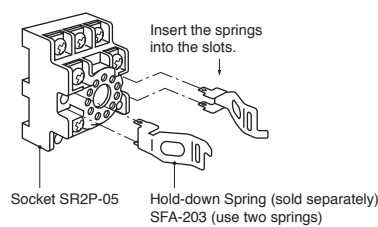
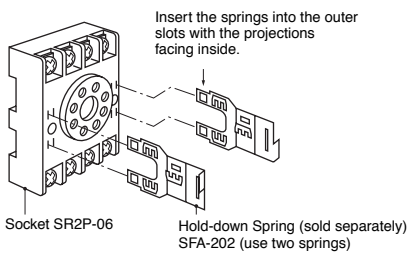
Electrical Life Curves



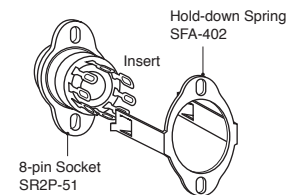
Accessories
Mounting

Mounting Accessories and Sockets					Applicable Hold-Down Springs	
	Style	Appearance	Use with Timers	Part No.	Appearance	Part No.
DIN Rail/ Surface Mounting Accessories	8-Pin Screw Terminal (dual tier)		GT5P	SR2P-05		SFA-203
	8-Pin Fingersafe Socket		GT5P	SR2P-05C		
	8-Pin Screw Terminal		GT5P	SR2P-06		SFA-202
	DIN Mounting Rail Length 1000mm		—	BNDN1000		
Part Numbers: Mounting Accessories and Sockets					Applicable Hold-Down Springs	
Mounting Accessories	8-Pin Solder Terminal			SR2P-51		SFA-402

Installation of Hold-Down Springs
DIN Rail Mount Socket



Panel Mount Socket



Switches & Pilot Lights

Display Lights

Relays & Sockets

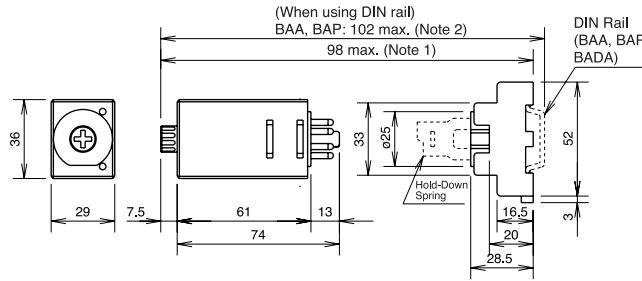
Timers

Terminal Blocks

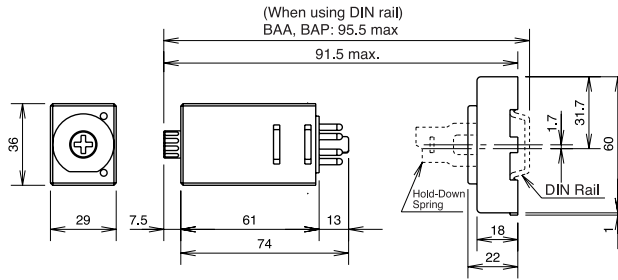
Circuit Breakers

Dimensions

GT5P Timer, 8-Pin with SR2P-05



GT5P Timer, 8-Pin with SR2P-06



Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

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:

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

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

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

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

T_t: Average of measured values at °C
T₂₀: Average of measured values at 20°C

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