GT5P Series — ON Delay Timers

Key features of the GT5P series include:

- **SPDT, 5A contacts**
- **8-pin, octal base**
- **9 time ranges**
- **Repeat error ±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 RR2P 8-pin relays**

UL Recognized
File No. E55996

CSA Certied
File No. LR58183

Cert. No. E9950913332314

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: ±15% DC type: ±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		±0.2% ±10msec
Voltage Error		±0.5% ±10msec
Temperature Error		±3% maximum (over –10 to 50C, reference temperature 20C)
Setting Error		±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		100MΩ 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
OperatingTemperature		–10 to +50C
Operating Humidity		45 to 85% RH

1. Inductive load (reference), cos0=.3 to .4 or L/R=15msec.
2. Minimum applicable load: 5VDC/10mA (reference).

TREICHL-ATM Electronic Auf der Bült 10 - 12 D 41189 Mönchengladbach
Tel. 02166 958545 Fax 02166 958547 eMail: atm@treichl.de internet: www.zeitrelais.de

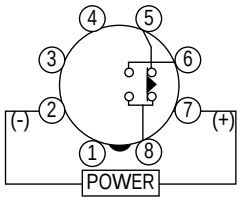
Part Numbering List

Mode of Operation	Contact	Output	Time Range	Rated Voltage	Complete Part No.
ON-Delay	SPDT	24V DC/ 120V AC, 5A 240V AC, 3A	1S	100 to 120V AC	GT5P-N1SA100
			3S		GT5P-N3SA100
			6S		GT5P-N6SA100
			10S		GT5P-N10SA100
			30S		GT5P-N30SA100
			60S		GT5P-N60SA100
			3M		GT5P-N3MA100
			6M		GT5P-N6MA100
			10M		GT5P-N10MA100
			1S	200 to 240V AC	GT5P-N1SA200
			3S		GT5P-N3SA200
			6S		GT5P-N6SA200
			10S		GT5P-N10SA200
			30S		GT5P-N30SA200
			60S		GT5P-N60SA200
			3M		GT5P-N3MA200
			6M		GT5P-N6MA200
			10M		GT5P-N10MA200
			1S	24V AC/DC	GT5P-N1SAD24
			3S		GT5P-N3SAD24
			6S		GT5P-N6SAD24
			10S		GT5P-N10SAD24
			30S		GT5P-N30SAD24
			60S		GT5P-N60SAD24
			3M		GT5P-N3MAD24
			6M		GT5P-N6MAD24
			10M		GT5P-N10MAD24
			10S	12V DC	GT5P-N10SD12
			30S		GT5P-N30SD12
			60S		GT5P-N60SD12
			10M		GT5P-N10MD12

Timing Diagram/Schematic/Electrical Life Curves

SPDT

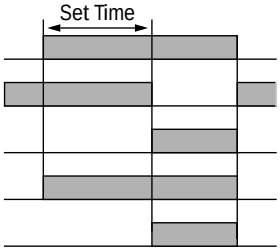
Operation Mode



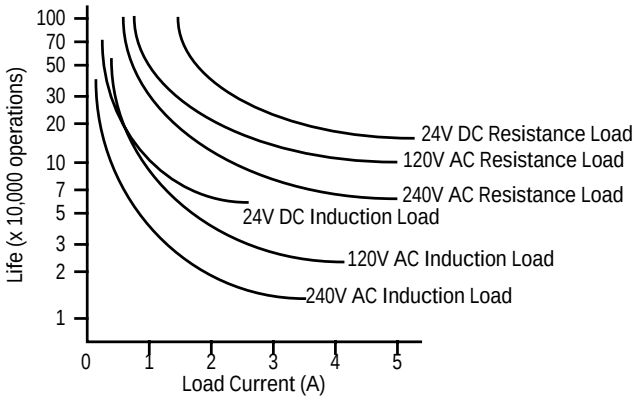
Do not apply voltage to terminals 1, 3, and 4.

ON-Delay

Item		Terminal No.
Power (Power)		2-7
Delayed Contact	(NC)	5-8
	(NO)	6-8
Indicator		POWER
		OUT



Electrical Life Curves



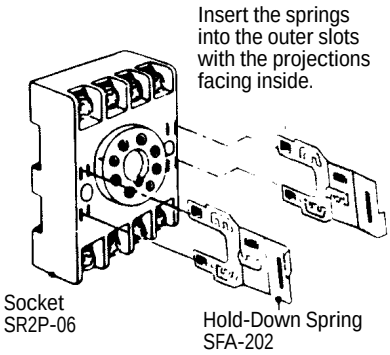
DIN Rail Mounting Accessories

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)		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		

Installation of Hold-Down Springs

DIN Rail Mount Socket



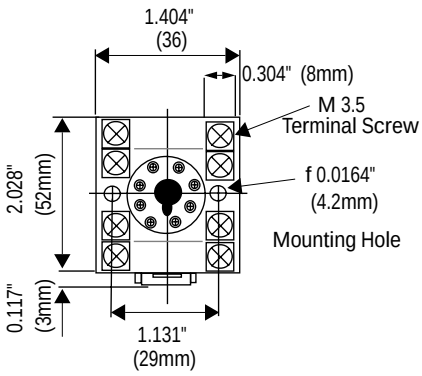
Panel Mounting Accessories

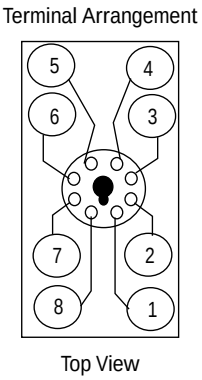
Part Numbers: Panel Mount Sockets and Hold- Down Springs

Panel Mount Socket			Applicable HD Springs	
Style	**Appearance**	**Part No.**	**Appearance**	**Part No.**
8-Pin Solder Terminal		SR2P-51		SFA-402

Dimensions: GT5P Series

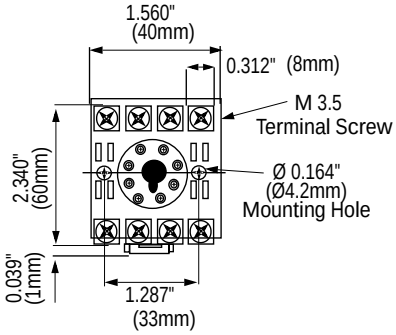
8-Pin SR2P-05

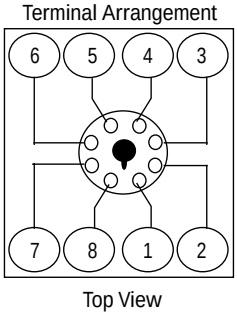




Dimensions in inches (mm)

8-Pin SR2P-06





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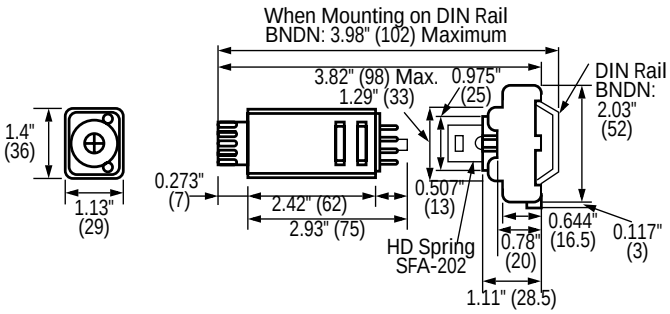
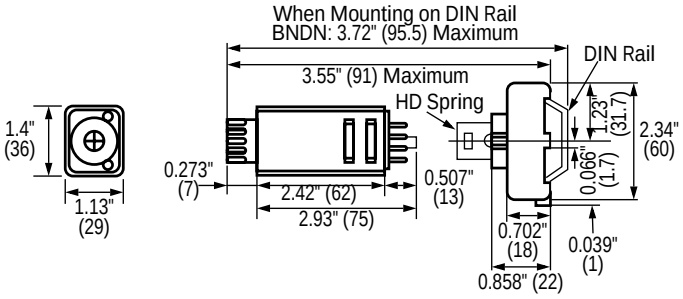
GT5P Timer, 8-Pin with SR2P-05



GT5P Timer, 8-Pin with SR2P-06



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.

Continuous Energizing
Continuous energizing for a long period of time may damage the timer's electrical characteristics because of internal heating. Use an additional relay to the output circuit and refrain from continuous energizing of the timer.

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 sufcient 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 signicant 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:

Repeat Error

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

Voltage Error

$$= \pm \frac{Tv - Tr}{Tr} \times 100\%$$

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

Temperature Error

$$= \pm \frac{Tt - T20}{T20} \times 100\%$$

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

Setting Error

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

The maximum scale value of the GT3P equals the preset time for one cycle.