

Timers

Multi-function

Type S 103

CARLO GAVAZZI



- Time ranges: 0.1 s to 10 h
- 4 selectable functions: - Delay on operate
 - Interval timer
 - Interval timer, delay on release
 - Recycler
- Easy time and function setting
- Knob-adjustable time setting
- Automatic and manual start functions
- Repeatability: $\leq 0.2\%$
- Output: 5 A SPDT or DPDT relay
- Plug-in module, S-housing
- LED-indication for relay and power supply ON
- 24 VAC/DC and 115 to 230 VAC power supply
- Cadmium-free contacts
- Timer in accordance with IEC 61812-1

Product Description

Multi-function, multi-voltage timer with 6 selectable time ranges from 0.1 s up to 10 h for standard 11-pin circular

sockets. Used as a general timer in industrial applications.

Ordering Key

S 103 156 924

Housing _____
 Type/function _____
 Output _____
 Power supply _____

Type Selection

Plug	Output	Time range	Supply: 24 VAC/DC & 115-230 VAC
Circular	SPDT	0.1 s - 10 h	S 103 156 924
Circular	DPDT	0.1 s - 10 h	S 103 166 924

Time Specifications

Time ranges	Selectable by DIP-switch	0.1 - 1 s 1 - 10 s 0.1 - 1 m 1 - 10 m 0.1 - 1 h 1 - 10 h
Setting accuracy		$\leq 5\%$
Repeatability		$\leq 0.2\%$
Time variation	Within rated power supply and ambient temperature	$\leq 0.05\%/\text{V}$ $\leq 0.2\%/\text{C}$
Reset	Manual reset of time and/or relay Pulse duration Power supply interruption	Interconnect pins 5 & 2 $\geq 100 \text{ ms}$ $\geq 200 \text{ ms}$

Output Specifications

Output	S 103 156 924 S 103 166 924	SPDT relay DPDT relay
Rated insulation voltage		250 VAC (rms) (cont./elect.)
Contact ratings (AgNi)		μ (micro gap) (IEC 60947-5-1/IEC 60337)
Resistive loads	AC 1 DC 1	5 A/250 VAC 5 A/24 VDC
Small inductive loads	AC 15 DC 13	5 A/250 VAC 2 A/24 VDC
Mechanical life		$\geq 30 \times 10^6$ operations
Electrical life	AC 1	$\geq 10^5$ operations (at max. load)
Operating frequency		≤ 7200 operations/h
Insulation voltage		Rated insulation voltage Rated impulse withstand volt. $\geq 2.0 \text{ kVAC (rms) (cont./elect.)}$ 4 kV (1.2/50 μs) (cont./elect.) (IEC 60664)

Supply Specifications

Power supply AC connection	Overvoltage cat. III (IEC 60664)	Power supply DC connection	Overvoltage cat. III (IEC 60664)
Rated operational voltage Through pins 2 & 10 or pins 2 & 10 (interconnect pins 6 & 10)	115-230 VAC, -15 to +15% 50/60 Hz, -5/+5 Hz 24 VAC, -15 to +15% 50/60 Hz, -5/+5 Hz $\leq 40 \text{ ms}$ None 4 kV (1.2/50 μs) (pin 2 & 10)	Rated operational voltage Through pins 2 & 10 924 (interconnect pins 6 & 10) Voltage interruption Rated insulation voltage Rated impulse withstand volt.	24 VDC, -15 to +15% (pin 2 positive) $\leq 40 \text{ ms}$ None 1 kV (1.2/50 μs) (pin 2 & 6)
Voltage interruption Rated insulation voltage Rated impulse withstand volt.		Rated operational current	
		AC supply	75 mA @ 230 VAC 40 mA @ 115 VAC 55 mA @ 24 VAC 35 mA @ 24 VDC
		DC supply	

General Specifications

Power ON delay	≤ 200 ms
Power OFF delay	≤ 200 ms
Indication for	
Power supply ON	LED, green (flashing during timing)
Output ON	LED, yellow
Environment	
Degree of protection	IP 20
Pollution degree	2 (IEC 60664)
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
Weight	100 g
Approvals	UL, CSA
CE-marking	Yes
EMC	Electromagnetic Compatibility
Immunity	Acc. to EN 50082-2
Emission	Acc. to EN 50081-1
Timer specifications	Acc. to IEC 61812-1

Function and Time Setting



Shown example:
min. x 0.1, function 2

Accessories

Socket◊	S 411
Hold down spring◊	HF
Mounting rack	SM 13
Socket cover	BB 4

Mode of Operation

Functions selectable by DIP-switch

Function 1

Delay on operate

The time period starts when pins 5 and 2 are interconnected. At the end of the set delay, the relay will operate and will not release until pins 5 and 2 are interconnected again, or power supply is interrupted. The time period will autostart when pins 5 and 2 are constant connected.

When power supply

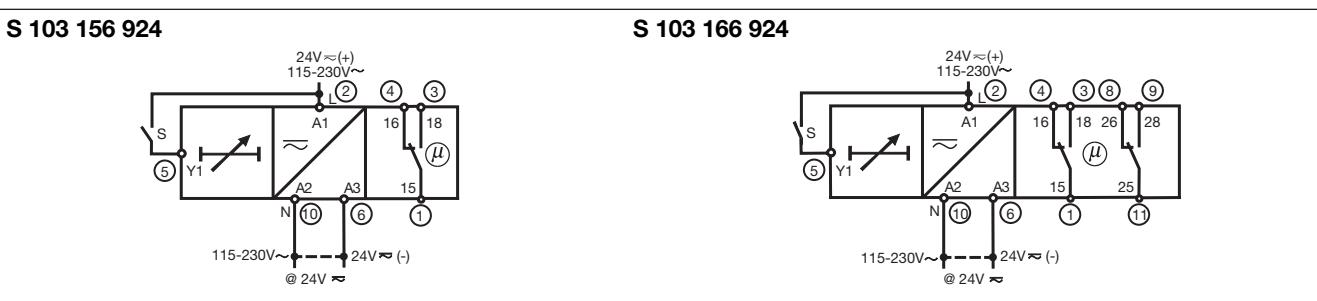
The relay operates and the time period starts when pins 5 and 2 are interconnected. At the end of the set delay the relay releases. The relay will operate again when pins 5 and 2 are interconnected. For autostart connect pins 5 and 2 before power supply is applied. A recovery period of 200 ms should be allowed before reapplying power supply.

Function 3

Interval timer

Delay on release
Power supply must be constantly applied. When interconnecting pins 5 and 2 the relay will operate. When pins

Wiring Diagrams



Operation Diagram

