

Timers Multi Interval Type S 112

CARLO GAVAZZI



- 4 selectable interval timer functions
- 4 selectable time ranges: 0.15 s to 800 s
- Knob-adjustable time within range
- Oscillator-controlled time circuit
- Repeatability deviation: $\leq 1\%$
- Direct connection for NPN sensor
- Output: 10 A SPDT relay or 8 A DPDT relay
- Plug-in type module
- S-housing
- LED-indication for relay and power supply on
- AC or DC power supply

Product Description

Multi interval, plug-in time relay with 4 selectable time ranges up to 800 s and 4 selectable modes of operation.

Often used for e.g. flushing systems monitored by a contact, open collector output or sensor.

Ordering Key **S 112 156 024**

Housing	_____
Type/function	_____
Output	_____
Power supply	_____

Type Selection

Plug	Output	Time range	Supply: 24 VAC	Supply: 115 VAC	Supply: 230 VAC	Supply: 24 VDC
Circular	SPDT	0.15 -800 s	S 112 156 024	S 112 156 115	S 112 156 230	S 112 156 724
	DPDT	0.15 -800 s	S 112 166 024	S 112 166 115	S 112 166 230	S 112 166 724

Time Specifications

Time ranges	0.15 - 3 s	Time variation	
Selectable by DIP-switch	0.6 - 12 s	Within rated power supply and ambient temperature	$\leq 0.2\%/^{\circ}\text{C}$ $\leq 0.05\%/V$
	5 - 100 s		
	40 - 800 s	Reset	
Time range accuracy	0 to +10% on max. min. actual time \leq min. set time	Time and relay	Intercon. pins 5 & 7 pin 5 pos., 24 VDC, 6 mA ≥ 10 ms
Repeatability deviation	$\leq 1\%$	Pulse duration	min. 200 ms
		Power supply interruption	24 VDC, 15 mA
		Sensor supply output	pin 6 & 7 pin 6 pos.

Output Specifications

	S 112 156	S 112 166
Output	SPDT relay	DPDT relay
Basic electrical insulation	250 VAC (rms) (contact/electronics)	250 VAC (rms) (contacts/elec., contact/contact)
Contact ratings (AgCdO)	μ (micro gap)	μ (micro gap)
Resistive loads	AC 1 10 A/250 VAC (2500 VA) DC 1 1 A/250 VDC (250 W) or 10 A/25 VDC (250 W)	8 A/250 VAC (2000 VA) 0.4 A/250 VDC (100 W) 4 A/25 VDC (100 W)
Small inductive loads	AC 15 2.5 A/230 VAC DC 13 5 A/24 VDC	2.5 A/230 VAC 5 A/24 VDC
Mechanical life	$\geq 30 \times 10^6$ operations	$\geq 30 \times 10^6$ operations
Electrical life	AC 1 $\geq 2.5 \times 10^5$ operations (at max. load)	$\geq 2.5 \times 10^5$ operations (at max. load)
Operating frequency	≤ 7200 operations/h	≤ 7200 operations/h
Insulation voltages		
Rated insulation voltage	≥ 2.0 kVAC (rms) (contact/electronics)	≥ 2.0 kVAC (rms) (contact/electronics)
Rated transient protection volt.	4 kV (1.2/50 μs) (contact/electronics) (IEC 664)	4 kV (1.2/50 μs) (contact/electronics) (IEC 664)

Supply Specifications

Power supply AC types	Installation cat. III (IEC 664)	
Rated operational voltage through pins 2 & 10	230	230 VAC \pm 15%, 45 to 65 Hz
	115	115 VAC \pm 15%, 45 to 65 Hz
	024	24 VAC \pm 15%, 45 to 65 Hz
Drop-out tolerance	\geq 40 ms	
Rated insulation voltage	\geq 2.0 kVAC (rms) (supply/elec.)	
Rated transient protection volt.	4 kV (1.2/50 μ s) (line/neutral)	
Power supply DC type	Installation cat. III (IEC 664)	
Rated operational voltage 724	24 VDC \pm 15% (pin 2 pos.)	
Rated insulation voltage	None	
Rated transient protection volt.	4 kV (1.2/50 μ s)	
Consumption	AC supply	3.0 VA
	DC supply	1.5 W

General Specifications

Power ON delay	\leq 200 ms
Power OFF delay	\geq 200 ms
Indication for	
Power supply ON	LED, green
Output ON	LED, red
Environment	IP 20 B
Pollution degree	2 (IEC 664)
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
Weight	
AC types	200 g
DC types	125 g
Approvals	UL, CSA, SEV

Mode of Operation

Aut. start - man. restart

The relay operates and the time period starts when power supply is applied. At the end of the set time period, the relay releases. When interconnecting pins 5 and 7 after expiration of the time period, the relay operates and a new time period starts.

Aut. start - man. restart and time reset

The relay operates and the time period starts when power supply is applied. At the end of the set time period, the relay releases. When interconnecting pins 5 and 7 for at least 10 ms during the time period, the time is reset. When interconnecting pins 5 and 7 after expiration of the time period, the relay operates and a new time period starts when pins 5 and 7 are disconnected.

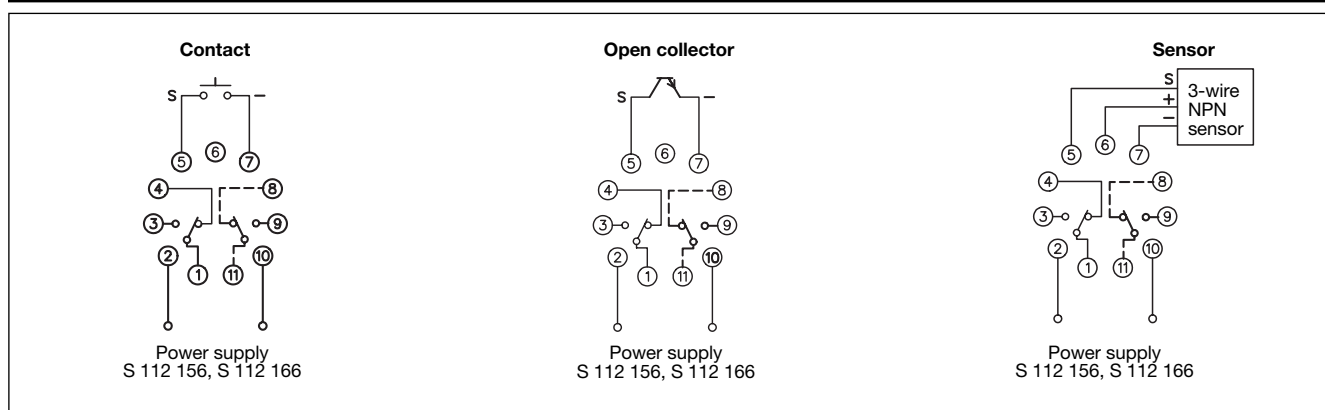
Man. start and restart

The relay operates and the time period starts when pins 5 and 7 are interconnected for at least 10 ms. At the end of the set time period, the relay releases regardless of the interconnection between pins 5 and 7. Renewed connection between pins 5 and 7 will cause the relay to operate and a new time period will start.

Man. start - man. restart and time reset

The relay operates when pins 5 and 7 are interconnected. The time period starts when pins 5 and 7 are disconnected. At the end of the set time period, the relay releases. When interconnecting pins 5 and 7 for at least 10 ms during the time period, the time is reset.





Wiring Diagrams



Function/Time Setting





Selection of function

DIP-switch selector (1 & 2).

- | | |
|--|---|
| | 1 2 3 4 |
| 1. Aut. start - man. restart |  |
| 2. Aut. start - man. restart and time reset |  |
| 3. Man. start and restart |  |
| 4. Man. start - man. restart and time reset. |  |

Selection of time ranges

DIP-switch selector (3 & 4).

- | | |
|------------|---|
| | 1 2 3 4 |
| 0.15 - 3 s |  |
| 0.6 - 12 s |  |
| 5 - 100 s |  |
| 40 - 800 s |  |

Time setting

Knob-adjustable on scale in per cent of max. time.

DIP-switches for selecting function and time are placed behind a small removable front plate on the time relay.

Accessories

Sockets◊	S 411, D 411 B
Hold down spring◊	HF
Mounting rack	SM 13
Socket covers	BB 4, BB 5B
Potentiometer lock	PL 3
Front mounting bezel	FRS2
3-wire (NPN) inductive, capacitive or photo electric switches.	

For further information refer to "Accessories". For other AC/DC voltages refer to "General Information".

Operation Diagram

