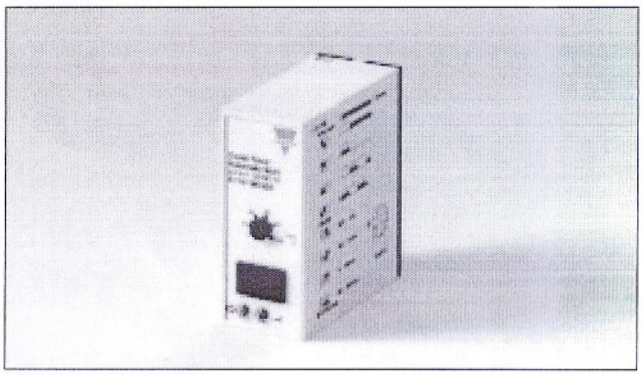
Timers
Multi-function
Type S 110

CARLO GAVAZZI



- 4 selectable functions: - Delay on operate
  - Interval timer
  - Symmetrical recycler (ON- or OFF-time first)
- 4 selectable time ranges: 0.15 s to 800 s
- Automatic start
- Knob-adjustable time within range
- Oscillator-controlled time circuit
- Repeatability deviation: ≤ 1%
- Output: 10 A SPDT or 8 A DPDT relay
- Plug-in type module
- S -housing
- LED-indication for relay and supply on
- AC or DC power supply

Product Description

Multi-function, plug-in time relay with 4 selectable time ranges up to 800 s and 4 selectable modes of operation. Available in several voltages for applications monitored by power supply.

Ordering Key

S 110 156 024

- 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 s-800 s	**S 110 156 024**	S 110 156 115	S 110 156 230	S 110 156 724
	DPDT	0.15 s-800 s	**S 110 166 024**	S 110 166 115	S 110 166 230	S 110 166 724

Time Specifications

Time ranges	
Selectable by DIP-switch	0.15 - 3 s 0.6 - 12 s 5 - 100 s 40 - 800 s
Time range accuracy	0 to +10% on max. min. actual time ≤ min. set time
Repeatability deviation	≤ 1%
Time variation	
Within rated power supply	≤ 0.05%/V
and ambient temperature	≤ 0.2%/°C
Reset	Power supply interruption min.
Time and/or relay	200 ms

Output Specifications

		S 110 156	S 110 166
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)	8 A/250 VAC (2000 VA)
	DC 1	1 A/250 VDC (250 W)	0.4 A/250 VDC (100 W)
	or	10 A/25 VDC (250 W)	4 A/25 VDC (100 W)
Small inductive loads	AC 15	2.5 A/230 VAC	2.5 A/230 VAC
	DC 13	5 A/24 VDC	5 A/24 VDC
Mechanical life		≥ 30 x 10^6 operations	≥ 30 x 10^6 operations
Electrical life	AC 1	≥ 2.5 x 10^5 operations (at max. load)	≥ 2.5 x 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 60664)	4 kV (1.2/50 µs) (contact/electronics) (IEC 60664)

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Supply Specifications

Power supply AC types		Installation cat. III (IEC 60664)
Rated operational voltage through pins 2 & 10	230	230 VAC ± 15%, 45 to 65 Hz
	115	115 VAC ± 15%, 45 to 65 Hz
	024	24 VAC ± 15%, 45 to 65 Hz
Dropout tolerance		≥ 40 ms
Rated insulation voltage		≥ 2.0 kVAC (rms) (supply/elec.)
Rated transient protection volt.		4 kV (1.2/50 µs) (line/neutral)
Power supply DC type		Installation cat. III (IEC 60664)
Rated operational voltage 724		24 VDC ± 15% (pin 2 pos.)
Rated insulation voltage		None
Rated transient protection volt.		800 V (1.2/50 µs)
Consumption	AC supply	2.5 VA
	DC supply	1.5 W

General Specifications

Power ON delay	≤ 200 ms
Power OFF delay	≥ 200 ms
Indication for	
Power supply ON	LED, green
Output ON	LED, red
Environment	
Degree of protection	IP 20 B
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	125 g
Approvals	UL, CSA

Mode of Operation

Delay on operate
The time period starts when power supply is applied. At the end of the set time period, the relay operates and does not release until power supply is interrupted for at least 200 ms.

Interval timer
The relay operates and the time period starts when power supply is applied. At the end of the set time period, the relay releases. A new operation starts when reapplying power supply after an interruption of at least 200 ms.

Recycler
ON-time period first
When power supply is applied the relay operates and the time period starts. At the end of the first set time period, the relay releases. At the end of the second set time period (similar to the first), the relay operates again.

This sequence continues with equal ON- and OFF-time periods until power supply is interrupted.

Recycler
OFF-time period first
The time period starts when power supply is applied. At the end of the first set time period, the relay operates. At the end of the second set time period (similar to the first), the relay releases.

This sequence continues with equal OFF- and ON-time periods until power supply is interrupted.

Function/Time Setting

Selection of function
DIP-switch selector (1 & 2).

1. Delay on operate
2. Interval timer
3. Recycler, ON-time first
4. Recycler, OFF-time first

Selection of time ranges
DIP-switch selector (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 are placed behind a small removable front plate on the time relay.

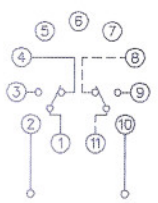
Accessories

Socket◊	S 411
Hold down spring◊	HF
Mounting rack	SM 13
Socket cover	BB 4
Potentiometer lock	PL 3

For further information refer to "Accessories".

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

Wiring Diagram



Power supply
S 110 156, S 110 166

Operation Diagram