

Timers

Asymmetrical Multi Recycler

Type S 1231

CARLO GAVAZZI



- 20 selectable time ranges: 0.15 s to 220 hrs
- Automatic start (OFF- or ON-time first)
- Separate setting for OFF- and ON-time periods
- Oscillator-controlled time circuit
- Repeatability deviation: $\leq 1\%$
- Output: 10 A SPDT 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 time range, plug-in, asymmetrical ON/OFF recycler with 20 selectable time ranges up to 220 h. Appli-

cable where loads are desired to switch on or off for short or very long cycles.

Ordering Key S 1231 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-220 h	S 1231 156 024	S 1231 156 115	S 1231 156 230	S 1231 156 724
	DPDT	0.15 s-220 h	S 1231 166 024	S 1231 166 115	S 1231 166 230	S 1231 166 724

Time Specifications

Time ranges Selectable by DIP-switch	0.15 s - 1.5 s
	0.3 s - 3 s
	0.6 s - 6 s
	1.2 s - 12 s
	2.5 s - 25 s
	5 s - 50 s
	10 s - 100 s
	20 s - 200 s
	40 s - 400 s
	1.3 m - 13 m
	2.6 m - 26 m
	5 m - 50 m
	10 m - 100 m
	20 m - 200 m
	40 m - 400 m
	1.4 h - 14 h
	2.8 h - 28 h
	5.5 h - 55 h
	11 h - 110 h
	22 h - 220 h

Accuracy 0 to +10% on max.
min. actual time $\leq$ set time

Repeatability deviation $\leq 1\%$

Time variation
 Within rated power supply $\leq 0.05\%/V$
 and ambient temperature $\leq 0.2\%/^{\circ}C$

Reset power supply interruption min.
 Time and/or relay 200 ms

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	≥ 40 ms	
Rated insulation voltage	≥ 2.0 kVAC (rms)	
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.)	
	none	
	800 V (1.2/50 μ s)	
Consumption	AC supply	2.5 VA
	DC supply	1.5 W



Output Specifications

	S 1231 156	S 1231 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	≥ 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 664)	4 kV (1.2/50 μs) (contact/electronics) (IEC 664)

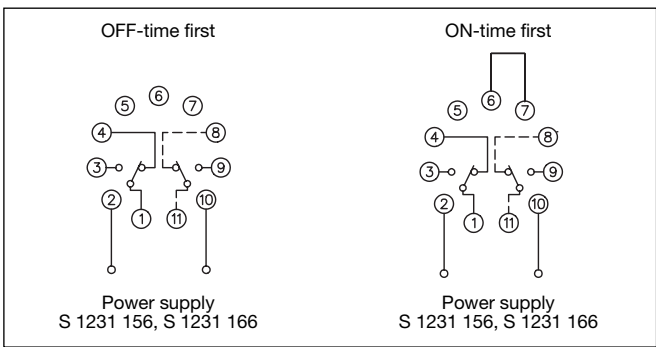
General Specifications

Power-on delay	≤ 200 ms
Power-off delay	≥ 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 supply	200 g
DC supply	125 g
Approvals	UL, CSA, SEV

Mode of Operation

OFF-time period first	ON-time period first
The OFF-time period starts when power supply is applied.	The relay operates and the ON-time period starts when power supply is applied.
At the end of the set OFF-time period, the relay operates and the ON-time period starts.	At the end of the set ON-time period, the relay releases and the OFF-time period starts.
At the end of the set ON-time period, the relay releases and the OFF-time period starts again.	At the end of the set OFF-time period the relay operates and the ON-time period starts again.
This sequence continues until power supply is interrupted.	This sequence continues until power supply is interrupted.

Wiring Diagram



Accessories

Sockets◇	S 411
Hold down spring◇	HF
Mounting rack	SM 13
Socket covers	BB 4
Front mounting bezel	FRS2
Potentiometer lock	PL 2

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

Function/Time Setting

Selection of function	1 2 3 4 5	ON-time	Example of time setting
OFF-time period first: (no connection between pins 6 & 7).	6 7 8 9 10	OFF-time	ON: 0.15 - 1.5 s OFF: 1.3 - 13 m
		0.15 s - 1.5 s	
ON-time period first:		0.3 s - 3 s	
Interconnect pins 6 and 7.		0.6 s - 6 s	
Selection of time range		1.2 s - 12 s	
DIP-switch selector:		2.5 s - 25 s	
ON-time ranges:		5 s - 50 s	
Switches 1 to 5.		10 s - 100 s	
OFF-time ranges:		20 s - 200 s	
Switches 6 to 10.		40 s - 400 s	
Time setting		1.3 m - 13 m	
Two independent knob-ad-justable potentiometers for OFF- and ON-time on scale in per cent of max. time.		2.6 m - 26 m	
		5 m - 50 m	
DIP-switches for selecting function and time are placed behind a small removable front plate on the time relay.		10 m - 100 m	
		20 m - 200 m	
		40 m - 400 m	
		1.4 h - 14 h	
		2.8 h - 28 h	
		5.5 h - 55 h	
		11 h - 110 h	
		22 h - 220 h	

Operation Diagram

