

Timers

Asymmetrical Multi Recycler

Type S 113

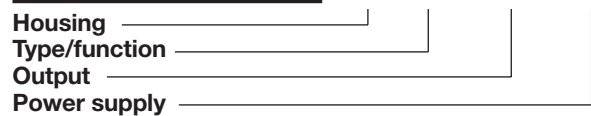


- 4 selectable time ranges: 0.15 s to 800 s
- Automatic start (ON or OFF first)
- Separate time-setting for ON- and OFF-time periods
- Oscillator-controlled time circuit
- Repeatability deviation: $\leq 1\%$
- Output: 10 A SPDT relay or 8 A DPDT relay
- Plug-in type module
- S-housing
- LED-indication for relay and power supply on
- AC or DC power supply

Product Description

Multi-time range, plug-in, asymmetrical ON/OFF recycler with 4 selectable time ranges. This relay can be used in many applications e.g. to switch between two loads.

Ordering Key **S 113 156 024**



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 113 156 024	S 113 156 115	S 113 156 230	S 113 156 724
	DPDT	0.15 s-800 s	S 113 166 024	S 113 166 115	S 113 166 230	S 113 166 724

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	$\leq 0.05\%/V$ $\leq 0.2\%/^{\circ}C$
	5 - 100 s	Reset	Power supply interruption, min. 200 ms
	40 - 800 s	Time and/or relay	
Time range accuracy	0 to +10% on max. min. actual time \leq min. set time		
Repeatability deviation	$\leq 1\%$		

Output Specifications

	S 113 156	S 113 166
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 μ s) (contact/electronics) (IEC 664)	4 kV (1.2/50 μ s) (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 ± 15%, 45 to 65 Hz
	115	115 VAC ± 15%, 45 to 65 Hz
	024	24 VAC ± 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 μs) (line/neutral)	
Power supply DC type	installation cat. III (IEC 664)	
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

Mode of Operation

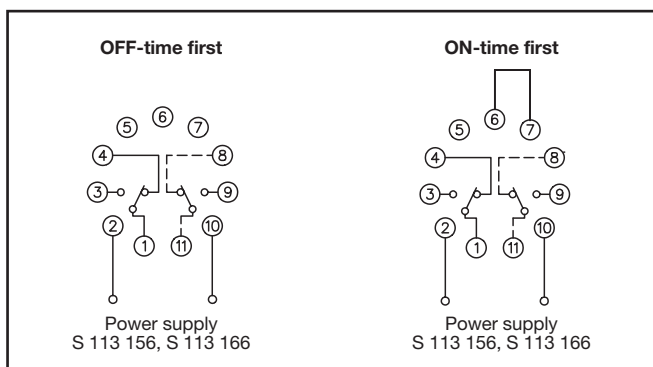
OFF-time period first
The OFF-time period starts when power supply is applied. At the end of the set OFF-time period, the relay operates and the ON-time period starts. At the end of set ON-time period, the relay releases and the OFF-time period starts again.

This sequence continues until power supply is interrupted.

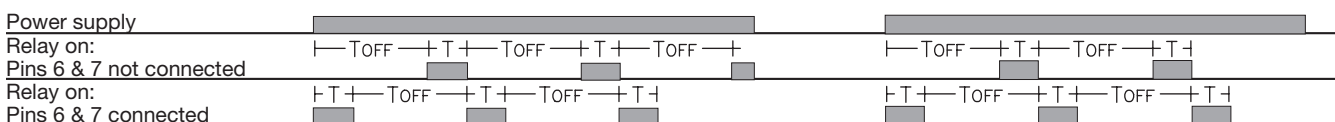
ON-time period first
The relay operates and the ON-time period starts when power supply is applied. At the end of the set ON-time period, the relay operates and the OFF-time period starts. At the end of set OFF-time period, the relay releases and the ON-time period starts again.

This sequence continues until power supply is interrupted.

Wiring Diagrams



Operation Diagram



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

Function/Time Setting

Selection of functions
OFF-time period first
Pins 6 & 7.

ON-time period first
Interconnect pins 6 and 7.

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

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

Selection of ON-time
DIP-switch selector (3 & 4).

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

Time setting
Two independent knob-adjustments for OFF- and ON-time on scale in per cent of max. time.

ON-time period:
Upper potentiometer on housing.
OFF-time period:
Lower potentiometer on housing.

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

Accessories

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

For further information refer to "Accessories".