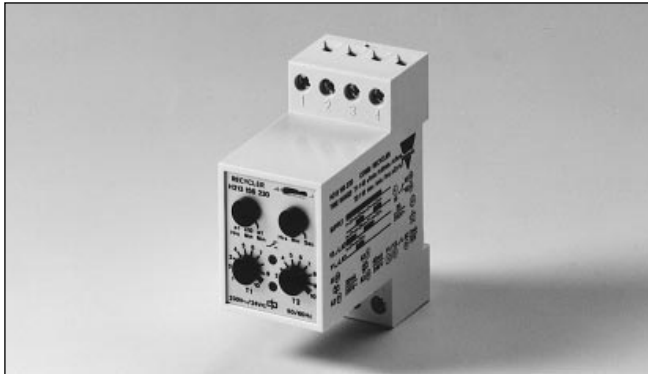


Timers

Asymmetrical Multi Recycler

Type H 213



- 3 functions:
 - Asym. recycler (OFF first)
 - Asym. recycler (ON first)
 - One-shot timer
- Time ranges: 0.1 s to 10 h
- Automatic start
- Knob-adjustable time within range
- Oscillator-controlled time circuit
- Repeatability deviation: $\leq 1\%$
- Output: 5 A SPDT relay
- For mounting on DIN-rail in accordance with DIN/EN 50 022
- H2 -housing
- LED-indication for relay and power supply on
- AC and DC power supply

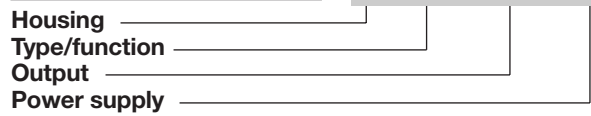
Product Description

Multi time range, asymmetrical ON/OFF one-shot recycler with 6 selectable time ranges from 0.1 s up to 10 hours. For

use in many applications such as lubricating machines or switching on or off a load.

Ordering Key

H 213 156 230



Type Selection

Mounting	Output	Time range	Supply: 24 VAC/DC & 230 VAC
For DIN -rail	SPDT	0.1 s - 10 h	H 213 156 230

Time Specifications

Time ranges	T1	T2
	1 - 10 m	0.1 s - 1 s
	10 - 100 m	1 s - 10 s
	1 - 10 h	0.1 m - 1 m
		1 m - 10 m
		0.1 h - 1 h
		1 h - 10 h
Time range accuracy	-5 to +15% min. actual time \leq min. set time	
Repeatability deviation	$\leq 1\%$	
Time variation Within rated power supply and ambient temperature	$\leq 0.05\%/V$ $\leq 0.2\%/^{\circ}C$	
Reset Power supply interruption	Relay on: > 200 ms Relay off: > 1.5 s	
Reversion of relay	Interconnect term. 2 & 21	
One-shot function	Interconnect term. 1 & 21	
Output	SPDT relay	

Output Specifications

Basic electrical insulation	250 VAC (rms) (contact/electronics)
Contact ratings (AgCdO)	μ (micro gap)
Resistive loads	AC 1 5 A/230 VAC (1200 VA) DC 1 5 A/24 VDC (120 W)
Mechanical life	$\geq 10 \times 10^6$ operations
Electrical life (at max. load) AC 1	$\geq 1 \times 10^5$ operations
Operating frequency	≤ 7200 operations/h
Insulation voltages Rated insulation voltage	2.0 kVAC (rms) (cont./elec.)



Supply Specifications

Power supply AC types Rated operational voltage through term. 21 & 22 230 or term. 21 & 3 Drop-out tolerance Rated insulation voltage Rated transient protection volt.	Installation cat. III (IEC 60664) 230 VAC ± 15%, 45-65 Hz 24 VAC +15/-10%, 45-65 Hz ≥ 40 ms None 4 kV (1.2/50 μs) (line/neutral)
Power supply DC type Rated operational voltage through term. 21 & 3 230 Rated insulation voltage Rated transient protection volt.	Installation cat. III (IEC 60664) 24 VDC +15/-10% (term. 21: +) None 800 V (1.2/50 μs)
Consumption	AC supply 30 mA @ 50 Hz/ 40 mA @ 60 Hz DC supply 1 W

General Specifications

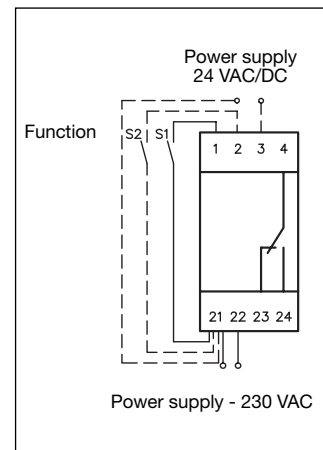
Power-on time	≤ 200 ms
Power-off delay	relay on: ≥ 200 ms
Indication for Power supply ON Output ON	LED, green LED, red
Environment Pollution degree Operating temperature Storage temperature	IP 20 B/front IP 40 D 3 (IEC 60664) -20° to +50°C (-4° to +122°F) -50° to +85°C (-58° to +185°F)
Weight	100 g

Mode of Operation

Function 1 Asymmetrical recycler OFF-time period first No connection between the terminals. The time period begins 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, the relay releases. This sequence continues with unequal OFF- and ON-time periods, until power supply is interrupted.	Function 2 Asymmetrical recycler ON-time period first S2 is connected. The relay operates and the time period starts when power supply is applied. At the end of the first set time period, the relay releases. At the end of the second set time period, the relay operates again. This sequence continues with unequal ON- and OFF-time periods until power supply is interrupted.
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Function 3 One-shot timer S1 is connected. The time period begins 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, the relay releases. This sequence is repeated when power supply has been interrupted and is reapplied.
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Wiring Diagram



Accessories

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

Time Setting

Knob-adjustable on relative scale (1-10).
Left knob on housing:
Selection of time range (seconds, minutes, hours).

Right knob on housing:
Time range multiplier x 0.1 or x1.

Operation Diagram

