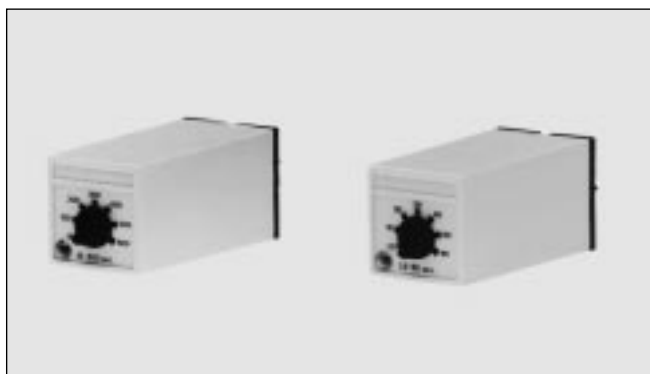


# Timers

## Symmetrical Recycler

### Types C 101, C 201, C 108, C 208, C 111, C 211, C 118, C 218

CARLO GAVAZZI



- Time ranges: 0.15 s to 600 s
- Automatic start
- C .0.: Starts with OFF-time  
C .1.: Starts with ON-time
- Knob-adjustable time within range
- Oscillator-controlled time circuit
- Repeatability deviation:  $\leq 1\%$
- Output: 10 A SPDT or 8 A DPDT relay
- Plug-in type module
- Scantimer housing
- LED-indication for relay on
- AC or DC power supply

## Product Description

Mono-function, plug-in, symmetrical, ON/OFF miniature recyclers up to 600 s (10 min) covering 3 individual time ranges. Optional ON- or OFF-

time period first. This economical relay is often used in lighting systems such as advertising signs, etc.

## Ordering Key

**C 108 024 600**

Function \_\_\_\_\_  
Output \_\_\_\_\_  
Type \_\_\_\_\_  
Power supply \_\_\_\_\_  
Time range \_\_\_\_\_

## Type Selection, OFF-Time Period First

| Plug               | Output | Time ranges | Supply: 24 VAC/DC | Supply: 120 VAC | Supply: 220 VAC |
|--------------------|--------|-------------|-------------------|-----------------|-----------------|
| Circular<br>8 pin  | SPDT   | 0.15- 6 s   | C 108 024 006     | C 108 120 006   | C 108 220 006   |
|                    |        | 1.5 - 60 s  | C 108 024 060     | C 108 120 060   | C 108 220 060   |
|                    |        | 15 - 600 s  | C 108 024 600     | C 108 120 600   | C 108 220 600   |
| Circular<br>11 pin |        | 0.15- 6 s   | C 101 024 006     | C 101 120 006   | C 101 220 006   |
|                    |        | 1.5 - 60 s  | C 101 024 060     | C 101 120 060   | C 101 220 060   |
|                    |        | 15 - 600 s  | C 101 024 600     | C 101 120 600   | C 101 220 600   |
| Circular<br>8 pin  | DPDT   | 0.15- 6 s   | C 208 024 006     | C 208 120 006   | C 208 220 006   |
|                    |        | 1.5 - 60 s  | C 208 024 060     | C 208 120 060   | C 208 220 060   |
|                    |        | 15 - 600 s  | C 208 024 600     | C 208 120 600   | C 208 220 600   |
| Circular<br>11 pin |        | 0.15- 6 s   | C 201 024 006     | C 201 120 006   | C 201 220 006   |
|                    |        | 1.5 - 60 s  | C 201 024 060     | C 201 120 060   | C 201 220 060   |
|                    |        | 15 - 600 s  | C 201 024 600     | C 201 120 600   | C 201 220 600   |

## Type Selection, ON-Time Period First

| Plug               | Output | Time ranges | Supply: 24 VAC/DC | Supply: 120 VAC | Supply: 220 VAC |
|--------------------|--------|-------------|-------------------|-----------------|-----------------|
| Circular<br>8 pin  | SPDT   | 0.15- 6 s   | C 118 024 006     | C 118 120 006   | C 118 220 006   |
|                    |        | 1.5 - 60 s  | C 118 024 060     | C 118 120 060   | C 118 220 060   |
|                    |        | 15 - 600 s  | C 118 024 600     | C 118 120 600   | C 118 220 600   |
| Circular<br>11 pin |        | 0.15- 6 s   | C 111 024 006     | C 111 120 006   | C 111 220 006   |
|                    |        | 1.5 - 60 s  | C 111 024 060     | C 111 120 060   | C 111 220 060   |
|                    |        | 15 - 600 s  | C 111 024 600     | C 111 120 600   | C 111 220 600   |
| Circular<br>8 pin  | DPDT   | 0.15- 6 s   | C 218 024 006     | C 218 120 006   | C 218 220 006   |
|                    |        | 1.5 - 60 s  | C 218 024 060     | C 218 120 060   | C 218 220 060   |
|                    |        | 15 - 600 s  | C 218 024 600     | C 218 120 600   | C 218 220 600   |
| Circular<br>11 pin |        | 0.15- 6 s   | C 211 024 006     | C 211 120 006   | C 211 220 006   |
|                    |        | 1.5 - 60 s  | C 211 024 060     | C 211 120 060   | C 211 220 060   |
|                    |        | 15 - 600 s  | C 211 024 600     | C 211 120 600   | C 211 220 600   |



## Time Specifications

|                            |                                                          |                                                                               |                                          |
|----------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------|
| <b>Time ranges</b>         | 0.15- 6 s<br>1.5 - 60 s<br>15.0 - 600 s                  | <b>Repeatability deviation</b>                                                | ≤ 1%                                     |
| <b>Time range accuracy</b> | 0 to +10% on max.<br>min. actual time ≤ min.<br>set time | <b>Time variation</b><br>Within rated power supply<br>and ambient temperature | ≤ 0.05%/V<br>≤ 0.2%/°C                   |
|                            |                                                          | <b>Reset</b><br>Time and/or relay                                             | Power supply interruption min.<br>250 ms |

## Output Specifications

|                                  | C 108, C 101, C 118, C 111                                                        | C 208, C 201, C 218, C 211                                           |
|----------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <b>Output</b>                    | SPDT relay                                                                        | DPDT relay                                                           |
| Basic electrical insulation      | 250 VAC (rms) (contact/electronics)                                               | 250 VAC (rms) (contacts/elec., contact/contact)                      |
| <b>Contact ratings</b> (AgCdO)   | μ (micro gap)                                                                     | μ (micro gap)                                                        |
| Resistive loads                  | AC 1 10 A/250 VAC (2500 VA)<br>DC 1 1 A/250 VDC (250 W)<br>or 10 A/25 VDC (250 W) | 8 A/250 VAC (2000 VA)<br>0.4 A/250 VDC (100 W)<br>4 A/25 VDC (100 W) |
| Small inductive loads            | AC 15 2.5 A/230 VAC<br>DC 13 5 A/24 VDC                                           | 2.5 A/230 VAC<br>5 A/24 VDC                                          |
| <b>Mechanical life</b>           | ≥ 30 x 10 <sup>6</sup> operations                                                 | ≥ 30 x 10 <sup>6</sup> operations                                    |
| <b>Electrical life</b> AC 1      | ≥ 2.5 x 10 <sup>5</sup> operations (at max. load)                                 | ≥ 2.5 x 10 <sup>5</sup> operations (at max. load)                    |
| <b>Operating frequency</b>       | ≤ 7200 operations/h                                                               | ≤ 7200 operations/h                                                  |
| <b>Insulation voltages</b>       |                                                                                   |                                                                      |
| 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)                   |

## Supply Specifications

|                                                                                  |                                                                                                               |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Power supply AC types</b>                                                     | Installation cat. III (IEC 60664)                                                                             |
| Rated operational voltage<br>through pins 2 & 10 220<br>or pins 2 & 7 120<br>024 | 220 VAC + 15/- 20%,<br>45 to 65 Hz<br>120 VAC + 15/- 20%,<br>45 to 65 Hz<br>24 VAC + 15/- 20%,<br>45 to 65 Hz |
| Dropout tolerance                                                                | ≥ 10 ms                                                                                                       |
| Rated insulation voltage                                                         | None                                                                                                          |
| Rated transient protection volt.                                                 | 4 kV (1.2/50 μs) @ 220 VAC<br>2.5 kV (1.2/50 μs) @ 120 VAC<br>800 V (1.2/50 μs) @ 24 VAC<br>(line/neutral)    |
| <b>Power supply DC type</b>                                                      | Installation cat. III (IEC 60664)                                                                             |
| Rated operational volt. 024                                                      | 24 VDC + 15/- 20% (pin 2 pos.)                                                                                |
| Rated insulation voltage                                                         | None                                                                                                          |
| Rated transient protection volt.                                                 | 800 V (1.2/50 μs)                                                                                             |
| <b>Consumption</b> AC supply<br>DC supply                                        | 60 mA @ 50 Hz/70 mA @ 60 Hz<br>1 W                                                                            |
| <b>Power ON delay</b>                                                            | ≤ 200 ms                                                                                                      |
| <b>Power OFF delay</b>                                                           | ≥ 250 ms                                                                                                      |

## General Specifications

|                                    |                                |
|------------------------------------|--------------------------------|
| <b>Indication for</b><br>Output ON | LED. red                       |
| <b>Environment</b>                 |                                |
| 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) |
| <b>Weight</b>                      | 85 g                           |
| <b>Approvals</b>                   | UL, CSA                        |



## Mode of Operation

### Example 1 (Types C .0.)

#### 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 (equal to the first), the relay releases.

This sequence is repeated until power supply is interrupted. If power supply is disconnected, the time is reset and a recovery period of 250 ms should be allowed before the recycler is ready for reactivation.

### Example 2 (Types C .1.)

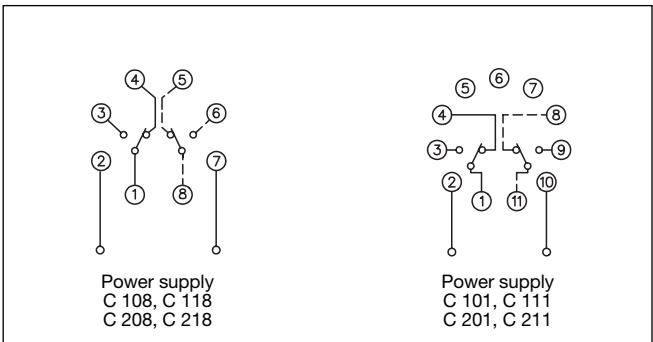
#### ON-time period first

The relay operates and the time period starts immediately 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 (equal to the first), the relay operates again.

This sequence is repeated with equal intervals until power supply is interrupted. If power supply is interrupted, the time is reset and a recovery period of 250 ms should be allowed before the recycler is ready for reactivation.

## Wiring Diagrams



## Time Setting

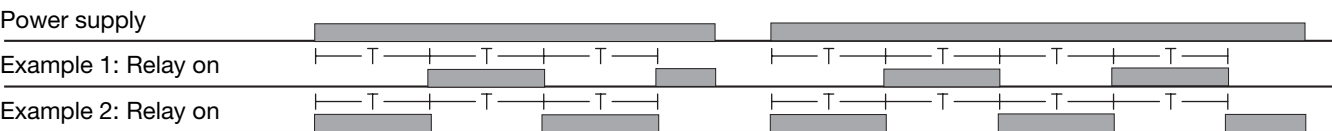
Knob-adjustable on scale in seconds.

## Accessories

|                    |              |
|--------------------|--------------|
| Sockets◊           | S 408, S 411 |
| Hold down spring◊  | HF           |
| Mounting rack      | SM 13        |
| Socket cover       | BB4          |
| Potentiometer lock | PL 1         |

For further information refer to "Accessories".

## Operation Diagram



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