# Timers
# Delay on Operate
# Type DAA01, PAA01

CARLO GAVAZZI


DAA01


PAA01

- **Time range 0.1 s to 100 h**
- **Knob selection of time range**
- **Knob adjustable time setting**
- **Automatic start**
- **Repeatability: ≤ 0.2%**
- **Output: 8 A SPDT or 2 x 8 A SPDT relays**
- **For mounting on DIN-rail in accordance with DIN/EN 50 022 or Plug-in**
- **22.5 Euronorm or 36 mm plug-in module housing**
- **Combined AC and DC power supply**
- **LED indication for relay status and power supply ON**

## Product Description

Multi-voltage delay on operate timer with 7 selectable time ranges within 0.1 s and 100 h. For mounting on DIN-rail (DAA01) or plug-in (PAA01).

## Ordering Key

**DAA 01 C M24**

**Housing**
**Function**
**Type**
**Item number**
**Output**
**Power supply**

## Type Selection

| Mounting | Output | Housing | Supply: 24 VDC and 24 to 240 VAC | Supply: 24 to 240 VAC/DC |
|---|---|---|---|---|
| DIN-rail | 1 x SPDT | D-Housing | **DAA01CM24** | |
| | 2 x SPDT | | | **DAA01DM24** |
| Plug-in | 1 x SPDT | P-Housing | **PAA01CM24** | |
| | 2 x SPDT | | | **PAA01DM24** |

## Time Specifications

| | |
|---|---|
| **Time ranges** | |
| Knob selectable | 0.1 to 1 s<br>1 to 10 s<br>6 to 60 s<br>60 to 600 s<br>0.1 to 1 h<br>1 to 10 h<br>10 to 100 h |
| **Setting accuracy** | ≤ 5% |
| **Repeatability** | ≤ 0.2% |
| **Time variation** | |
| Within rated power supply | ≤ 0.05%/V |
| Within ambient temperature | ≤ 0.2%/°C |
| **Reset** | |
| Power supply interruption | ≥ 200 ms |

## Output Specifications

| | | |
|---|---|---|
| **Output** | | 1 or 2 x SPDT relays |
| **Rated insulation voltage** | | 250 VAC (rms) |
| **Contact Ratings** ($AgSnO_2$) | | μ |
| Resistive loads | AC 1 | 8 A @ 250 VAC |
| | DC 12 | 5 A @ 24 VDC |
| Small inductive loads | AC 15 | 2.5 A @ 250 VAC |
| | DC 13 | 2.5 A @ 24 VDC |
| **Mechanical life** | | ≥ 30 x $10^6$ operations |
| **Electrical life** | | ≥ $10^5$ operations<br>(at 8 A, 250 V, cos φ = 1) |
| **Operating frequency** | | < 7200 operations/h |
| **Dielectric strength** | | |
| Dielectric voltage | | 2 kVAC (rms) |
| Rated impulse withstand voltage | | 4 kV (1.2/50 μs) |

## Supply Specifications

| | | |
|---|---|---|
| **Power supply** | | Overvoltage cat. III<br>(IEC 60664, IEC 60038) |
| Rated operational voltage through terminals: | | |
| (DAA01C)<br>(PAA01C) | A1, A2 or 2, 10 | 24 VDC ± 15% and<br>24 to 240 VAC + 10% -15%,<br>45 to 65 Hz |
| (DAA01D)<br>(PAA01D) | A1, A2 or 2, 10 | 24 to 240 VAC/DC<br>+ 10% - 15%,<br>45 to 65 Hz |

| | |
|---|---|
| **Voltage interruption** | ≤ 10 ms |
| **Rated operational power** | |
| AC supply | 4 VA |
| DC supply | 1.5 W |

CARLO GAVAZZI

## General Specifications

| | |
|---|---|
| **Power ON delay** | ≤ 100 ms |
| Reaction time<br>Instantaneous contact | <br>< 20 ms from power ON |
| **Indication for**<br>Power supply ON<br>Output relays ON | <br>LED, green<br>LED, yellow<br>(flashing when timing) |
| **Environment**<br>Degree of protection<br>Pollution degree<br><br>Operating temperature<br>Storage temperature | (EN 60529)<br>IP 20<br>3 (DAA01), 2 (PAA01)<br>(IEC 60664)<br>-20° to +60°C, R.H. < 95%<br>-30° to +80°C, R.H. < 95% |
| **Housing dimensions**<br>DIN-rail version<br>Plug-in version | <br>22.5 x 80 x 99.5 mm<br>36 x 80 x 94 mm |
| **Weight** | Approx. 130 g |
| **Screw terminals** (DAA01)<br>Tightening torque | <br>Max. 0.5 Nm according to IEC EN 60947 |
| **Approvals** | UL, CSA<br>RINA (DAA01 only) |
| **CE marking** | Yes |
| **EMC**<br>Immunity<br>Emission | Electromagnetic Compatibillity<br>According to EN 61000-6-2<br>According to EN 61000-6-3 |
| **Timer Specifications** | According to EN 61812-1 |

## Time Setting

**Centre knob:**

Time setting on relative scale: 1 to 10 with respect to the chosen range

**Lower knob:**

Setting of time range

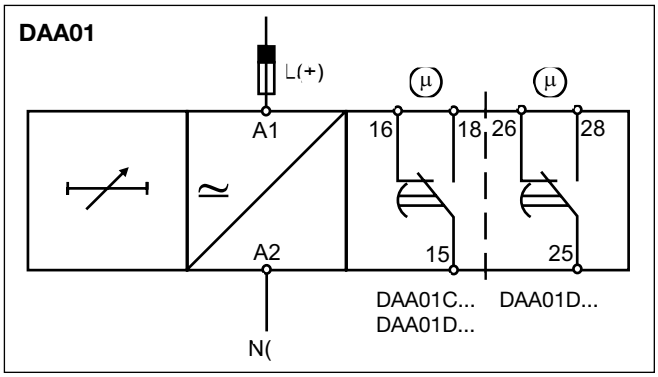
## Mode of Operation

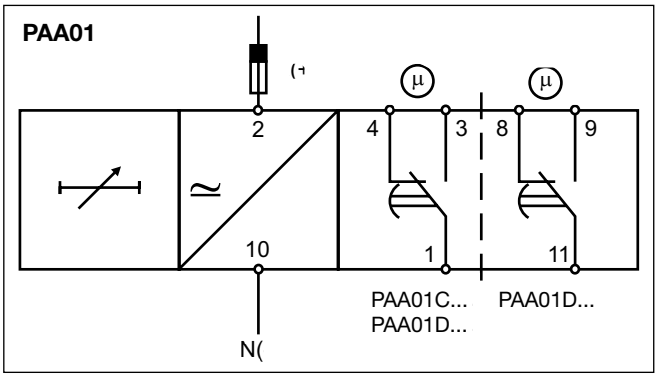
The yellow LED, flashing when timing, is ON as soon as the relay turns ON.

The second relay can operate as instantaneous or delayed changeover contact. The selection is made by a DIP-switch placed under the plastic door on the device's front.

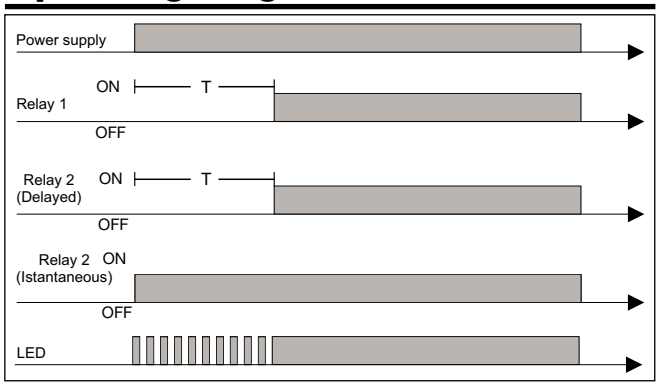
The set delay period begins as soon as the power supply is connected. At the end of the set delay the relay operates and does not release until the power supply is interrupted for at least 200 ms. If the power supply is interrupted for at least 200 ms before the relay operates the time is set to zero and the circuit is ready for a new time period.

## Wiring Diagrams



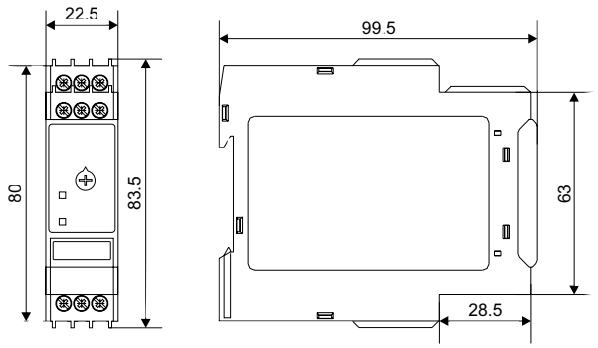

## Operating Diagram



CARLO GAVAZZI

## Dimensions

**DIN-rail**




**Plug-in**

