

Timers

Fully programmable

Type DHA52

T-RUN

CARLO GAVAZZI



- Fully programmable timing unit
- The function is designed with the BHF PC software
- Waveform design capability:
 - up to 16 status changes
 - each status time range 0.1 s to 100 h
 - programmable trigger input event
 - time steps can be set from the front knob
- Full reprogrammability of the timing functions
- Repeatability: $\leq 0.2\%$
- Output: 5 A SPDT relay
- For mounting on DIN-rail in accordance with DIN/EN 50 022
- 17.5 mm DIN-rail housing
- Combined AC and DC power supply
- LED indication for relay status and power supply ON

Product Description

DHA52 is a fully programmable timer to allow execution of self-designed timing functions. The function can be prepared using the free PC software BHF and connecting the unit to a PC. The user can decide to

leave to the front knob for final setting the adjustment of one of the time steps. For mounting on DIN-rail, 17.5 mm wide housing suitable both for back and front panel mounting.

Ordering Key

DHA 52 C M24 S16

| | |
|--------------|-------|
| Housing | _____ |
| Function | _____ |
| Type | _____ |
| Item number | _____ |
| Output | _____ |
| Power supply | _____ |
| Time steps | _____ |

Type Selection

| Mounting | Output | Housing |
|----------|--------|---------|
| DIN-rail | SPDT | Mini-D |

Supply: 24 VDC and 24 to 240 VAC

DHA 52 C M24 S16

Time Specifications

| | |
|--|--|
| Time ranges | each step 0.1 to 1 s 1 to 100 s 6 to 600 s 60 to 6000 s 0.1 to 10 h 1 to 100 h |
| Setting accuracy (fixed steps) | $\leq 0.1\%$ +/- 10 ms of the set value for each step |
| (knob step) | $\leq 5\%$ |
| Repeatability | $\leq 0.2\%$ |
| Time variation Within rated power supply Within ambient temperature | $\leq 0.05\%/V$ $\leq 0.2\%/^{\circ}C$ |
| Reset Manual reset of time and/or relay Pulse duration Power supply interruption | Close the trigger contact between pins A1 and Y1 ≥ 100 ms ≥ 200 ms |

Output Specifications

| | |
|--|--|
| Output | SPDT relay |
| Rated insulation voltage | 250 VAC (rms) |
| Contact Ratings (AgSnO₂) | μ |
| Resistive loads AC 1 | 5 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 | $\geq 30 \times 10^6$ operations |
| Electrical life | $\geq 10^5$ operations (at 5 A, 250 V, $\cos \varphi = 1$) |
| Operating frequency | < 7200 operations/h |
| Dielectric strength | |
| Dielectric voltage | 2 kVAC (rms) |
| Rated impulse withstand voltage | 2.5 kV (1.2/50 μ s) |

Supply Specifications

| | |
|---|--|
| Power supply Rated operational voltage through terminals A1, A2 | Overvoltage cat. II (IEC 60664, IEC 60038) 24 VDC $\pm 15\%$ and 24 to 240 VAC + 10% -15%, 45 to 65 Hz |
| Voltage interruption | ≤ 10 ms |
| Rated operational power | 1.5 W |



Function/Time Setting

Upper knob:

Time setting on relative scale for the selected steps: 1 to 100 with respect to the chosen range.

T-RUN PCABLE

PCABLEII (optional):

Connected to the parallel port of your Personal Computer allows complete programming of function and timing for the unit using the software BHF.

Accessories

T-RUN PCABLE/PCABLEII (optional):

To be connected to the parallel port of your personal computer.

BHF software: to be downloaded from the CARLO GAVAZZI site following the links for software download. See the website www.carlogavazzi.com/ac

Mode of Operation

With DHA52 it is extremely simple to obtain self-designed timing functions just preparing two diagrams with the PC configuration software BHF: one describing what happens at power on and one at the trigger (closing or opening). This allows a variety of applications that only fantasy is able to determine.

After preparing the function on your PC it is enough to connect the T-RUN PCABLE or PCABLEII to the plug and program the unit. DHA52 becomes your self-customized timer with exactly the function you needed. The time values can be

selected for setting with the knob according to what stated with BHF. Refer to BHF software for more information.

Example:

Setting a 3-blinks function plus a start activity. As soon as the power supply is applied three pulses are executed. Each one is separated by the following one by one second and the duration is respectively 4, 3, for the first two pulses and from 1s to 100s for the third one, depending on the position of the front knob, that can be set just in time. Closing the trigger contact caus-

General Specifications

| | |
|--|--|
| Power ON delay | ≤ 100 ms |
| Indication for Power supply ON Output relays ON | LED, green LED, yellow (flashing when timing) |
| Environment Degree of protection Pollution degree Operating temperature Storage temperature | (EN 60529) IP 20 2 (IEC 60664) -20° to +60°C, R.H. < 95% -30° to +80°C, R.H. < 95% |
| Housing Dimensions Materiale | 17.5 x 81 x 67.2 mm PA66 |
| Weight | 75 g |
| Screw terminals Tightening torque | Max. 0.5 Nm according to IEC 60947 |
| Approvals | UL, CSA |
| CE Marking | Yes |
| EMC Immunity Emission | Electromagnetic Compatibility According to EN 61000-6-2 According to EN 61000-6-3 |

es the three 1 s pulses. In every case, after finishing the planned sequence, the unit waits for the new trigger. In case of trigger event before finishing the power on sequence, the trigger sequence starts.

Additional load

It's possible to wire an additional load (i.e. a relay) between pins Y1 and A2, driven by the trigger contact without damaging the device.

Relay ON: See operation diagrams

Note 1:

The power supply voltage MUST be switched OFF while the modular plug is connected to the unit.

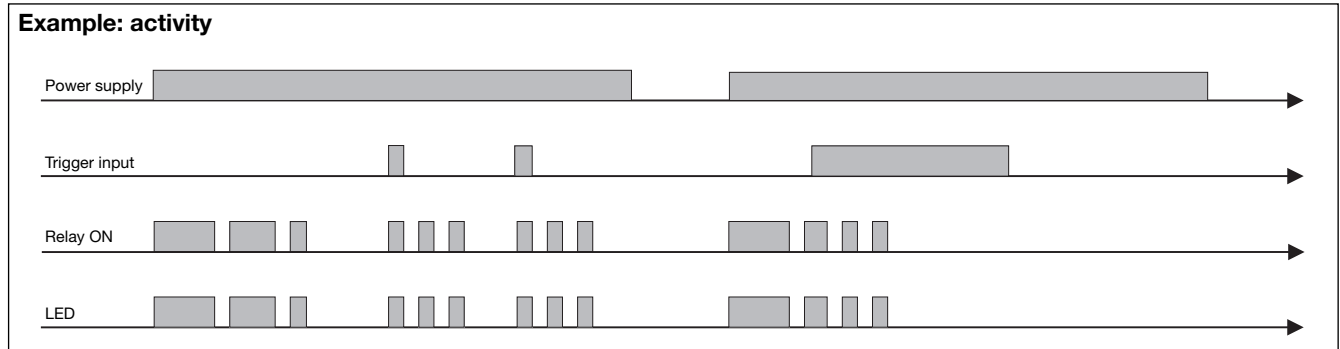
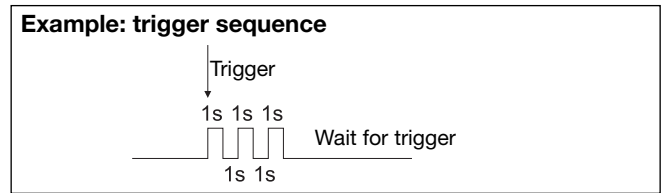
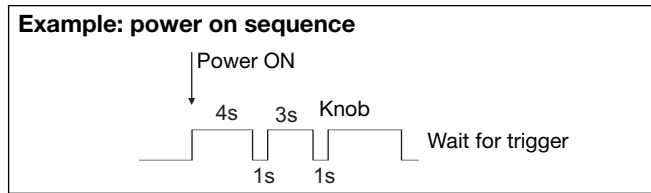
Note 2:

DHA52 can be reprogrammed (e.g.: in case of change of function or during the testing phase) several times using every time the same procedure.

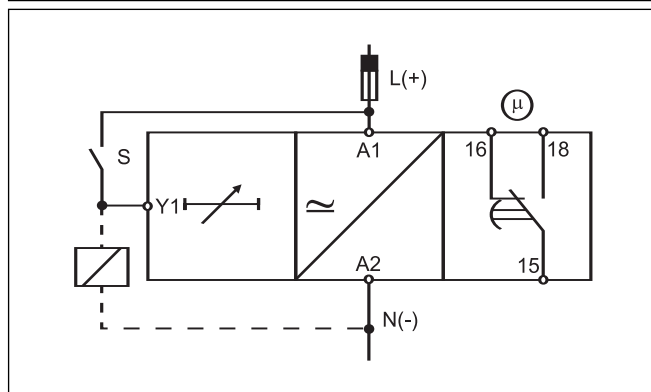
Note 3:

The above example is just a small instance to show how easy is to obtain more and more nice and useful functions using DHA52.

Operation Diagrams



Wiring Diagram



Dimensions

