

Timers

Fully programmable

Type DHA52



- 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	Supply: 24 VDC and 24 to 240 VAC
DIN-rail	SPDT	Mini-D	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) (knob step)	$\leq 0.1\%$ +/- 10 ms of the set value for each 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	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 causes

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	17.5 x 81 x 67.2 mm
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

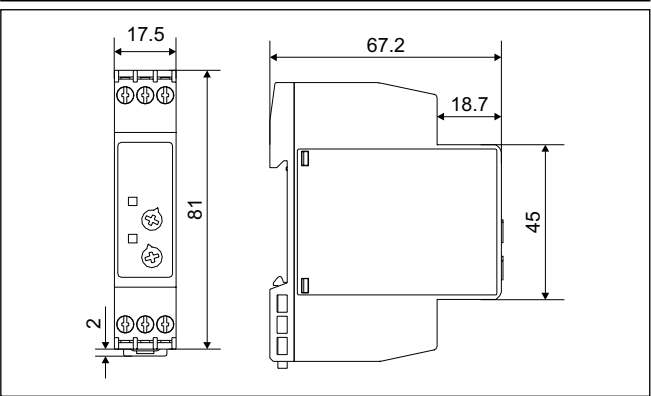
es the three 1 s pulses. In every case, after finishing the planned sequence, the unit waits for the new trigger. In case of trigger event before finishing the power on sequence, the trigger sequence starts.

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.

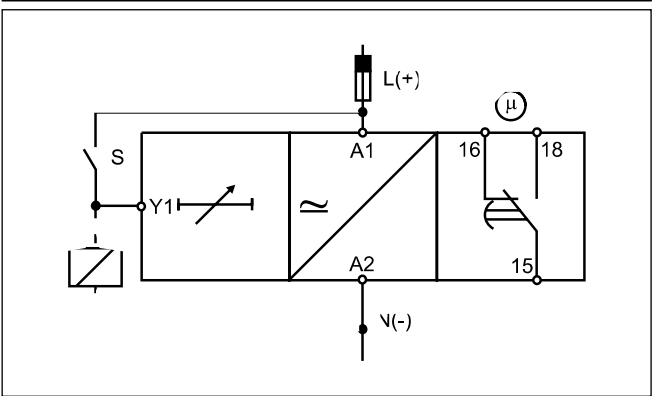
Relay ON: See operation diagrams

- 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.

Dimensions

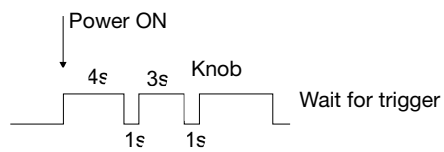


Wiring Diagram

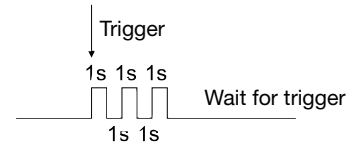


Operation Diagrams

Example: power on sequence



Example: trigger sequence



Example: activity

