

# DNA

## Технические характеристики

### По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231	Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54
Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астрахань (8512)99-46-04	Калуга (4842)92-23-67	Омск (3812)21-46-40	Ставрополь (8652)20-65-13
Барнаул (3852)73-04-60	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462)77-98-35
Белгород (4722)40-23-64	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Брянск (4832)59-03-52	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Владивосток (423)249-28-31	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Волгоград (844)278-03-48	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Вологда (8172)26-41-59	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Воронеж (473)204-51-73	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Екатеринбург (343)384-55-89	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212)92-98-04
Иваново (4932)77-34-06	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Ижевск (3412)26-03-58	Набережные Челны (8552)20-53-41	Севастополь (8692)22-31-93	Череповец (8202)49-02-64
Иркутск (395)279-98-46	Нижний Новгород (831)429-08-12	Симферополь (3652)67-13-56	Ярославль (4852)69-52-93
Россия (495)268-04-70	Киргизия (996)312-96-26-47	Казахстан (7172)727-132	

# Timers

## Fully programmable

### Type DHA51

# T-RUN

CARLO GAVAZZI



- Fully programmable timing unit
- The function is designed with the BHF PC software
- Waveform design capability:
  - up to 32 status changes
  - each status time range 0.1 s to 100 h
  - programmable trigger input event
- 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

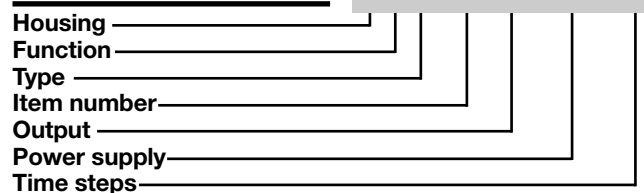
## Product Description

DHA51 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 the PC.  
For mounting on DIN-rail, 17.5 mm wide housing suitable both for back and front panel mounting.

## Ordering Key

**DHA 51 C M24 S8**



## Type Selection

Mounting	Output	Housing	Time steps	Supply: 24 VDC and 24 to 240 VAC
DIN-rail	SPDT	Mini-D	8 steps	DHA 51 C M24 S8
DIN-rail	SPDT	Mini-D	16 steps	DHA 51 C M24 S16
DIN-rail	SPDT	Mini-D	32 steps	DHA 51 C M24 S32

## Time Specifications

<b>Time ranges</b>	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
<b>Setting accuracy</b>	$\leq 0.1\%$ +/- 10 ms of the set value for each step
<b>Repeatability</b>	$\leq 0.2\%$
<b>Time variation</b>	Within rated power supply $\leq 0.05\%/V$ Within ambient temperature $\leq 0.2\%/^{\circ}C$
<b>Reset</b>	Manual reset of time and/or relay Pulse duration $\geq 100$ ms Power supply interruption $\geq 200$ ms

## Output Specifications

<b>Output</b>	SPDT relay
<b>Rated insulation voltage</b>	250 VAC (rms)
<b>Contact Ratings (AgSnO<sub>2</sub>)</b>	$\mu$
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
<b>Mechanical life</b>	$\geq 30 \times 10^6$ operations
<b>Electrical life</b>	$\geq 10^5$ operations (at 5 A, 250 V, $\cos \varphi = 1$ )
<b>Operating frequency</b>	< 7200 operations/h
<b>Dielectric strength</b>	Dielectric voltage 2 kVAC (rms) Rated impulse withstand voltage 2.5 kV (1.2/50 $\mu$ s)



## Supply Specifications

<b>Power supply</b> 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
<b>Voltage interruption</b>	$\leq$ 10 ms
<b>Rated operational power</b>	1.5 W

## Function/Time Setting

<b>T-RUN PCABLE/PCABLEII (optional):</b> Connected to the parallel port of your Personal Com-	puter allows complete programming of function and timing for the unit using the software BHF.
--	---

## Accessories

<b>T-RUN PCABLE/PCABLEII (optional):</b> To be connected to the parallel port of your personal computer.	<b>BHF software:</b> to be downloaded from the CARLO GAVAZZI site.
---	--

## General Specifications

<b>Power ON delay</b>	$\leq$ 100 ms
<b>Indication for</b> Power supply ON Output relays ON	LED, green LED, yellow (flashing when timing)
<b>Environment</b> 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%
<b>Housing</b> Dimensions Material	17.5 x 81 x 67.2 mm PA66
<b>Weight</b>	75 g
<b>Screw terminals</b> Tightening torque	Max. 0.5 Nm according to IEC EN 60947
<b>Approvals</b>	UL, CSA
<b>CE Marking</b>	Yes
<b>EMC</b> Immunity Emission	Electromagnetic Compatibility According to EN 61000-6-2 According to EN 61000-6-3

## Mode of Operation

With DHA51 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 application that only fantasy is able to determine.

After preparing the function on the PC it is enough to connect the T-RUN PCABLE to the plug and program the unit. DHA51 becomes your self-customized timer with exactly the function you needed. Refer to BHF software for more information.

### Example 1:

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, and 2 s. Closing the trigger contact causes 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.

### Example2:

Shifting trigger  
At the power on a single pulse is programmed as acknowledge. In this case both the closing and opening events of the trigger are recorded. The output is the same event as the trigger delayed of the predetermined period of time. Every new trigger activity is shifted to the output.

### 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.

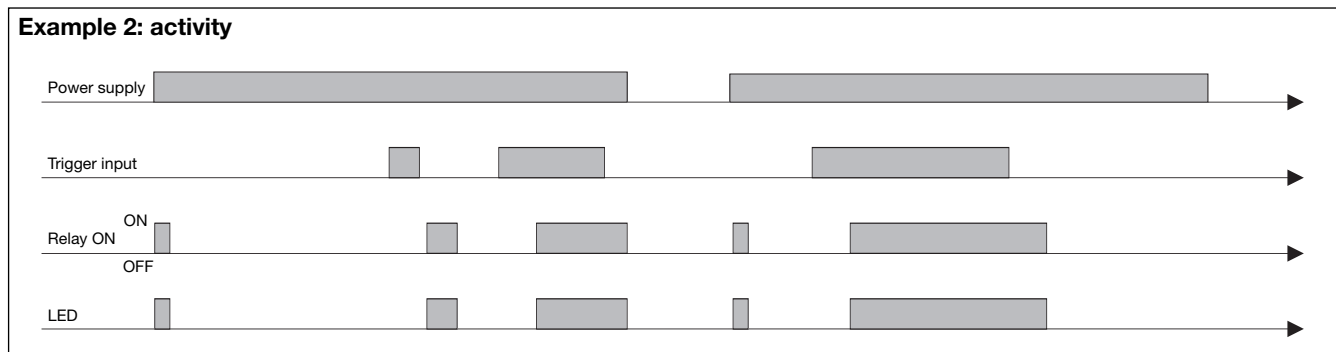
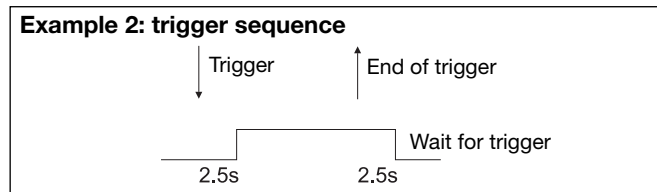
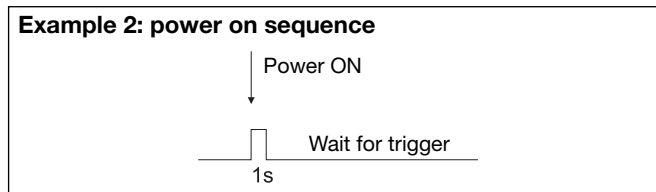
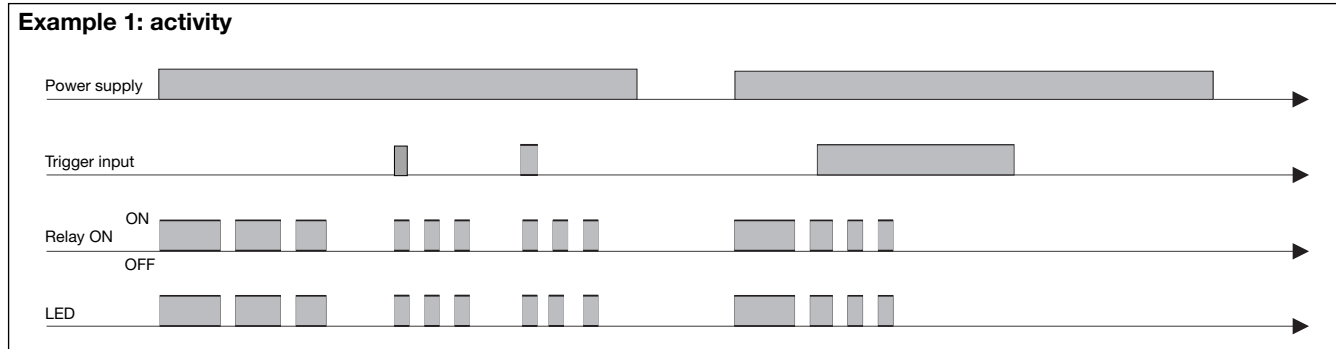
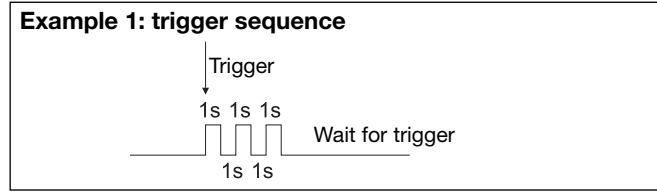
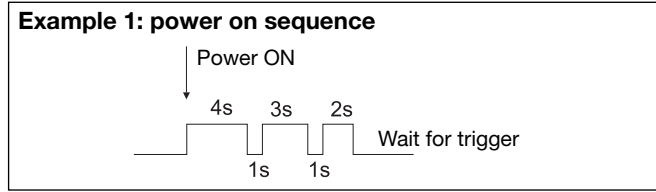
### Note 2:

DHA51 can be reprogrammed (e.g.: in case of change of function or during the testing phase) several times using every time the same procedure.

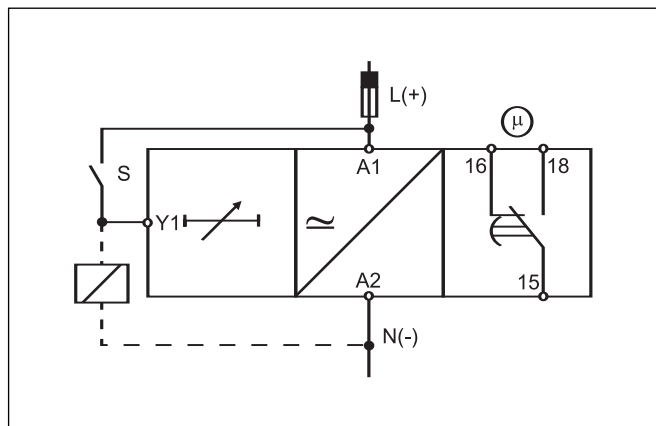
### Note 3:

The above examples are just small instances to show how easy is to obtain more and more nice and useful functions using DHA51.

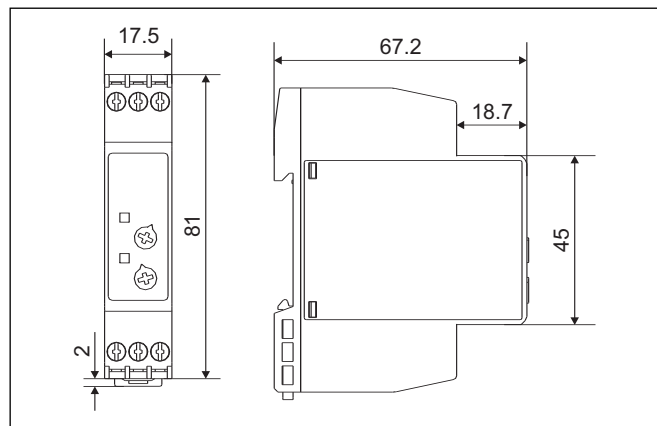
## Operation Diagrams



## Wiring Diagram



## Dimensions



# 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

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

## Output Specifications

<b>Output</b>	SPDT relay
<b>Rated insulation voltage</b>	250 VAC (rms)
<b>Contact Ratings (AgSnO<sub>2</sub>)</b>	$\mu$
Resistive loads	AC 1 DC 12 5 A @ 250 VAC 5 A @ 24 VDC
Small inductive loads	AC 15 DC 13 2.5 A @ 250 VAC 2.5 A @ 24 VDC
<b>Mechanical life</b>	$\geq 30 \times 10^6$ operations
<b>Electrical life</b>	$\geq 10^5$ operations (at 5 A, 250 V, $\cos \varphi = 1$ )
<b>Operating frequency</b>	$< 7200$ operations/h
<b>Dielectric strength</b>	
Dielectric voltage	2 kVAC (rms)
Rated impulse withstand voltage	2.5 kV (1.2/50 $\mu$ s)

## Supply Specifications

<b>Power supply</b> 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
<b>Voltage interruption</b>	$\leq 10$ ms
<b>Rated operational power</b>	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.

## 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

<b>Power ON delay</b>	≤ 100 ms
<b>Indication for</b> Power supply ON Output relays ON	LED, green LED, yellow (flashing when timing)
<b>Environment</b> 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%
<b>Housing</b> Dimensions Materiale	17.5 x 81 x 67.2 mm PA66
<b>Weight</b>	75 g
<b>Screw terminals</b> Tightening torque	Max. 0.5 Nm according to IEC 60947
<b>Approvals</b>	UL, CSA
<b>CE Marking</b>	Yes
<b>EMC</b> 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.

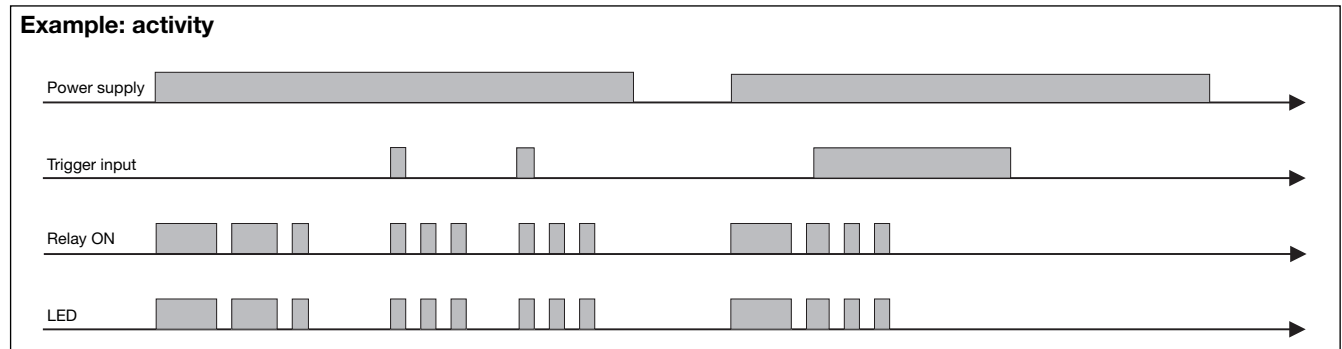
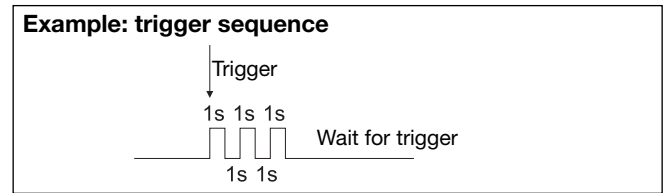
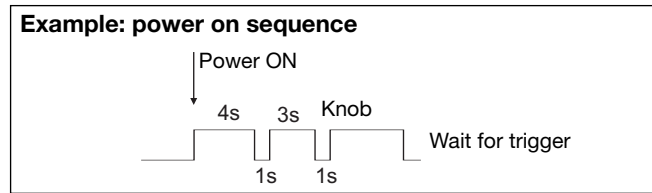
### Note 2:

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.

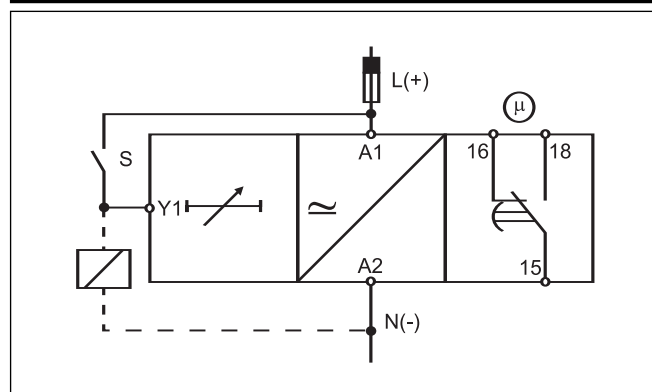
### Note 3:

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

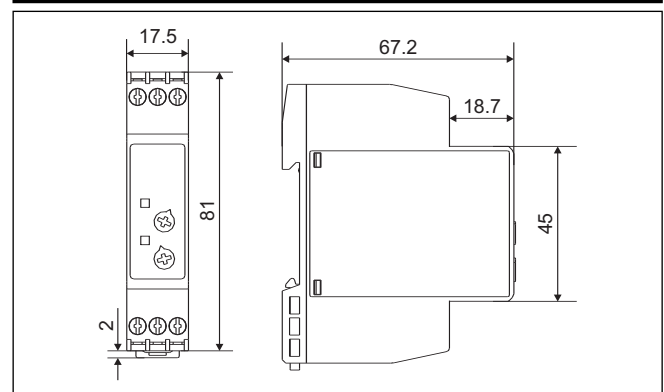
## Operation Diagrams



## Wiring Diagram



## Dimensions



**По вопросам продаж и поддержки обращайтесь:**

Алматы (7273)495-231	Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54
Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астрахань (8512)99-46-04	Калуга (4842)92-23-67	Омск (3812)21-46-40	Ставрополь (8652)20-65-13
Барнаул (3852)73-04-60	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462)77-98-35
Белгород (4722)40-23-64	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Брянск (4832)59-03-52	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Владивосток (423)249-28-31	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Волгоград (844)278-03-48	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Вологда (8172)26-41-59	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Воронеж (473)204-51-73	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Екатеринбург (343)384-55-89	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212)92-98-04
Иваново (4932)77-34-06	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Ижевск (3412)26-03-58	Набережные Челны (8552)20-53-41	Севастополь (8692)22-31-93	Череповец (8202)49-02-64
Иркутск (395)279-98-46	Нижний Новгород (831)429-08-12	Симферополь (3652)67-13-56	Ярославль (4852)69-52-93
Россия (495)268-04-70	Киргизия (996)312-96-26-47	Казахстан (7172)727-132	

cgo@nt-rt.ru || <https://gavazzi.nt-rt.ru/>