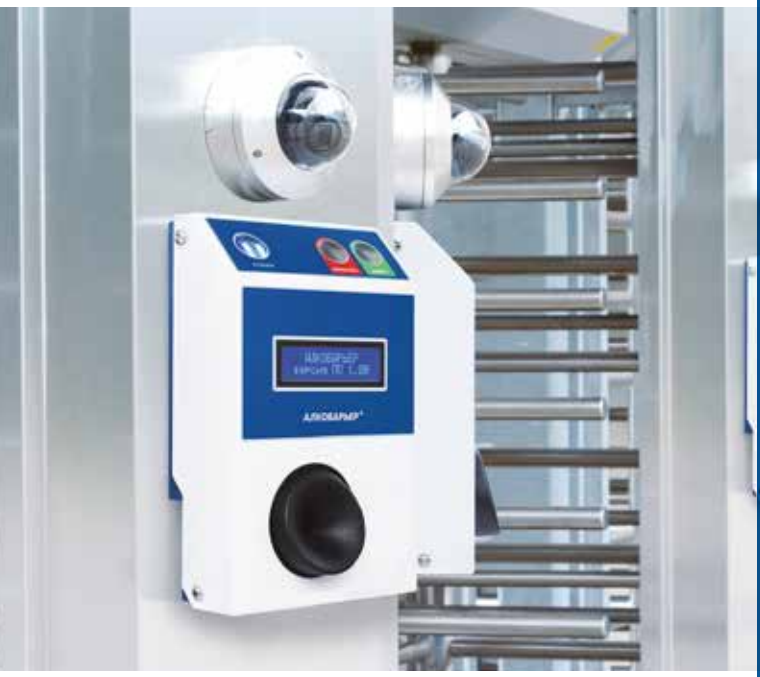
# ALCOBARIER®

Alcohol analyzer
for turnstiles and access
control systems



## ALCOBARIER –

a stationary alcohol analyzer for an automatic contactless measuring of BrAC (breath alcohol concentration) at an enterprise entrance as a part of ACS (access control systems) or independent.

Designed and manufactured by ALCOTEKTOR LLC.

By synchronized interaction with an employee's ID card reader, an alcohol breath analyzer transmits to ACS data needed for making a decision on a personal access based upon an alcohol measurement result.

## ACS – access control systems

# EXCELLENCE

### Precision and sensitivity

Alcohol fuel cell sensor – a time-proved technology! Provides high measurement sensitivity an precision.

### Built-in interfaces

Full set of built-in interfaces for an integration with every ACS: USB, Weigand, RS-485, Ethernet.

### Ample temperature range

From +5 to +40°C
for an Alcobarier model
From +0 to +40°C
for an Alcobarier-01 model

### Automatic operation 24/7

Automatic switch on after a power supply activation, alcohol testing and cleansing after high alcohol concentrations.

### Calibration

Calibration period –
12 months.

### Adjustable alcohol limit

Allowable alcohol limit for entrance is set manually.

### Adaptability

A multiple interfaces' setup and an interaction algorithm with ACS.

### Stability with high intensity of use

Each alcohol breathalyzer system has been designed for continuous operation with a large flow of persons tested.

# INTEGRATIONS

## 1 Quantitative and qualitative result

Alcohol measurement result is saved in memory, shown on a text display, and transmitted to ACS in a quantitative (ex. 0,16 mg/l) and a qualitative (upper/lower limit) sign.

## 2 High speed testing

Time after a 'zero' alcohol level, 0 mg/l:

Breath analysis + result transmit to ACS + readiness to the next test ~ **2-3 sec.**

Time after a blow with BrAC of 0,7 mg/l:

Breath analysis + result transmit to ACS + cleansing from alcohol + readiness to the next test ~ **7 sec**.

## 3 High measurement precision

| | |
|---|---|
| Min measured BrAC | 0,05 mg/l |
| Error | ± 0,05 mg/l |

## 4 Specially designed mouthpiece form

Special form of a contactless mouthpiece provides an accurate blow at a wide variety of angles, and an originally designed sample collection system does not require strong blowing from a short distance.


# 5 Friendly interface

3 LED indicators' operation is supplemented with information shown on a two-line text display.


are shown on a display:

- Instructions on actions which one needs to undertake,
- Blowing process indication,
- Measurement result in a qualitative (higher/lower limit) and a quantitative (BrAC in mg/l) representation,
- Alarms, errors,
- Indication of a system cleansing process after high alcohol concentrations.

Some messages can be changed. Every step of testing is accompanied with sound signals.

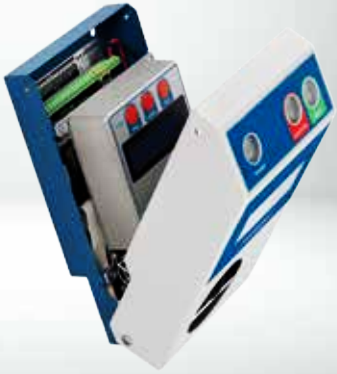
# 6 Measurement reliability

An alcohol concentration measurement is only considered reliable when deep lug air is analyzed. By pressure sensor controlling of blow time and volume, an Alcobarier software sends a signal to take a breath sample and measure BrAC at a final exhalation stage.

# 7 Easy service

- No restriction on a number of blows.
- Does not require a mouthpiece change and other consumables.

Alcobarier is built from separate interchangeable blocks and modules with possibilities of each one multivariate setup.



Min set of blocks needed for an integration with ACS:

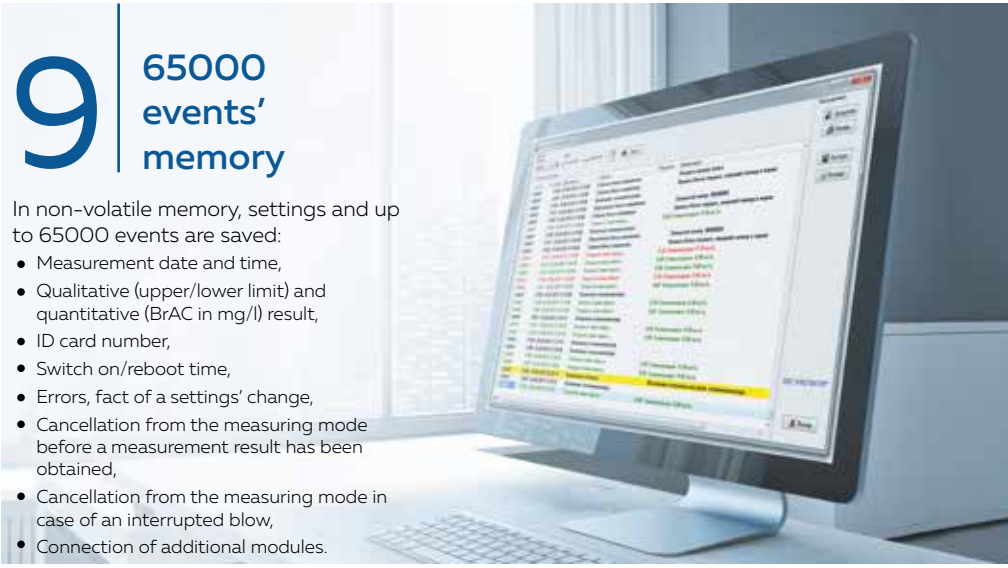
- Alcohol measurement block – breathalyzer.
- Interface block – BC-01 (Wiegand and dry contacts).

Integration capabilities are multiplied by additional modules: RS-485, Ethernet.
If maintenance is required, an alcohol measurement block can be easily extracted, changed to a spare one or installed back, without a need of the whole device dismantling and a complete entrance stop.

# 8 Vandal resistance

- When one opens an external case, this fact is registered as an 'event' in a device memory, and is sent to external devices.
- Exhalation is detected by a pressure sensor: a blow can't be falsified by an imitation of its sound.
- A mouthpiece and a sample collection system have several protection levels from a bio-fluid intake into a measuring channel and to electronics.
- A measurement block case and an interface block case are metal-made.
- If an external case is locked, a mouthpiece is blocked – it can't be removed from a device and, thus, bring the device to a non-functional state.

# 9 65000 events' memory

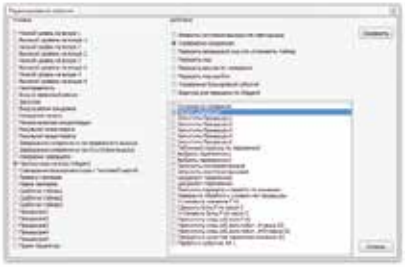


In non-volatile memory, settings and up to 65000 events are saved:

- Measurement date and time,
- Qualitative (upper/lower limit) and quantitative (BrAC in mg/l) result,
- ID card number,
- Switch on/reboot time,
- Errors, fact of a settings' change,
- Cancellation from the measuring mode before a measurement result has been obtained,
- Cancellation from the measuring mode in case of an interrupted blow,
- Connection of additional modules.

# 10 Adaptability and integration capabilities

A special utility enables to configure an interaction algorithm between Alcobarier and ACS.



The utility enables to:

- Change interface operation parameters;
- Set a signal processing sequence supplied to inputs;
- Relate an outputs' reaction to signals supplied to inputs.

Configured algorithm enables to:

- Actually interact with external devices: "react" to signals supplied to inputs, which allows ACS to control a beginning of measurement, a completion of measurement, and an indication;
- Adapt an Alcobarier operation algorithm to changes in ACS settings, in use;
- Reduce costs, including labor, in case of switching from one ACS controller model to the other.

# COMPLETE SET OF INTERFACES NEEDED FOR AN INTEGRATION

| | |
|---|---|
| Wiegand output mode, up to 64 bits are available for creating a custom format. | 1 unit (a measurement result is transmitted in a format of a contactless card number) |
| Wiegand input mode, up to 64 bits are available for creating a custom format. | 1 unit |
| Open drain outputs | 4 units (two of which can be used for switching an external indication) |
| Outputs yes/no | 4 unit |
| RS-485/OSDP | Settings control. Status check. Measurement control: to start a measurement, to finish a measurement, to access memory. |
| Ethernet | Settings control. Status check. Measurement control: to start a measurement, to finish a measurement, to access memory. |

Parameters of an Alcobarier interfaces' operation are set up by use of a special utility. Inbuilt interfaces enable to:

- Integrate Alcobarier to a majority of ACS;
- Switch an ID card reader through a Wiegand input of Alcobarier in case of a lack of two Wiegand inputs of an ACS controller;
- Control a turnstile w/o ACS.

ALCOTEKTOR LLC.®
+7 (812) 320-22-97
www.alcotector.ru
Saint Petersburg, Russia

Contact to the development team, order a commercial offer:
alcobarier@alcotector.ru
We will necessarily reply as soon as possible!