CONFI-DSO

EN*

Edition: 3 from 10.05.2021
Supercedes the edition: 2 from 23.09.2020

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1. General description.

The CONFI-DSO software is a power supply design tool for DSO voice alarm systems. The configurator is designed for BOSCH's PAVIRO systems powered by the DSOP24V power supply system by the PULSAR Company.

Based on the implemented design parameters, the program selects a complete power supply system taking into account the required backup time.

2. Main panel of the program.

The view of the main panel of the CONFIG-DSO program, divided into areas that are described in detail hereinafter, is presented below.

Fig. 1. Main panel of the program.

Start using the program by entering the input data based on the assumed parameters of the designed DSO voice alarm system. These include, among others the required system back up time, additional space in the RACK cabinet, power consumption mode of the system after power failure, or speaker line control. In the next step, indicate the DSO voice alarm system devices to be powered using the DSOP24V system.

When entering the data, the CONFI-DSO program continuously performs calculations based on which the minimum configuration of the DSOP24V power supply system is automatically selected. These effects can be observed both in the central graphical part of the window, where the components of the DSOP24V system are changing, and in the output area where the technical parameters are displayed.

After configuring the DSOP24V system, the user is able to print the documentation, which can then be used to complete the order and as an appendix to the technical documentation of the projected DSO..

2.1 Area 1 – Input data.

Area 1 contains input data that needs to be configured according to the requirements of the proposed DSO.

Backup time - the operating time of the voice alarm system using the backup power (battery-assisted operation).
The following times are available: 6h, 24h, and 72h. The default value is 24h.

Alarm time - alarm time of the voice alarm system using the backup power (battery-assisted operation). The default value is 0.5h = 30 minutes.

The additional "U" space in the cabinet – free space in the RACK cabinet that can be used to install other additional devices, e.g. music player.
Caution! Additional devices cannot be powered from the backup power source. If the connected elements are the source of thermal energy, this should be taken into account in the final calculations.

Cabinet depth - for RACK 42U and 45U cabinets, 600mm and 800mm cabinet depths are available. The 24U and 36U cabinet is available in 600x600 only, while the 50U in 600x800 only.

Power consumption mode of the system after power failure – The mode automatically switched on after mains power failure in PAVIRO units. Available modes: standby / normal. The setting must match the configuration of the BOSCH PVA-4CR12 controller.

2.2 Area 2 – Devices.

The Area 2 includes a list of devices that can be installed in the DSO. The list is divided into two groups: „Main" and „Other". Based on selected units, the program calculates all the parameters. Enter the number of devices to be installed in the corresponding fields.

2.2.1 „Main" tab.

Voice alarm system devices for PAVIRO system by BOSCH, which can be installed in the cabinet.

PVA-2P500 amplifier - the number of primary amplifiers. Up to 9 amplifiers, including backup amplifiers, can be installed in a single RACK cabinet.

Backup amplifier - the number of backup amplifiers. The backup amplifier is a device that will automatically replace the primary amplifier in case of failure. Up to 9 amplifiers (including primary and backup amplifiers) can be installed in a single RACK cabinet.

PVA-4CR12 controller - the number of controllers. Only one controller can operate on the entire DSO. In systems consisting of several cabinets, the controller can be found in only one cabinet.

PVA-4R24 router - the number of routers. Up to 6 routers can be installed in a single RACK cabinet.

PVA-15CST firefighter's microphone – There are 5 variants to choose from. The differences between the variants result from the installation location of the firefighter's microphone and its distance from the DSO cabinet In the case of significant distance from the DSO cabinet, voltage drops on the power lines, preventing the firefighter's microphone from operating properly over a wide range of power supply voltage variations, may occur. To prevent this, you must provide power from an additional power supply.

Option 1 - „In cabinet".

Firefighter's microphone is mounted in the DSO cabinet. Up to one microphone with a single additional PVA-20CSE extension can be installed. In this case, the program automatically adds a removable mounting shelf, on which the microphone will be placed.

Fig. 2. Option 1 – microphone mounted in the DSO cabinet.

Option 2 - „Outside DSO cabinet".

Firefighter's microphones with PVA-20CSE extensions will be installed outside the cabinet but will be powered from the voice alarm system.
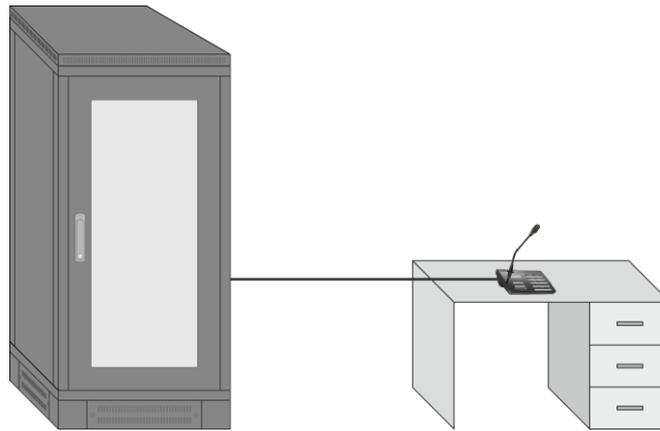
Fig. 3. Option 2 – microphone mounted outside the DSO cabinet.

Option 3 - „In enclosure".

Firefighter's microphones will be installed outside cabinet in external enclosure but will be powered from voice alarm system. DSOS24V-PU enclosure is automatically added by program to each microphone. Enclosure houses one PVA-15CST station and maximally up to 2 PVA-20CSE extensions. For this reason, program automatically blocks maximum number of extensions for specified number of stations. For example, maximally 2 extensions can be specified for a single microphone, while up to 4 extensions for 2 stations, etc.
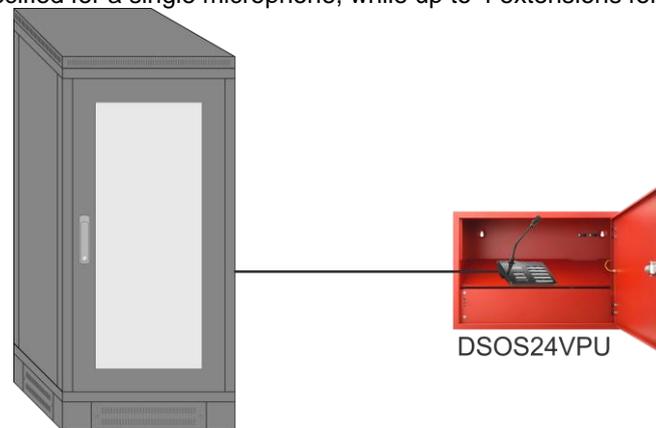
DSOS24VPU

Fig. 4. Option 3 – Firefighter's microphone mounted in the DSOS24VPU external enclosure.

Option 4 – „in enclosure with power supply unit".

Firefighter's microphones will be installed in external enclosure at a considerable distance from DSO cabinet. DSOS24V-PU power supply is automatically added by program to each microphone. Power supply unit houses one PVA-15CST station and maximally up to 2 PVA-20CSE extensions. For this reason, program automatically blocks maximum number of extensions for specified number of stations. For example, maximally 2 extensions can be specified for a single microphone, while up to 4 extensions for 2 stations, etc.
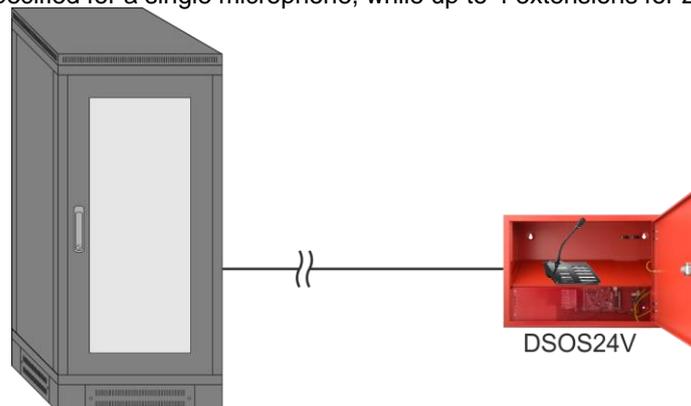
DSOS24V

Fig. 5. Option 4 – Firefighter's microphone mounted in the DSOS24V external enclosure.

2.2.2   „Other" tab.
Contains a list of additional equipment.

End of Line (EOL) Supervision Board – the number of boards to be added to the order. The board is designed for mounting loudspeaker line supervision systems by Bosch used in Voice Alarm Systems.

Ventilation panel with thermostat - the panel is automatically added to each configuration. It is possible to remove it in the case of small systems (cabinets with a height of 24U only).

Set of wheels - selecting this option equips cabinet with transport wheels.

2.2.3   Speaker Line Control Method.

The PVA-4CR12 Network Controller has a loudspeaker monitoring function that can detect faults (short-circuit or break). Loudspeaker lines can be monitored using a 20 kHz pilot tone or by impedance measurement method. Refer to the PVA-4CR12 controller manual for more information.

The program uses the impedance method by default. In turn, the 20kHz pilot tone method is used after selecting the "20kHz pilot tone" field and determining the power of the speakers to be controlled in this way.

The battery power consumption will vary depending on the speaker control method selected; therefore, it is necessary to fill in the additional fields to make the final calculations more accurate:

„The installed loudspeaker power [W]"- The total power of all speakers connected to amplifiers installed in the DSO cabinet.

„The available system power [W]" – Power system based on the number of installed amplifiers. The field is updated automatically.

„20kHz pilot tone [W]" – After selecting this option, enter the total power of all speakers to be tested with a 20kHz pilot tone in the displayed box. The setting must match the configuration of the PVA-4CR12 controller.

2.3 Area 3 – Graphic representation of the DSOcabinet.

Area 3 provides a graphical representation of the power system cabinet based on the current configuration. When adding or removing system devices, the cabinet drawing is updated on a regular basis. The cabinet height is selected from the range 24U - 50U.

2.4 Area 4 – Output Data.

Area 4 contains output data that summarize the currently configured system of the DSO cabinet. The data provides information, among others, on the maximum sound power, the number of loudspeaker lines, the weight of the system, or the power consumed from the power grid. The program also provides information about the maximum heat output to the environment from the cabinet, taking into account all installed devices. This parameter can be useful when designing a cooling system for a room in which a DSO cabinet will be installed.

In this step it is possible to change the battery capacity to be greater than that calculated by the program.
This operation can be performed by pressing the „Change" button.

The CONFIG-DSO always selects the minimum DSO power supply configuration.
If you manually change the battery capacity, some parameters will be updated in the output area.
If you re-enter any change in the input area then the program will re-calculate the minimum DSOpower supply configuration. Thus the previously introduced change of battery capacity will not be taken into account. After each change, you need to manually re-enter the desired battery capacity.

Another important element in the output data area is a configuration code that automatically identifies the designed DSO by an automatically generated string of digits.

3. Program menu.

The „menu" button in the top right corner of the main panel of the program allows you to perform some basic operations.
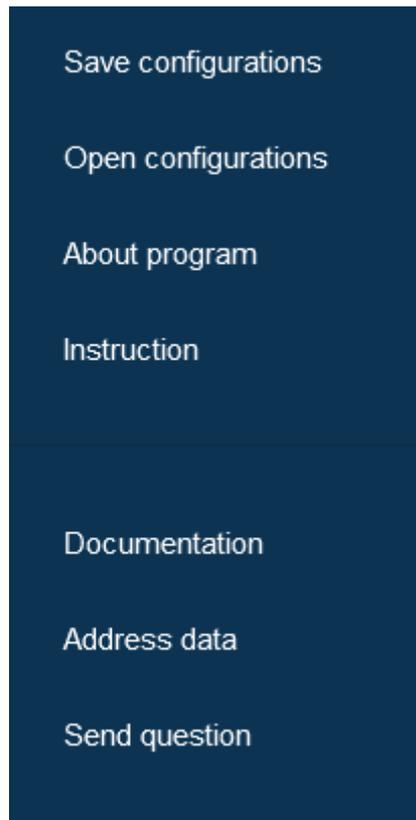
„Save"	– Saving project to a file on disk. This option saves project file in *.json format for reading CONFI-DSO application.
„Open"	– Opening a project from a file on hard drive. Option enables loading a *.json configuration file.
„About program"	– Software information.
„Instruction"	– user manual for programme is downloaded
„Documentation"	– after selecting this option, website www.pulsar.pl opens, where you can download documentation for RACK 19" „DSO-PRA" cabinet and for other components.
„Address details"	– Function opens an address form where we can enter address details of ordering party and

investment. In order to save them, press button

„Send enquiry"	– „Send enquiry" function opens a window, which allows you to send an enquiry concerning designed DSO to technical department of PULSAR.