



INSTRUCTION FOR ASSEMBLY AND
OPERATION OF *SVCP SMART-10XXA*
CONTROL CENTRE FOR SMOKE
HEAT AND NATURAL VENTILATION

1. General provisions.

The SVCP Smart-10xxA Control Centre for smoke, heat and natural ventilation is designed to be integrated into systems for extraction of smoke, based on NSHEVs.

IMPORTANT:

- The installation, connection, activation and maintenance of SVCP Smart-10xxA Control Centre is carried out only by a trained specialist
- Read the instructions carefully prior to operating the system
- Retain the instructions after completing the installation with the purpose of future use
- Improper installation could lead to irreversible damages to the Control Centre, or to any connected devices

2. Installation of the SVCP Smart-10xxA Control Centre for smoke, heat and natural ventilation

2.1. General description

The Control Centre has one line for opening mechanisms, one line for smoke ventilation buttons, one line for smoke/heat detectors, one line for signal from FNC (Fire Notification Central unit). The Control centre can be inter-connected to the following external devices:

- ↪ opening mechanism - gas pressure generators (gas generators, DGG), magnetic valves (MV), electric motors (ED)
- ↪ buttons for smoke ventilation (SVB)
- ↪ smoke/heat detectors (SD or HD)
- ↪ Central fire alarm (CFA)

The Control Centre emits the following signals dependent on its status:

- ↪ signal Alarm (Alarm)
- ↪ signal Error (Error)

2.2. External devices connecting diagram

Fig. 1 shows in diagrammatic form the connecting of external devices. Depending on the particular system for smoke extraction it is possible for some of these components not to be used. Usage of these components depends upon which particular smoke extraction system is required.

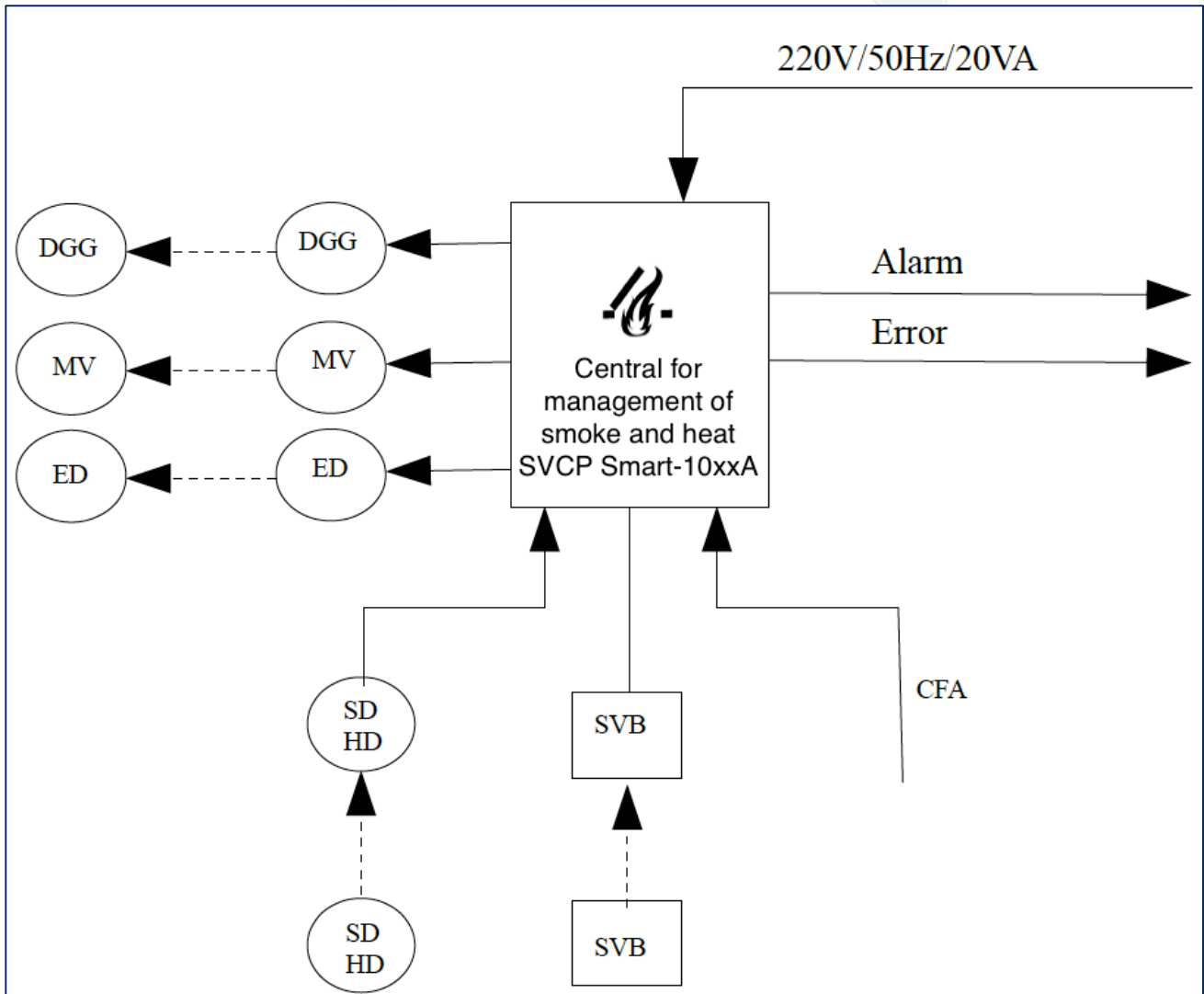


Fig.1

NOTE:

→ Cable types depend on the particular system for smoke and heat ventilation, the requirements of local regulations and building management systems.

2.3. Internal appearance of SVCP Smart-10xxA Control Centre for smoke, heat and natural ventilation

The Control Centre's main module (MM) and input-output power supplying module (PM). Fig. 2 gives examples of the two different modules.

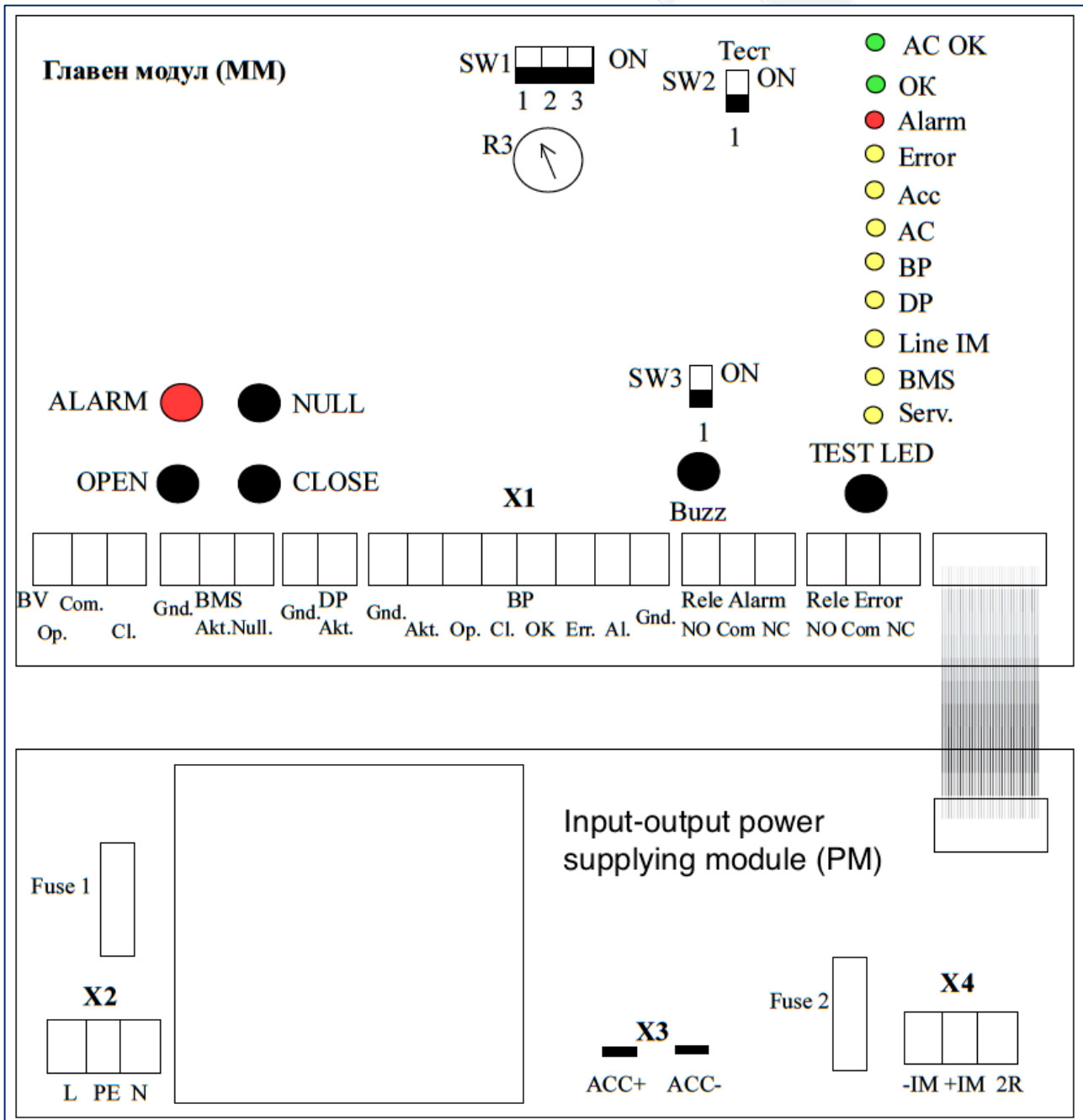
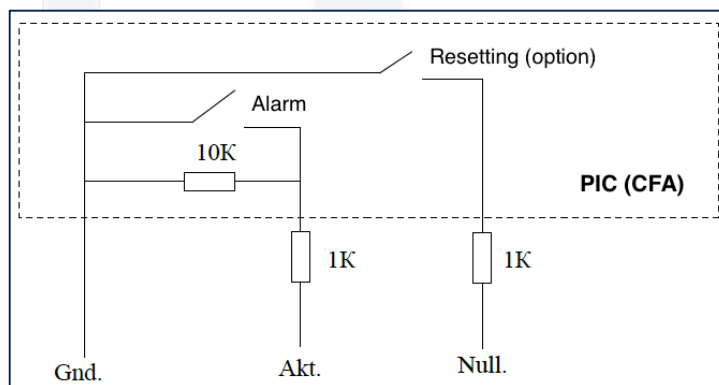


Fig.2

2.4. Description of outputs and element connections in SVCP Smart-10xxA Control Centre for smoke heat and natural ventilation

2.4.1. Main module (MM)

- Terminal X1-BMS - connection with CFA/Central Fire Alarm/. In this input the Control centre receives a signal from CFA. The necessary contacts are normally open, potential free (dry). No power supply is permitted on this input !



- Fig. 3 illustrates the connection scheme.

Fig.3

- Terminal X1-DP. Input for connection of smoke (SD), or heat (HD) detectors. A maximum of 10 detectors, of both types can be connected to one Control centre. Fig. 4 illustrates the connection scheme.

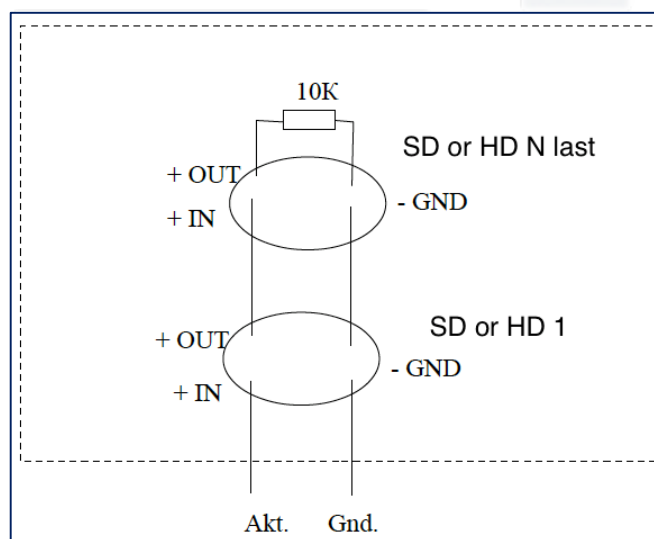


Fig.4

- Terminal X1-BP. Input for connection of smoke ventilation buttons (SVB). A maximum 10 buttons (SVB) can be connected to one Control centre. Fig. 5 illustrates the connection scheme.

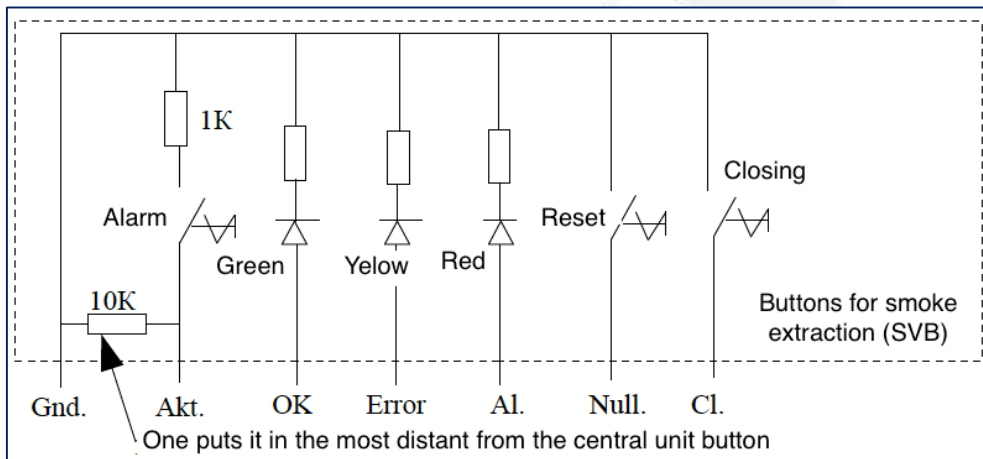


Fig.5

- Terminal X1-Rele/Relay Alarma. Output for Alarm status of the Control centre. Relay switch with maximum parameters of voltage commutation $-U=100V$ and current $-I=1A$. The scheme of switching is shown in Fig. 6.

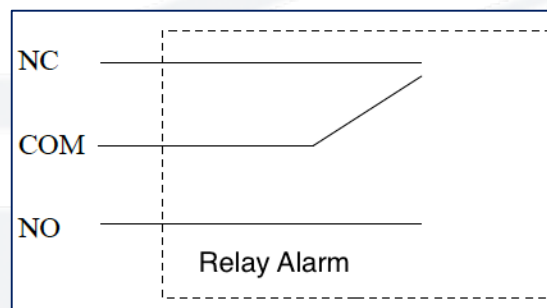


Fig.6

- Terminal X1-Rele/Relay Error. Output for Error status of the Control centre. Relay switch with occurrence of Error status in Control centre with maximum parameters of voltage commutation $-U=100V$ and current $-I=1A$. The switching scheme is shown in Fig. 7.

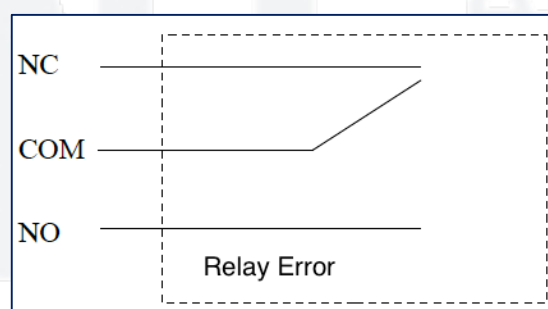


Fig.7

2.4.2. Input-output power supplying module (PM)

Terminal X2 - AC power supply

IMPORTANT:

→ Never connect the cables in case of active AC power supply!

THERE IS LIFE -TREATENING VOLTAGE RISK !!

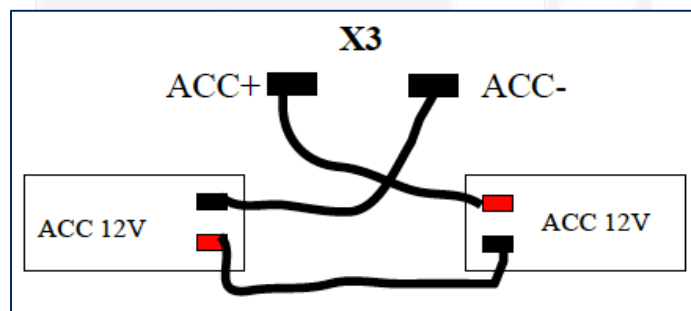
Terminal X3 - connection of batteries. The batteries should be lead-acid with parameters, as shown in table1.

Table.1

Type of control centre	Outgoing current (A)	Voltage of batteries (V)	Capacity of batteries (Ah)	Number of batteries
VCP-Smart-1004A	up to 4A	12V	1,3Ah	2
SVCP-Smart-1008A	up to 8A	12V	7,5Ah	2
SVCP-Smart-1016A	up to 16A	12V	12Ah	2

At recommended capacity the batteries should ensure the normal operation of the Control centre for a period of 72 hours before losing power.

Fig. 8 the batteries connection.



Фиг.8

NOTE:

Switching the polarity of the batteries will irreversibly damage the Control centre!

Terminal X4-output for executive mechanisms. The outputs -IM и +IM have reversible voltage. The illustrated polarity shows the triggered Alarm state of the Control centre. Fig. 9 shows the connection of the final module of resistances for monitoring the integrity of the executive mechanisms line.

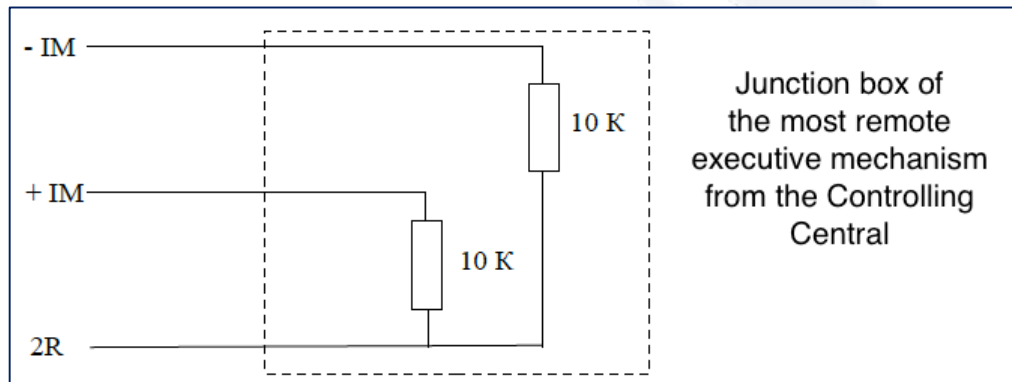


Fig.9

3. Indicators and control units for controlling and tuning of the SVCP Smart-10xxA Control centre for smoke, heat and natural ventilation type

3.1. Light indication

The light indication of the Control centre includes eleven LEDs located on the right handside of the Main module. These give information regarding the state of the centre, connected elements, power supply and status of batteries.









Table 2 identifies the status and indications/ of the LEDs.

Table.2

LED	State
Green LED AC OK - indicator for power supply	- off - no power supply - on - normal supply
Green LED OK - indicator for normal state of Control centre	- off - there is some error in the centre - flashing - the centre is in test mode - on - all parameters are normal
Red LED Alarm - indicator for alarm	- off - the centre is not in state of alarm - on - the centre is in state of alarm
Yellow LED Error - indicator for error	- off - all parameters are normal - flashing - service timer timeout - on - error has been found
Yellow LED Acc - indicator for the condition of the batteries	- off - the batteries have normal parameters - flashing - the batteries are not charging - on - there are no batteries
Yellow LED AC - indicator for power supply	- off - power supply normal - flashing - problem with the grounding - on - no power supply

Yellow LED BP - indicator of manual emergency button	- off - all parameters are in normal condition - flashing - damaged line of button - on - alarm from a button has been signalized
Yellow LED DP- indicator of sensors for smoke/heat detectors	- off - all parameters are in normal condition - flashing - damaged line of detectors - on - alarm from detector has been signalized
Yellow LED Line IM - indicator of executive mechanisms	- off - all parameters are in normal condition - flashing - damaged line of IM - on - alarm to IM has been signalized
Yellow LED BMS - indicator OF BMS/PIC	- off - all parameters are in normal condition - flashing - damaged line of BMS/PIC - on - alarm BMS/PIC has been signalized
Yellow LED Serv. - indicator of the service timer	- off - the timer has not been activated - on - the timer has been activated

3.2. Settings and control units:

-  **Button ALARM** - activates the centre in state of Alarm. If the centre is in test mode, it provides no power supply to the outputs of I.M. If it is not in test mode, it provides power supply to the output for opening of I.M. for a period of 3 minutes. Activation without delay. All Alarm indicators are in function/light/mode.
-  **Button NULL** - resets the Alarm and disconnects the power supply to the outputs of I.M. Activation is immediate. The Control centre is in standby mode.
-  **Buttons OPEN and CLOSE** - provides power supply to the corresponding outputs of I.M. while they remain pushed. Mainly when the system has electric motors. In test mode no power supply is set to the outputs.
-  **Button TEST LED** - when pushed all LEDs of the centre and in BP are turned on. Within 10 seconds of release the LEDs turn off, with the exception of those showing the current condition of the centre unit.
-  **Switch SW1** - serves for setting functioning of BV.
-  **Potentiometer P1** - setting opening time during daily ventilation.
-  **Switch SW2 - Test** - in ON position switches the centre unit to test mode. In this mode it functions normally, but doesn't provide any power supply to the outputs of I.M.
-  **Switch SW3** - turns on/off the beeper. If switch SW3 is in the OFF position, the beeper is turned off. If SW3 is in the ON position, the beeper is on and will give an alarm signal for 30 seconds.



4. Regular operation of starting up SVCP Smart-10xxA Control centre for smoke heat and natural ventilation

- All switches are set in position OFF
- All elements of the system for smoke and heat ventilation are connected to the centre with the exception of the executive mechanisms
- Connect the power supply
- Switch on the power supply
- Connect the batteries

IMPORTANT:

➔ **Never connect cables when connected to the power supply!**

THERE IS LIFE-THREATENING VOLTAGE RISK !!!

NOTE:

- Switching the polarity of the batteries will irreversibly damage the Control centre!
- Check the operation of all connected devices to the centre and while monitoring the power supply to the outputs IM
- Resetting the centre is done by of the NULL button
- After testing all, by means of the indicators, check the state of the centre. Only the LEDs AC OK and AC should be lighted
- Measure the power supply at terminals IM+ and IM-. The value must be 0V
- Connect the executive mechanisms to terminals IM+ and IM

5. Daily ventilation function

NOTE:

➔ **This function is possible only if the executive mechanisms are electrical motors.**

- Performs all actions as indicated in the previous item
- The button should be an irretentive type

- Connect the button for daily ventilation to the terminal BV according to the scheme, as indicated in Fig. 10

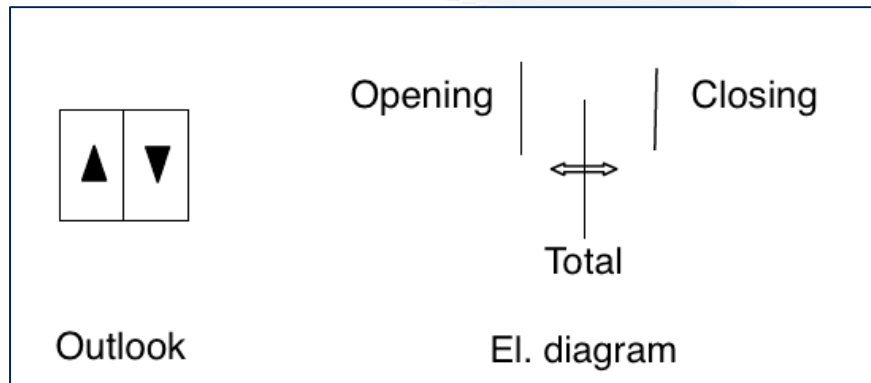


Fig. 10

- Control the desired function for daily ventilation by means of switch SW1 and potentiometer R1
 - switch 1 - ON - with one push of the button for closing it fully shuts off the engines, this means it sets the output power supply to close within 3 minutes: OFF - upon pressing the button for closing it disconnects power supply to the output until the button has been re-pressed
 - switch 2 - ON - with one push of the button for opening it fully opens the engines, this means it sets the output power supply to open within 3 minutes- only if the switch 3 is in the OFF position: OFF - when pressing the button for opening it provides the power supply for opening at the output until the button is re-pressed
 - switch 3 - ON only if the switch 2 is ON. The time limit on the supply of voltage for opening, from 10 to 120 seconds, is regulated by potentiometer P1: OFF - potentiometer is turned off

6. Operation and use of the SVCP Smart-10xxA Control centre for smoke, heat and natural ventilation

The regular operation of the Control centre requires a daily check of the indicators inside the centre and of the manual emergency push button. In its normal state the centre must be only have the green LEDs AC OK and OK on. In the event of any other different indications, it is recommended to get in contact with the supplier, or the service operator of the smoke extraction system.

7. Service maintenance.

☛ Service maintenance should be done at least once every 12 months

8. Service maintenance to be carried out only by licensed and trained personnel. Work done by unauthorized persons can lead to serious and unnecessary damage to the centre unit and will invalidate the warranty

9. Subtraction of use

SVCP Smart-10xxA Control centre for smoke, heat and natural ventilation, content metal /steel/ box, micro electronic elements and batteries. The subtraction of use of the Centre is related to its detachment from the common system for smoke and heat ventilation by qualified personnel and afterwards the decomposition of its integrated parts and their separate disposal.

10. Technical specifications

Type: SVCP Smart-10xxA Control centre for smoke, heat and natural ventilation

Box: Steel, with key lock, IP 30, painted in RAL

Working temperature: -5°C - +40°C

Supplying voltage: 205-245V, 50Hz

Supplying power: 20VA

Voltage of the batteries: 24V DC (2x12V DC)

Output voltage: 24V DC

Output current: SVCP-Smart-1004A - up to 4A DC

SVCP-Smart-1008A - up to 8A DC

SVCP-Smart-1016A -up to 16 A DC

Number of output lines: 1 item

Number of groups: 1 item

Number of manual buttons: 8 items

Number of sensors for smoke/heat: 8 items

Relay Alarm: 100V/1A

Relay Error: 100V/1A

Terminals:

IM - 4mm²

Supply - 4mm²

BV - 1,5mm²

BMS - 1,5mm²

DP - 1,5mm²

BP - 1,5mm²

Relay Alarm - 1,5mm²

Relay Error - 1,5mm²



Information for performed maintenance operations

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