

Recommendations for connecting linear fire detectors "Arton-DL1" and "Arton-DL3" to the fire alarm control panel "Vector-1" MCII 425513.011

The datasheet for the Arton-DL1 and Arton-DL3 linear fire detectors (hereinafter referred to as linear detectors) provides general connection diagrams to the fire alarm control panel (FACP) in fire alarm systems. Connecting them to the Vector-1 FACP has some special features that are set out below.

1. Connection to the non-addressable loop of the Input/Output Unit (IOU) of the control panel and control unit :

The linear detector is connected (observing polarity) directly to a single channel (loop) operating in the "Fire.R" mode of the Vector-1 fire alarm control panel. The "one loop - one linear detector" requirement must be met. **Applicability:** This connection method is most effective when using a small number of linear detectors.

2. Connection to the addressable loop of the Addressable Loop Block (ALB) of the PPKPiU:

The connection diagram for this option is shown in Figure 1. This diagram is directly applicable only to control panels and control units with a key supply voltage of (12 ± 1.8) V—this voltage is necessary for the normal operation of the MUSH-DLM. The supply voltage can be checked at the X19 **"Key Supply" connector on the control panel.**

Note. The design of the Vector-1 control panel and control unit allows the BC to be powered with a nominal voltage of 12V or 24V. In order to transfer the BC power supply from voltage of 24 V to 12 V, it is necessary to open the control panel and the positive (!) wire coming from connector X19 BC, move it on the BCP board from the socket of connector X5 (marked as **" +U2.1" or "+U2.2"**) into the X4 connector socket (marked as **" +U1.1" or "+U1.2"**). This procedure must be carried out with the control panel and control unit de-energized. After installation, it is necessary to check the value of the supply voltage of the keys on the X19 connector of the BC PPKPiU.

In the diagram shown, the linear detector receives power from the key unit (BU) of the fire alarm control panel via the MUSH-DLM (MCI 426434.010, manufactured by Arton). Medium-power keys designated on the BU board as **"Key 2," "Key 3," and "Key 4" are used for this purpose.** In this case, the key used must be set to operate in the "Power" mode, which means that the key is turned off for 5 s when the "Fire" condition is reset in the fire alarm control panel (for more details, see paragraph 5.2.9 of the "Passport" of the MCI 425513.011 PS for the "Vector-1" fire alarm control panel). Each key can switch a current of up to 200 mA. The AAU (MTSI 426469.008, manufactured by Arton, LLC)

is powered by the fire alarm control panel (FACP) and must be preset to operate in "N" mode. Using the AAU makes the linear detector addressable, which positively impacts the identification of the fire (smoke) source using the information on the FACP display.

Important! The addressable loop and MUSH-DLM (signal) circuits must be maintained shielded wire.

Applicability. This connection method is most effective with a large number of detectors. Theoretically, up to 16 AAUs can be connected to a single BShA addressable loop. However, a maximum of 5 linear detectors can be connected to a single BK key, due to the power consumption of the linear detector - MUSH-DLM combination. The remaining linear detectors must be connected to other BK PPKPiU keys (e.g., **"Key 3"** or **"Key 4"**), which must also operate in "Power" mode.

