USER'S
MANUAL

SPD-3.2
SMOKE OPTICAL DETECTOR

1. PURPOSE

1.1 The SPD-3.2 smoke optical detector is designed to detect smoky fires indoors and to transmit alarm signal to fire alarm control panels.

1.2 The SPD-3.2 detector is counted on the continuous 24-hours operating in connection with fire alarm control panels in 4-wire 12 V fire alarm loops.

1.3 The output alarm signal is issued by relay contact breaking.

1.4 The detectors have functions:

- Indication of the standby mode (LED periodical flashing);
- Indication of the alarm mode (LED steady light).

The detector complies with EN 54-7.

2. TECHNICAL SPECIFICATIONS

2.1 Supply voltage range, V..…….. 12±1,8
2.2 Standby current consumption, mA…….…….. ….....≤0,095
2.3 Maximum trigger current, mA ……..……..… ≤22
2.4 Maximum switching voltage, V……..……...≤36
2.5 Maximum switching current, mA……..……≤100
2.6 N.O. relay contact resistance…….specified by R_{lim}
2.7. N.C. relay contact resistance, Ohm……...≤5
2.8 Dimensions, mm. ……..…… ..…..….Ø 100x48
2.9 Weight, g ……..……..……..…150
2.10 Operating temperature range, °C ….....from - 30 to + 55
2.11 Average lifespan, years. ……..……≥10

3. ITEMS SUPPLIED WITH THE DETECTOR

Name	*Quantity*	*Note*
SPD-3.2 smoke optical detector	up to 25 pcs.	B103-03 base including
Manual	1 pc.	per a package
Package	1 pc.	

The K-4 mounting rings can be supplied by an order for detectors installation onto suspended ceilings.

4. DESIGN AND PRINCIPLES OF OPERATION

4.1 The principle of detector's operation is based on the control of optical medium density.

4.2 The detector consists of the detector itself and the base. The optical system, the signal processing electronic unit and LED control circuit are placed in the plastic housing of the detector. The detector is connected to a base by a 4-contact joint.

4.3 If there is no smoke in the sensitive zone of the optical system, the detector connected to the control panel will be in the standby mode, the red LED periodical flashing indicates about.

4.4 When smoke appears in the sensitive zone of the optical system, the electronic circuit issues the alarm signal by relay contact breaking that changes AL status. The red LED switches on in alarm mode.

4.5 The reset f detectors to the standby mode (reset) occurs when the mains supply switches off for not less than 3 s with the following energizing.

4.6 The contacts "6" and "3" fitted on the base comprise a NC contact if the detector is installed. When the detector is detached from the base the contact breaks and the 'fault' signal is issued.

5. PLACEMENT AND INSTALLATION

5.1 You should site detectors in places with the following conditions:

-minimal vibrations of constructions;

-minimal illumination intensity;

-maximum distance from sources of electrical-magnetic interferences (electric wiring etc.), infra-red radiation (heat devices);

-elimination of water ingress on the case and penetration out of the base;

-absence of gas, steam, aerosol emission that can cause corrosion.

5.2 Detectors are connected to alarm loop with the help of bases. Bases should be secured onto the detectors' site of mounting using two Ø6x25 mm expansion bolts and two Ø3x30 mm self-tapping screws. The center-to-center distance between fixing holes of the base is 70±0,2 mm. The view of the base is shown in Figure 1.

5.3 It is possible to connect to one screw joint of the base up to two 0,2-0,5 mm^2 wires.

5.4 The wiring diagram for detectors to control panels is shown in Figure 2.

6. PREPARATION FOR OPERATING AND SEQUENCE OF OPERATIONS

6.1 Open the package after receiving the detectors, check contents.

ATTENTION! If detectors were in below 0 ^oC temperature conditions before opening the package, allow them to acclimatize inside the structure for at least 4 hours.

6.2 Test of detectors for proper operating.

6.2.1 Connect the detector to a 12±1,2 V DC source and ≥50 mA load current. "Plus" connect to the contact "2", "minus" – to the contact "3". Connect a measuring instrument in resistance measurement mode to contacts "1" and "4".

6.2.2 Switch on the mains electricity supply and in not less than 10 s introduce a tester into the test hole on the detector's cover (a plastic or metal pin Ø1-1,2 mm, 4-5 mm long) and at the same time switch the stopwatch on.

6.2.3. When the LED is on or relay contacts switch, stop the stopwatch and determine the response time that should be ≤10s.

6.3 The reset to standby mode is made by turning off the mains electricity supply for at least 3 s.

7. MAINTENANCE

7.1 Vacuum at least every six months to keep unit working efficiently by firstly turning off the mains electricity supply and vacuuming through the vents during one minute using a soft brush attachment or using another compressor of 0,5-3 kg/cm^2.

7.2 Then test detectors for proper operating. If the detector is detached from the base then the test should be made according to p.6.2.

7.3 The test can be made by inserting a tester-pin into the hole on the detector's cover. The red LED will be lit when the detector operates properly, and the control panel will issue the alarm signal.

8. GUARANTEE

1 The detector is warranted by the manufacturer for 18 months upon the date of the detector's commissioning but not more than for 30 months from the date of approval by the manufacturer's quality control department.

8.2 The manufacturer shall repair or replace detectors within the guarantee term provided that the rules of installation, timely maintenance, transportation and storage of detectors have been kept.

8.3 In the case faults according to a reclamation have been removed the guarantee term is prolonged for the while detectors were not in use because of faults.

QUALITY AND PACKING CERTIFICATE

Optical smoke detector type SPD-3.1M, serial numbers:

_____pieces _____pieces

Comply with
EN 54 – 7

Packed in compliance with the factory rules

Approved: *Proper quality*

Manufacturing date __ __.__ __.201__ Packing date __ __.__ __.201__
Quality control mark_____

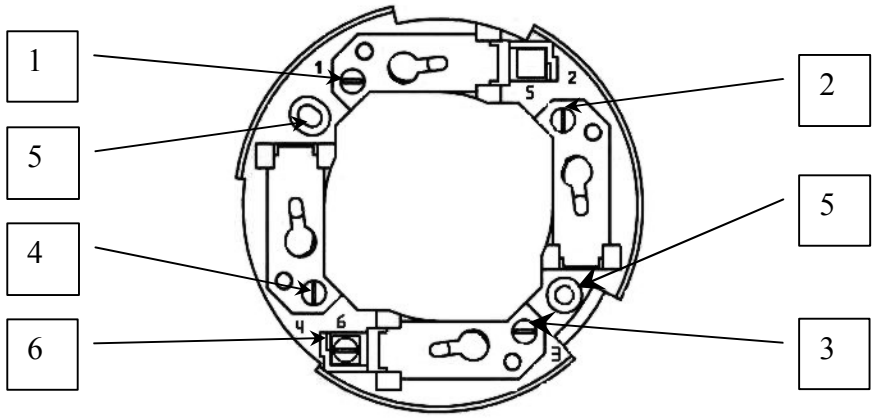
CE
1438

Manufacturer: **Private enterprise "ARTON"**
106 Nezalezhnosti av. Chernivtsi 58029 Ukraine

No of EC-certificate of conformity: 1438/CPD/0077

Figure 1

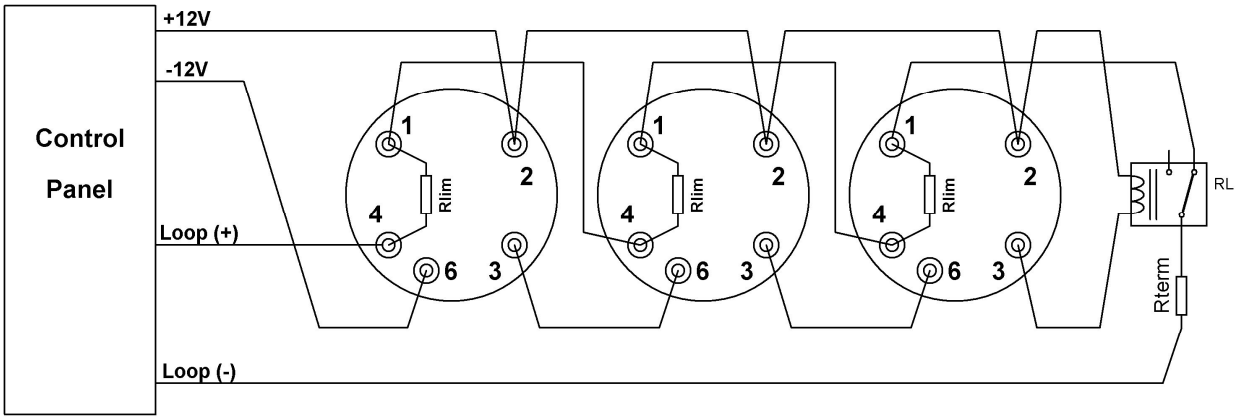
B103-03 BASE



1. Screw contact «1»	5. Mounting holes
2. Screw contact «2»	6. Screw contact «6»
3. Screw contact «3»	
4. Screw contact «4»	

Figure 2

WIRING DIAGRAM FOR SPD-3.2 DETECTORS TO CONTROL PANEL



R_{term} and R_{lim} are specified by the control panel manufacturer.