

TFB-180SA / TFB-180BSA

**Detector base integrated with a
addressable horn/strobe horn**

Technical instructions

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Note

The equipment must not be installed, operated or maintained before reading this manual and understanding its content.

1 Introduction

TFB-180SA and TFB-180BSA are devices with a base for an addressable detector integrated with an addressable horn or a base for an addressable detector integrated with an addressable strobe horn.

There are two models:

- **TFB-180SA** – base for an addressable detector integrated with an addressable horn
- **TFB-180BSA** – base for addressable detector integrated with an addressable strobe horn

The bases comply with the Telefire addressable detector series (TFO-480A ,TFH-280A , and TPH-482A).

Pressing the Horn Silence button in the fire detection panel stops the operation of the horn and strobe light.

2 Compatibility

2.1 Fire detection panels

The addressable strobe horn and horn comply with the following panels:

- ADR-7000 ,SAVER-7000-I ,GUARD-7
- ADR-3000-I ADR-SAVER

2.2 Detectors

The addressable strobe horn and horn serve as a basis for the following detectors:

- TFO-480A
- TFH-280A
- TPH-482A

3 Installation

The quantities and location of detectors and alarm devices will be planned according to the latest Israeli standard IS 1220, part 3, and upon the requirements of the planning consultant.

3.1 Planning of the installation

3.1.1 Capacity Planning

Make sure the fire detection panel has free addresses, as necessary.

3.1.2 Wiring planning – communication line to addressable devices

Use a 2-strand wire of 12-20AWG (section area – quadrat – of 0.5-3.3mm²). The following table presents the maximum line lengths by the section area of each cable strand. It is recommended to use a twisted pair when the detection loop connects between different buildings.

| Cable type | | | Maximum cable length (for a given size) as input to: |
|-------------|---------------|----------------------------|--|
| Cable (AWG) | Diameter (mm) | Section (mm ²) | ADR-7000 ,SAVER-7000 ,GUARD-7-I ,ADR-3000 |
| 20 | 0.812 | 0.518 | 570 |

| Cable type | | | Maximum cable length (for a given size) as input to: |
|-------------|---------------|----------------------------|--|
| Cable (AWG) | Diameter (mm) | Section (mm ²) | ADR-7000 ,SAVER-7000 ,GUARD-7-1 ,ADR-3000 |
| 19 | 0.912 | 0.653 | 710 |
| 18 | 1.024 | 0.823 | 900 |
| 17 | 1.15 | 1.04 | 1,125 |
| 16 | 1.291 | 1.31 | 1,425 |
| 15 | 1.45 | 1.65 | 1,800 |
| 14 | 1.628 | 2.08 | 2,275 |
| 13 | 1.828 | 2.62 | 2,875 |
| 12 | 2.053 | 3.31 | 3,625 |

Table 1: selection of communication loop cables for addressable devices (SLC)

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Note

IS 1220 part 3 (2014) states in section 12.1.4 that "When using cables that are composed of two strands and up, the section area of each conductor in the cable strand will be 0.5 mm², as a minimum".

The cable lengths stated in table 1 are brought as an estimate, assuming the cables are single-stranded.

In any case, the cable resistance, as measured in the field, has to be taken into account.

In communication lines for addressable devices (SLC), the loop resistance and capacitance – the stricter of the two, has to be considered. The capacitance of the SLC loop will not exceed 1 µF.

3.1.3 Wiring planning – 24VDC supply

The assembly is fed by +24Vdc supply from the panel or local addressable power supply, like TPS-74A or TPS-34A. The resistance of the power supply line between the power source 24Vdc and an addressable assembly will be calculated such that the maximum voltage drop at the end of line, under full load, will not exceed 2V, or a voltage level that supplies the last device with the minimum operating voltage, according to the manufacturer's data – the stricter of the two.

Use TPS-74A or TPS-34A when the assembly is installed far from the panel, or when the sum of consumer currents in regular operating mode or in alarm state exceeds the maximum permissible current on the main power supply (the panel).

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Note

24V lines that feed several loops will be split only on the panel output. It is forbidden to connect in the field 24V lines to different loops.
 TPS-74A or TPS-34A power supply will feed 24V to devices that belong to one loop only. It is forbidden to bridge 24V between devices in the field that belong to different loops.

3.1.4 Wiring planning – shielding

It is recommended not to conduct wiring outside of a building, because of the potential risk of lightning strike. If necessary, shielded cables must be used. The shield must be connected to the grounding by the grounding clamps on the panel.

3.1.5 Location

The device has to be installed indoors. Exposure to outdoor and weather conditions must be prevented to avoid high humidity or dust and air contamination from external sources.

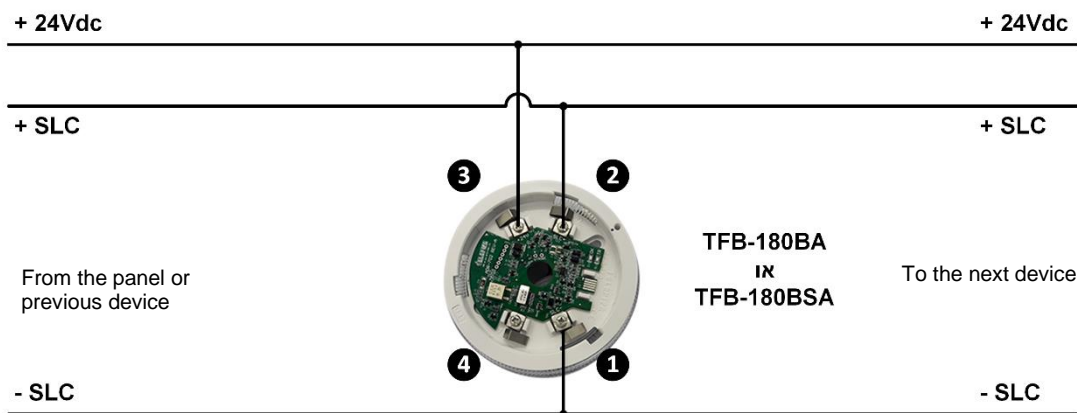
3.1.6 Connection of 24V power input and communication line to addressable devices

Connect to the assembly the communication line for addressable devices (SLC) from the panel, and 24VDC input from the panel or external power source, like TPS-74A or TPS-34A.

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Note

Check the wiring before making the connection, to ensure that is no short-circuit in the wires.
 The addition or removal of assemblies from the panel will be done when the power sources to the panel (AC input voltage and batteries) are disconnected.



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Drawing 1: wiring of TFB-180BSA or TFB-180SA

3.2 Installation

3.2.1 Programming of the device address

Burn the address of the horn/strobe horn to the device's card. Use the wire supplied with the software PROG-4000 or the technician kit TFC-7000 and connect the gator clips to lug 1 (positive) and 2 (negative).

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Note

Burning an address to the base sets the address of the horn/strobe horn only. The detector installed on the base uses its own address and the setting of the device on the panel.

3.2.2 Device settings on the panel

Set the assembly on the panel to "Silenced Horn". When this option is selected, the horn will be off.

On the TFB-180BSA, setting the panel to Silenced Horns will disable the horn, but the strobe light will continue to be on, until Respond is pressed in the panel.

Set the operating matrix of the device in the panel. Read the technical instructions of the panel for additional instructions about setting the devices and operating matrix.

3.2.3 Configuration switches –TFB-180BA

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Note

The switch is set to 1 when the selector is close to 1, and to 0 when the switch is away from 1 (OPEN state).

| Switch 3 | Switch 2 | Switch 3 | Sound |
|----------|----------|----------|---|
| 1 | 1 | 1 | Constant - 910Hz |
| 1 | 1 | 0 | Goes up from 500Hz to 1,200Hz for 3.5 sec; stops for 0.5 seconds |
| 1 | 0 | 1 | Switches between 910Hz and 685Hz at a rate of 2Hz |
| 1 | 0 | 0 | Intermittent sound, half a second at 910Hz, half a second off |
| 0 | 1 | 1 | Goes down from 1,200Hz to 500Hz every second |
| 0 | 1 | 0 | Sounds three pulses of 500mS at 910Hz and then goes off for 1.5 seconds |
| 0 | 0 | 1 | Goes up and down every 0.5 second in the range of 800Hz – 1,000Hz |
| 0 | 0 | 0 | Goes up from 800Hz to 970Hz every second |

3.2.4 Configuration switches – TFB-180BSA

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Note

The switch is off when the selector is close to the digit, and on when the switch is far away from the digit.

- **Switch 1:** sets the operating mode to horn/strobe or horn only.
- **Switch 2:** volume adjustment: high volume (off) or low volume (On).
- **Switches 3 and 4:** the horn sound:
 - o Continuous sound (910Gz): switch 3 is On, switch 4 is On
 - o Bell (1440 Hz), switch 3 is On; switch 4 is Off
 - o Alternating sound (910Hz/600 Hz), switch 3 is Off; switch 4 is On.
- **Switch 5:** stay in off state.

3.2.5 Device connection

Connect the device to the communication line of addressable devices and +24Vdc input.

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Note

Measure the wiring to ensure there is no short circuit or connection or leakage to the ground, before connecting the device to the fire detection panel.

Addition or connection of devices to the fire detection panel will be done when all power sources to the operation panel (AC input voltage and batteries) are disconnected.

Notify the system manager that the fire detection panel will be temporary cut off, before adding devices to the panel.

3.3 *Preinstallation tests*

Check that the device is included in the relevant matrix and follow the provisions of the standard and the instructions of the planning consultant.

4 Technical data

| | |
|--|------------------------------|
| Diameter (including base) | 124 mm |
| Height (without detector) | 58 mm |
| Operation temperature range: | -10°C – +60°C |
| Relative humidity: | 10% – 93% without condensate |
| Operating voltage | |
| (supplied by the operation panel on the device communication line) | 20V modulated |
| (supplied by the operation panel or addressable output assembly) | 24 Vdc |

4.1 TFB-180SA

| | | |
|---|-------------|-------------------|
| Maximum current consumption – device line | 180 μ A | (quiescent state) |
| | 2 mA | (alarm state) |
| Maximum current consumption from 24Vdc power source | 10 mA | (quiescent state) |
| | 22 mA | (alarm state) |

4.2 TFB-180BSA

| | | |
|---|-------------|-------------------|
| Maximum current consumption – device line | 180 μ A | (quiescent state) |
| | 2 mA | (alarm state) |
| Maximum current consumption from 24Vdc power source | 12 mA | (quiescent state) |
| | 34 mA | (alarm state) |

All data are nominal and can be changed without prior notice.

5 Accreditation

The equipment meets the following standards:

- Certified to Israeli standard IS 1220