SIEMENS

**FDO181 Smoke Detector
Product Manual**

Overview

The FDO181 wide-spectrum smoke detector is an optical smoke detector with an optical sensor. It works according to the principle of forward scattering. The detector reacts extremely sensitively on light aerosols caused by fire. The increased sensitivity makes possible the early detection of smoldering and open fires.

Characteristics

– Intelligent detector with built-in CPU, providing advanced distributed intelligence for optimum reliable detection principle
– Two kinds of sensitivity setting (standard, sensitive)
– Opto-electronic sampling chamber more reliable and accurately detects fire
– Automatically address setting without encoder setting or DIP switch
– Resistant to environment and interference factors such as dust, fibres, insects, humidity, extreme temperatures, electro-magnetic interference, corrosion, vapors, vibration, synthetic aerosols and atypical fire phenomena
– All-around visible alarm indicator
– Communication via FD18-BUS, polarity free connection
– "Sticker Method" easy for commissioning

Smart Infrastructure

Functions

– Works according to the forward scattered light principle with one sensor
– Opto-electronic sampling chamber holds off disturbing extraneous light but optimally detects smoke particles
– Automatic drift compensation. When the detector is contaminated badly and drift compensation can not work, it will send fault message to controller
– Two levels of sensitivity (standard, sensitive) so that it can be specifically adjusted according to the environment to be monitored
– Unique ID of each detector, controller can identify the detector type according to the ID and assign address

Application

– Detection of smoldering fires and smoke-generating flaming.
– Dust cap protects the detector from being contaminated by construction work

Indicator

The detector is provided with an internal alarm indicator to show its operating status.

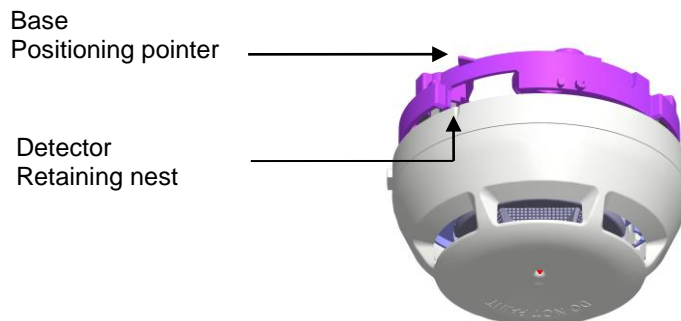| Status	Indicator
Normal	Off
	Flashing when connected with FC1840-A3 (for Russian).
Locate/Test	Flashing
Alarm	Steady on

Installation

● **Easy and time-saving mounting**

Install the base and finish the wiring during the construction phase.
1. Point the retaining nest to the positioning pointer and insert it into the base. (see below)
2. Turn it clock wisely until it stops.

Uninstallation:
1. Turn it counterclockwisely until it stops.
2. Pull the detector out.

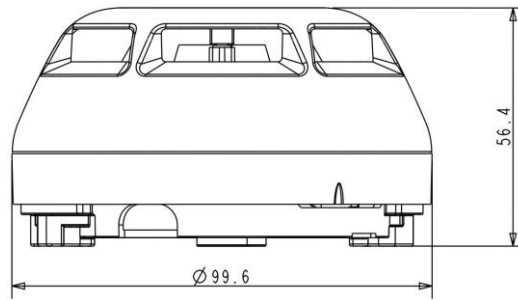Base
Positioning pointer

Detector
Retaining nest

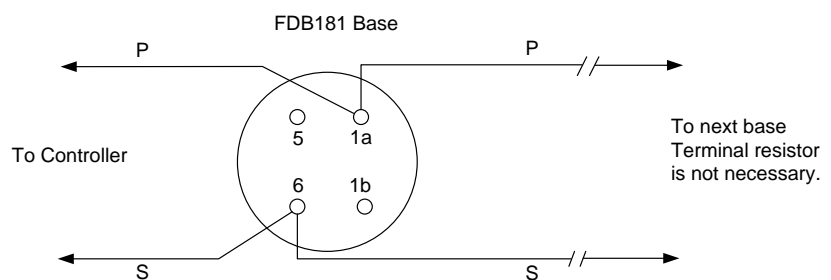⚠ After all the construction is finished, the dust cap must be taken away!

Dimensions

In：mm (with the base)

Connection diagram

Maintenance

● **Performance test**

Recommendation:

– Submit all detectors to an annual visual check. Detectors that are strongly soiled or mechanically damaged must be replaced.

– Any detectors should be replaced after 7 to 10 years of service, independent from the environmental conditions.

– Long term auxiliary detectors should be stored with sealed plastic bag.

– Carry out smoke test each year.

Technical data

Operating voltage	12 … 32 VDC
Operating current (quiescent)	0.26 mA
Activation current	1.2 mA
Sensitivity	Standard 2.5%/m Sensitive1.8%/m
Response time	10 s
Operating temperature	−10 ... +55 °C
Storage temperature	−20 ... +75 °C
Humidity	≤96% (40±2 ℃)
Communication protocol	FD18-BUS
Load factor	1
Color	White, RAL 9010
Protection category EN60529 / IEC529/GB4208-93	IP44
Approval (for Russian)	TR RF N123-FZ

Details for ordering

Type	Material No.	Part No.	Designation	Weight
FDO181	S54320-F2-A1	100856211	Smoke detector	0.079Kg
FDB181	S54320-F1-A1	100856213	Detector base	0.027Kg
	A5Q00022000	100566010	FDO181 dust cap	