

SC-FPS Fiber Pressure Sensor

SC-FPS is a concealed intrusion detection system, and its performance indicators meet the security requirements. It consists of fiber sensing cables, soft cover and a communication processor. The sensing cables are installed and distributed inside the soft cover, such as carpet or rubber pad. It is used to receive the fiber optic sensor signal as well as the dry contact input signal.

After data analysis and processing, alarm information is transmitted to the alarm hosting system through the CAN bus or dry contact.

It provides high probability of detection (PD) for the security; while maintaining extremely low false alarm and nuisance alarm rates (FAR/NAR)

Suitable Application

SC-FPS is the ideal security system for all indoor areas. It can be extensively installed in various premises / locations such as:

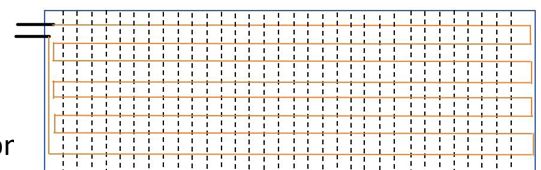
- Residential
- Museum
- In front of Safety Box
- Restricted Zone
- Windowsill
- Under the Floor Carpet
- Under the Stair Step

Fiber Pressure Sensor & Cable Layout

- Working Temperature: -20°C to $+85^{\circ}\text{C}$
- Protection Level: Indoor Environment
- Accuracy Level: 0.1kg
- 12V/24V low voltage operator

Features and Benefits

- High probability of detection (PD)
- Low false alarm & nuisance alarm rates (FAR / NAR)
- Most trust on hidden fiber sensor
- Adaptive mechanism, low maintenance cost
- Easy integration with 3rd party security system
- Sustained sensitivity
- Unaffected by adverse weather conditions
- Low power consumption: about 3.9W
- Most hidden, cooperate with design



Working Principle:

SC-FPS consists of fiber sensing cables, soft covers, communication processor, alarm host and other key components. The top area of soft covers can be customized according to the requirement and actual environment, including size, material, bearing weight, etc.

Each SC-FPS supports 2 zones and each zone size can be up to 100 sq. meters (or depends on the cable length). The communication processor can receive the millivolt electrical signal sent by the fiber sensing cable, and then process the signal to judge whether to send an alarm message to the Control Center.

Trigger Alarm:

Fiber optic cables are distributed inside the carpet or rubber pad. When someone steps on it, the optical fiber inside the rubber pad is bent. The attenuation of the optical fiber increases and the received optical power decreases, it then triggers the alarm signal.

Communication Processor:



- Power supply mode: 12V to 24V DC
- Power Consumption: 3.9W
- Communication Method: CAN bus, dry contact, TCP/IP (require additional module)
- Zones: 2
- Dry contact input: 8
- Dry contact output: 4
- External alarm output: 12V
- IP Level : IP65

Zoning:

- Per zone size: ≤ 100 sq. meters or depends on the cable length
- Zone geometry: No restriction, end user defined
- Recommended Cover Material: Carpet, Rubber Pad
- Coverage Color: According to the designer requirement

Performance:

- Power supply mode: DC12V to 24V
- Force to trigger alarm: Around 15KG
- Communication Method: CAN bus, Dry Contact, TCP/IP
- IP Level: IP65
- Waiting time to trigger alarm: ≤ 1 sec, can be end user defined

Working Conditions:

- Temperature Range : -20 to 85°c
- Humidity: 0 to 95%, non condensing

Technical Features:

- Built-in self-checking, self-balancing, self-adaptive functions
- Built-in intrusion alarm, equipment failure and tamper alarm functions
- Built-in lightning protection for both input and output
- Reduce false alarm function: the system will trigger an alarm when it detects an intrusion over the preset time (e.g. 1 sec)