

# SF<sub>6</sub>-IR-Monitor Model GA35

WIKA Data Sheet SP 62.06

## Applications

- Monitoring SF<sub>6</sub> gas concentration in ambient air to protect indoor environments from contamination

## Special Features

Infrared leak-detection technology offers many advantages including:

- No cross sensitivities to other gases
- Non-radioactive
- Unaffected by moisture
- Unaffected by background contamination
- No adverse effects due to large leaks or 100 % SF<sub>6</sub> concentrations

## Description

The GA35 SF<sub>6</sub>-IR-Monitor was specifically designed to detect unsafe SF<sub>6</sub> gas levels in enclosed indoor environments. During manufacturing processes utilizing SF<sub>6</sub> gas or at indoor substations, the concentration of SF<sub>6</sub> might increase over time due to leakage to unhealthy levels. The Maximum Allowable Concentration (MAC) of SF<sub>6</sub> within the European Community is fixed at 1,000 ppm<sub>v</sub> (e.g. see BGI 753 on SF<sub>6</sub>-filled equipment).

After prolonged exposure to high SF<sub>6</sub> levels, asphyxiation is possible as SF<sub>6</sub> gas enters the lungs and is too heavy to be exhaled.

The SF<sub>6</sub>-IR-Monitor prevents this by permanently taking gas samples through a pump from the indoor environment where unwanted SF<sub>6</sub> concentrations might appear. The GA35 SF<sub>6</sub>-IR-Monitor immediately sounds an alarm if dangerous concentrations are present in the air. Due to the heavy molecular weight of SF<sub>6</sub> gas compared with normal air, the sampling box should be mounted close



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to the floor while the monitoring unit can be mounted at eye-level. The unit is constantly checking the flow rate for safe operation. The sample inlet box has a particle filter so only gas is monitored.

## Functionality

The GA35 SF<sub>6</sub>-IR-Monitor features are

- 1 analogue output 4 ... 20 mA for remote monitoring
- 2 independent and selectable alarm levels linked to
- 2 potential free relays (max. 8 A).

The sampling point can be up to 30 meters away from the sensor.

## Additional Features

### Measurement principle

Dual wavelength non-dispersive Infrared Spectrometer (NDIR)

### Range

0 ... 2000 ppmv

### Accuracy

± 5 % of value at 0 ... 100 ppmv

± 2 % of range at 100 ... 2,000 ppmv

### Resolution

1 ppmv

### Flow Rate

60 liters/hour

### Response Time T90

< 30s

### Supply

88 ... 138 V AC or 172 ... 276 V AC 50/60 Hz (selected by switch)

### Display

Four-digit LCD, alarm 1 LED, alarm 2 LED, fault LED, low flow/flow fail LED

### Controls

Set point 1 and set point 2 adjustment,  
View set point 1 button,  
View set point 2 button,  
Indicator LED and display test button

### Output

0 ... 20 mA or 4 ... 20 mA

Alarm settings:

alarm 1 high/low, alarm 2 high/low, alarm 1 normal/latch, alarm 2 normal/latch, Buzzer sounds on both alarms or only on alarm 2, low flow warning (flashing lamp) or low flow alarm (audible alarm)

### Relay contacts

Volt-free changeover contacts

resistive load @ 24 V DC = 8 A

resistive load @ 250 V AC = 8 A

### Warm-up time

3 minutes (initial), 40 minutes (full specifications)

### Maximum sampling distance

30 m

### Temperature

Storage: -10 to 60 °C

Operating: 0 to 40 °C

### Dimensions

W x H x L: 267 x 258 x 140 mm ( 10.5 x 10.2 x 5.5 in)

### Weight

2.5 kg (5.5 lbs)

### Calibration

Every 5 years

Modifications may take place and materials specified may be replaced by others without prior notice.  
Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.



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