

TECHNICAL SPECIFICATIONS FOR SF₆ ANALYSIS DEVICE

GENERAL DESCRIPTION

The SF₆ analysis device will be used at electrical power equipment (extrahigh, high and medium voltage circuit breakers, current transformers and potential transformers, using SF₆ as arc-quenching and insulating medium), with rated voltage from 15 to 420KV, at open and closed-type high voltage substations and extra high voltage centers.

The device should be able to measure the following SF₆ parameters

- SF₆ volume percentage (%)
- Humidity (moisture) content by measuring the dew point in °C
- SO₂ content in (ppm_v)

TECHNICAL SPECIFICATIONS

The device will be used at SF₆/N₂ – gas mixtures ŋ SF₆/ air – gas mixtures

1. Range of measurements (at least)

- SF₆ volume percentage (%) : 85...100%
- Humidity (moisture) content (dew point) : -50...+20 °C (referred to atmospheric pressure)
- SO₂ content: 0...100 ppm_v

2. Accuracy of measurements (at least)

- SF₆ volume percentage : <= ±0,5%
- Humidity (moisture) content (dew point): <= ±2°C (for the range of measurements -40...+20 °C), <= ±4°C (for the range of measurements < -40 °C)
- SO₂ content : <= ±3 ppm_v

3. Resolution (at least)

- SF₆ volume percentage : 0,5%
- Humidity (moisture) content (dew point) : 1°C
- SO₂ content : 1 ppm_v

4. The SO₂ sensor will be suitable for multiple use and its service life will be at least 18 months

5. The device will be portable, compact type and will be mounted in a special case for storage and transport
6. It will operate at ambient temperatures at least from 0 °C to +35 °C and at ambient relative humidity (at least) 85 % (non-condensing).
7. Operating Voltage 220 - 240V (AC) / frequency 50Hz and the device will be equipped with power cable at least 1,5m
8. Operating pressure for SF₆ inlet to the device at least 1-9 bar (relative).
9. The flow rate of the SF₆ gas to the device will be adjusted manually or automatically by the device. During and after the completion of the measurement the SF₆ gas will not be discarded in the environment but it will be feasible to be pumped back into its original compartment. The initiation of the process (return of SF₆) could be done manually or automatically by the device after the completion of the measurement. The return of SF₆ process will be feasible for compartments with pressure at least 8 bar (relative). The return of the SF₆ process will be executed by the device itself without using external or other devices
10. A 4m (at least) flexible connection tube (between the equipment under measurement and the device) will also be provided, equipped with self-closing quick connectors and SF₆ couplings DN8 and DN20.
11. The results of the above measurements will be displayed on a screen in a digital form
12. The device will be able to be connected with a PC for transmission of measuring data via a USB or RS232 port.
13. The device will have the CE designation.
14. The device will be supplied ready for use and will be accompanied by calibration and test certificates
15. The device will be accompanied by an operation manual and a maintenance manual (if needed) in English and Greek language, in electronic or hard copy form.
16. Warranty period for at least 2 years