# 5 ZMJ100PRO FIBER OPTIC REMOTE TRANSMISSION DENSITY MONITOR





# Description

Using optical fiber as a communication medium, these instruments can realize the remote transmission and monitoring of SF<sub>6</sub> gas density in sealed tanks. They can also provide a signal outputs when the density reaches the set value. They are able to transmit the real-time data of SF<sub>6</sub> gas density remotely and realize the online remote monitoring. They are suitable for monitoring high-pressure system and realizing the online remote monitoring. They can provide multiple solutions to support new substations and the intelligent transformation of existing substations.

## Application

SF<sub>6</sub> Gas Insulated Switchgear (GIS) SF<sub>6</sub> Insulated Transformers SF<sub>6</sub> Insulated Circuit Breakers SF<sub>6</sub> Insulated Mutual Inductor SF<sub>6</sub> Insulated Pole-Mounted Switch SF<sub>6</sub> Insulated Busbar Systems

#### Features

- 1. The temperature compensation device ensures higher measurement accuracy.
- 2. Fiber optic communication interface, large data capacity, high communication speed, strong adaptability,
- 3. Strong anti-interference ability, especially applicable for the strong electromagnetic interference and strong static environment
- 4. Suitable for indoor or outdoor installation
- 5. AISI 304 hermetically sealed stainless steel case
- 6. Gas connection tubes are made of AISI 316 stainless steel
- 7. All monitoring points within interval can be interconnected with higher IED by self-developed optical interface HUB, reducing the number of interfaces, and saving IED resources
- 8. With the perfect mechanical and electronic combination, they can achieve local indication and control of
- 9. Four pairs of contacts can achieve overpressure alarm, dual alarm or double locking and many other options, making the monitoring more secure and reliable

# Options

- 1. Power-frequency withstand voltage: 2.5kV 50/60 Hz 1min
- 3. Measuring medium: SF<sub>6</sub>, Air, N<sub>2</sub>, SF<sub>6</sub> + N<sub>2</sub> and other gases

### > Technical Data

1. Case diameter: 100mm	10. Insulation properties:
2. Scale range: -0.1 to 0.9 MPa (customizable)	Insulation resistance: >100 M $\Omega$ (DC 500V)
3. Accuracy: (related to the measuring span; SF <sub>6</sub> in gas phase)	Withstand voltage: 2kV, 50/60 Hz 1 min
a) At 20°C: Class 1.0 or 1.5	11. Contact type: Magnetic snap-action contact
b) -40°C to +60°C: Class 2.5	80%Ag, 20%Ni, 10μm Au plated
4. Degree of protection: IP65	12. Impact rating: 50g (oil-filled), 30g (non-oil-filled)
5 . Ambient conditions: -40°C to +60°C, relative humidity $\leq$ 95%RH	13. Contact electrical parameters:
6. Leakage rate: $\leq 1 \times 10^{-9} \text{ Pa·m}^3/\text{s}$ (Helium leakage inspection)	30W/50VA, 1A (maximum)
7. Process connection: M20 × 1.5 (customizable)	220VDC/380V 50/60Hz (maximum)
8. Radial or axial	14. Window glass: Laminated safety glass
9. Electrical connection: Plug-in connection M20 $\times$ 1.5 sealing head	15. Weight: 1.2kg
Cable size: 1.5mm² recommended, 2.5mm² maximum	16. Pressure element: Bourdon tubes

# > Main electrical performance indicators and specifications of the remote transmission part

1. Power supply: DC 24V

2. Power consumption: < 2W

3. Communication mode: RS485

4. Protocol: ModBus RTU

5. Baud rate: 9600bps

6. Anti-electromagnetic interference: IEC61000-4-2: level 4 (15kV)

IEC61000-4-3: level 3 (10V / m)

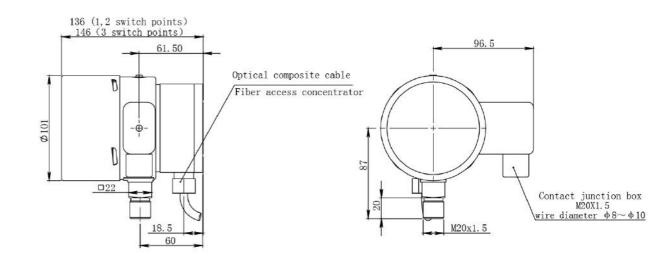
IEC61000-4-4: level 4 (4kV)

IEC61000-4-5: level 3 (+/- 2kV)

IEC61000-4-6: level 3 (10V)

IEC61000-4-8: level 5 (100A / m)

#### Dimensions



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