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## 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, long life
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 instrumentation
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
2. Oil-filled
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 MΩ (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 ≤ 95%RH	13. Contact electrical parameters:
6. Leakage rate: ≤ 1 × 10 <sup>-9</sup> Pa·m <sup>3</sup> /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 × 1.5 sealing head	15. Weight: 1.2kg
Cable size: 1.5mm <sup>2</sup> recommended, 2.5mm <sup>2</sup> 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

