

# HM100PR EHV SF<sub>6</sub> DENSITY MONITOR



## > Description

These instruments are used to monitor SF<sub>6</sub> gas density in sealed tanks. They are applied to provide a signal outputs when the density reaches the set value. At the same time, they reliably output SF<sub>6</sub> gas density signal for remote monitoring. They are specifically designed for over 500KV EHV grade application field, adapting multi-level protection and full range of shielding measures to ensure the reliable operation of the products.

## > 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. They adopt highly reliable protection circuit design, multi-level isolation and filtering technology, thus effectively inhibiting the intrusion of conductive interference.
2. They adopt the full-body shield design, stainless steel shielding shell, shielding junction box and military-grade shielding window glass, thus ensuring the ability of anti-electromagnetic radiation interference.
3. They are able to adopt the optic fiber communication backstage, thus avoiding data transmission link from electromagnetic interference.
4. The use of high-precision SF<sub>6</sub> density algorithm ensures that the background monitoring data coincides with those field instructions.
5. They are fully compatible with ordinary SF<sub>6</sub> remote products. They do not need other modifications in strong interference occasions.
6. The temperature compensation device ensures higher measurement accuracy.
7. Suitable for indoor or outdoor installation
8. Up to Four switch contacts can achieve overpressure alarm, dual alarm or double locking and many other solutions, ensuring 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	Cable size: 1.5mm <sup>2</sup> recommended, 2.5mm <sup>2</sup> maximum
2. Scale range: -0.1 to 0.9MPa (customizable)	10. Insulation properties:
3. Accuracy: (related to the measuring span; SF <sub>6</sub> in gas phase)	Insulation resistance: >100 MΩ (DC 500 V)
a) At 20°C: Class 1.0 or 1.5	Withstand voltage: 2kV, 50/60 Hz 1 min
b) -40°C to +60°C: Class 2.5	11. Contact type: Magnetic snap-action contact
4. Degree of protection: IP65	80%Ag, 20%Ni, 10μm Au plated
5. Ambient conditions:	12. Impact rating: 50g (oil-filled), 30g (non-oil-filled)
-40°C to +60°C, relative humidity ≤95%RH	13. Contact electrical parameters: 30W/50VA, 1A (maximum)
6. Leakage rate: ≤ 1 × 10 <sup>-9</sup> Pa·m <sup>3</sup> /s (Helium leakage inspection)	220VDC/380V 50/60Hz (maximum)
7. Process connection: M20 × 1.5, (customizable)	14. Window glass: Laminated safety glass
8. Installation method: radial or axial	15. Weight: 1.2kg
9. Electrical connection: Plug-in connection M20 × 1.5 sealing head	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 /A (8KV/15kV)
  - IEC61000-4-3: Exceed national standard requirements /A (30V/m)
  - IEC61000-4-4: level 4/A (4KV)
  - IEC61000-4-5: level 4/A (+/-2Kv)
  - IEC61000-4-6: level 3/A (10V)
  - IEC61000-4-8: level 5/A (100A/m)
  - IEC61000-4-9: level 5/A (100 0A/m)
  - IEC61000-4-10: level 5/A (100A/m)
  - IEC61000-4-12: Exceed national standard requirements /A (4KV)
  - IEC61000-4-17: level 3/A (10%UN)
  - IEC61000-4-29: 0.1s/A (40%UT/70%UT)

## > Dimensions

