

ACM Series
Digital Arrester Condition Monitor



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Description

The digital arrester condition monitor is primarily used to monitor the operating status of arresters in power stations, substations, transmission, and distribution systems at voltage levels of 35kV and above. It enables periodic automatic monitoring of key parameters such as total current, resistive current, and discharge counts. The device features data retention during power outages, self-diagnosis, auto-reset, remote transmission, alarm functionality, and data storage capabilities. It complies with the technical requirements specified in the State Grid standard "Q/GDW 12355_4-2023 Technical Specifications for Smart Substations – Part 4: Digital Remote Transmission Meters". The product offers versatile solutions for both new substation installations and intelligent upgrades of existing substations.

Features

- Built-in high-precision through-core current transformer, completely isolated from primary circuit, with high safety.
- High measurement accuracy, exceeding industry standard requirements.
- Multi-layer isolation design for enhanced reliability.
- Local LCD display for real-time data monitoring, convenient for observation.
- Supports wired (RS485) or wireless (LoRa, WAPI) communication for signal transmission to backend systems.
- Integrated battery enables on-site acceptance without external power supply.
- Protection rating of IP67.

Technical Parameters

1. Electromagnetic Compatibility Performance (EMC)

Table 1: EMC Test Items

Testing Standard	Level (Wired Version)	Level (Wireless Version)
GB/T 17626.2 Electrostatic Discharge (ESD)	Level 4	Level 4
GB/T 17626.3 Radiated Radio-Frequency Electromagnetic Field	Level 3	Level 3
GB/T 17626.8 Power Frequency Magnetic Field	Level 5	Level 5
GB/T 17626.9 Pulsed Magnetic Field	Level 5	Level 5
GB/T 17626.10 Damped Oscillatory Magnetic Field	Level 5	Level 5
GB/T 17626.11 Voltage Dips	Level 3	N/A
GB/T 17626.4 Electrical Fast Transient/Burst	Level 4	N/A
GB/T 17626.5 Surge	Level 4	N/A
GB/T 17626.6 Conducted Disturbances, Induced by RF Fields	Level 3	N/A

Technical Parameters

2. Technical Specifications for the Digital Arrester Condition Monitor Table 2: Technical Specifications

Product Characteristic	Description
Operating Temperature Range	-40°C ~ +70°C
Relative Humidity	5% ~ 95%
Atmospheric Pressure	80 kPa ~ 110kPa
Applicable Voltage Level	35kV and above
Residual Voltage	Wired version: No residual voltage Wireless version: < 3% of the configured arrester's residual voltage, max ≤ 3.0kV
High-impulse Current Withstand Test	100kA
Square Wave Impulse Current Withstand Test	800A
Total Current Measurement Range	100uA ~ 50mA
Total Current Measurement Error	±(Standard reading × 1% + 5 μA)
Total Current Repeatability (RSD)	RSD < 0.5%
Operation Count	0 ~ 9999
Data Update Frequency	4 seconds
Data Storage Capacity	10000 entries
Power Supply Method	Wired version: DC 24V power supply Wireless version: Leakage current/Battery
Protection Rating	IP67
Installation Method	Screw fixation
Weight	2900g(Wired version) 3300g(Wireless version)

Dimensions

