Acrel

Electrical safety for unearthed DC systems

With the global energy crisis, increasing energy consumption, and the development of new energy technologies, new energy generation is becoming increasingly widespread and gradually forming a new energy and electricity market. As an important part of new energy applications, DC systems are becoming increasingly widely used.
The AIM-D series DC insulation monitoring instrument is designed specifically for DC systems and is used for detecting grounding faults in ungrounded DC systems. When a grounding fault occurs in the DC system, an insulation fault alarm signal can be issued.

Application scenarios

The AIM-D series DC insulation monitoring instrument can be applied in DC systems such as power plants, substations, electric vehicle charging stations, UPS power supply systems, energy storage systems, and other DC power grids.

Electrical charging stations

Energy storage systems

UPS power supply systems

Substations

Insulation monitoring devices for universal DC system

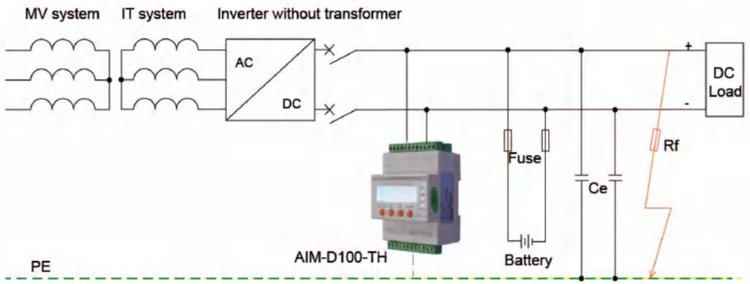
AIM-D100-T serials

Application scenario: Monitoring for dc system in charging stations, UPS systems, battery systems, energy storage and other DC systems.
Installation method: DIN-rail.
AIM-D100-TH: for DC 100V…1000V
AIM-D100-TL: for DC 10V…100V
Certifications:

CE RoHS

Features:
- DC voltage measurement of L+/L-, L+/PE and L-/PE up to DC 1000V
- Resistance measurement to earth (L+/PE and L-/PE). Range from 1kΩ~10MΩ, real-time or be activated by communication.
- Automatic adaptation to the system leakage capacitance up to 5 μF.
- Two separately adjustable response value ranges of 1kΩ …10MΩ
- LED indicating for run, communication, over-voltage, under-voltage and insulation fault.
- 3 relays (N/C or N/O adjustable)
- 20 fault message records
- 1 RS-485, Modbus-RTU protocol.
- LCD display.
- Pluggable terminals.
- Dimension: 72x107.7x70（mm）

Typical application:



Typical application of AIM-D100-TH in unearthed DC system

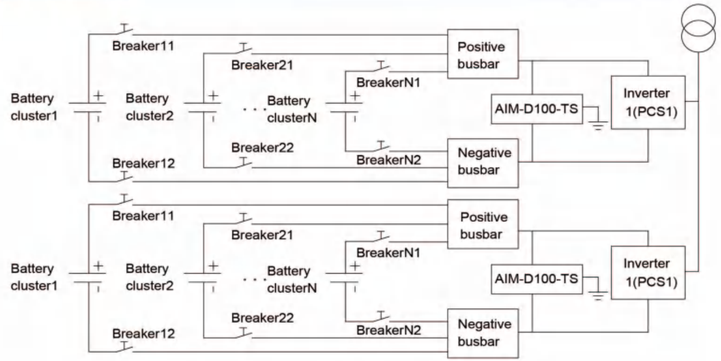
AIM-D100-TS serials

Application scenario: Monitoring for dc system in charging stations, UPS systems, battery systems, energy storage and other DC systems.
Installation method: DIN-rail.
AIM-D100-TS: for DC 150V…1500V
AIM-D100-TSL: for DC 15V…150V
Certifications:

CE

Features:
- DC voltage measurement of L+/L-, L+/PE and L-/PE up to DC 1500V
- Resistance measurement to earth (L+/PE and L-/PE). Range from1kΩ~10MΩ, real-time or be activated by communication.
- Automatic adaptation to the system leakage capacitance up to 5 μF.
- Two separately adjustable response value ranges of 1kΩ …10MΩ
- LED indicating for run, communication, prewarning and alarm.
- 2 relays
- 1 RS-485, Modbus-RTU protocol.
- Pluggable terminals.
- Dimension: 144x90x45（mm）

Typical application:



Typical application of AIM-D100-TS in energy storage systems

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Insulation monitoring devices for DC charging stations

AIM-D200-CA

Application scenario:
DC charging stations
Installation method: DIN-rail.
Voltage range: DC 100V…1000V
Certifications:

Features:
DC voltage and resistance measurement for single charging loop (Single gun DC charging pile).
DC voltage measurement of L+/L-, L+/PE and L-/PE up to DC 1000V
- Resistance measurement to earth (L+/PE and L-/PE), activated by communication.

Automatic adaptation to the system leakage capacitance up to 5 μF.
Two separately adjustable response value ranges of 1kΩ …10MΩ
LED indicating for run, communication and fault.
- 1 RS-485, Modbus-RTU protocol.

Pluggable terminals.
- Dimension: 72x107.7x70（mm）

AIM-D100-CAD

Application scenario:
DC charging stations
Installation method: DIN-rail.
Voltage range: DC 100V…1000V
Certifications:

Features:
DC voltage and resistance measurement for double charging loop (Double gun DC charging pile).
- DC voltage measurement of L+/L-, L+/PE and L-/PE up to DC 1000V
- Resistance measurement to earth (L+/PE and L-/PE) activated by communication.

Automatic adaptation to the system leakage capacitance up to 5 μF.
Two separately adjustable response value ranges of 1kΩ …10MΩ
LED indicating for run, communication, prewarning and alarm.
- 1 RS-485, Modbus-RTU protocol.
- Pluggable terminals.
- Dimension: 72x107.7x70（mm）

AIM-D500-CA (with ACPD300)

Application scenario:
DC charging stations according to IEC 61557-8, IEC61851-23, CHAdeMO 3.0.
Installation method: DIN-rail.
Voltage range: DC 50V…1000V
Certifications:

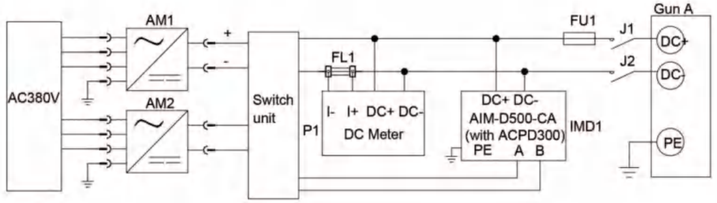
Features:
Monitor the resistance of DC charging stations in accordance with the CHAdeMO 3.0 and Combined Charging System (CCS).
Measuring the resistance between L+ to earth and L- to earth.
- Measuring the system voltage with undervoltage and overvoltage detection.

Measuring the voltage between L+ to earth and L- to earth.
Two adjustable response value ranges from 1kΩ~2MΩ.
Automatic adaptation to the system leakage capacitance up to 35μF
- Alarm output via LEDs (Fault, Prewarning and Alarm), LCD display and alarm relays (DO1, DO2).
- Selectable N/C or N/O relay operation.

Self-test for detecting whether the insulation monitoring device is capable of fulfilling its warning functions.
50 fault memory alarm messages.
- RS-485 with Modbus RTU protocol for the data exchange with other devices.
- Local and remote reset/test function.

Stop mode for disabling the measuring pulse generator.

Typical application:



Typical application of AIM-D500-CA in DC charging station

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Insulation monitoring devices and solutions for DC system

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