BLUE JAY®
Technology of Electrical Automatic

PRODUCTS CATALOG

CHONG QING BLUE JAY
TECHNOLOGY CO.,LTD



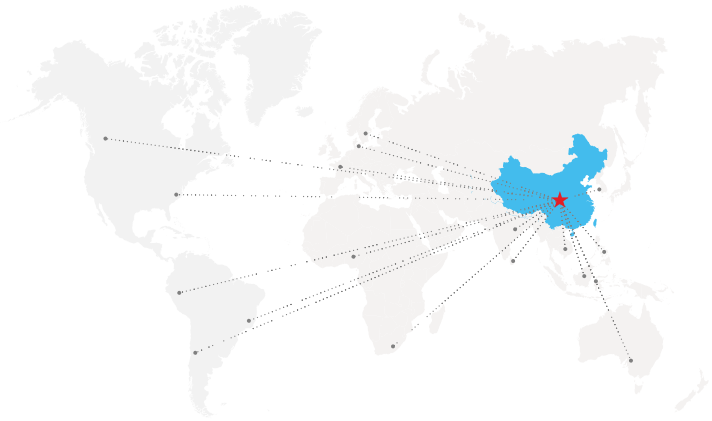
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DIGTAL PANEL METER



Introduction

Blue Jay digital panel meter is an alternative solution to analog meter,which has lower cost for installation and can make full use of panel space. It is suitable for indication and monitoring of single-phase or three-phase circuits, accepts various inputs (such as voltage,current,frequency, etc.),provides alarm relay, analog signal transmission and optional pulse output.

We supply high-quality,high-precision BPM series standard digital panel meters and APM series advanced multi-function digital panel meters, which can be used to measure various electrical parameters, including voltage, current,frenquency, etc. The large LCD screen helps you easily read the digital results displayed on it.



Measurement Parameter

Voltage	Va, Vb, Vc / Vab, Vbc, Vca
Current	Ia, Ib, Ic
Power	Pa, Pb, Pc, Psum
Reactive power	Qa, Qb, Qc, Qsum
Apparent power	Sa, Sb, Sc, Ssum
Frequency	Fra, Frb, Frc, Fr
Power factor	PFa, PFb, PFc, PF
Active energy	Ep_imp, Ep_exp, Ep_total
Reactive energy	Q_imp, Q_exp, Q_total
Voltage THD *	THD_U%, THD_I%
Harmonic	2~31st / 2~63rd / 2~127th
Multi- tariffs	3 Months, 4 Tariffs, 12 Segments
Max demand	Um, Im, Pm, Qm
Power quality	Voltage Sag / Flicker / Unbalance

Reference Standards

Measurement standard

Active energy	IEC 62053-22:2020
Reactive energy	IEC 62053-23:2020
Basic electricity	IEC 61557-12:2018

LVD test standard

IEC/EN 61010-1	2017, CATIII-300V

EMC test

Discharge immunity	IEC 61557-12:2018
Fast transient burst immunity	IEC 62053-22:2020
Surge (Shock) immunity	IEC 62053-23:2020

Application

- Power distribution systems;
- Photovoltaic (PV) systems;
- Renewable energy systems;
- Industrial automation;
- Smart grid & utilities;
- Building energy management;
- Power quality monitoring;
- Generator & backup power system;

BPM SERIES STANDARD DIGITAL PANEL METER



Introduction

BPM series standard digital panel meter especially developed for indication and supervision of the three-phase circuit, replaces an analogical display meter, reducing installation procedure and optimizing utilization of panel space.

It's ideal for protection of single phase or three- phase networks, it is monitored and usually have superior and subordinate alarms. Protection of the parameters of programming by password.

Main Features

- Measurement functions include:current, voltage, three-phase total power, power factor, frequency;
- 0.5% high-precision measurement;
- Large high-definition LED display;
- Password protected programming parameters;
- Protection for single-phase and three-phase networks;
- ITF technology:input and output current insulation protection;
- RS-485 communication, optional expandable I/O modules;
- Various installation sizes, excellent panel space utilization;
- Wide range power supply (85-265VAC/DC);

Ordering Information

BPM 1 – 2 3 – 4 5

- 1 — Series type
- 2 — Panel size
- 3 — Function code
- 4 — Communication
- 5 — Phase number

Num.	Code	Description
1	2	Basic type
	3	Economic type
2	96	96(W)x96(H)x71(D)mm
	72	72(W)x72(H)x71(D)mm
	80	80(W)x80(H)x71(D)mm
3	U	Voltage meter
	I	Current meter
	P	Active power meter
	Q	Reactive power meter
	H	Power factor meter
	F	Frequency meter
	UI	Voltage & current combine meter
	UIF	Voltage & current& frequency combine meter
	PQH	Power & power factor combine meter
	E	Economic multifunction meter
4	Blank	Without this function
	R	With RS485 interface, Modbus-RTU
5	1	Single-phase
	3	Three-phases

Note: BPM2 series only can select from num.2-4.

Measurement Function

Model	BPM2/3 -96U	BPM2/3 -96I	BPM2/3 -96P	BPM2/3 -96Q	BPM2/3 -96H	BPM2/3 -96F	BPM3 -96UI	BPM3 -96UIF	BPM3 -96PQH	BPM3 -96E
Parameter										
Voltage	●	-	-	-	-	-	●	●	-	●
Current	-	●	-	-	-	-	●	●	-	●
Active power	-	-	●	-	-	-	-	-	●	●
Reactive power	-	-	-	●	-	-	-	-	●	●
Power factor	-	-	-	-	●	-	-	-	●	●
Frequency	-	-	-	-	-	●	-	●	-	●
Active energy	-	-	-	-	-	-	-	-	-	●
Reactive energy	-	-	-	-	-	-	-	-	-	●
I/O Expansion module										
Analog output	-	-	-	-	-	○	○	○	○	○
Digital output	-	-	-	-	-	○	○	○	○	○
Energy pulse output	-	-	-	-	-	○	○	○	○	●

●With this function ○Optional function -Without this function

Technical Characteristics

Model	BPM2	BPM3
Current measurement (TRMS)		
CT secondary	1 or 5 A True RMS	
Measurement range	0 ... 11 kA	
Input consumption	<0.4 VA	
Voltage measurement (TRMS)		
Measurement range	18 ... 400 VAC True RMS	
PT secondary	100VAC or 400VAC	
Frequency	50 / 60 Hz	
Input consumption	<0.1 VA	
Frequency measurement		
Measurement range	45 ... 65 Hz	
Accuracy	±0.02Hz	
Measurement accuracy		
Voltage, current	0.50% (IEC 61557-12)	
Active power, reactive power	0.50% (IEC 62053-21)	
Active energy	Class 1.0 (IEC 62053-21)	
Reactive energy	Class 2.0 (IEC 62053-23)	
Working power		
Power supply	220VAC	85-265V AC/DC ± 10 %,Optional 20-60VDC
Consumption	≤4VA	
I/O Module		
Pulse outputs (PO)	NONE	Available on meters with energy metering function
Quantities	/	Optional 1 - 2 channel
Pulse constant	/	5000imp/kWh 20000imp/kVarh
Optocoupler isolation capability	/	2kVac r.m.s
Relay outputs (DO)	/	Optional 1 - 4 channel
Load capacity	/	5A@250Vac or 5A@30Vdc
Digital inputs (DI)	/	Optional 1 - 6 channel
Quantities	/	96mm size meter max 6*DI 80mm and 72mm size meter max 4* DI
Load capacity	/	Ri<500Ω turn on, Ri>100kΩ turn off
Analog output (AO)	/	Optional 1 - 3 channel, current 4~20mA,
Quantities	/	96mm size meter max 3*AO 80mm and 72mm size meter max 1* AO
Load capacity		load <390Ω, or 0~10V, load >100KΩ
Communication		
Protocol	/	RS485/ Modbus RTU
MODBUS speed	/	4800 / 9600 / 19200 bauds
Others		
Calibration environment	27°C ± 5°C	
Operation environment	0 to 50°C,RH < 70%	
Storage environment	-10 to 60°C,RH < 70%	
Weight	Appx.300-400g	Appx.300g
Dielectric strength (AUX terminal)	2 kV at 50Hz for 1 min	

APM SERIES MULTI-FUNCTION DIGITAL PANEL METER



Introduction

The APM series advanced multifunction digital panel meter is designed for comprehensive monitoring and control of power distribution systems. It features four direct-access keys and a high-definition LCD display, providing clear visualization of all electrical parameters in 3P3W or 3P4W low-voltage systems.

The meter can be seamlessly integrated into intelligent power distribution or industrial automation systems as a data acquisition unit. It supports remote access to all monitoring data via a standard RS485 communication interface, enabling efficient system supervision and management.

Main Features

- High-precision measurement with accuracy class 0.1 / 0.2 / 0.5 (PMD compliant);
- Configurable current input: .../5 A or .../1 A;
- Wide-range auxiliary power supply: 90-240VAC/DC, with optional 20–60VDC;
- 1.6-inch dot-matrix LCD for clear parameter visualization;
- Backlit LCD display for enhanced visibility in low-light conditions;
- Configurable load alarm functions with time-stamped event recording;
- SOE (Sequence of Events) recording and virtual alarm functionality;
- ITF technology for input/output current isolation protection;
- Optional 128 MB onboard data logging memory;
- Expandable architecture with optional I/O modules and Ethernet interface;
- RS485 communication with Modbus RTU protocol;
- Advanced power quality analysis, including maximum demand, unbalance factor, crest factor, K-factor, etc.;
- 1 kHz waveform capture, enabling 1-second snapshot recording of voltage, current, and power disturbances (e.g., flicker, sag, and transient events) for detailed event analysis;

Measurement Function

Model	APM-96Z	APM-96Y	APM-96J	APM-4MJ	APM-96Q
Parameters					
Basic parameters(1)	●	●	●	●	●
Split-phase measures	-	-	●	●	●
Harmonic distortion	-	●	●	●	●
Individual harmonic	-	2~31st	2-63rd	2-63rd	2~127th
Time of use (TOU)	-	●	●	●	●
Max demand	-	●	●	●	●
SOE record	-	●	●	●	●
Curr./volt unbalance	-	●	●	●	●
Volt/Fre. deviation	-	●	●	●	●
Vsag/swell/flicker/fluc.	-	-	-	-	●
Waveform capture	-	-	-	-	●
128MB memory	-	-	-	-	○
I/O module					
AO (0/4~20mA;0~5V)	○	○	○	-	○
DI/DO	○	○	○	○	○
PO (Pulse output)	○	○	○	○	○
Communication					
RS485	●	●	●	●	●
RJ45/ Ethernet	○	○	○	-	○
Profibus	○	○	○	-	○

●With this function ○Optional function -Without this function

(1) Basic parameters:Voltage,Current,Frequency,Total power factor,Active power, Reactive power,Apparent power,Active energy,Reactive energy.

Ordering Information

APM- [1] [2] - [3]

- [3] Communication
- [2] Function code
- [1] Panel size

Num.	Code	Description
[1]	96	96(W)x96(H)x71(D)mm
	72	72(W)x72(H)x71(D)mm
	80	80(W)x80(H)x71(D)mm
	XM	Module width
[2]	Z	Economic power meter
	Y	Multifunction power meter
	J	Smart power monitor
	Q	Intelligent power analyzer
[3]	Blank	**Default:** With RS485 interface, Modbus-RTU
	Eth	Ethernet interface,Modbus-TCP & Modbus-RTU

Technical Characteristics

Model	APM-96Z	APM-96Y	APM-96J	APM-4MJ	APM-96Q
Working power					
Power supply	90~240Vac/dc, ± 10 %				
Consumption	≤4VA				
Current measurement (TRMS)					
CT secondary	1 or 5 A				
Measurement range	0...11 KA				
Input consumption	<0.4 VA				
Voltage measurement (TRMS)					
Measurement range	18...400 VAC				
PT secondary	100 VAC/400 VAC				
Frequency	50 / 60 Hz				
Input consumption	<0.1 VA				
Elctrical power measurement (IEC 61557-12)					
Accuracy (A, V)	0.5%		0.2%		0.1%
Accuracy (Power)	0.5s%				0.2%
Energy accuracy					
Active energy (IEC 62053-21/ 22)	Class 1.0		Class 0.5s		Class 0.2
Reactive energy (IEC 62053-23)	Class 2.0		Class 1.0		Class 1.0
Frequency measurement					
Measurement range	45...65 Hz				
Accuracy	±0.02 Hz				
I/O module					
Pulse output (PO)	2* Pulse, 1600imp/kWh			1* Pulse, 1600imp/kWh	1* Pulse, 1600imp/kWh
Pulse constant	5000imp/kWh, 20000imp/kVarh				
Relay output (DO)	5A@250Vac / 5A@30Vdc				
Digital Input (DI)	Dry contact, Ri<500Ω turn on, Ri>100kΩ turn off				
Analog output (AO)	4~20mA, load <390Ω,or 0~10V, load >100KΩ			/	4~20mA, load <390Ω, or 0~10V, load >100KΩ
Communication					
Interface	RS485				
Protocol	Modbus RTU				
MODBUS speed	4800/9600/19200 bauds				
Others					
Calibration environment	27°C ± 5°C				
Operation environment	0 to 50°C, RH < 70%				
Storage environment	-10 to 60°C, RH < 70%				
Dielectric strength (Voltage sampling)	2 kV at 50Hz for 1 min				
Dielectric strength(AUX terminal)	2 kV at 50Hz for 1 min		4 kV at 50Hz for 1 min		

DIN-RAIL ENERGY METER



Introduction

The DIN-rail energy meter is a precision instrument designed for seamless DIN rail installation, ideal for residential energy monitoring, smart energy initiatives, and industrial energy management. High-performance models deliver accurate, reliable, and cost-effective power and energy measurement solutions.

Most units feature a clear LCD display and carry internationally recognized certifications. As a leading DIN rail energy meter manufacturer in China, we offer comprehensive OEM and ODM services to support customized solutions tailored to global markets.



Reference Standards

Measurement standard

Basic electricity	IEC 61557-12:2007
Active energy	IEC 62053-22:2003
Reactive energy	IEC 62053-23:2003

LVD test standard

IEC/EN 61010-1	2017, CATIII-300V

EMC test

Discharge immunity	IEC 61557-12:2007
Fast transient burst immunity	IEC 62053-22:2003
Surge (Shock) immunity	IEC 62053-23:2003

Measurement Parameter

Basic parameter	Voltage(U), Current (I)@0.5% Power (P, Q, S)@0.5% Power factor (H)@0.1% Frequency (Hz)@0.1%
Active energy	Consumed (Ep+)@0.5% Generated (Ep-)@0.5%
Reactive energy	Consumed (Eq+)@1.0% Generated (Eq-)@1.0%

Application

- Smart grid and energy management systems;
- Low and medium voltage electrical networks;
- Power generation and distribution industry;
- Commercial buildings and office complexes;
- Residential and multi-family housing sector;
- Utility metering and billing services;
- Data centers and IT infrastructure facilities;
- Microgrid and distributed energy projects;

DEM SERIES DIN-RAIL ENERGY METER



Introduction

The DEM series is a high-performance DIN-rail energy meter designed for residential energy monitoring and smart energy projects. Equipped with Modbus-RTU and pulse output communication, the series also supports advanced wireless connectivity, including WiFi, 4G, LoRa, and IoT protocols, enabling seamless integration with modern data acquisition and energy management systems.

A wide range of sub-models and expansion modules offers flexible configuration options. Combining precision metering with ease of integration, the DEM series delivers a cost-effective, reliable solution for power and energy measurement. The intuitive LCD interface provides clear local readings and simplifies installation and setup.

Main Features

- Wide-range power supply: 85–265VAC/DC;
- Compact 35mm DIN-rail mounting for seamless integration;
- High-precision measurement with 0.5s sampling rate;
- Large backlit LCD for clear, intuitive display;
- RS485 communication supporting Modbus-RTU protocol;
- Advanced wireless connectivity: optional WiFi, 4G, LoRa, IoT...;
- Direct current input up to 80A, starting from 0.04A;
- Built-in energy pulse output and configurable alarm output;
- Compatible with both 50Hz and 60Hz electrical systems;
- Direct voltage input 10–400VAC, optional connection via voltage transformers;
- Tamper-proof design certified for revenue-grade applications;

Measurement Function

Model	DEM-2M1D	DEM-3M1C	DEM-4M1D	DEM-7M3D	DEM-4MC	DEM-6MC
Parameters						
Basic para. (1)	●	●	●	●	●	●
4-quad. energy	●	●	●	●	●	●
Built-in CT(80A)	●	-	●	●	-	-
External CT(5A)	-	●	-	-	●	●
Harmonic distortion	-	-	-	○	●	●
Individual harmonic	-	-	-	2-31st	2-31st	2-63rd
Time of use (TOU)	-	-	○	○	○	○
Max demands	-	-	○	○	○	○
SOE record	-	-	-	○	-	○
Curr./volt unbalance	-	-	-	○	○	○
Curr./volt deviation	-	-	-	○	○	○
I/O module						
DI/DO	-	-	-	○	○	●
PO (Pulse output)	●	●	●	●	●	●
Communication						
RS485 modbus	●	●	●	●	●	●
Remote control	-	-	○	○	○	○
Wireless function (WiFi, 4G, LoRa, IoT...)	-	-	○	○	○	●

●With this function ○Optional function -Without this function

(1) Basic parameters: Voltage, Current, Frequency, Total power factor, Active power, Reactive power.

Ordering Information

DEM- 1 2 3

- 1 — Module number
- 2 — Phase number
- 3 — Access method

Num.	Code	Description
1	2M	2 Modules width Din-rail
	3M	3 Modules width Din-rail
	4M	4 Modules width Din-rail
	6M	6 Modules width Din-rail
	7M	7 Modules width Din-rail
2	Blank	Both Single-phase and Three-phases
	1	Single-phase
	3	Three-phases
3	D	Direct access
	C	Use external CT

Technical Characteristics

Model	DEM-2M1D	DEM-3M1C	DEM-4M1D	DEM-7M3D	DEM-4MC	DEM-6MC
Basic parameter						
Wiring method	Single-phase,1P2W			1P2W，Three-phases,3P3W/ 3P4W		
Power supply	Self-powered	85-265 VAC/DC	Self-powered	Self-powered	85-265VAC/DC	
Display capacity	9,999,999 KWh	9,999,999 MWh	99,999,999 KWh	99,999,999 KWh	99,999,999 MWh	
Voltage rating	18...250 VAC (L-N)					
Current	0.04-10(80)A	5A or.../1A CTs	0.04-10(80)A	0.04-10(80)A	5A or.../1A CTs	
Elctrical power measurement (IEC 61557-12)						
Current, voltage	0.5s%	0.5s%	0.5s%	0.5s%	0.2%	
Power	0.5%	0.5%	Active: class 1.0 Reactive: class 2.0	0.5%	0.5%	0.2%
Energy accuracy (IEC 62053-21/ 22/ 23)						
Active energy	Class 1.0	Class 0.5s	Class 1.0		Class 0.5	Class 0.5s
Reactive energy	Class 2.0	Class 1.0	Class 2.0		Class 1.0	Class 1.0
Others						
Module width	2	3	4	7	4	6
Weight	130g	170g	230g	310g	250g	300g
Temperature	-25°C to 55°C					
IP rating	IP40 front panel and IP20 casing					
Dielectric strength	2 kV at 50Hz for 1 min					

MCM SERIES MULTI-CHANNEL ENERGY METER






Introduction

The MCM series multi-channel power meter is designed for feeder circuit applications. Its multi-functional architecture enables electrical parameter measurement for three-phase and single-phase branch circuits, providing real-time metering, energy consumption analysis, and power quality monitoring.

It supports Modbus RTU via RS485 with optional Ethernet, and features multiple digital inputs for pulse acquisition from water, gas, and other utility meters.

Main Features

- Measurement accuracy class 0.5s;
- Current input: …/5 A or …/1 A;
- Multi-circuit metering capability;
- Harmonic analysis up to 21st;
- Optional 6 DI / 2 DO;
- Advanced electrical parameter measurement;
- Up to 5 configurable virtual alarms;
- SPDT relay output for alarm signaling;
- RS485/ Modbus RTU communication;
- Voltage and current unbalance measurement;
- Accept customization available;

Application

- Power distribution monitoring systems;
- Energy storage and management industry;
- Renewable energy generation industry;
- Commercial and institutional building sector;
- Data center and IT infrastructure industry;
- Smart grid and intelligent energy industry;

Measurement Function

Model	MCM2603	MCM2601	MCM2403	MCM2401	MCM1000
Parameters					
Basic parameters (1)	●	●	●	●	●
Harmonic distortion	-	-	●	●	-
Individial harmonic	-	-	2-21st	2-21st	-
Time of use (TOU)	-	-	-	-	-
Max demand	-	-	-	-	-
SOE record	-	-	-	-	-
Curr./volt unbalance	-	-	●	●	-
Curr./volt deviation	-	-	●	●	-
Measurement signal access					
4 Channels (3P)	-	-	●	-	-
6 Channels (3P)	●	-	-	-	●
12 Channels (1P)	-	-	-	●	-
18 Channels (1P)	-	●	-	-	○
I/O port module					
DI	○	○	-	-	-
DO	○	○	○	○	○
PO (Pulse output)	●	●	-	-	○
Communication					
RS485	●	●	●	●	●
RJ45/ Ethernet	-	-	○	○	-
Profibus	○	○	○	○	○

●With this function ○Optional function -Without this function

(1) Basic parameters:Voltage,Current,Frequency,Total power factor,Active power, Reactive power,Apparent power,Active energy,Reactive energy,Individual harmonic.

Ordering Information

MCM-[1][2][3][4]

- [4] Phase number
- [3] Reserved
- [2] Function code
- [1] Series type

Num.	Code	Description
[1]	1	First generation
	2	Second generation
[2]	4	4 Metering ICs built-in
	6	6 Metering ICs built-in
[3]	0	Reserved item
[4]	1	Single-phase
	3	Three-phases (Only for second generation)

Technical Characteristics

Model	MCM2600	MCM2400	MCM1000
Working power			
Power supply	90-240Vac/dc, ± 10 %		
Consumption	< 10 VA		
Current measurement (TRMS)			
CT secondary rated	Standard 1A/ 5A	1A, 100mA,333mV optional	Standard 1A/5A
Measurement range	0 ... 9999A		
Overload	1.2 times rated continuous; 5 seconds for 10 times of the rated		
Input consumption	<0.2 VA		
Voltage measurement (TRMS)			
Direct measurement	18 ... 300 VAC L-N		18 ... 400 VAC L-L(18…250VAC L-N)
PT secondary	100VAC / 400VAC		
Frequency	45 ... 65 Hz		
Overload	30 seconds for 2 times of the rated		
Input consumption	<0.2 VA		
I/O port (alarms / control)			
Quantity	2 Channel DO & 6 Channel DI	1 x SPDT DO	2 Channel DO & 6 Channel DI
Load capacity	5 A@230VAC, passive node		
Communication			
Interface	RS485		
Protocol	Modbus RTU		
Modbus speed	4800/9600/19200bps		

NEW MCM SERIES
MULTI-CHANNEL ENERGY METER



Introduction

Bluejay next generation multi-channel energy meter is engineered for accurate energy monitoring in residential and industrial applications. It features flexible configurations from 1 to 24 channels, supporting both single-phase and three-phase measurements.

Designed to stringent safety standards, it complies with CATIII 300V and withstands up to 4 kV. It offers RS485 and Ethernet communications, with optional DI, DO, PO, and AO modules for enhanced system integration.

Main Features

- Accuracy class 0.5s energy measurement;
- Single-phase and three-phase measurement;
- Scalable multi-channel configuration (1–24 channels);
- Suitable for residential and industrial energy monitoring;
- CATIII 300V voltage safety rating;
- Voltage withstand capability up to 4 kV;
- RS485/ Modbus RTU communication, optional Ethernet interface;
- Expandable I/O modules: DI, DO, PO, AI, AO;

Application

- Power distribution monitoring systems;
- Energy storage and management industry;
- Renewable energy generation industry;
- Commercial and institutional building sector;
- Data center and IT infrastructure industry;
- Smart grid and intelligent energy industry;

Measurement Function

Model	MCM211D	MCM243T	MCM263T	MCM283R
Metering features				
Basic parameters	●	●	●	●
Volt. harmonic distortion	○	●	○	○
Curr. harmonic distortion	○	●	○	○
Individual harmonic	○	●	○	○
Time of use (TOU)	○	●	○	○
Curr. / Volt. unbalance	○	●	○	○
SOE record	○	●	○	○
Measurement signal access				
1A & 5A	○	○	●	○
100mA	○	●	○	○
333mV	○	○	○	○
277Vac L-N	●	●	●	●
480Vac L-L	-	●	●	●
Communications and I/O port				
RS-485/ Modbus RTU	●	●	●	●
Ethernet 10/100MB	○	○	○	○
Digital input	○	○	●	○
Digital output	○	●	○	○
Analog input/ output	○	○	-	○
Pulse output	○	●	●	○

●With this function ○Optional function -Without this function

(1) Basic parameters:Voltage,Current,Frequency,Total power factor,Active power, Reactive power,Apparent power,Active energy,Reactive energy,Individual harmonic.

Ordering Information

MCM2-[1][2][3]

- [1] Application areas
- [2] Phase type
- [3] Function code

Num.	Code	Description
[1]	1	1 Metering ICs built-in: for 3*single phase measurement only
	2	2 Metering ICs built-in: for 6*single phase/ 2*three phases
	4	4 Metering ICs built-in: for 12*single phase / 4*three phases
	6	6 Metering ICs built-in: for 18*single phase/ 6*three phases
	8	8 Metering ICs built-in: for 24*single phase / 8*three phases
[2]	1	Single phase
	3	Three phases
[3]	T	T: CT access, 5A, 1A, 100mA, 333mV CT optional, for industrial use
	D	D: Direct access, for industrial use
	R	R: RJ12 interface for current input, for industrial use

Technical Characteristics

Model	MCM211D	MCM243T	MCM263T	MCM283R
Working power				
Power supply	90~240Vac/dc, ± 10 %, 50 / 60 Hz			
Consumption	<5W			
Measurement channels	Only for 3*1P	4*3P/ 12*1P	6*3P/ 18*1P	8*3P/ 24*1P
Current measurement (TRMS)				
CT secondary	5A,1A, 100mA, 333mV optional			
Overload	1.2 times rated continuous; 5 seconds for 10 times of the rated			
Input consumption	<0.2 VA			
Voltage measurement (TRMS)				
PT secondary	100VAC / 400VAC			
Overload	30 seconds for 2 times of the rated			
Input consumption	<0.2 VA			
Safety				
Voltage level	/	CATIII-300V		
Withstand voltage	2.5KV	4KV		
Communication				
Interface	RS485/ optional Ethernet			
Protocol	Modbus RTU/ TCP,IP			

DCEM SERIES
DC ENERGY METER



Introduction

The DCEM Series DC energy meters are designed for monitoring DC circuits, providing measurement of key parameters including power, demand, peak values, and accumulated energy. All models feature RS485 communication and offer accuracy class 0.5.

DCEM series includes DCEM-4MS, DCEM-7MS, DCEM-5MC, DCEM-96S, and DCEM-3MS. Compatible with DC shunts and Hall effect current transformers, they are widely used in telecom base stations, solar PV systems, EV charging stations, and DC distribution panels.

Application









Main Features

- Small and portable, easy to install;
- Powerful data acquisition and processing functions;
- High-definition display, clearly view the measurement results;
- Fast response,rapid measurement of current or voltage changes;
- Rapid precision for accurate current, voltage and resistance measurements;
- High voltage shock resistance reaches level 4; surge anti-interference to level 3;
- Electrostatic discharge immunity reaches level 3; electrical fast transient burst immunity reaches level 4;

Ordering Information

Model	Current signal	Voltage signal	Measurement channel	Access	Appearance Info
DCEM-4MS	Shunt input: 0-75mV or Hall CT input: 5-500A	Typical 100V, Max up to 1000V	2 Channels	Shunt/ CT	Segment LCD 72*94.5*48.5mm
DCEM-7MS	Directly input default: 10A (Optional 1mA, 20mA, 100mA, 1A/5A)	Typical 100V, Max up to 600V	8 Channels	Directly access / external CT	No screen 120*110.5*50mm
DCEM-5MC	Hall CT input, default 0-4VDC	Typical 300V, Max up to 1000V	4 Channels	CT	Dot matrix LCD 89*128*41mm
DCEM-96S	Shunt input, default 75mV	Typical 300V, Max up to 600V	1 Channels	Shunt	Segment LCD 96*96*75mm
DCEM-3MS	Shunt input, default 75mV	Typical 300V, Max up to 1000V	1 Channels	Shunt	Segment LCD 50*104*63mm

Technical Characteristics

Model	DCEM-4MS	DCEM-7MS	DCEM-5MC	DCEM-96S	DCEM-3MS
Working power					
Power supply	85-265Vac/dc, 45-65Hz DC 20-60V Optional	9~30 VDC	85-265Vac/dc, 45-65Hz DC 20-60V Optional		
Power consumption	≤4VA				
Measurement					
Impedance	>1 KΩ/V	> 2 KΩ/V	>1 KΩ/V		
Overload	Measurement: 1.2 times Instantaneous: 2 times/10s				
Channel	2 Channels	8 Channels	4 Channels	1 Channel	1 Channel
Accuracy	U / I :0.5%fs, P :0.5%fs, Energy: class 1.0	U / I :0.2%fs, P :0.5%fs, Energy: class 0.5	U / I :0.5%fs, P :0.5%fs, Energy: class 1.0		
Safety					
Insulation resistor	>100MΩ				
Withstand voltage	Input and power supply>4kV; input and output>4kV; power supply and output>4kV.	Input and power supply>2kV; input and output>2kV; power supply and output>2kV.			
Other					
Communication	RS485 MODBUS-RTU				
Storage environment	-30~75°C				
Working environment	-25~55°C ,Altitude ≤2000m, 98%RH, no condensation, no corrosive gas.				

POWER TRANSDUCER



Introduction

Power transducer is an electrical device used to measure, monitor, and transmit electrical parameters, typically be applied in power systems and industrial control applications.

The main function is to convert power parameters, such as voltage, current, frequency, power factor and active/ reactive power, into standard voltage or current signals for monitoring, control and data collection.



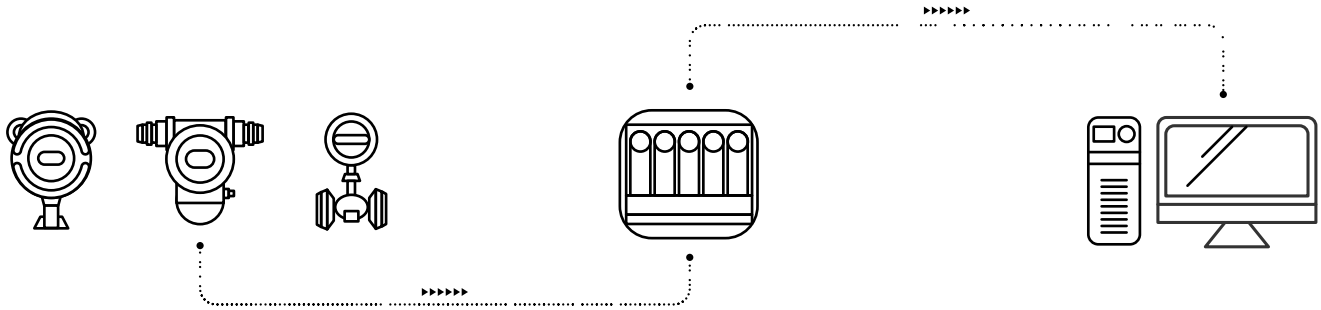
Application

- Power system monitoring and management;
- Industrial automation, motor control and protection;
- Data collection and reporting for power equipment;
- Lighting system control and energy saving;
- Battery management systems;

Main Features

- High precision measures electrical parameters such as voltage, current, and power;
- Signal converts into standard voltage or current signals for easy transmission and processing;
- Features current isolation to safeguard against interference by isolating input and output circuits;
- RS485 remote monitoring and data analysis;
- Offers configurability for various parameters and alarm settings;
- Real-time monitoring network performance and stability;

Working Principle



QPPX 3-PHASES PROGRAMMABLE POWER TRANSDUCER





Introduction

QPPX AC programmable transducer has 4 independent channels output, can be used to measure a wide range of electrical parameters and convert analog or digital signals to suitable for meters or PLC control systems. QPPX has signal isolation to ensure transmitted signal safety and accuracy.

Users can easily program, monitor and retrieve measurement data via panel buttons or PC interface. Users can freely configure up to 4 types of data out of 26 different electrical parameters for sampling and generating analog signal output.

Main Features

- 85~265Vac/dc wide range voltage optional;
- 400ms response time, 2000V isolation protection;
- With RS485 port for remote control electrical data;
- Programmable settings, freely configurable parameters;
- Accuracy class 0.5measurement and signal conversion;
- 35mm Din rail mounting, high-definition screen displays;
- 4 Channel output (max 26 types parameter for analog output);

Application

- SCADA system;
- Industrial automation applications;
- Instrumentation and control systems;
- Renewable energy systems;
- Power generation facilities;
- Utility and grid monitoring;

Technical Characteristics

Parameter	Value
Power supply	AC/DC 85~265VAC/DC
Input	Voltage: 110/220/400VAC (..Customer specified)
	Current: 1A/ 5A AC (Customer specified)
	Frequency: 40-65Hz
Output	DC 4 ~ 20 mA / 0~20mV / 0-5V / 0-10V (..Customer specified)
Load resistance	≤ 510Ω in current output, ≥ 10KΩ in voltage output
Accuracy	≤ ±0.5%
Accuracy drift	Annual variation < 0.2%
Response time	≤ 400 ms
Isolation	Input / output / power supply
Power consumption	AC < 3VA
Case material	ABS fireproof materials
Insulation voltage	AC 2KV RMS / min
Weight	About 450g
Overload voltage	2 times 10 seconds(Instantaneous), 1.2 times in last.
Overload current	10 times 1 seconds(Instantaneous), 1.2 times in last.
Insulation resistance	≥100 MΩ @500Vac
Dimension	87.3(W) X 132(H) X 35(D) mm
Installation	Fixed in a standard 35mm DIN rail or screwed on the cabinet.
Working condition	0 ~ 50℃/ <95% RH (Non-condensing)
Storage conditions	-20 ~ 70℃/ <70% RH (Non-condensing)

QP/DP SERIES
POWER TRANSDUCER



Introduction

QP/DP series power transducer adopt microcontroller technology as the core using the latest algorithms to achieve precise measurement. The AC/DC grid transducer is designed to convert AC/DC voltage or current inputs into a load-independent output signal.

QP/DP series transducer exhibits exceptional temperature stability and reliable operational performance. It derives its output signal through precise calculation of the root mean square measurement of the input signal, making it compatible with distorted waveforms.

Main Features

- Ultra-fast 200 ms response time;
- Compact 35 mm DIN rail mountable design;
- 0.2% high-precision measurement;
- True RMS measurement and versatile analog output;
- Support customized parameters;
- Single/Three phase independent measurement;
- Flexible AC voltage input options: 110V, 220V, or 380V;
- Selectable analog output ranges: 0-5V, 0-10V, 4-20mA, or 0-20mA;

Application

- Industrial motor and drive monitoring sector;
- Critical infrastructure power monitoring industry;
- Power electronics and converter applications sector;
- Industrial robotics and automation systems;
- Renewable power plant instrumentation industry;
- HVAC and building automation industry;

Ordering Information

QP/DP [1] - [2] [3] [4] [5]

- [5] Power supply
- [4] Output signal
- [3] Input signal
- [2] Function code
- [1] Series type

Num.	Code	Description
1	QP	For AC grid measurement and transducer
	DP	For DC grid measurement and transducer
2	V	Single phase voltage
	A	Single phase current
	VX	Three phases voltage
	AX	Three phases current
	W	Three phases active power
	K	Three phases reactive power
	WK	Three phases active&reactive power
3	A0	Customized current input
	A1	0-1A
	A2	0-5A
	V0	Customized voltage input
	V1	0-5V
	V2	0-10V
	V3	0-100V
	V4	0-220V
	V5	0-400V
4	S0	Customized current output
	S1	0-20mA
	S2	4-20mA
	S3	0-5V
	S4	0-10V
5	P1	85-265VAC
	P2	24VDC
	P3	48VDC

Technical Characteristics

Working power	
Power supply	85-265Vac/dc,optional 12V, 24V, 48VDC
Consumption	<3VA
Power signal inputs	
Rating input	../1A or ../5A CT connected
	110V, 230V, 400V, 415VAC
Power consumption	<1 VA voltage
	<0.2 VA current
Overload capacity	1.2 times continuous
	5 sec @ 10 times of rated current, 2sec @ 2 times of rated voltage
Frequency range	50Hz, 60Hz
Measurement output	
Standard outputs (others on request)	4~20mA, 0~5V
	0~20mA
	5~10V
	0~10V
Maximum load	<750 Ω (0-20mA, 4-20mA)
	>2000 Ω (voltage output)
Ripple	<1% peak to peak
Response time	<250ms 0-90%
	<500ms 0-99%
Measurement accuracy	
Class	±0.5 % complying with IEC 60688
Accurate range	0 - 120%
Frequency influence	<0.02% per Hz
Load influence	<0.25% of F.S. for specific load range
Galvanic isolation between I/O and AUX	
Test voltage	2KV RMS 50Hz for 1 minute
Impulse	4KV 1.2/50μsec waveform
Environment	
Operating	-10~55˚C
Storage	-40~70˚C, 20 ~ 93%RH ; noncondensing

CURRENT TRANSFORMER



Introduction

The current transformer is a current conversion device, which has the dual functions of current conversion and isolation. It converts the large current of the high-voltage circuit or low-voltage circuit into a low-voltage small current (generally 5A), which is supplied to the instrument and relay protection device.

Current transformer are widely used in power systems, industrial automation, and electronic equipment to monitor the magnitude and change of current.



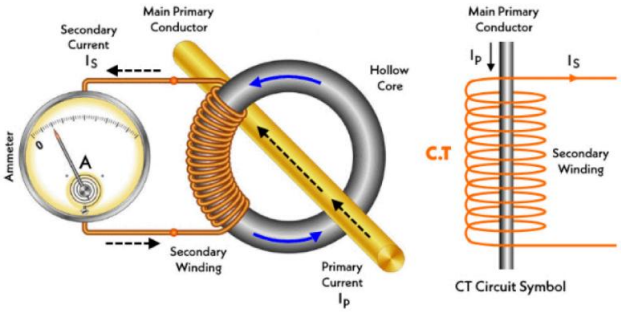
Application

- Wind power;
- Automatic industry;
- Solar energy generation;
- Electric vehicle charging pile;
- Power monitoring and control;
- Power meter calibration and inspection;
- Electrical equipment monitoring and protection;
- IoT device monitoring and control;

Main Features

- Small size, easy to install;
- Non-contact measurement reduces difficulty of installation and maintenance;
- High measurement accuracy, accurately measure size of the current;
- Effective isolation of the measured current loop and the measurement circuit;
- Rapid response to current changes, real-time monitoring and feedback of current signals;
- Various output methods, such as analog signal output, digital signal output or communication interface output;

Working Principle



SCT SERIES
CURRENT TRANSFORMER



Introduction

SCT series split-core current senses AC current from 30 to 600 Amps passing through the center conductor.

Split core design permits non-contact current measurements through magnetic field induction without requiring that the primary wire be taken offline and di sconnected for CT installation. This method permits a safer, easy and portable current measurement.

Main Features

- Split core design, low core loss and high precision;
- No need to disconnect the busbar, easy to install, and does not affect normal power consumption;
- Small size and light weight;
- Buckle opening and closing structure, easy to open and close;

Application

- Motor, lighting;
- Electrical instrumentation;
- Automatic control system;
- Electronic multi-function energy meter (for APM series meter);
- Instrument measurement and protection;

Ordering Information

Model	Input(A)	Output(mA)	CT Ratio (unit:A)	Burden(Ω) Class 0.5	Size (H*W*D)	Core
SCT10	0-30A	0-30mA	1000/1	10Ω	41*30.7*31.8mm	10mm
	0-60A	0-30mA	2000/1			
	0-80A	0-26.6mA	3000/1			
SCT16	0-100A	0-100mA	1000/1		48.5*36.5*38.6mm	16mm
	0-120A	0-60mA	2000/1			
	0-150A	0-50mA	3000/1			
	0-160A	0-80mA	2000/1			
SCT24	0-100A	0-100mA	1000/1		65*52.6*40.9mm	24mm
	0-200A		2000/1			
	0-300A		3000/1			
	0-400A		4000/1			
SCT36	0-200A	0-100mA	2000/1		87*66.7*49.7mm	36mm
	0-300A		3000/1			
	0-400A		4000/1			
	0-500A		5000/1			
	0-600A		6000/1			

DPT SERIES
CURRENT TRANSFORMER



Introduction

DPT series split sore current transformer protects the current transformer through the core. it has been specially designed to facilitate their installation in new or already existing networks. Connection of conventional CTs usually requires the interruption of the primary side circuit to pass cables or bus-bars through the transformer core or to connect such cables to the primary terminals.

DPT series CT core can easily have opened and installed and connected without any supply interruption. Thus saving time and the installation costs. This split core current sensor is for the rated frequency of 50HZ voltage below 0.66KV measuring current power and relay protection.

Main Features

- 100A-6000A AC current input range;
- A standard secondary output rating of 5 amps;
- Revenue grade accuracy meets IEC61000-1 class 0.5 / 1.0;
- Push-open mechanism makes the installation quick and simple;
- Two built-in installation methods: place DP series CT on the wall or busbar;
- Wide inner window allows various types cables and busbars to clamp;

Application

- Sub-metering(MCM Series meter);
- Current transducer;
- Power factor meter;
- Instrumentation;
- KWH meter;
- Current sensing relays;
- Energy management systems;

Ordering Information

Model	Primary current (amp)	Burden (VA)		Size (H*W)	Core (H*W)
		Class 0.5	Class 1.0		
DPT-23	100, 150, 200, 250	/	1.5	111*90mm	32*20mm
	300	1.5	2.5		
	400	2.5	3.75		
DPT-58	250	/	1.5	146*116mm	80*50mm
	300	/	2.5		
	400	1.5	2.5		
	500, 600	2.5	5		
	750	2.5	5		
	800	3.75	5		
	1000	5	10		
DPT-88	250,300	/	1.5	147*146mm	80*80mm
	400	/	2.5		
	500, 600	1.5	2.5		
	750	2.5	5		
	800	3.75	5		
	1000	7.5	7.5		
DPT-812	500, 600	/	2.5	188*146mm	120*80mm
	750	2.5	5		
	800	5	2.5		
	1000	7.5	3.75		
	1200, 1250, 1500	10	5		
DPT-816	1000	5	10	247*189mm	160*80mm
	1500	7.5	10		
	2000	10	15		
	2500	15	20		
	3000, 4000, 5000, 6000	20	25		

HCT SERIES
CURRENT TRANSFORMER



Introduction

The Hall effect series current transfomer is a highly advanced and sophisticated device that utilizes the hall effect principle to provide precise and accurate measurements of DC currents. It offers a galvanic isolation between the primary and secondary circuits, ensuring safety and preventing any electrical interference.

The open-loop system generates an electronic output signal that can be conveniently connected to PLC or DSP terminal control systems for direct acquisition and use. With its cutting-edge design and dependable performance, this current sensor is an excellent choice for various industrial applications.

Ordering Information

HCT-[1][2][3][4]

- [4] Power supply
- [3] Primary side ampere
- [2] Output signal type
- [1] Wiring core type

Num.	Code	Description
1	B	Solid core
	S	Split core
2	V	Voltage output
	A	Current output
3	50	50Amp
	100	100Amp
	200	200Amp
	300	300Amp
4	15	±15V
	12	±12V

Main Features

- No insertion losses;
- Small size, easy installation;
- Low power consumption;
- Linear output characteristics;
- Realize remote monitoring and control;
- High immunity to external interference;
- Magnetic field principle, non-contact measurement;
- Short response time, fast response to current changes;
- DC current and AC current measurement;

Application

- Automatic industry;
- Welding equipment;
- Variable speed drives;
- Power quality monitoring;
- Variable frequency electrical appliances;
- Switched mode power supplies (SMPS);
- Battery supplied applications;
- Uninterruptible power supplies;

Technical Characteristics

Parameter	Value
Supply voltage	±12V, ±15V, +12V~+24V
Power consumption	<30mA
Rated output	±4V±1%, 0-5V(+2.5V) ±1%,4-20mADC ±1%
Supply voltage	±12V, ±15V, +12V~+24V
Offset drift	@-40~+85℃, ≤±1
Output drift	@-40~+85℃, ≤±1
Response time	≤1s
Isolation resistance	1000MΩ @500Vdc
Storage environment	-40 to +85℃

FL SERIES
DC SHUNT



Introduction

FL series DC shunts are available to measure DC currents.DC shunt can provide a proportional 50~100mV DC output to safely drive a moving coil instrument, overload protection or other control device.

The Manganin shunts have brass ends, available to measure currents from 0.1A up to 10000A, accurate to class 0.5 and are suitable for all DC current monitoring applications. Furthermore, various sizes, configurations,mounting styles of dc shunt are available.

Main Features

- Accuracy: class 0.5;
- Standard tolerance +/-0.5%;
- Have brass ends;
- Various styles are available;

Application

- UPS system;
- Battery management system;
- Telecommunications equipment;
- Electroplating power equipment;
- Motor control and electronic load equipment;
- Solar generators, wind power, heavy industry;

Ordering Information

Model	Picture	Material	Accuracy	Current rating	Voltage drop	Overload
FL-2 Shunt		Brass &Manganin	0.50%	1A~10000A	75mV(standard), 60mV,100mV (customized)	Rated current 120%, 2 hours
FL-2C Patent Shunt		Brass &Manganin	0.50%	1A~10000A	75mV(standard), 60mV,100mV (customized)	
FL-15 USA Shunt		Brass &Manganin& silver welding	0.25%	1A~1000A	25mV,50mV,75mV, 100mV (customized)	
FL-19 Welding Shunt		Brass &Manganin	0.50%	1A~10000A	75mV(standard), 60mV,100mV (customized)	
FL-21 Export Shunt		Brass &Manganin	0.50%	1A~10000A	75mV(standard), 60mV,100mV (customized)	
FL-27/28 High Accuracy Shunt		Brass &Manganin	0.2 & 0.1 & 0.05%	1A~10000A	75mV(standard), 60mV,100mV (customized)	

AUTOMATIC PROTECTION RELAY



Introduction

Automatic relay protection is a device used in power systems to automatically detect and respond abnormal conditions such as overcurrent, overvoltage, ground faults, etc. Alarms to protect electrical systems and equipment from potential hazards and ensure safe operation of electrical systems.

Blue Jay's power distribution safety-related products include Arc flash protection relays, Motor protection relays, WSK series , DH series switchgear temperature and humidity control equipment, etc. Products have miniature intelligence, high integration, high sensitivity and high precision, and has higher anti-electromagnetic interference performance and higher IP protection level. It is suitable for various monitoring sites to ensure electricity safety.

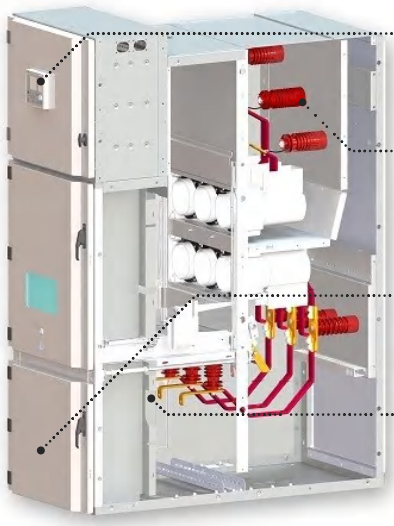


Main Features

- Automatic control, high reliability;
- Ability to record and analyze failure events;
- Modular design, convenient and quick installation and maintenance;
- Quick response: detect and cut off the faulty circuit in time to effectively prevent accidents;
- High-precision measurement and judgment ability, accurately judge the type and location of the fault;
- Versatility: such as overload protection, short circuit protection, ground fault protection, etc;
- 24 hours real-time monitoring, RS485 remote control;

Application

- Industrial automation system;
- Large municipal engineering project;
- UPS system, battery system;
- Real-time monitoring and alarm of power system;
- Substations, power plants, transmission lines, distribution lines;
- Protects motors from overloads, short circuits and motor failures;



Integrated CB control panel

- CB switch status indicate
- CB switching operation
- Integrate PMD and other functions

Thermal Monitoring

- Surface touch or infrared sensor
- Cable terminations
- CB contact fingers
- Busbar joints

Partial Discharge Monitoring

- TEV, Ultrasonic (AA), UHF, HFCT sensor
- PD detection
- PD location

Arc Flash Protective (AFR)

- High precision fiber probe
- Arc flash detection
- Arc flash location
- Fault protection

DH SERIES PELTIER COOLER DEHUMIDIFIER



Introduction

The DH series peltier condenser adopts semiconductor refrigeration and dehumidification method, drawn humid air through the fan, condenses into water through the semiconductor refrigeration mechanism, and then discharges it from the cabinet through the drain hose to achieve a good dehumidification effect.

This reduces relative and absolute humidity with little increase in temperature, radically preventing accidents and device aging. Ultra-small installation size, high efficiency and energy saving. Equipped with a data acquisition module for remote monitoring, a reliable replacement for thermostats and heater/fan combinations.

Main Features

- Thermoelectric Peltier cooling principle;
- Compact and lightweight, easy installation;
- Low power and high efficiency;
- Adjustable humidity and temperature control;
- Optional 50–500 W external heater connection;
- Auto/manual mode, adjustable thresholds;
- 24h real-time temp/humidity monitoring;
- RS485/ Modbus RTU for remote control;
- Moisture-proof components, reliable in humidity;

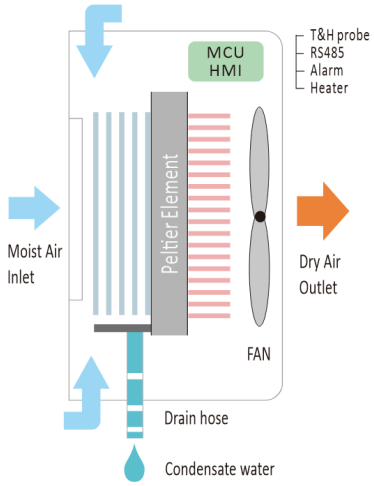
Working Principle

Moist air drawn in by fan

Condensate cooled by peltier cooler

Condensed water drips into drain hose

Drains out of drain hose



Application

- Power substation equipment rooms;
- Relay protection & control panels;
- Switchgear & transformer chambers;
- Data centers & telecom center;
- Distribution & control cabinets;
- Relay testing & maintenance rooms;
- Power control & monitoring centers;

Ordering Information

Model	Max power	Air volume flow	Sensor	Material	Optional functions
DH2-60	60W	70m³/h	External	ABS	-RS485 Communication -Heater (50-500W) -Alarm output (Sensor disconnection alarm,Power loss alarm, Temp. and humidity over limit alarm)
DH3-60	60W	70m³/h	Built-in	ABS	
DH4-60	60W	70m³/h	External	Sheet metal With anti-rust spray	
DH5-80	75W	100m³/h	External	Aluminum alloy	
DH6-200	200W	140m³/h	External	Sheet metal With anti-rust spray	

Notes:

1. Only model DH4-60 and DH6-200 can choose all three additional optional functions, other models can only choose two of three.
2. If the device has a built-in sensor, you cannot select sensor disconnection alarm.
3. Alarm output: default passive dry node, normally closed under normal operation and opens when a fault occurs.

Technical Characteristics

Model	DH2-60	DH3-60	DH4-60	DH5-80	DH6-200
Working power					
Power supply	85V~265VAC/DC 50Hz				
Peltier rated power(1)	60W	60W	60W	75W	200W
Air volume flow	70m³/h	70m³/h	70m³/h	100m³/h	140m³/h
Dehumidification capacity	250ml/Day	250ml/Day	300ml/Day	350ml/Day	600ml/Day
	@35°C,90%RH				
Measurement and ability					
Humidity monitor range	20%RH~98%RH				
Sensor accuracy	±5%RH				
Dehumidify start threshold	45%RH~98%RH, Default 65%RH				
Environment temperature	5~60°C				
Temperature monitor range	-40~80°C				
Sensor accuracy	±1.0°C				
Heater start threshold	1~55°C, Default 5°C				
Heater power	50~500W optional				
Other					
Dimension	102*171*73mm	102*140*62mm	132*245*67mm	138*150*70mm	242*247*67mm
Screen	2 digital LED	2 digital LED	2*3 digital LED	1 digital LED	2*3 digital LED
Standards	IEC60255-22-1				
Communication	RS485, modbus-RTU				

Notes:

1. The choice of the rated power is related to the cabinet's inner volume and airtightness, and the general reference value is:

   0.5cubic meter cabinet choose 30w,1.0cubic meter cabinet choose 60w,
   1.5cubic meter cabinet choose 75w,2.0cubic meter cabinet choose 200w,
   Cabinet volume is calculated according to the inner diameter, Length*Width*Height.

2. Sensor accuracy of 5% is tested with the inside probe, product optional external cable type sensor. Please contact the sales team before ordering.

3. Device provides passive NO contact for external heater connection, capacity is 5A@250VAC. Users can free to order heaters or purchase with the DH series.

DH-C10/16 COMPRESSOR DEHUMIDIFIER

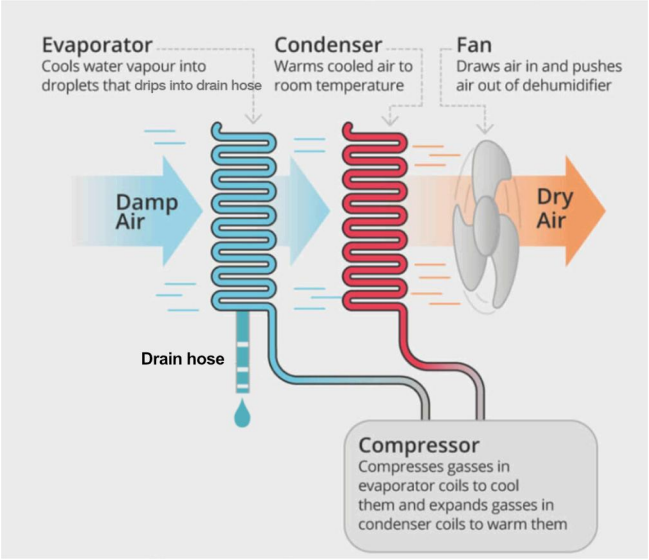


Introduction

The DH-C10/16 intelligent compressor dehumidifier adopts a compressor-based refrigeration dehumidification system to cool incoming humid air, causing moisture to condense into water. The condensed water is then drained, while the dried air is released back into the environment.

This process effectively and rapidly reduces the humidity level within enclosed areas, preventing condensation. The device provides reliable protection for electrical control cabinets and electronic equipment, helping to prevent humidity-related problems such as short circuits, insulation deterioration, corrosion, and component aging.

Working Principle



Main Features

- Built-in temperature & humidity sensor;
- Compressor refrigeration dehumidification;
- LCD display for real-time monitoring;
- Auto defrost control function;
- RS485/ Modbus-RTU communication;
- One channel fault alarm relay output;
- One channel heater control relay output;

Application

- Power substation equipment rooms;
- Relay protection & control panels;
- Switchgear & transformer chambers;
- Data centers & telecom center;
- Distribution & control cabinets;
- Relay testing & maintenance rooms;
- Power Control & monitoring centers;

Technical Characteristics

Model	DH-C10	DH-C16
Working power		
Power supply	85-265Vac/dc, ±10%, 50Hz	
Rated input power	250W	300W
Dehumidification capacity	10L/day @30°C, 92%RH	16L/day @30°C, 80%RH
Max. dehumidification space	40 cubic meters	
Refrigerant	R134a,130g	
Measurement and ability		
Ambient humidity measure range	20.0~99.0%RH, Display resolution 0.1	
Ambient humidity control range	20.0~95.0%RH	
Ambient humidity accuracy	±5%RH, @25.0°C, 20.0~90.0%RH, standard atmospheric pressure	±3%RH
Ambient temp. measure & control range	-40.0°C ~70.0°C, accuracy ±1.5°C, Display resolution 0.1	-40.0°C ~70.0°C, accuracy ±1°C, Display resolution 0.1
External ambient temp. measure range	-40°C ~70°C, Class 2.0	
Relay output load capacity	1*DO, dry contact, normally open 5A@250Vac/ 30Vdc (For heater)/ 3A@250Vac/ 30Vdc (For fault alarm)	
Heater start threshold	1~55°C, Default 5°C	
Heater power	50~500W optional	
Other		
Dielectric strength	2kV AC RMS 1 minute, between input / output / case / power supply Input, output and power supply to the chassis ≥100MΩ	
Environment	Storage: -10°C ~50°C, ≤90%RH, no condensation Operating: -20°C ~60°C, ≤90%RH, no condensation	
Dimension	Body: 295x381x160mm Base plate: 317x258x11mm	Body: 309x476x239mm Base plate:315 x275x11mm
Net weight	14KG	
Communication	RS485, Modbus-RTU up to connect 28 devices, with a max communication distance of 1000 meters.	

WSK SERIES CABINET THERMOSTAT



Introduction

The WSK series cabinet thermostat is designed for temperature and humidity control. It integrates a humidity control module, collects real-time sensor data, and sends it to the processor for precise, automatic regulation.

Featuring fast-response load relay output, PID auto-tuning, multiple output types, and Modbus communication, it ensures stable, reliable operation even in harsh environments, making it ideal for industrial and electrical cabinet applications requiring continuous, accurate climate control.

Main Features

- 3 digital or 4 digital LED screens;
- Built-in digital filter reduces interference;
- RS485 MODBUS RTU Communication;
- Standard panel size 48x48mm / 72x72mm;
- Optional 35mm DIN rail (only 48X48mm mode);
- Heat/ Fan control mode free to the configuration;
- Sensor length max 10 meters (default 3 meters);
- Accuracy temperature within 1°C & humidity within 5%;

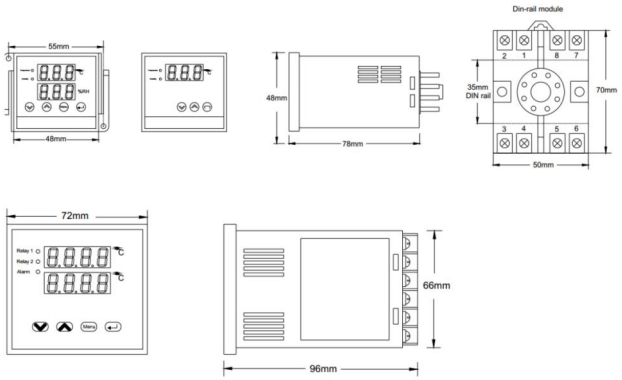
Ordering Information

WSK-[1]-[2][3][4]-[5][6]

- [6] Sensor type
- [5] Communication
- [4] Control output
- [3] Humidity signal in
- [2] Temp. signal in
- [1] Panel size

Num.	Code	Description
1	Blank	Standard 48(W) x 48(H)mm
	72	72(W) x 72(H)mm
2	W1	One channel temperature sensor input
	W2	Two channels temperature sensor input
3	S1	One channel humidity sensor input
	S2	Two channels humidity sensor input
4	K1	One channel output
	K2	Two channels output
5	Blank	Without this function
	R	One channel RS-485 communication port
6	Blank	Default model: WD01, SD01 (Refer to “related accessories”)
	T	Thermocouple (-K,-J,-T,-E,-N,-R,-S,-B,-L,-U,-YXK)
	P	Platinum RTD(-PT100,-PT1000)
	L	Linear signal (0~5V,0~10V,0~20mA,4~20mA,0~50mV)

Dimension



Related Accessories



Model: WD01

- 2-pin temperature sensor
- Temperature range: -50~80°C; accuracy ±1°C;
- Dimension: 59*40*19mm



Model: SD01

- 3-pin humidity sensor
- Humidity range: 0~80%RH; accuracy ±5%RH;
- Dimension: 59*40*19mm



Model: WK04-D/ WK05-D

- 3-pin/4pin temp.+ humid. integrated type
- Temperature: -40~80°C,accuracy ±1°C
- Humidity: 0~99%RH,accuracy ±5%RH



Model: jly01

- High-accuracy temp. and humid. Integrated sensor
- Temperature range: -40~120°C, accuracy ±0.3°C
- Humidity range : 0~100%, accuracy ±3%RH

Technical Characteristics

Basic parameters	
Power supply	85V~265Vac/dc, 50Hz,optional 24/48VDC
Power consumption	≤ 5VA
Dimension (W*H)	48*48mm / 72*72mm
Input	
Temperature	-40~99°C
Temp.sensor accuracy	+/-0.2 °C
Humidity	1~98%RH
Hum.sensor accuracy	+/-3.0%RH
Sampling rate	400 msec/per scan
Output	
Relay output	2-chanels, 5A@250VAC, 1PH, resistive load
RS485 communication	MODBUS RTU, 4800/9600 baud rates
Display	
Waterproof degree	IP40
Display	2-line x 3 character 7-segment LED display
Function key	Menu, Enter, Increase, Decrease
Environment	
Protection	Anti-containing acid, alkali, salt gas
Storage temperature	-10~55°C
Storage humidity	20 ~ 93%RH, Non-condensing

PR SERIES DIGITAL MOTOR PROTECTION RELAY

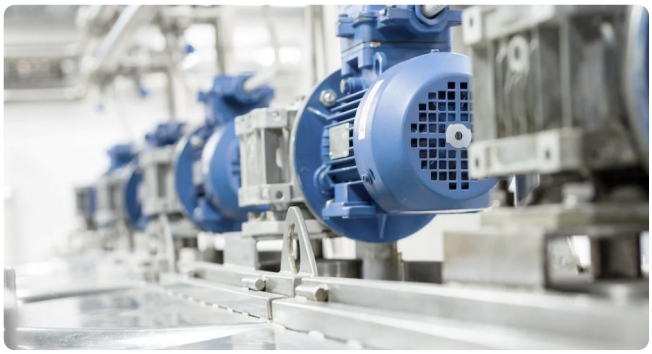




Introduction

Digital motor protection relays, integral to motor systems, ensure motor reliability and safety by detecting internal faults (overcurrent, single-phase operation, grounding, bearing issues, and abnormal winding temperatures) and monitoring external conditions to prevent grid fluctuations and voltage surges from impacting the motor.

These relays safeguard motor system stability and power grid reliability by monitoring and controlling internal and external issues and isolating interference sources. It can effectively prevent motor damage and the spread of interference back into the power grid.



Main Features

- Data recording and analysis;
- Variety of protection functions;
- Fault alarm, automatic power off function;
- RS485 remote communication and control;
- Real time motor operating status monitoring;
- Flexible configuration, can customized for specific needs;

Application

- Automated industry;
- High voltage switchgear;
- Solar and wind energy systems;
- Power plant, power grid dispatching;
- Transmission towers and substations;

Measurement Function

	PR201	PR202	PR203	PR240	PR260
Protection function					
Max. start time	●	●	●	●	●
Overload	●	●	●	●	●
Increased safety motors overload	-	-	-	●	●
Over current-jam in starting	●	●	●	●	●
Over current-jam in running	-	●	●	●	●
Phase loss	●	●	●	●	●
Current unbalance	●	●	●	●	●
Over voltage	-	●	●	●	●
Under voltage	-	●	●	●	●
Under power	-	●	●	●	●
Ground fault	-	○	○	●	●
Overcurrent & Short-circuit	-	-	-	●	●
Over temperature	-	-	-	○	○
Abnormal frequency	-	-	-	●	●
Lead / Lag PF / Low power factor	-	-	-	●	●
Welded contactor	-	-	-	●	●
External fault	-	-	-	-	●
Internal failure	-	-	-	-	●
Restart	-	-	-	●	●
Start mode					
Protection only	●	●	●	●	●
Panel control start/stop	-	-	●	●	●
Forward and reverse start	-	-	●	●	●
Wye-delta transition	-	-	●	●	●
Autotransformer closed transition	-	-	-	●	●
Two-winding	-	-	●	●	●

●With this function ○Optional function -Without this function

PR200 SERIES ECONOMIC MOTOR PROTECTION RELAY



Introduction

PR200 motor protection relay comes in a small and economical appearance and designed to real time monitor three-phase power lines for abnormal conditions. can be used with motors below 690V/ 820A. optional RS485 communication port can upload monitoring data and alarm status to the remote control system.

PR200 provides various protection tripping to avoid motor failure. When PR200 senses that motor operating parameters reach preset alarm value, it will trigger DO port to warn of abnormal conditions; when abnormal parameters continue to accumulate to dangerous values, it will automatically trigger the release switch to close circuit.

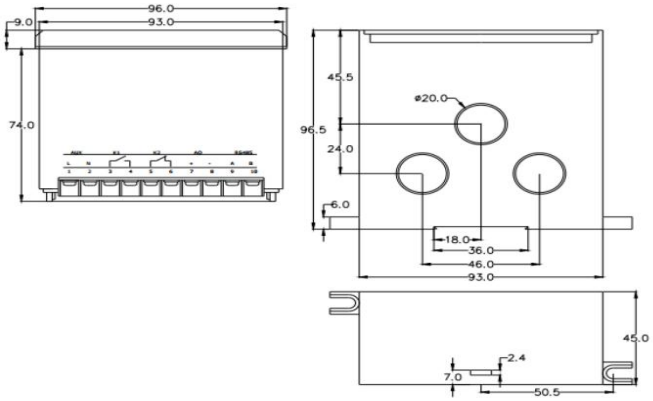
Protection Function

IEEE / ANSI C37.2	Protection functions
48	Max. start time
49, 51	Overload
51	Increased safety motors overload
51R	Overcurrent level 1 - Jam
47	Phase loss
46	Current unbalance
50G/N, 51G/N	Ground fault
50	Over current level 2 - Short
32L	Underpower
38	Overtemperature
59	Overvoltage
27	Undervoltage
81U/81O	Abnormal frequency
55	Lead / Lag PF / Low power factor
74	Welded contactor

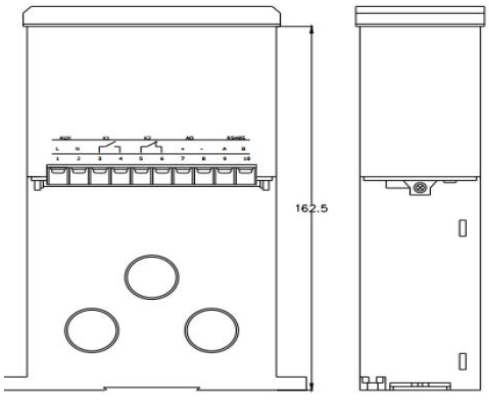
Main Features

- Built-in 2 channel relay;
- High accuracy sample calculation;
- Programmable analog output function;
- Optional RS485 communication interface;
- Free to configure each protection function;
- Wide range of power supply 85-265Vac or 80-450Vac;
- Have basic electrical parameter for user SCADA system;
- Build in sequence of event function, max 10 lists event records;

Dimension



Split installation



Panel mounting installation

PR240 SPLIT MOTOR PROTECTION RELAY





Introduction

PR240 motor protection relay can use with motors less than 690V/ 820A. It can realize a variety of control operation, such as measurement, self-diagnosis, maintenance management, field bus communication and other functions.

PR240 can real-time monitoring the scene signal, provide various protection trip to avoid motor failure. optional RS485 port can upload monitor data and alarm status to remote control system.

Main Features

- Dot matrix LCD display;
- Provide various start methods;
- User free to configure each protection function;
- Build in sequence of event function, max 100 trip records;
- With programmable analog output function;
- Optional RS-485 communication interface;

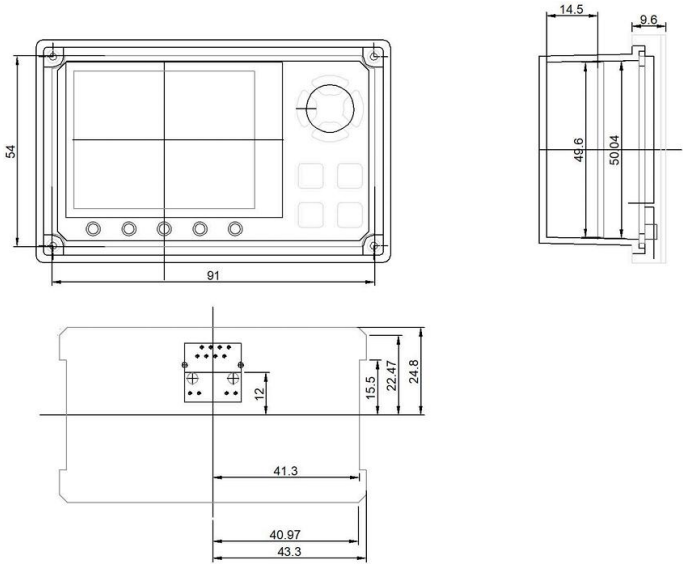
Protection Function

IEEE / ANSI C37.2	Protection functions
48	Max. start time
49, 51	Overload
51	Increased safety motors overload
51R	Overcurrent level 1 - Jam
47	Phase loss
46	Current imbalance
50G/N, 51G/N	Ground fault
50	Overcurrent level 2 - Short
32L	Underpower
38	Overtemperature
59	Overvoltage
27	Undervoltage
81U/81O	Abnormal frequency
55	Lead / Lag PF / Low power factor
74	Welded contactor

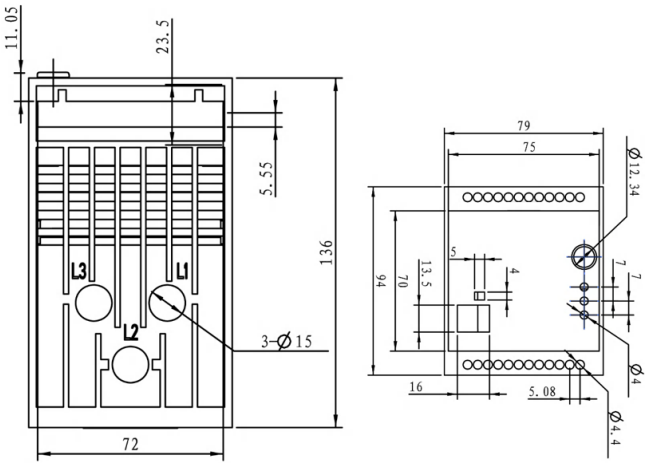
Dimension

HMI unit

Unit：mm



Control unit



PR260 SERIES MODULAR MOTOR PROTECTION RELAY





Introduction

PR260 series motor protection relay is suitable for protecting and monitoring the low-voltage motors with rated voltage less than 690V and rated current up to 820A. It equipped with 7-channels switch monitoring, can be configured as needed. It supports Modbus-RTU communication bus and can transmit monitoring data and alarm status to the remote control system.

PR260 can real time monitor status of motor and detect various faults, such as abnormal start, overload, overcurrent, overheating, blocked rotor, phase loss, unbalance, under voltage, overvoltage, under power, underload, grounding or leakage.

Protection Function

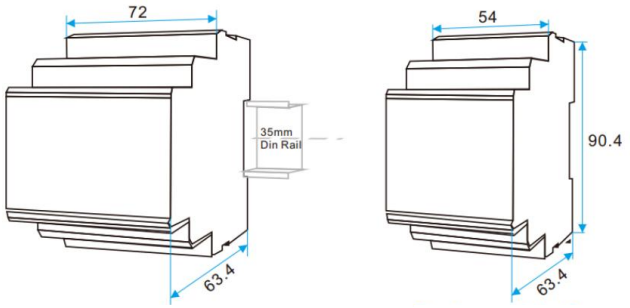
IEEE / ANSI C37.2	Protection functions
48	Max. start time
49, 51	Overload
51	Increased safety motors overload
51R	Overcurrent level 1 - Jam
47	Phase loss
46	Current imbalance
50G/N, 51G/N	Ground fault
50	Overcurrent level 2 - Short
32L	Underpower
38	Overtemperature
59	Overvoltage
27	Undervoltage
81U/81O	Abnormal frequency
55	Lead / Lag PF / Low power factor
74	Welded contactor
86 or 94	External fault
	Data logging
	Wave capture

Main Features

- Record recent 99 trip records;
- Standard RS485/ Modbus RTU communication;
- Provide 4 digital outputs, and 7 digital inputs;
- Full power measurement, dot matrix LCD display;
- A control unit uses a CT connection with max 5A input;
- Multiple startup modes for different wiring applications;
- Suitable for motors under 0.66KV and any current range;
- Optional waveform capture function for easy fault tracing;
- Extra optional modular: PR-26C extra 2* RS485 or 2* Profibus port;
- PR-265 extra programmable 11*DI and 6*DO;

Dimension

Unit: mm



Basic module A　　Basic module B

Technical Characteristics

	PR201	PR202	PR203	PR240	PR260
Electrical parameters					
Auxiliary power	85-265VAC/DC				
Power consumption	<10VA				
Insulation resistance	>100MΩ				
Alarm relay	5A @250VAC, or 5A @30VDC (NO contact)				
Working environment					
Motor rated voltage	AC380V / AC660V				
Motor rated current	0.5-820A				
Working temperature	-10°C ~ +55°C				
Storage temperature	-25°C ~ +70°C				
Relative humidity	< 93% RH				
Altitude	No more than 3000 m				
Electrical test					
Electrostatic discharge	IEC 61000-4-2, Level III				
Electrical fast transient burst	IEC 61000-4-4, Level III				
Surge shock	IEC 61000-4-5 , Level III				
Withstand voltage	IEC 61010-1, AC 2kV/1min Between power / input / output				
Other					
Digital output	2	2	3	4	4
Digital input	-	-	6	7	7
Analog output	-	1	-	1	1
RS485/ Modbus-RTU	-	●	●	●	●
Profibus-DP	-	-	-	-	○
SOE	-	10	10	99	99
Record	-	-	-	●	●
Wave capture	-	-	-	-	●

CT SELECTION TABLE



CT selection table

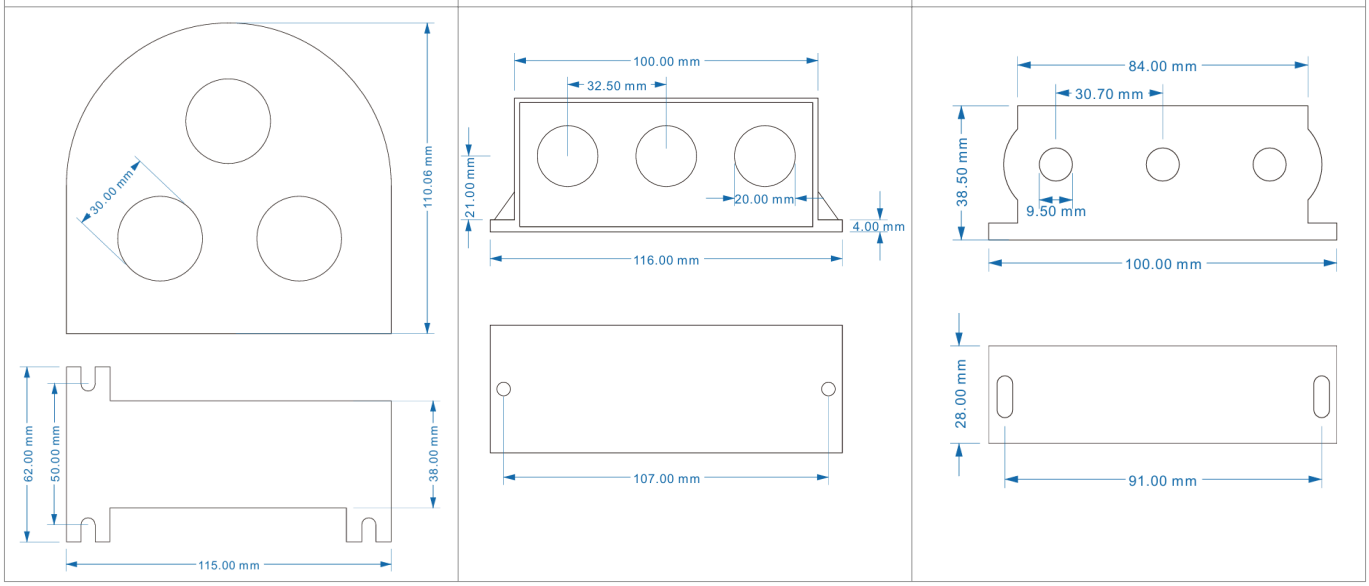
Motor rated power (Kw)	Rated current (A)	Default value
0.06	0.22	10A (CT306)
0.12	0.42	
0.37	1	
0.55	1.5	
0.75	2	
1.1	2.5	
2.2	5	
3	6.5	
5.5	11	100A (CT305)
7.5	14.8	
11	21	
15	28.5	
18.5	35	
22	42	
30	57	
37	69	
45	81	
55	100	
75	135	200A (CT304)
90	165	
110	200	

Rated power (Kw)	Rated current (A)	Connected ECT	Expand CT
132	240	CT306 Set Ext.CT 5A	500/5
160	285		
200	352		
220	420		
250	480		

Notes:
1. External protection CT selection guide, typical in 380V motor system;
2. For PR260, an external 5A CT is required above 200A; for PR240, above 100A, need external 5A CT.

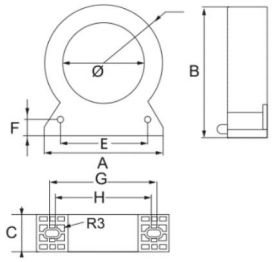
External current transformer (ECT)

Motor rated power (Kw)	Rated current (A)	Default value
Measurement 100A-200A	10-100A	0-10A
Secondary to protector 100mA	100A/50mA	10A/5mA
Maximum cable size 30mm	20mm	9mm

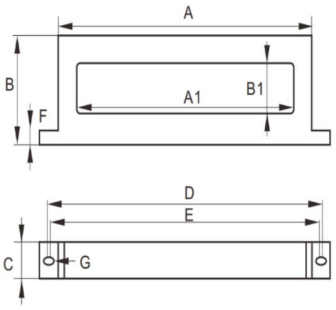


Zero-sequence current transformer (ZCT)

Current range	Dimension (mm)								
	φ	A	B	C	D	E	F	G	H
16-100A	45	77	85	24	38	54	9	64	54
100-250A	80	112	122	28	56	80	14	89	80
250-400A	100	131	136	24	66	96	14	108	107
400-800A	150	200	209	28	100	145	16.5	184	177



Current range	Dimension (mm)								
	A1	B1	A	B	C	D	E	F	G
0-63A	100	20	133	50	16	144	140	3	2.0
0-100A	100	25	133	60	24	154	143	9	2.5
0-225A	140	32	172	72	24	189	184	9	2.5
0-250A	180	32	212	72	24	229	224	9	2.5
0-400A	220	45	254	86	24	269	264	11	2.5
0-630A	260	45	294	86	24	309	304	11	2.5
0-1600A	300	45	334	86	24	349	344	11	2.5
0-4000A	420	45	454	86	24	469	464	11	2.5



ELR-4M SERIES TYPE A EARTH LEAKAGE RELAY





Introduction

The ELR-4M series earth leakage relay enhances electrical safety by continuously monitoring leakage current with advanced leakage current transformer. When leakage current exceeds the preset threshold, it instantly triggers an alarm for early fault detection.

Featuring an alarm hold function, it retains the alarm signal until reset, simplifying fault diagnosis. Ideal for preventing equipment damage, reducing downtime, and ensuring personnel safety, the ELR-4M series provides reliable and efficient protection for your power system.

Main Features

- Standard 35mm din rail mounting;
- Digital display with real-time readings;
- Adjustable trip levels (5mA-3A) and time delay;
- Pre-alarm and alarm adjustable response;
- Remote test/rest connections for external activation;
- RS485 Modbus communication;

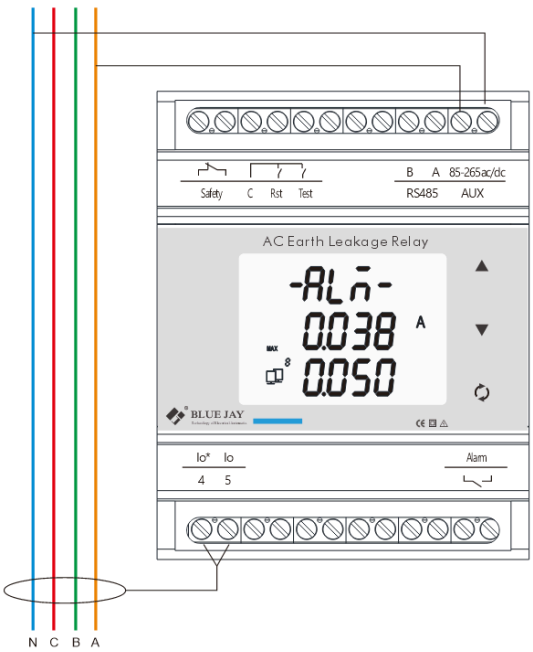
Ordering Information

Model	Description
ELR-4MA	• Use for AC measurement; • Compatible with leakage current transformer; • Adjustable alarm threshold 5mA-3A;
ELR-4MD	• Use for DC measurement; • Compatible with Hall effect current transformer; • Adjustable alarm threshold 5mA-3A;

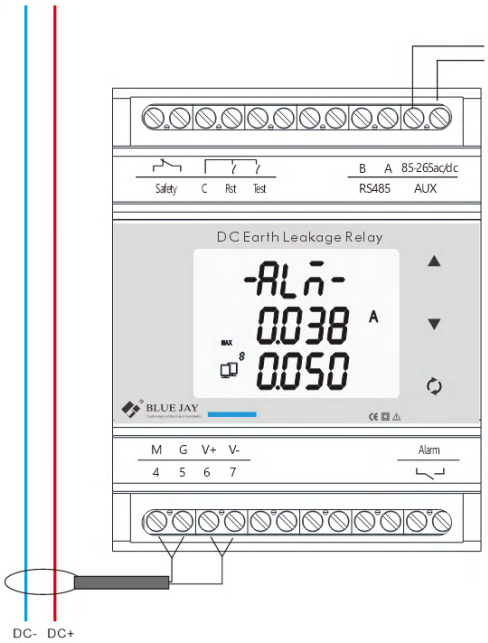
Application

- Medium and low voltage systems;
- Battery energy storage systems;
- Commercial and residential buildings;
- Utilities and power distribution systems;
- Motor control panels and switchboards;
- UPS systems and backup power supplies;
- DC system leakage current measurement;
- Industrial control system (PLC, SCADA, DCS);

Wiring Method



ELR-4MA



ELR-4MD

Technical Characteristics

Leakage relay parameter	Value
Auxiliary power supply	85-265Vac/dc
Power consumption	≤4VA
Frequency	50/60Hz, Accuracy ±0.01Hz
AC leakage CT	
Alarm threshold	5mA-3A, can be set; sensitivity: 1mA
Trip time delay	50ms-10sec, can set as need.
Rated input	0-1A
Rated output	0-1V or 0-0.5mA
Measurement range	10%IN-130%IN
Operating frequency	50-400HZ
Operating performance	Type A
Dielectric strength	AC2.5KV 1mA/60S
Insulation resistance	DC500V/1000MΩ
Wiring method	Terminal type/shielded stranded wire 1.5M
DC hall CT	
Alarm threshold	5mA-3A, adjustable; sensitivity: 1mA
Trip time delay	50ms-10sec, adjustable
Power supply	±15Vdc
Rated current range	0-250A, hole size: 60mm
Rated output	±4V
Operating frequency	50-400HZ
Operating performance	Type A
I/O capacity	
Digital input	2* DI for reset/ test, NC dry contact, Ri<500Ω turns on, Ri>100kΩ turns off
Digital output	2* DO; 1* relay, NO for safety; 1* relay NC for alarm; Load capacity: 5A@250VAC
Others	
Communication	RS485 Modbus RTU
Display	LCD with backlit
Dimension (W*H*D)	78*90*60mm
Withstand voltage	2.5KV 1min
Insulation	Input, output, power supply to shell >5MΩ
Storage environment	-40~70°C
Working environment	-25~55°C Altitude ≤2500m,0~95%RH, non-condensing, non-corrosive gas

ELR-4MB TYPE B
EARTH LEAKAGE RELAY





Introduction

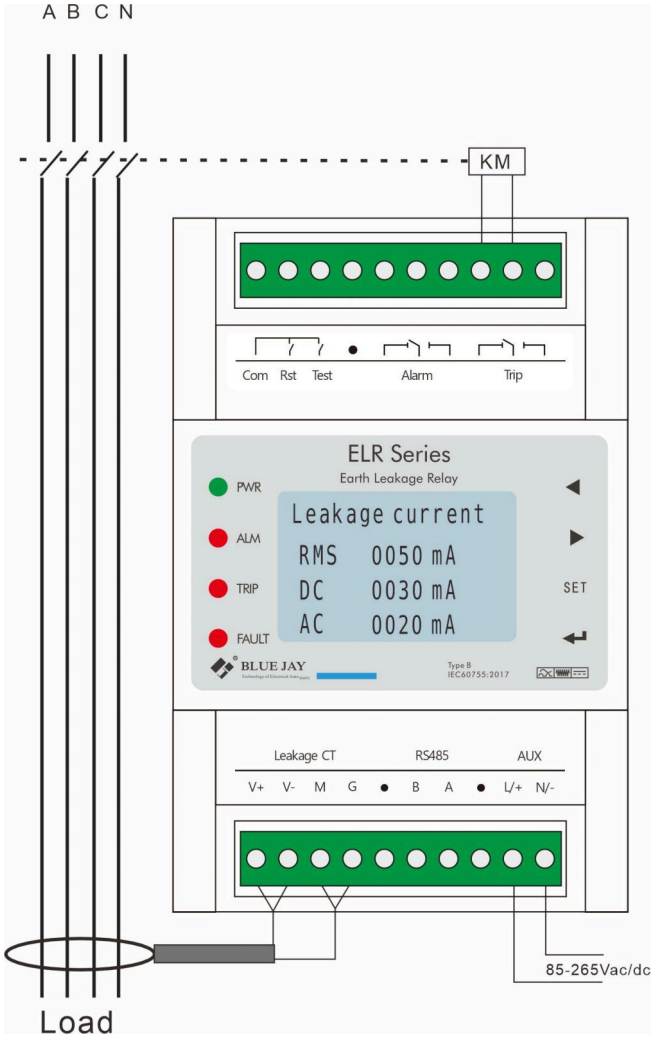
The ELR-4MB is a Type B earth leakage relay for TN and TT systems, compliant with IEC 60755:2017. It detects AC, pulsating DC, and smooth DC residual currents across a 0–20 kHz frequency range, making it suitable for industrial distribution, renewable energy, and EV charging systems.

Independent alarm and trip thresholds provide two-stage protection against electric shock, electrical fires, and equipment damage. An integrated LCD, relay outputs, RS485 Modbus RTU, 35 mm DIN rail mounting, and wide-range power supply ensure reliable operation and easy integration.

Main Features

- Wide power supply input range 85–265Vac/dc;
- Compliant with IEC 60755 Type B standards;
- Detects AC, pulsating DC, and smooth DC fault currents;
- Supports external leakage CT connection, range 5 mA-10A;
- Independently adjustable alarm and trip thresholds;
- With 2 DI for test & reset and 2 DO for alarm & trip;
- RS485/ Modbus RTU communication for remote control;

Wiring Method

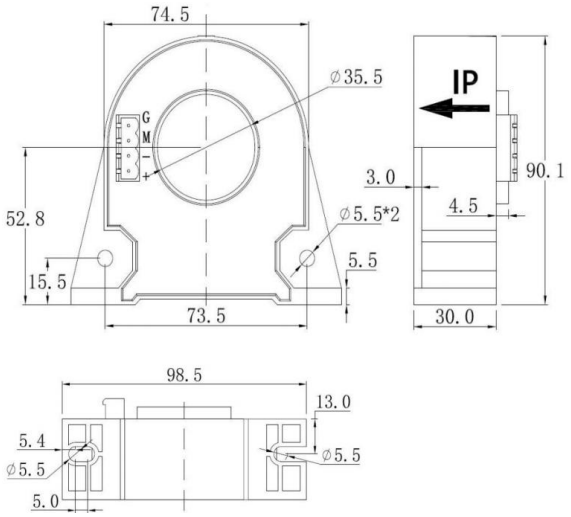


Application

- Electric vehicle charging stations;
- Industrial motor protection systems;
- PV inverters and DC power systems;
- Energy storage systems (ESS);
- Battery management systems (BMS);
- Data center UPS and DC distribution systems;

Leakage Current Sensor

Model	Hole size	Current	Woking Voltage
ELR-CT35	35 mm	Rated 400A, Max 600A	±15Vdc
ELR-CT80	80 mm		
ELR-CT120	120 mm		



Technical Characteristics

Working power	
Power supply	85-265Vac/dc
Frequency	45-65Hz
Leakage current measurement	
Measurement type	Type B according to IEC 60755
Measurement frequency	0-20KHz
Measurement range	5 mA-10A
Alarm and trip thresholds	5 mA …1A adjustable, Step length: 1mA
Digital input/ output	
DI (Test and Reset)	2*DI, active dry contact, built-in 12 VDC pull-up voltage, 0.25 mA @ short circuit
DO (Alarm and Trip)	2*SPDT, normally open, passive dry contact; Load capacity: 10 A @250Vac; 5 A @ 30Vdc
Other parameters	
Communication	RS485/Modbus RTU
Mounting method	Standard 35 mm DIN rail mounting
Dimensions	(Width × Height × Depth): 72 × 110 × 66 mm
Storage temperature	-55°C to 90°C; ≤90% RH (non-condensing, non-corrosive); altitude: ≤3500 m
Operating temperature	-40°C to 75°C; ≤90% RH (non-condensing, non-corrosive); altitude: ≤3500 m

ELR-CH16 MULTI CHANNEL EARTH LEAKAGE RELAY





Introduction

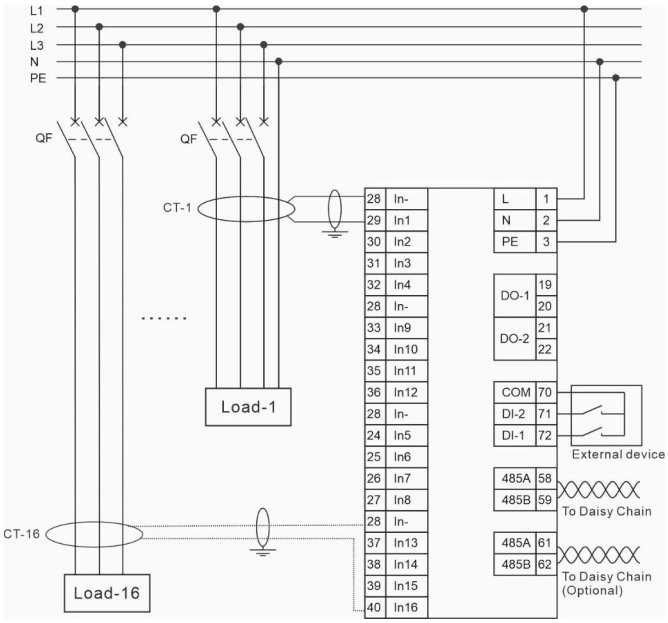
ELR-CH16 Multi-channel earth leakage relay is designed for measuring leakage current and operating temperature in TT and TN-S systems. It can inject multiple sensor signals, which are able to detect and evaluate fault, leakage and operating currents in earthed power supplies.

When the leakage current in the protected line or the temperature exceeds preset alarm value, ELR-CH16 will generate audible & visual alarm signal, front screen shows details value. RS485 port can transfer data to remote host, and data will be recorded internally for post-event failure analysis.

Main Features

- Max 100 events record with timestamp;
- RS485/ Modbus RTU communication;
- Backlit 7-segment display with status LEDs;
- Up to 16 channels for leakage current or temperature;
- Leakage current alarm: 20–1000mA, step 1mA;
- Temperature alarm: 50–120°C, step 0.1°C;
- 2* configurable digital inputs /outputs;
- Built-in buzzer, can manual mute/ reset via function keys;

Wiring Method



Application

- Low-voltage power distribution systems;
- Industrial electrical installations;
- EV charging infrastructure;
- Data centers and critical power systems;
- Commercial and building electrical systems;
- Substations and utility networks;
- Electrical panels and switchgear systems;

Ordering Information

Model	Description
ELR-CH16IN	With 16 leakage current sensor
ELR-CH8IN	With 8 leakage current sensor
ELR-CH8IN8T	With 8 leakage current sensor, 8 temperature sensor
ELR-CH4IN4T	With 4 leakage current sensor, 4 temperature sensor

Technical Characteristics

Working power supply	Value
Power supply	85-265Vac/dc, DC 20-60V (Optional)
Maximum power consumption	6W
Frequency	45/65Hz, Accuracy ±0.01Hz
Leakage CT	
Alarm threshold range	20mA ~ 1000mA; Default 300mA; Accuracy 1%
Primary side current In	1A(rms)
Secondary side current Io	0.5mA (rms)
CT ratio	2000:1
Load resistor RL	≤ 620 ohm
Secondary side impedance R	100±20 ohm
Temperature sensor	
Measurement range	0 ~120°C
Accuracy	±2°C
Alarm threshold range	50~120°C; Default 50°C
I/O capacity	
Relay capacity	5A@250Vac/ 30Vdc; 2500V optocoupler isolation
Others	
Dimension	Installation size: 96mm×96mm×74mm Hole size: (91+0.8mm) × (91+0.8mm)
Communication	RS-485 MODBUS-RTU
Withstand voltage	2.5KV 1min
Insulation	Input, output, power supply to shell >5MΩ
Dielectric strength	IEC / EN 61010-1:2010 2kV AC RMS 1 minute, between input / output / case / power supply
Storage environment	-25°C ~ +70°C, Altitude ≤2500m, 20~95%RH, non-condensing, non-corrosive gas
Working environment	-20°C ~ +60°C, Altitude ≤2500m, 20~95%RH, non-condensing, non-corrosive gas

MPR MULTIFUNCTION PROTECTION RELAY





Introduction

The MPR-6M delivers reliable circuit protection and real-time monitoring for power lines and distribution cabinets, measuring current, voltage, power, and energy with class 0.2 accuracy. It features expandable DI/DO, temperature channels, and residual current inputs, supporting overcurrent, overvoltage, and undervoltage protection with alarms and automatic tripping.

With RS485/ Modbus RTU communication, the MPR-6M integrates seamlessly into SCADA, EMS and smart platforms, ideal for critical power lines, fire safety, industrial distribution, data centers, and intelligent buildings.

Main Features

- Class 0.2, real-time measurement of key electrical parameters;
- 30 lists DI/DO event record, 30 lists alarm event record;
- 2 relay outputs (custom logic);
- 4 expandable passive digital inputs;
- 4 channel temperature monitoring;
- 2 channel residual current detection;
- RS485 Modbus RTU communication;
- Built-in sound and light alarm; manual mute/reset/self-test;

Protection Function

Real-time monitor parameter	Protection function
Three-phase current	Residual current monitoring
Three-phase voltage	Temperature monitoring
Frequency	30 lists alarm event record
Power factor	
Active power	
Reactive power	
Apparent power	
Electrical energy	
Maximum demand	
Time-of-Use energy metering	
Harmonic Distortion	

Application

- Safety monitoring: smart buildings, industrial plants, etc;
- Medium and low voltage systems;
- Commercial and residential buildings;
- Utilities and power distribution systems;
- Industrial cabinet: electrical fire prevention & fault isolation;
- Motor control panels and switchboards;
- Protection for transformers, generators, motors;
- System leakage current measurement;
- Industrial control system (PLC, SCADA, DCS);

Technical Characteristics

Working power	Value
Power grid mode	1P2W, 3P3W, 3P4W
Power supply	85-265Vac/dc, 45-65Hz
Consumption	≤5VA
Voltage input	
Rate value	100V/220V/380V
Overload	1.2Un
Power consumption	<0.2VA
Impedance	0.5MΩ
Current input	
Rate value	AC 1A/5A (please specify when ordering)
Overload	Measurement: 1.2 times Instantaneous: 10 times/3s
Power consumption	<0.1VA
Impedance	<20MΩ
I/O capacity	
DI	2-4 channels, dry contact, Ri<500Ω turns on, Ri>100kΩ turns off
DO	2 channels, Relay contact capacity: 5A@250VAC; 5A@30VDC
Pulse output	1 channel, pulse width 80ms, photoelectric isolation
Communication	RS485, Modbus-RTU or Ethernet, Modbus-TCP/IP
Others	
Working environment	-10°C ~ +55°C; RH 5% ~ 95% (non-condensation)
Storage environment	-40°C ~ +85°C; RH 5% ~ 95% (non-condensation)
SOE record	60 lists, (30 lists DI/DO SOE and 30 lists Alarm SOE)
Dimension	110mm×108mmx66mm (W*H*D), 35mm Din-rail mounting

CVI SERIES
CAPACITIVE VPIS & VDIS



Introduction

CVI Series provides capacitive voltage indication solutions for medium-voltage switchgear, covering both conventional VPIS and next-generation VDIS designs. Based on capacitive voltage sensing technology, the series enables reliable three-phase voltage status indication to support safe switchgear operation.

The series includes a conventional, non-display VPIS compliant with IEC 61243-5, and an advanced, display-equipped VDIS designed in accordance with IEC 62271-213. They deliver clear live-voltage judgement thresholds and integrated interlock functions to prevent hazardous mis-operation during cabinet commissioning and maintenance.

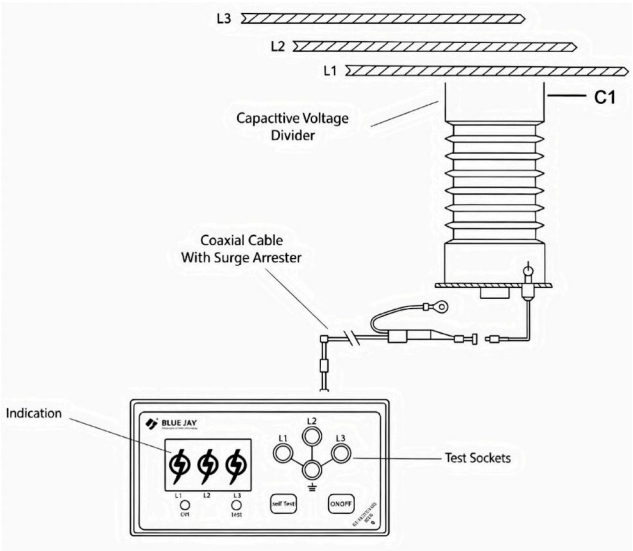
Main Features

- Compact 96 × 48 mm panel design;
- Clear Single/ Three-Phase Voltage Indication;
- Capacitive Voltage Sensing Technology;
- >120%Un overvoltage indication function;
- 10-45%Un dual-stage voltage indication;
- With relay outputs for remote status monitoring;
- Available 85–265Vac/dc or self-powered versions;
- Compliant with IEC 62271-213 / IEC 61243-5 standards;

Working Principle

Capacitive voltage coupling → Capacitive voltage division → Cable signal transmission

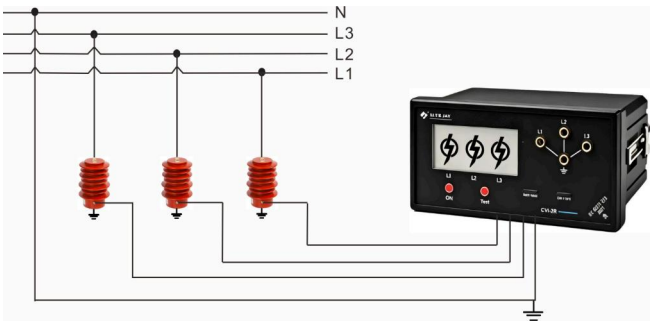
Phase voltage detection → Individual phase Indication



Application

- Medium-voltage power distribution;
- Transmission and distribution systems;
- Power generation facilities applications;
- Industrial power distribution systems;
- Data center power infrastructure;
- Power system maintenance operations;

Wiring Method



Technical Characteristics

Model	CVI Series VPIS	CVI-2R VDIS
Power supply	Auxiliary power supply: 85-265Vac/dc or self-powered version	85-265Vac/dc
Power consumption	Less than 2W	
Frequency	50-60Hz	
Voltage threshold	0 to 40%Un	10% to 45%Un
Adaptation capacity	200pF/ 125pF /80pF/ 45pF	
LED indicator	Ultra-high brightness LED, operating voltage < 2.5Vdc, service life > 50,000 hours.	
LCD display	No LCD	High-definition LCD screen
Digital output	Optional 1-2 channels, passive, dry contact, NO Load capacity: 5A@250Vac	Standard 2 channel, passive, dry contact, NO Load capacity: 10A @250Vac/5A@ 30Vdc
Withstand voltage	Compliant with IEC 61243-5:2021	Compliant with IEC 62271-213
Dimension	96x48x43mm	96x48x66mm

Adaptation capacity parameter table				
Voltage Level (kV)	6	10	24	35
Adaptable Capacitance (pF)	200(±15)	125(±15)	80PF(±10)	45(±10)
Dimension (Height * Width)	140x95mm		210x110mm	320x145mm

ALM-CH SERIES FAULT ANNUNCIATOR



Introduction

ALM-CH Series Fault Annunciator is a compact, panel-mounted alarm unit for power control and monitoring systems. It uses a reliable MCU for real-time status monitoring, can flexible customization 1-16 channel alarms. When a fault occurs, the corresponding indicator lights up, the buzzer sounds, and the alarm relay activates.

Functions include mute, reset, and test via front buttons. With RS-485 / MODBUS-RTU communication for system integration.

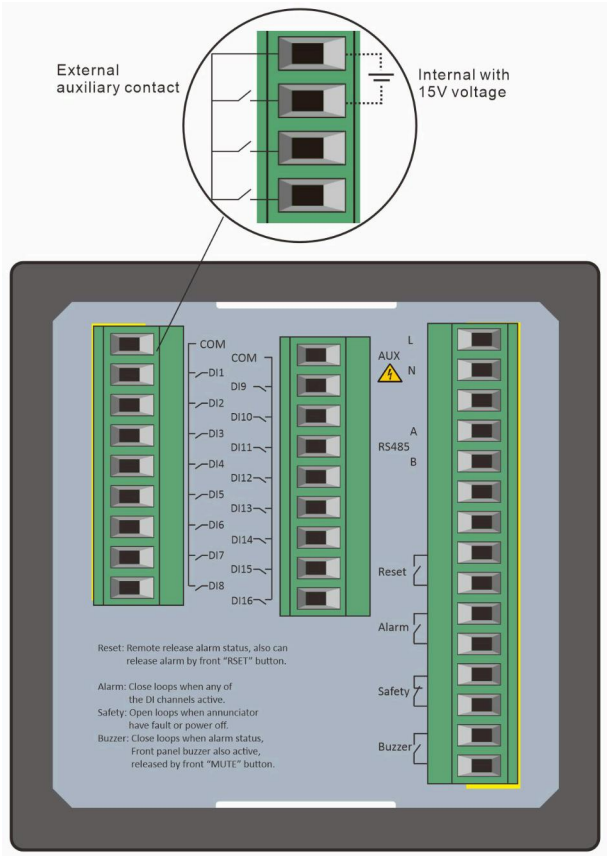
Main Features

- Flashing alarm lights remain until confirmed;
- Customizable or replaceable alarm light labels;
- Reliable passive relay contact outputs;
- Centralized alarm output for multiple signals;
- Self-fault alarm with normally closed contact;
- Sound alarm interface supports external devices;

Application

- Power generation and distribution systems;
- Industrial manufacturing and production facilities;
- Railway, aviation, and maritime transportation systems;
- Heating, ventilation, and air conditioning (HVAC) systems;

Connection Terminal



Technical Characteristics

Parameter	Value
Operating voltage	85-265VAC/DC (±10~15%), optional 24VDC
Rated power	≤8W
Fault signal inputs	1-16 channels optional, digital input with internal 15Vdc pull-up voltage.
Flashing frequency	≤100ms, >1Hz
Relay outputs	3 channels; Dry contact, Normally opened Load capacity: 5A@250VAC, 0.5A@110VDC, 0.3A@220VDC
Communication	RS485 Modbus RTU
Indication method	LED indicator or text panel
Insulation performance	2.5 kV AC RMS 1 minute, between input / output / case / power supply
Operating environment	Temperature: -20°C ~+60°C; Humidity: annual avg. ≤75%, max ≤93%
Installation method	Panel mount
Dimension	96x96 mm

AFR SERIES ARC FLASH PROTECTION RELAY

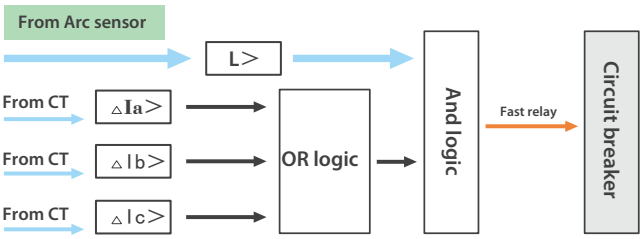




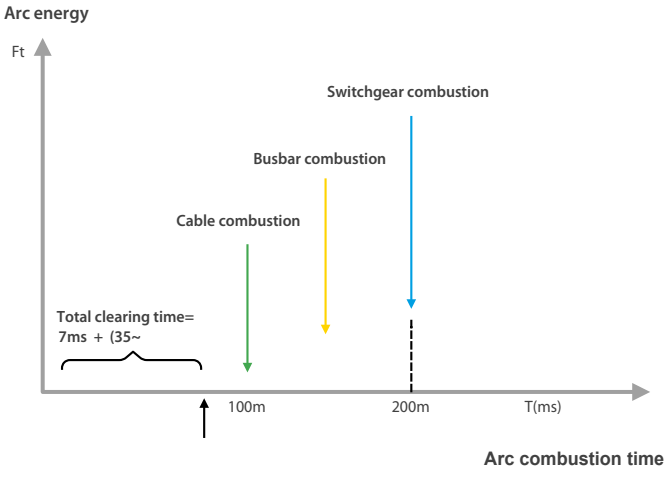
Introduction

AFR series arc protection relay detects electrical arcs in medium and low-voltage equipment, isolating power to minimize the risk of electrical fires. It works to prevent arcing faults in busbars, metal-clad switchgear,and cable boxes.

Arc flash relays can connect with remote light sensors to detect arc flashes and send a trip signal to cut off power. They can be used for stand-alone devices or embedded in complex switchgear layouts.



Arc Hazard Diagram



Main Features

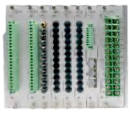
- Accurate and real-time monitoring arc signals;
- High temperatures and humidity resistance;
- Fast response, relay tripping in less than 10ms;
- Equipped with RS485 communication interface;
- Support ST visible light and ST ultraviolet sensor access;
- Complete SOE records, all information power-off retention;
- Support automatic reclosing to improve system availability;

Application

- Capacitor cabinet;
- High voltage switchgear;
- Electric power substation;
- Large municipal engineering project;
- Medium and low voltage switchgear;
- Thermal power plant electrical section switchgear;
- Wind turbine & Wind farm and photovoltaic station switchgear;

AFR-M ARC FLASH PROTECTION RELAY



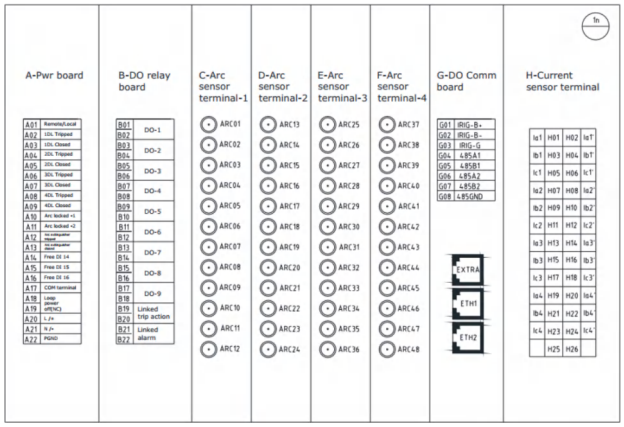


Introduction

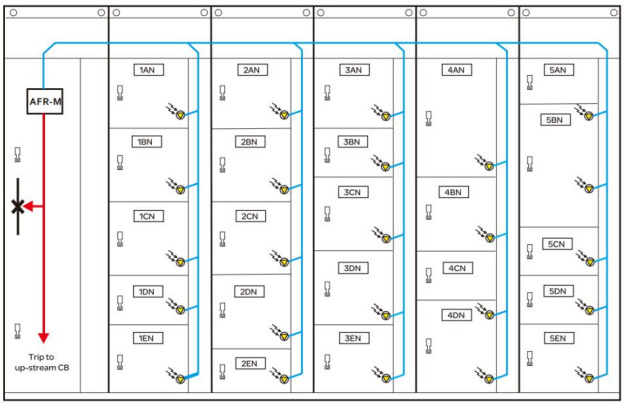
AFR-M busbar ARC flash protection relay represents a cost-effective and highly efficient solution designed to mitigate arc-fault damage. AFR-M detects the emitted light from an arc flash and promptly triggers tripping relay in both low-voltage (LV) and medium-voltage (MV) electrical networks.

Equipped with up to 48 ultraviolet optical sensors, the relay operates on preset programs, ensuring optimal protection for the secure operation of bus circuits.

Terminal Definition



Wiring Method



AFR-M Multiple switchgear protection

Main Features

- Arc light and current dual criterion;
- 16* passive DI point, indicates CB status;
- Single unit max 48pcs opt-sensor connected;
- High-definition LCD display to show integrated information;
- Independent trip act and alarm act arc flash relay;
- 9* trip contacts, free to configuration protect trip logic;
- Optional extra monitor functions by RS485 connection;
- Panel mounting design with rugged aluminum housing;
- Less than 10 ms operation time from arc flash to arc relay trip;

Application

- Capacitor cabinet;
- High voltage switchgear;
- Electric power substation;
- Large municipal engineering project;
- Medium and low voltage switchgear;
- Thermal power plant electrical section switchgear;
- Wind turbine & wind farm and photovoltaic station switchgear;

AFR-3S ARC FLASH PROTECTION RELAY

BUSBAR PROTECTION RELAY



Introduction

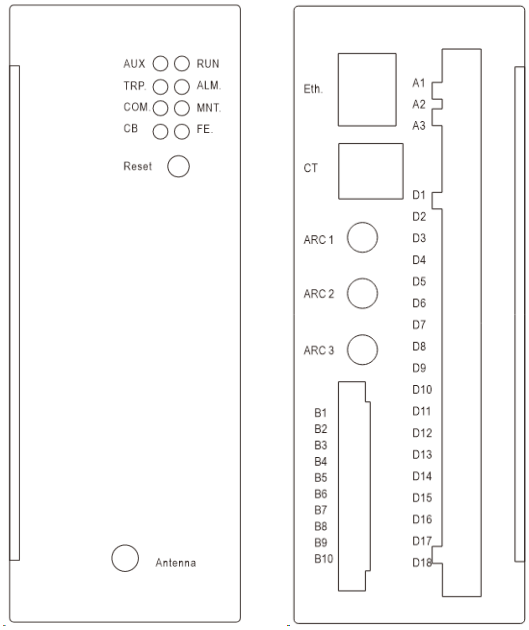
AFR-3S Arc flash protection relays serve as crucial components for detecting arc faults in electrical systems, ensuring the protection of equipment and personnel. AFR-3 adopts advanced monitoring of parameters such as current, voltage, and electric power to swiftly identify arcs.

Designed for application in medium and high-voltage power distribution systems, control cabinets, transformers, generators, motors, and various electrical equipment, the AFR-3 Arc flash relay operates based on a dual-criteria principle. Combining arc light detection with overcurrent detection, it delivers rapid protection responses and high reliability.

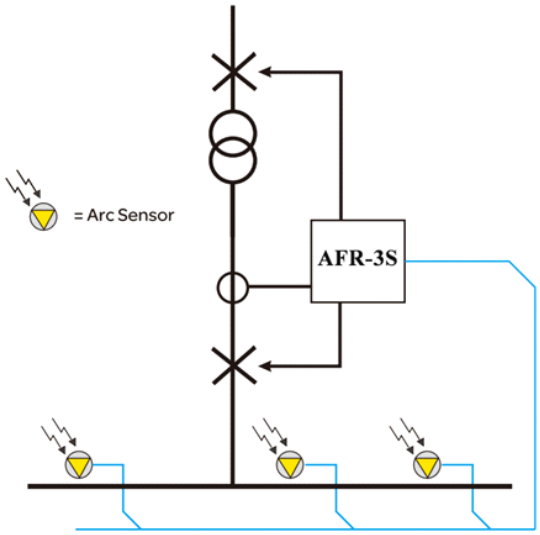
Main Features

- Advanced electrical power parameter monitoring;
- Support standard 35mm rail installation;
- Fast response, Identify arc faults in electrical systems;
- Effectively reduce the risk of fire in electrical systems;
- Quickly cut off the power supply to protect electrical safety;
- Adopt the dual criterion of arc detection and overcurrent detection;
- Comprehensive SOE record for analysis and system optimization;

Terminal Definition



Wiring Method



AFR-3S Single switchgear protection

AFR-4 ARC FLASH PROTECTION RELAY

BUSBAR PROTECTION RELAY





Introduction

AFR-4 is a versatile and independently operating device for bay based protection. It supports 4-channels arc signal detection and can configuration multiple arc tripping modes, ensuring accurate and fast fault isolation. With a fast relay output speed up to 5ms, AFR-4 can minimize or completely eliminate arc flash damage, improving system safety and reliability. It can be used in various arc protection applications in low or medium voltage power distribution system.

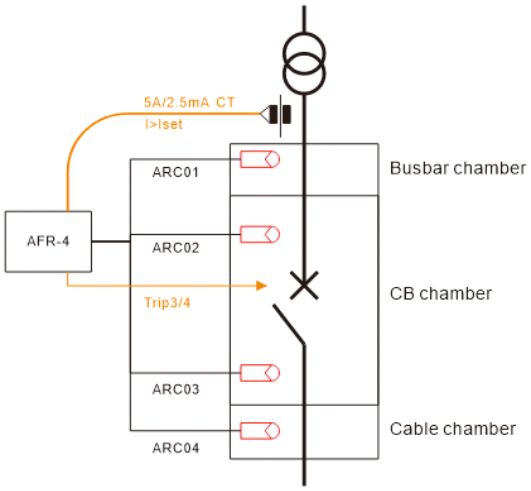
AFR-4 also provides flash warning and dual criteria tripping mechanism (arc detection + current), providing a comprehensive solution for arc flash protection. Integrated RS485/Modbus communication enables seamless remote monitoring and control, which is ideal for modern power systems.

Main Features

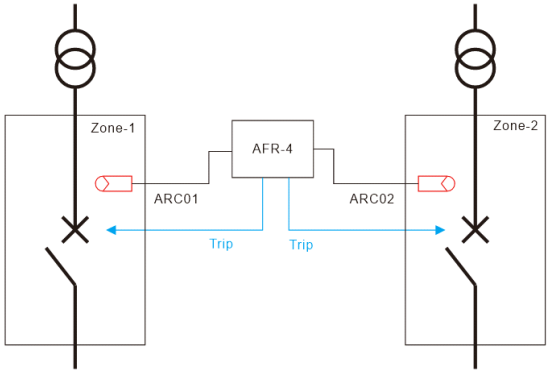
- ≤5ms fast relay tripping;
- Regional arc light detection;
- Multiple combined tripping modes;
- Circuit breaker failure protection;
- 4 channels of arc light signals detection;
- Support 35mm DIN rail or panel mounting;
- Dual criteria for arc detection and overcurrent detection;
- Integrated /RS485 MODBUS communication protocol;
- Support ST visible light and ST ultraviolet sensor access;

Typical Wiring

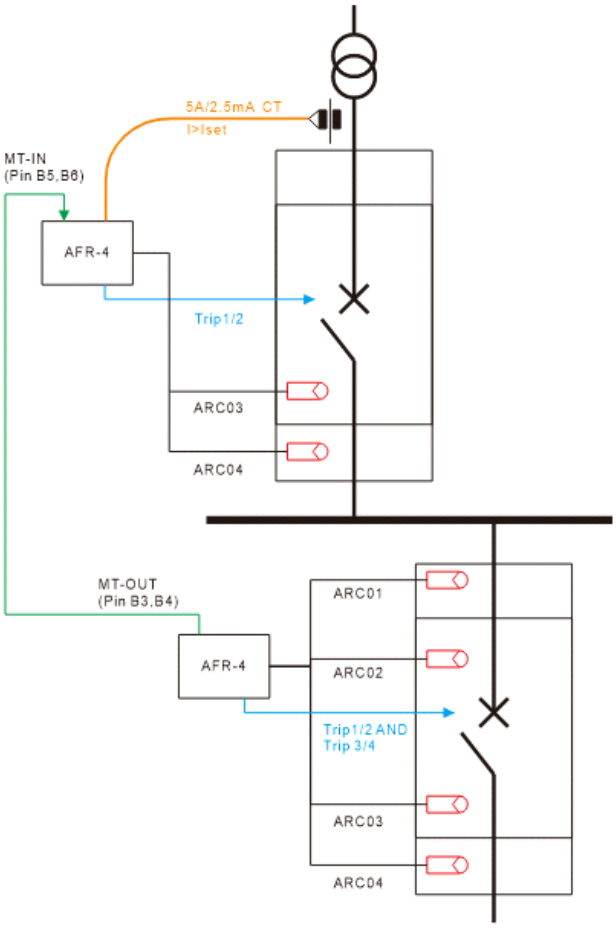
Mode 1: local tripping



Mode 2: Zone tripping



MT Mode: Master station tripping



Technical Characteristics

	AFR-M	AFR-3S	AFR-4
Basic parameter			
Power supply	85~265Vac/dc	85~265Vac/dc optional 15-70Vdc	
Consumption	Monitoring <8W; DO triggered <10W		
Protection range	0~20 In	0.06~10 In	
Rated current (In)	5A or 1A		
Burden	<0.5VA		
Protect current accuracy	<4%		
Arc signal input & control			
Channels number	12-48	3	4
Sensor type	Optical fiber		
Detection light type	Visible light/ UV light (optional)		
I/O capacity			
Digital input	16* DI, 5A@250Vdc, wet contact,optional dry contact	5*DI, 5A@250Vdc, NO; dry contact	2*DI (For Block/ MT in) Passive, NO, dry contact;
Digital output	8A@250Vac, dry contact	10A@250Vac/ 12A@24Vdc, dry contact Max. switching current: 10 A(dc)/ 12A(ac) Max. switching voltage: 277Vac/ 300Vdc.	
Trip action time	Pure arc protection: ≤10ms Overcurrent + arc protection: ≤20ms		Pure arc protection: ≤8ms Overcurrent + arc protection: ≤15ms
DO relay channels	9	4/6 (optional)	7
Safety isolation	Photoelectric isolation, isolation voltage 2500V		
RS485 Communication			
Interface	RS485 Modbus-RTU		
Isolation type	Photoelectric isolation, lightning protection		
Baud rate	9600bps		
Ethernet communication (optional)			
Interface	Optional 2 chanels RJ45 ethernet		
Protocol	10/100 Mbps, Modbus TCP		
Default IP	192.168.12.2/192.168.13.2		
Others			
Working environment	-10 ~ 55°C, < 93% RH (Non-condensing)		
Storage environment	-30 ~ 70°C, < 70% RH (Non-condensing)		
Relative humidity	5%~95%		
Atmospheric pressure	60kPa~106kPa		

Related Accessories



SCM-OPVP (Visible light detection)

- Detection angle: 0-240°（-120°~ 120°）
- Photosensitive threshold: 5-20KLUX
- Spectral bandwidth: 280nm ~ 550nm



SCM-OPUV (UV light detection)

- Detection angle: 0-240°（-120°~ 120°）
- Photosensitive threshold: 1-10mw/cm²
- Spectral bandwidth: 280nm ~ 400nm

SCM-TP1000 TEMP&PD MONITORING SYSTEM

BUSBAR PROTECTION RELAY

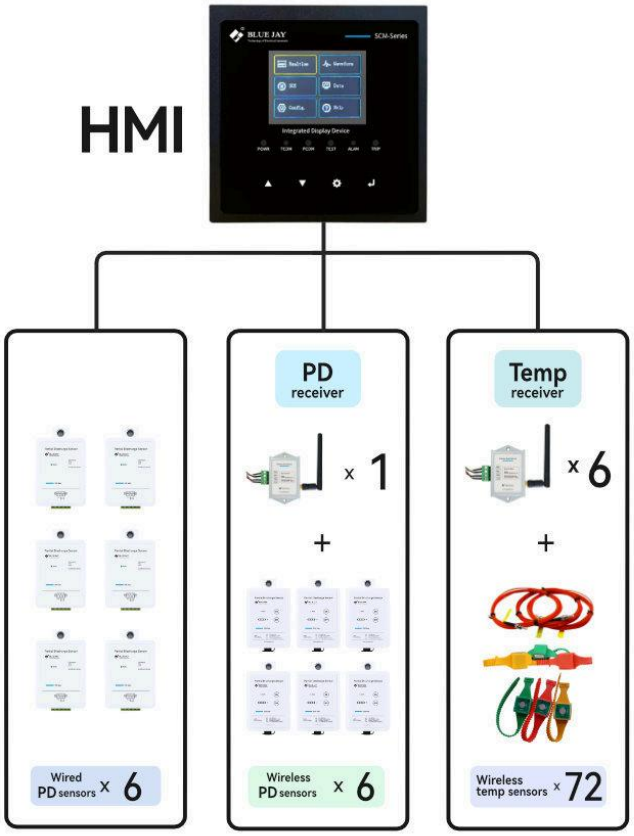


Introduction

The SCM-TP1000 is an integrated monitoring device for medium and high voltage switchgear, combining partial discharge detection and wireless temperature sensing. It provides real-time monitoring of PD, ambient temperature, humidity, noise, and busbar thermal conditions to improve reliability and safety. High-precision sensors and advanced algorithms ensure accurate detection, with support for historical data logging, SOE records, and waveform analysis.

The modular design supports display by switchgear or sensor group. Built-in alarms and relay outputs enable flexible deployment. RS485 with Modbus RTU ensures reliable communication and easy SCADA integration.

System Configuration Diagram



Main Features

- Integrated wired/ wireless PD and busbar temperature monitoring;
- Supports RS485 Modbus-RTU communication;
- Switchgear or sensor group display modes;
- Real-time and historical waveform display;
- Max 99 lists fault SOE recording with waveforms;
- Switchgear ambient condition monitoring
- Up to 24 groups temperature sensor;
- Up to 6 groups PD sensor (AA, TEV, UHF);
- Up to 6 switchgear busbar temp & PD status monitoring
- Configurable alarm logic and thresholds;

Application

- Medium-voltage switchgear monitoring;
- Distribution transformer compartments;
- Industrial power distribution systems;
- Smart substation environments;
- New energy power stations;
- Remote or unmanned substations;
- Commercial building power distribution;

Technical Characteristics

HMI	
Auxiliary power	85-265Vac/dc, optional 20-60Vdc, 45-65Hz, consumption: max<6W
Digital output	2* relay for alarm/trip, 5A@250VAC, passive node
Dimensions (W × H × D)	148*148*78mm, open install hole: 139±0.5 x 139±0.5mm
Working environment	-10 ~ +60°C; 20% ~ 95% RH (No condensation)
Communication	RS485, MODBUS-RTU
Temperature receiver	
Power supply	5Vdc
Wireless communication frequency	433MHz
Wireless temperature sensor unit	Standard type 3-12
Sampling period	5min
Distance of receiver and HMI	Up to 80m (260 feet)
Wireless temperature sensor	
Power supply	Battery powered, 1200mAh for 2-4 years
Temperature monitor range	-40°C~125°C, (at 125°C for short-term only); continuous measurement: -20°C~65°C
Transmit power	Less than 10mW
Environment	Working: -10°C ~ +60°C; 20%~95%, RH (No condensation) Storage: -25°C ~ +70°C; 20%~95%, RH (No condensation)
Wired PD sensor	
Power supply	12VDC
Static power consumption	<10mW
Installation method	4* strong magnet, wall mount
Sampling period	5s
Dimension	134mm*100*42mm
Communication	RS485/ Modbus RTU
Wireless PD receiver	
Power supply	7.2V 3000mAh build in battery
Wireless band	433MHz ~2.4GHz optional
Signal transmission distance	Up to 80m (260 feet)
Static power consumption	<10mW
Installation method	4* strong magnet, wall mount
Sampling period and data upload cycle	2 hours
Wired and wireless PD sensor common parameters	
Ultrasonic (AA)	Detect range: 0 ~ 60dBμV; Pass band: Center frequency 40 kHz ±1 kHz
TEV	Detect range: 0~60dBmV Pass band: 3~100MHz
UHF	Detect range: -70~10dBm Pass band: 300~1500MHz Average effective height: ≥10mm
Ambient data	Noise detection range: 30~80dB (Class C) Temp. measurement rang: -40~85°C; Accuracy±0.5°C Humidity measurement range: 5~95%RH; Accuracy ±2%RH

INSULATION MONITORING DEVICES



Introduction

Insulation Monitoring Devices (IMDs) continuously monitor insulation resistance in ungrounded AC and DC electrical systems. They provide real-time detection and early warning of insulation faults, helping ensure electrical safety and system continuity.

Suitable for industrial power systems, photovoltaic systems, energy storage, EV charging, and other ungrounded AC/DC applications.



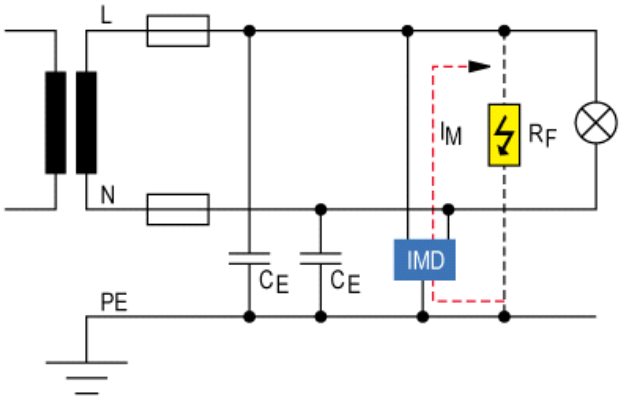
Main Features

- Insulation monitoring for AC/ DC ungrounded systems;
- Suitable for busbar systems up to 2000V;
- Insulation resistance range: 1kΩ…10MΩ;
- Adjustable alarm thresholds for fault detection;
- Selectable NC or NO relay operation;
- Compliant with IEC 61557-1/ IEC 61557-8;
- RS485 interface with Modbus RTU protocol;
- SOE event recording with timestamp;

Application

- EV/ HEV DC charging systems;
- DC power distribution and power supply systems;
- Rail transit and vehicle electrical systems;
- New energy generation and energy storage systems;
- Substation DC power supply systems;
- Medical and high-security power supply systems.

Working Principle



Ordering Information

Series name	Main feature	Special notes
ZJS-102	• DC voltage range: 0-300V • Insulation resistance detection: 0-300KΩ • RS485/ Ethernet communication interface • W*H*D: 350*180*130mm, Panel mounting	Balanced bridge principle Specially used for DC panel
ZJJ Series	• DC voltage range: 0-300V • Insulation resistance detection: 0-199.9KΩ • W*H*D: 72*100*67mm, Panel mounting	Adopt pure analog circuit signals
	• DC voltage range: 0-1000V • Insulation resistance detection: 0-1999KΩ • W*H*D: 115*105*40mm, 35mm Din-rail mounting	
BIM-4MS	• DC voltage range: 100-1000V • Insulation resistance detection: 10KΩ~10MΩ • RS485, Modbus RTU • W*H*D: 72 × 110 × 66mm, 35mm Din-rail mounting	With 2* virtual alarms, 1*DO, 1*DI
BIM-CH1	• With multifunction LCD display • DC voltage range:100-1000V • Insulation resistance detection: 10KΩ~10MΩ • RS485, Modbus RTU • W*H*D: 72 × 110 × 66mm, 35mm Din-rail mounting	With 8* virtual alarms, 1*DO, 2*DI
BIM-CH2	• Dual-channel independent insulation monitoring • DC voltage range: 100–1000V • Insulation resistance detection: 10KΩ~10MΩ • 2 relay outputs for alarm configuration • RS485, Modbus RTU • W*H*D: 108*110*66mm, 35mm Din-rail mounting	With 10* virtual alarms, 2*DO, 1*DI
BIM-M1000	• For 0-1000Vac/dc system • Insulation resistance detection: 0~30MΩ • RS485, Modbus RTU, optional CANbus interface • W*H*D: 108*110*66mm, 35mm Din-rail mounting	Signal injection method With 8* virtual alarms, 2*DO, 2*DI
JY1000-ST	• DC voltage range: 100-1000V • Insulation resistance detection: 1KΩ~10MΩ • RS485, Modbus RTU • W*H*D: 122.5*75.5*40mm, 35mm Din-rail mounting	With self-test function
JY1000 **JY1000-AL**	• DC voltage range: 100-1000V • Insulation resistance detection: 1KΩ~10MΩ • RS485, Modbus RTU • W*H*D: 98*49*62mm, 35mm Din-rail mounting	Single channel insulation monitoring With fault alarm function
JY1000-C2	• DC voltage range: 100-1000V • Insulation resistance detection: 1KΩ~10MΩ • RS485, Modbus RTU • W*H*D: 145*95*40mm, 35mm Din-rail mounting	Dual-channels insulation monitoring
JY2000-AL	• DC voltage range: 100-2000V • Insulation resistance detection: 1KΩ~10 MΩ • W*H*D: 145*115*40mm, 35mm Din-rail mounting • Fault alarm function • RS485, Modbus RTU	Wide DC system voltage range

BIM SERIES DC INSULATION MONITORING

INSULATION MONITORING DEVICE



Introduction

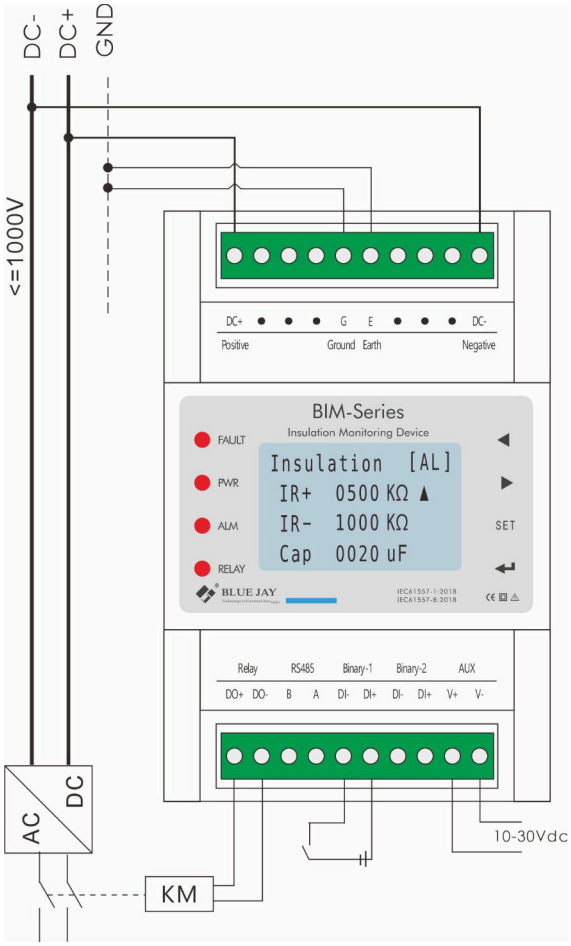
BIM-series insulation monitoring devices provide continuous insulation supervision for 100-1000 Vdc unearthed systems. Single-channel options include cost-optimised BIM-4MS (no screen) and feature-rich BIM-CH1 (LCD). BIM-CH2 dual-channel version monitors two independent DC circuits in one device, perfectly suited for dual-port DC charging piles.

All units support automatic adaptation to system stray capacitance up to 5 μF, configurable insulation alarm thresholds and selectable NO/NC relay outputs for reliable DC system earth fault protection.

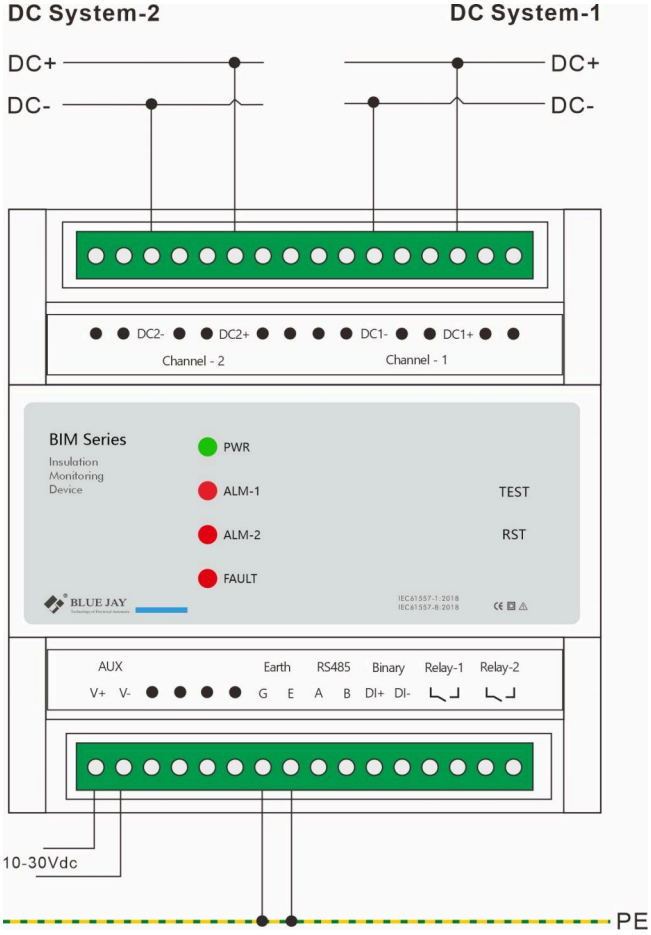
Main Features

- For unearthed (IT) 100-1000 VDC systems;
- Auto adaptation to system leakage Y-capacitance;
- Adjustable insulation alarm thresholds 10kΩ …10MΩ;
- Dual-channel monitoring for two independent DC circuits,
- Ideal for dual-gun DC charging stations;
- Built-in DI / DO terminals for control and alarm output;
- Local self-test & wiring connection fault supervision;
- RS485 communication with Modbus-RTU protocol;

Wiring of BIM-CH1/ BIM-4MS



Wiring of BIM-CH2



Technical Characteristics

	BIM-4MS	BIM-CH1	BIM-CH2
Parameter			
Channel	Single channel		Dual channel
Working principle	Bridge circuit		
Application system	DC system		
Power supply	10-30Vdc, power 3W		10-30Vdc, Power 5W
Voltage range	100V~1000Vdc		
Insulation resistance measurement range	10KΩ~10MΩ		
Insulation resistance measurement accuracy	**CY= 0~0.8μF:** ≤60kΩ, accuracy ≤3kΩ ; 60kΩ<R<1MΩ, accuracy≤5% **CY= 0.8μF ~3μF:** ≤60kΩ, accuracy ≤6kΩ; 60kΩ<R<1MΩ,, accuracy ≤20%		
Max system leakage capacitance	≤5μF		
Digital output (DO)	1*DO, passive dry contact, SPST, 4A@250Vac/ 30Vdc		2*DO, passive dry contact, SPDT, 5A@250Vac
Digital input (DI)	1*DI, 0.25mA@short circuit	2*DI, 0.25mA@short circuit	1*DI, NO, active dry contact, with internal 15Vdc pull-up voltage Load capacity: Ri<500Ω turn on, Ri> 100KΩ turn off
Virtual alarm	2* virtual alarms	8* virtual alarms	10* virtual alarms
Screen	/	LCD display	/
Dimension (W*H*D)	72*110*66 mm		108*110*66mm
Installation	Standard 35mm Din-rail mounting		
Communication	RS485/ Modbus RTU		
Standards	IEC 61557-1: 2018; IEC 61557-8: 2018		

BIM SERIES AC/DC INSULATION MONITORING

INSULATION MONITORING DEVICE



Introduction

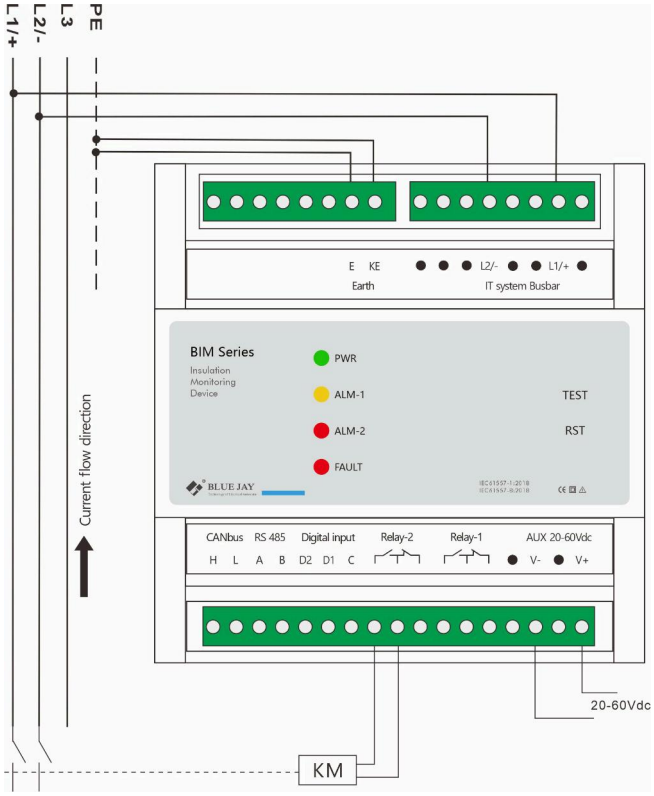
The BIM-M1000 insulation monitoring device provides continuous insulation resistance monitoring for unearthed AC/DC IT systems up to 1000 V. Using active signal injection technology, it detects insulation degradation and ground faults, with two independently adjustable alarm thresholds for early warning and fault indication.

Designed for industrial power distribution, battery energy storage systems, and EV charging facilities, the BIM-M1000 supports RS485 Modbus RTU communication and optional CAN bus integration. With automatic adaptation to system leakage capacitance up to 20 μF, it enables reliable insulation monitoring and system integration.

Main Features

- Active signal injection technology;
- Insulation resistance: 0–30MΩ;
- Nominal system voltages: AC, DC,or AC/DC up to 1000V;
- Monitoring for single-phase AC,three-phase AC, and DC systems;
- System leakage capaditances:up to 20uF;
- Adjustable alarm thresholds and response delays;
- Communication:RS485 Modbus RTU/ optional canbus;
- Compliant with IEC 61557-1/ 61557-8 standard;

Wiring of BIM-M1000



Application

- AC and DC IT power distribution systems;
- Industrial power and automation;
- Battery packs and energy storage systems;
- Electric vehicles and transportation;
- Renewable energy generation systems;
- DC charging stations for electric vehicles;

Technical Characteristics

Supply voltage	
Power supply	20-60Vdc, power consumption ≤ 5W
Frequency range	40~65Hz
Monitored IT system	
Nominal system voltage	0…1000 Vac/dc
Insulation resistance measurement range	0~30MΩ
Insulation resistance measurement accuracy	0~100 KΩ, CY≤ 2μF, Bus voltage stability: ±12 KΩ 100 kΩ~1 MΩ, CY≤ 2μF, Bus voltage stability: ±10 % 1 MΩ~30 MΩ, CY =0μF, Bus voltage stability: ±10 %
Measuring circuit	
Measuring principle	Active signal injection
Injection measuring voltage	±15V
Injection measuring current	<100μA
Permissible system leakage capacitance	≤20μF
Alarm relay output	
Quantity	2* SPDT relay
Max. switching current	>100mA
Max. withstand voltage	12Vdc
Load capacity	5A@250VAC
Alarm-1 (IR pre-alarm)	Default 500KΩ
Alarm-2 (IR alarm)	Default 250KΩ
Relay input	
Quantity	2*DI for reset/ test, NO, active dry contact, with internal 15Vdc pull-up voltage
Load capacity	Ri<500Ω turn on, Ri> 100KΩ turn off
Communication	
RS485 interface	Modbus RTU protocol
Canbus interface (optional)	Custom protocol
Others	
Standards	IEC 61557-1:2018 and IEC 61557-8:2018
Installation and dimension	Standard 35mm Din-rail mounting, W*H*D: 108*110*66mm

ZJS-102 DC INSULATION MONITORING

INSULATION MONITORING DEVICE



Introduction

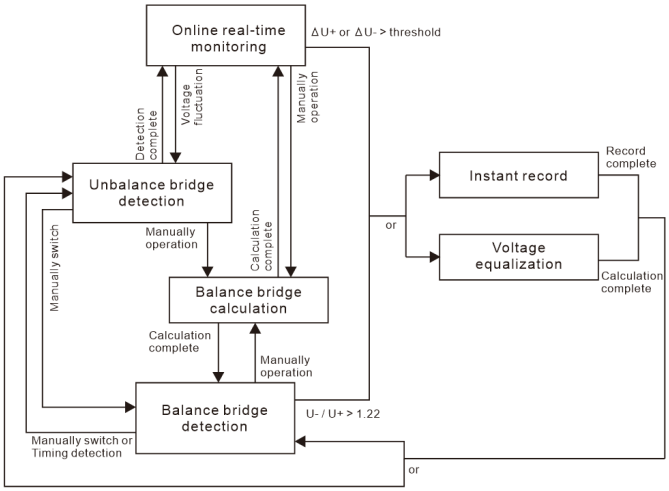
ZJS-102 DC system insulation monitor is a professional online monitoring equipment that uses balanced and unbalanced bridge detection technology to effectively eliminate the interference of distributed capacitance in the system. ZJS-102 can display the leakage current of each circuit in real time and has complete DC insulation fault monitoring functions, including single-point grounding, multi-point grounding, busbar two-pole grounding, etc.

ZJS-102 use transient alarm waveform capture and current synchronous detection technology, the insulation monitoring system records voltage and current fault curves, realizes instantaneous ground monitoring and ground fault location functions, and is an ideal choice for DC power system safety protection.

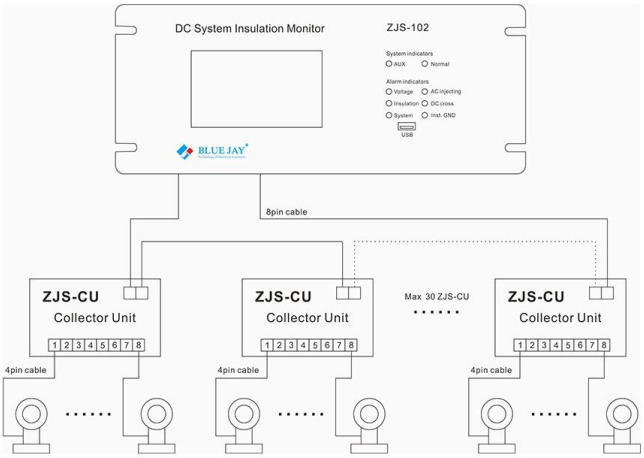
Main Features

- Circuit insulation classification alarm;
- Instantaneous ground event recording;
- Historical data analysis and download;
- Max support monitoring 240 branches;
- RS485 remote management and control;
- System distributed capacitance detection;
- Continuous insulation monitoring and alarm;
- Real-time monitoring and alarming of AC /DC voltage;
- High-precision 16-bit AD converter, PLC integrated digital output;

Working Principle



Wiring Diagram



Technical Characteristics

Monitoring range of system insulation resistance to ground	
Earthing alarm	0-199.9K
Pre-warning	100-999.9K
Monitoring and detect range of branch insulation resistance to ground	
0-300K	
Working voltage range	
Positive pole to ground	0-300V
Negative pole to ground	0-300V
System voltage	0-300V
AC injection voltage	0-280V
Busbar-II system voltage (DC cross detect)	0-300V
Battery bank insulation fault location error	±1 cell
Alarm history record	
Record list quantities	2000 lists
Each record alarm list volume	≤32 branches
Real-time leakage current measurement	
Screen display resolution	0.01mA
Current sensor range	10mA, 20mA, 50mA, 100mA optional
Each ZJS-102 port detect current volume	≤ 240 branches
Each ZJS-CU collector unit connected current sensor	≤8
Instant event record	
Capture sampling ratio	1KHz, 500Hz, 250Hz, 125Hz configurable
Record quantities	2000
Waveforms for each instantaneous event	8
Others	
Passive digital output	7
Fault alarm indicator	6
Distributed capacitance range of the system	0-200uF

ZJJ SERIES DC INSULATION MONITORING

INSULATION MONITORING DEVICE



Introduction

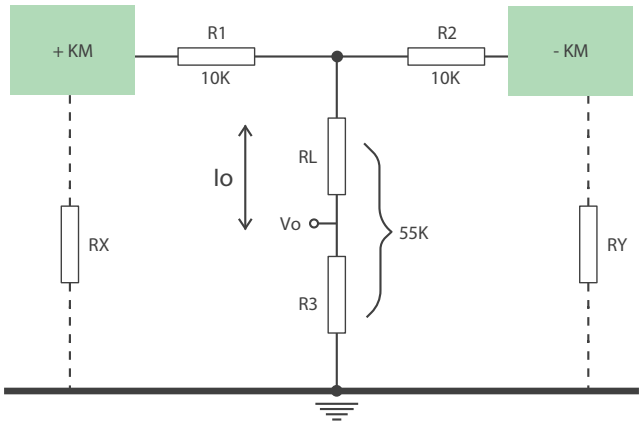
ZJJ Series DC Insulation Monitoring is an advanced solution for continuous monitoring of DC busbar insulation. Utilizing a precision voltage-divider circuit, it directly displays insulation resistance to ground, eliminating the limitations of conventional relays that only indicate leakage current or lack visualization. Its high-sensitivity monitoring capability enables accurate and quantitative evaluation of system insulation, ensuring reliable and safe operation.

The device performs real-time monitoring of bus insulation and grounding resistance of both positive and negative poles, with configurable alarm thresholds for early fault detection. When insulation falls below the preset value, an alarm signal is triggered. ZJJ-4SA is designed for panel mounting, while ZJJ-4SC supports DIN rail installation.

Main Features

- Bridge balance method for resistance measurement;
- Smaller short-circuit grounding current for safe operation;
- Alarm resistance threshold online display and direct setting;
- Terminals are pluggable for easy maintenance and replacement;
- Monitoring the DC circuit bus bar's RF to earth insulation resistance;
- Direct LCD busbar grounding resistance values, positive and negative;
- Reinforced shell, modular structure, high reliability;
- Wide monitoring voltage, 48-1000V, working voltage 24-220V can be customized, adjustable response value ranges of 0-100kΩ;

Working Principle



Main Features

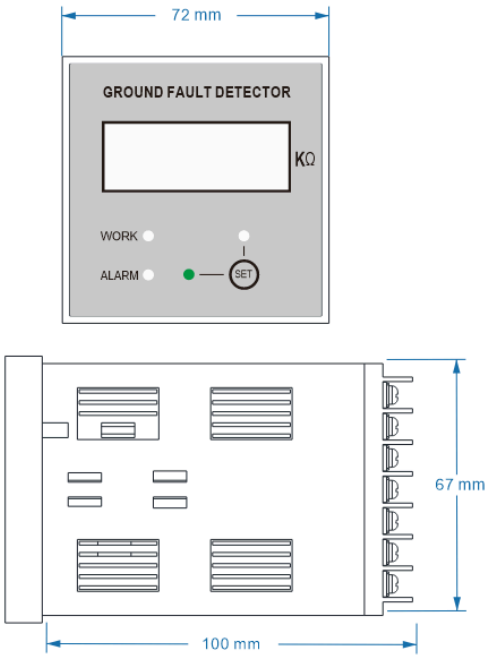
- DC main circuits measurement;
- UPS systems, battery systems;
- IT systems with high leakage capacities;
- DC charging stations for electric vehicles;
- Monitoring the insulation of electrical equipment;
- Supporting use of power transformers, generators, and motors;
- Remote monitoring system, real-time monitoring of insulation conditions;
- Substations, power plants, transmission lines, distribution lines;

Technical Characteristics

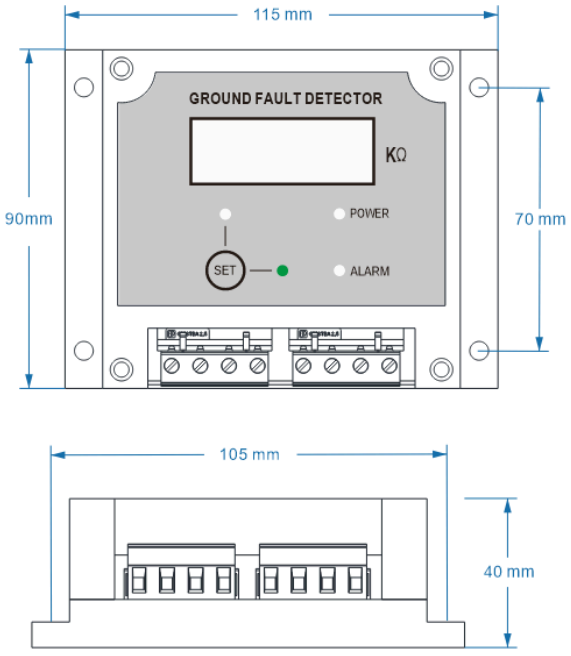
Basic parameters	ZJJ-4SA	ZJJ-4SC
Input voltage	0-300VDC	0-1000VDC
Power supply voltage	Self-powered	85-265 VAC/DC
Power supply current	7-20mA	
Measuring resistance	0~199.9KΩ	0~1999KΩ
Relay capacity	10A@250VAC / 30VDC	2A@250VAC
Measurement accuracy	V=220V (5%)	V=1000V (5%)
Alarm setting range	0~100KΩ	0~990KΩ
Short circuit ground current	V=220V (2mA)	
Action return factor	Rs=50KΩ(95%-98%)	
Output contact capacity	Sensitive load=5mS(DC220V0.2A) Resistive load(DC220V 2A)	
Installation type	Panel mount	Din-rail mount
Operating temperature	-40°C ~ 70°C, RH 85%	

Dimension

ZJJ-4SA Panel Mounting



ZJJ-4SC Din-rail Mounting



JY1000-ST DC INSULATION MONITORING

INSULATION MONITORING DEVICE



Introduction

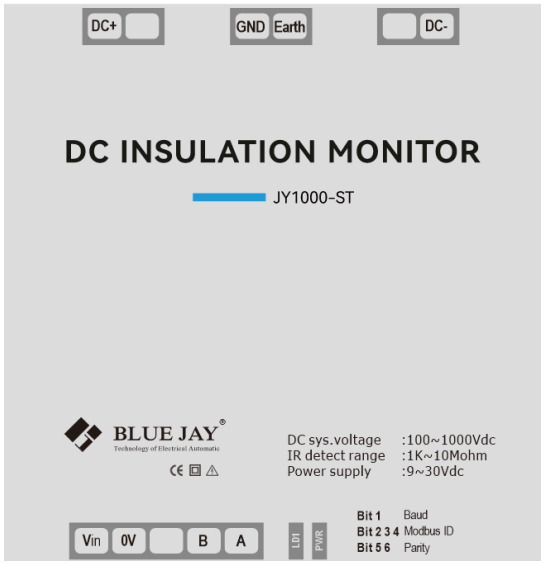
JY1000-ST is a DC insulation monitoring device based on MODBUS protocol, including DC to ground insulation impedance monitoring, DC voltage monitoring, DC voltage reverse connection alarm and other safety monitoring functions. It can be used for electric vehicle DC charging system, photovoltaic system, energy storage system, DC grid and other DC systems below 1000V.

JY1000-ST has the function of starting and stopping insulation monitoring. After insulation monitoring is started, the insulation resistance of positive and negative poles to ground can be monitored in real time. The monitoring result is not affected by DC voltage fluctuation, and is not affected by the symmetry of insulation resistance of positive and negative poles.

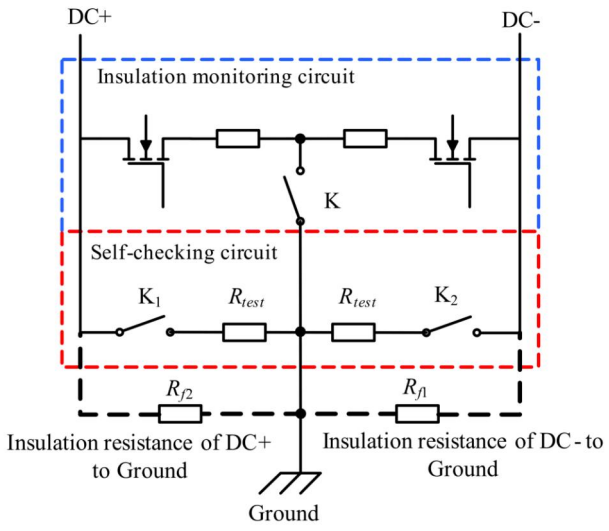
Main Features

- Rail mounting or screw fixing;
- Voltage reverse polarity alarm;
- High voltage grounding switch;
- Convenient parameter setting;
- Adaptive capacitance to ground;
- Monitor positive and negative poles;
- Insulation monitoring equipment self-test;
- RS485 remote monitoring and management;
- Widely insulation monitoring range (100V~1000VDC);

Terminal Definition



JY1000-ST Working Principle



Technical Characteristics

Basic parameters			
Power supply	9-30VDC, power 3W		
DC voltage range	100V~1000V		
DC voltage measurement accuracy	≤2V+0.3%		
Insulation resistance measurement range	1KΩ~10MΩ (DC System voltage:100V~1000V)		
Insulation monitoring accuracy (When :DC voltage:100V-1000V)	**CY range**	**Resistance range**	**Accuracy**
	0~0.8μF	≤60KΩ	≤3KΩ
		60kΩ<R≤1MΩ	≤5%
	0.8μF ~3μF	≤60KΩ	≤6KΩ
		60kΩ<R≤1MΩ	≤20%
Off-line pressure test	<2mA		
Maximum relay switching voltage	250VAC/30VDC		
Maximum relay switching current	3A		
Relay contact resistance	<100mΩ		
Relay insulation resistance	100MΩ		
Communication	RS485,modbus RTU		
Dimension	122.5*75*40mm,Din-rail:35mm		
Standard	IEC 61851-23 (2014-03):2014-11		
Humidity	85%		
Storage environment	- 40°C ~125°C		
Operating environment	- 40°C ~75°C		

Other parameters		
Pressure point	**Maximum voltage rating**	**Time**
DC+/DC- to GND	4200VDC/3000VAC	≤1min
Power supply +/- to GND	3500VDC/2500VAC	≤1min
RS485 A/B to GND	3500VDC/2500VAC	≤1min
DC+/DC- to power supply +/-	3500VDC/2000VAC	≤1min
DC+/DC- to A/B	3500VDC/2000VAC	≤1min

JY1000 DC INSULATION MONITORING

INSULATION MONITORING DEVICE





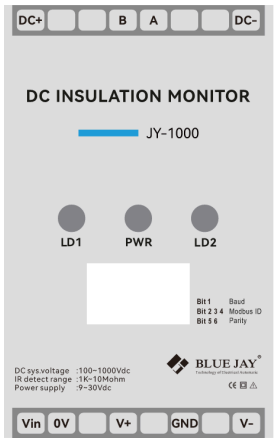
Introduction

JY1000 is an efficient insulation monitoring device specially designed for car charging piles. It can monitor the insulation status of the DC power supply system of charging piles in real time, detect potential insulation faults in time and alarm, effectively preventing fires and safety accidents. Users can realize start-stop and data collection of insulation monitoring through RS485 communication.

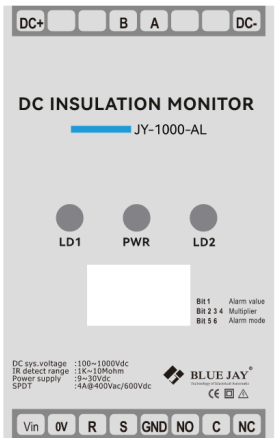
JY1000-AL is a DC to ground insulation monitoring module based on the unbalanced bridge principle, integrating monitoring and protection functions. It can monitor the insulation resistance value of the positive and negative poles of the DC floating system to the ground, ranging from 1KΩ to 10MΩ, and detect the DC voltage value, ranging from 100V to 1000V. In addition, JY1000-AL is equipped with a high-voltage grounding switch to realize online on-off function to ensure complete isolation from the ground when the module is powered off, reset or stops working.

JY1000	Standard model
JY1000-AL	With Fault alarm function

Terminal Definition



JY1000



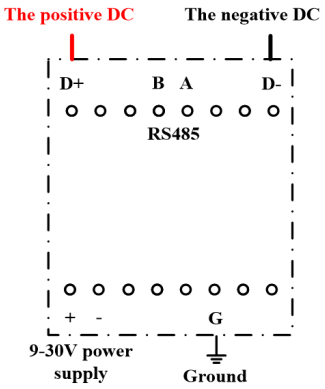
JY1000-AL

Main Features

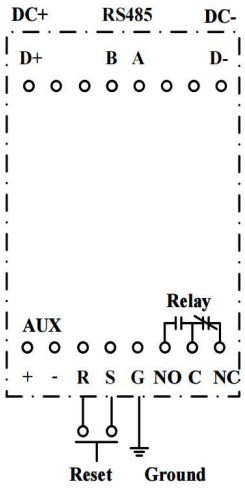
- Adaptive capacitance to ground;
- Simple device setting by DIP switch;
- Faster monitoring speed of turning on;
- Communicate with RS485 modbus;
- Equipped with high voltage grounding switch;
- Wider DC insulation monitoring range DC 100~1000V;
- Unbalanced bridge principle for resistance measurement;
- Monitoring the DC circuit bus bar insulation resistance RF to earth;

Wiring Method

JY1000



JY1000-AL



Technical Characteristics

Basic parameters			
Power supply	9-30VDC, power 3W		
DC voltage range	100V~1000V		
DC voltage measurement accuracy	≤2V+0.3%		
Insulation resistance measurement range	1KΩ~10MΩ (DC System voltage:100V~1000V)		
Insulation monitoring accuracy (When :DC voltage:100V-1000V)	**CY range**	**Resistance range**	**Accuracy**
	0~0.8μF	≤60KΩ	≤3KΩ
		60kΩ<R≤1MΩ	≤5%
	0.8μF ~3μF	≤60KΩ	≤6KΩ
		60kΩ<R≤1MΩ	≤20%
Off-line pressure test	<2mA		
Maximum relay switching voltage	250VAC/30VDC		
Maximum relay switching current	3A		
Relay contact resistance	<100mΩ		
Relay insulation resistance	100MΩ		
Communication	RS485,modbus RTU		
Dimension	98*49*62mm,Din-rail:35mm		
Standard	IEC 61851-23 (2014-03):2014-11		
Humidity	85%		
Storage environment	- 40°C ~125°C		
Operating environment	- 40°C ~75°C		

Other parameters		
Pressure point	**Maximum voltage rating**	**Time**
DC+/DC- to GND	4200VDC/3000VAC	≤1min
Power supply +/- to GND	3500VDC/2500VAC	≤1min
RS485 A/B to GND	3500VDC/2500VAC	≤1min
DC+/DC- to power supply +/-	3500VDC/2000VAC	≤1min
DC+/DC- to A/B	3500VDC/2000VAC	≤1min

JY1000-C2 DC INSULATION MONITORING

INSULATION MONITORING DEVICE



Introduction

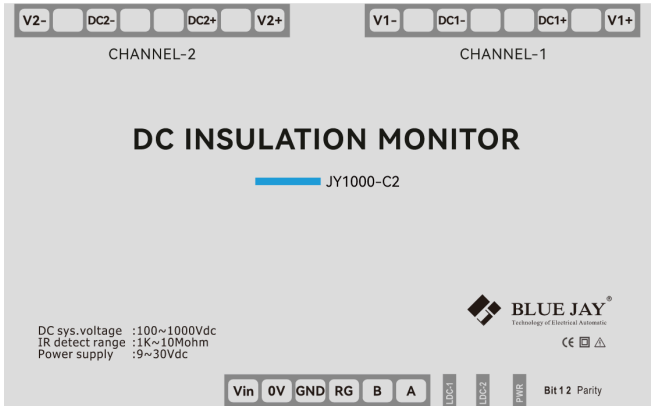
JY1000-C2 is used in on-line monitoring insulation resistance of the DC floating system (Dual DC system shared one ground). Dual DC channels are controlled independently, two DC insulation monitoring non-interference in each other. Users can enable or disable the insulation monitoring function of each DC channel and acquire insulation resistance values by RS485 communication.

JY1000-C2 adopts Dual-DC channels independent control scheme. Users can control dual-channel startup, close and data reading respectively according to the communication protocol.

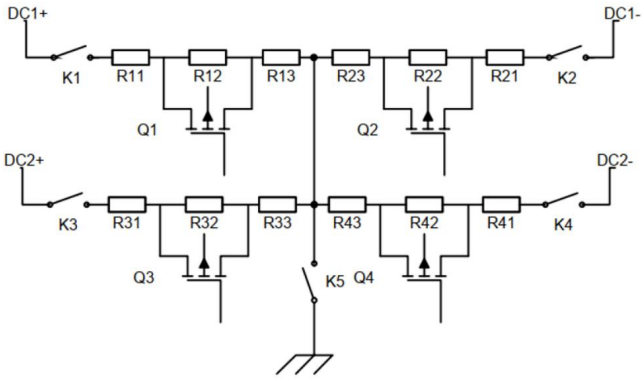
Main Features

- Dual-channels independent control;
- Remote monitoring and management;
- Monitor positive and negative poles;
- Ground insulation resistance;
- DC voltage monitoring;
- Vehicle side DC voltage monitoring;
- Voltage reverse polarity alarm;

Terminal Definition



Working Principle



Technical Characteristics

Basic parameters			
Power supply	9-30VDC, Power 6W		
DC voltage range	100V~1000V		
DC voltage measurement accuracy	≤2V+0.3%		
Insulation resistance measurement range	1KΩ~10MΩ (DC System voltage:100V~1000V)		
Insulation monitoring accuracy (When :DC voltage:100V-1000V)	**CY range**	**Resistance range**	**Accuracy**
	0~0.8μF	≤60KΩ	≤3KΩ
		60KΩ<R≤1MΩ	≤5%
	0.8μF ~3μF	≤60KΩ	≤6KΩ
		60KΩ<R≤1MΩ	≤20%
Off-line pressure test	<2mA		
Communication	RS485,Modbus RTU/ Private protocol		
Dimension	145*95*40mm,Din-rail:35mm		
Standard	IEC 61851-23 (2014-03):2014-11		
Humidity	85%		
Storage environment	- 40°C ~125°C		
Operating environment	- 40°C ~75°C		

Other parameters		
Pressure point	**Maximum voltage rating**	**Time**
DC+/DC- to GND	4200VDC/3000VAC	≤1min
Power supply +/- to GND	4200VDC/3000VAC	≤1min
RS485 A/B to GND	4200VDC/3000VAC	≤1min
DC+/DC- to power supply +/-	4200VDC/3000VAC	≤1min
DC+/DC- to A/B	4200VDC/3000VAC	≤1min

JY2000-AL DC INSULATION MONITORING

INSULATION MONITORING DEVICE





Introduction

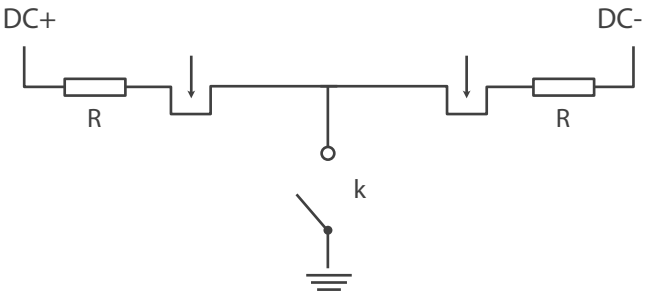
JY2000-AL is a DC to ground insulation monitoring module based on the principle of unbalanced bridge, which has monitoring and protection functions in one. It can monitor the insulation resistance value of the positive and negative poles of the DC floating system to the ground, ranging from 1KΩ to 10MΩ; at the same time, it can also detect the DC voltage value, ranging from 100V to 2000V.

After the insulation monitoring function is turned on, the product can continue to monitor the insulation resistance in real time, and user can read the insulation resistance value as soon as 1 second after the insulation monitoring function is turned on. For the DC to ground capacitance, module can realize self-adaptive monitoring the ground capacitance below 3μF (the positive and negative poles to the ground capacitance are respectively below 3μF, and the total capacitance is below 6μF).

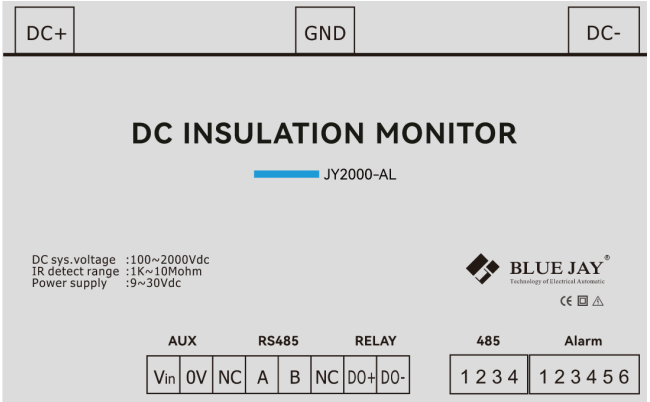
Main Features

- High voltage grounding switch;
- Widely power supply range;
- Widely insulation monitoring range (100V~2000VDC);
- Insulation monitoring equipment self-test;
- Adaptive capacitance to ground;
- Convenient parameter setting;
- Remote monitoring and management;
- Monitor positive and negative poles;
- Ground insulation resistance;
- Voltage reverse polarity alarm;

Working Principle



Terminal Definition



Technical Characteristics

Basic parameters		
Power supply	9-30VDC, Power 3W	
DC voltage range	100V~2000V	
DC voltage measurement accuracy	≤2V+0.3%	
Insulation resistance measurement range	1KΩ~10MΩ (DC System voltage:100V~1000V)	
Insulation monitoring accuracy	DC voltage:100V-300V	≤3KΩ+10%
	DC voltage:300V-2000V	≤3KΩ+5%
	CY>0.3μF, insulation resistance>1MΩ or CY>1μF	>10%
Off-line pressure test	<2mA	
Maximum relay switching voltage	250VAC/30VDC	
Maximum relay switching current	3A	
Relay contact resistance	<100mΩ	
Relay insulation resistance	100MΩ	
Communication	RS485,Modbus RTU	
Standard	IEC 61851-23 (2014-03):2014-11	
Dimension	145*115*40,Din-rail:35mm	
Humidity	85%	
Storage environment	- 40°C ~125°C	
Operating environment	- 40°C ~75°C	

Other parameters		
Pressure point	**Maximum voltage rating**	**Time**
DC+/DC- to GND	4200VDC/3000VAC	≤1min
Power supply +/- to GND	3500VDC/2500VAC	≤1min
RS485 A/B to GND	3500VDC/2500VAC	≤1min
DC+/DC- to power supply +/-	3500VDC/2500VAC	≤1min
DC+/DC- to A/B	3500VDC/2500VAC	≤1min

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