GEIS

MLS

Low-Voltage Switchgear

GEIS Electrical Protection

Safer Smarter Greener

About GEIS

GEIS was established in 2019 following the spin-off of several businesses and assets that ABB had acquired from GE on July 1, 2018, including 3 manufacturing centers, Warehousing & Trading business at FTZ, China Technology Center.

- Components: Full range of circuit breakers up to 40.5kV: Medium voltage vacuum circuit breakers, LV circuit breakers: ACB, MCCB, MCB, RCD, RCBO: Control components.
- Equipment: MV switchgear (Air insulation and Gas Insulation Technology), LV switchgear, switchboard.
- Medium voltage distribution transformer.
- Medium voltage ATS system (Paralleling Switchgear).

After the separation, all the above product lines were rebranded as AEG for selected markets and GEIS for global markets. Moreover, GEIS has expanded its technological portfolio to include medium-voltage controls such as VFDs and soft starters, as well as ATS systems and EV chargers.

Quality is Built-in

Where Technology Meets Manufacturing Excellence for Customers

- Since 2000, we have been specializing in localizing world-class products and manufacturing technologies, developing strong expertise and a highly capable team.
- Vertical integrated Shanghai Manufacturing Center brought key manufacturing processes into a 75,000 m² facility, enabling high-quality, high-efficiency production and fostering innovation. A dedicated R&D team committed to developing products that meet global standards and serve diverse applications.
- Global expansion: GEIS's first Thailand facility makes it easier to serve customers worldwide.






GEIS deliver complete range of products for the evolving electrification needs:

SecoVac VCB

M-PACT Plus ACB

Elfa Series MCB/RCBO

SolidDrive MV VFD

SecoGear MV Switchgear

RMU Gas Insulated Switchgear

WaveCast Transformer

MLS LV Switchgear

MLS Low-Voltage Switchgear

Catalogue

A

Product Description

B

Configuration scheme

Product Description

MLS low-voltage switchgear assemblies are FBA low-voltage switchgear made of standardized modules. They are suitable for use in power supply/distribution system of 50 (60)Hz AC electricity with rated operational voltage ≤ 690V and rated operational current up to 6300A for such purposes as power distribution, conversion, control and reactive compensation.

The product is compliant with IEC 61439-2 standards.

The system includes the following components:

- **Power Center**
  Main incoming cabinet of modular design with rated current up to 6300A
- **Motor control center**
  Available in the forms of plug-in and withdrawable units for use in feeder and motor control loop
- **Components**
  M-PACT Plus and M-PACT Air Circuit Breakers, up to 6400A, 150kA
  MM/MC9 and RC+ series Molded Case Circuit Breaker, up to 1600A, 150kA
- **PMSky SCADA system**
  Whole electrical parameter monitoring, intelligent energy management, remote control
- **Structure**
  The hinges of door panel have an opening angle of at least 120°
  IP rating can be IP30, IP40, IP31, IP41, IP42, IP55
- **Safety and Reliability**
  Internal safety barriers separate the busbar compartment from the equipment compartment, the compartment can be up to Form 4b

Product Description

Product's suitable service conditions

- -5°C ≤ ambient temperature ≤ +40°C, 24-hour average ambient temperature < +35°C
- Atmospheric conditions: clean air of relative humidity ≤ 50% at maximum acceptable temperature of +40°C, or of greater relative humidity when ambient temperature is lower
- For example, the maximum acceptable value is 90% at +20°C. In consideration of temperature variation, moderate condensate formed accidentally is acceptable
- The acceptable temperature range for transportation and storage is -25°C to +55°C and up to +70°C for a short while (≤24h)
- Altitude: ≤2000m
- Pollution degree of environmental conditions: Grade 3 per IEC 61439-1
- If any electric component fails to meet the above operating condticons, the user should consult the manufacturer for a solution
- If the service conditions contradict the above-mentioned operating condtions, the user should inform and consult the manufacturer for a solution

Key electrical performance

Rated operating voltage V	Main circuit	≤ AC 690V
	Auxiliary circuit	≤ AC 380V, ≤ DC220V
Rated insulation voltage V	Main circuit	≤ AC 1000V
Rated impulse withstand voltage (1.2/50μs) kV	Main circuit	8, 12
Rated operating current (IP4X)* A	Main busbar	≤ 6300, ≤ 3600 (MLS double-sided cabinet)
	Vertical busbar	790, 1000, 1250, 1600 (withdraw able) , ≤ 2500 (plug-in MCCB)
Rated short time withstand current kA/2 sec	Main busbar	50, 65, 80, 100
	Vertical busbar	50, 65, 80, 90
Rated peak withstand current kA/0.1sec	Main busbar	105, 143, 176, 220
	Vertical busbar	105, 143, 176, 198

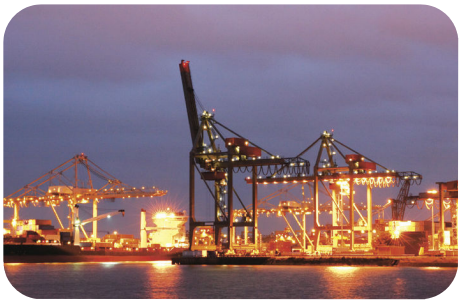
* The main busbar's rated operating current is ≤ 2500A when IP rating is IP55.

Applications

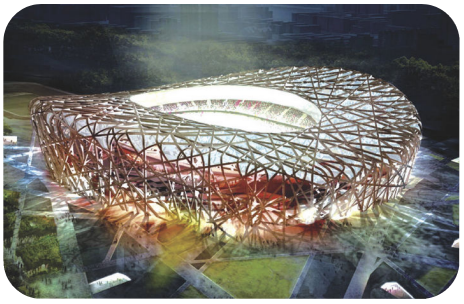
Power station
Substation
Switch station

Petroleum and natural gas Mining
Ship
Pulp & papermaking
Cement
Textile
Chemical engineering
Automobile
Petrochemical
Metallurgy
Data center

Air transportation
Port
Railway
Metro

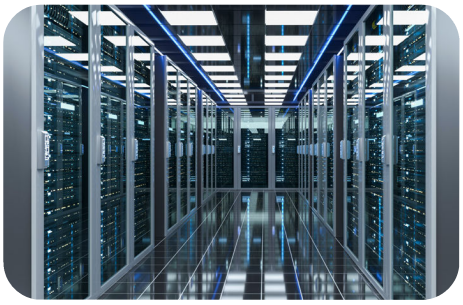


Supermarket
Shopping mall
Hospital
Large infrastructure and civil work



Product Description

Applications



Applications

Cubicle structure

Enclosure's

The cabinet body is made of 2mm thick Al-Zn coated steel sheet. Various subsections and functional units are assembled with Grade 8.8 self-tappirg screws using E=25mm modulus holes. The framework and enclosure should be made of a material of adequate strength and rigidity and capable of withstanding certain mechanical stress, electrical stress and thermal stress. The material should be capable of withstanding the dampness that might be encountered during the product's normal service. The door panels are made of 1.5mm thick quality steel sheet and all doors are hinged to the framework and punched holes for mounting locks. The hinges have an opening angle of at least 120°. The door surface should be sprayed a coat of epoxy powder of standard color RAL7035. Other steel parts such as hinges and mounting plates should be electrogalvanized. The entire framework is compliant to IEC 61439-2:2011 in corrosion resistance tests such as salt spray test and damp heat test and in ascension test.

Busbar system

The main busbar can be a three phase four wire system or five wire system and fixed to a subsection by insulation support. The main busbar system can be installed at the rear or in the upper part of the cabinet. Dual busbar structure is used for systems with a rated current of 4000A or above. The control cabinet's vertical busbar can have a rated current up to 1600A and be equipped with 3-pole and 4-pole systems. Internal safety barriers separate the busbar compartment from the equipment compartment to prevent operators from coming into contact with dangeous live parts. The highest compartment can be up to Form 4b. The protection circuit consists of separate protective conductors and conductive structures. Protective conductor PE lines are set up along the full length of the cabinet and vertical branch earthing busbars with main earth point and earthing mark are also set up. The protective conductors, the shells of all electric components installed inside the cabinet, metal parts and the cabinet body are connected together and securely earthed.

IP rating

The cabinet roof is designed with multiple functions. The cabinet is available in multiple standard configurations including IP30 and IP40 (for ventilation roof type), and drip-proof IP31 and IP41 structures. These options can be easily combined for upgrading IP grade. For example, the product can be upgraded to IP42 model if the cabinet door is added a louver, or to IP55 model (for use in workplaces with high ingress protection requirements such as a power plant where electric precipitation is required) if the product is added a rubber sealing roof and an outer glass door.

When the withdrawable functional unit is in disconnected position, its enclosure's IP rating is IP2XD. When the withdrawable functional unit is in removed position, the IP rating inside the compartment and between dangerous live parts is IPXXB.

Power Center

The power center is divided into 3 functional areas: busbar compartment, equipment compartment and cable compartment. The busbar compartment located at the rear or upper part of the switch cabinet is for installing horizontal and vertical busbar system. The internal safety barrier separates the busbar compartment and equipment compartment and a separate partition may be used to separate the equipment compartment and the cable compartment. The busbar compartment can be installed up to two sets of main busbar systems as deemed necessary. Breakers of various specifications can be installed inside the compartment and in 3-pole or 4-pole configurations. Up to three air circuit breakers can be installed. The incoming cabinet can be equipped with Entelliguard™ or M-Pact series air circuit breakers and intelligent electronic release upon user's request for providing complete circuit protection and control functions including zone selective interlocking (ZSI), reduced energy let through (RELT), waveform capture, and communication for achieving acceptable selectivity, quick breaking capacity and high reliability.

Cables can be connected to the switch cabinet directly or via prefabricated connectors; and control cables are connected to the terminal blocks.

Top-in top-out or bottom-in bottom-out options are available for use.

Product Description

Motor control center

Fixed unit

Fixed units are used in fuse-free feeder schemes. They can be e quipped with 3-pole or 4-pole molded breakers that have a rated subsection current of 160A-2000A. The breakers are connected to thie vertical busbar via branch busbar. The height of standard modules varies from 8E/2 to 72E.

Plug-in unit

Plug-in units can be used in schemes for feeders and motor startup uinits with or without fuse. These units have a rated subsection current of 160A~800A and standard modules of 8E/2 to 36E.

Withdrawable unit

Withdrawable units are of modular design and consist of stardard modules ranging from 8E/4 to 24E. These units are suitable for use in schemes for feeders and motor startup units. They are easy to use, replace, and maintain. They can be operated through the multi-function operating handle and a mechanical interlocking mechanism on the front panel. The working state of the control unit is clearly displayed on position indicator area on the panel. A reliable mechanical interlocking is used for preventing misoperation.

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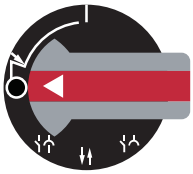
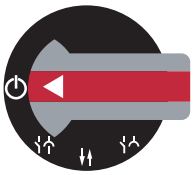


8E/2, 8E/4 withdrawable operating handle

	Closing position – main switch closed, control loop closed, drawer locked
	Opening position – main switch opened, control loop opened, drawer locked
	Test position – main switch opened, control loop closed, drawer locked
	Plug-in position – main circuit and control loop opened, drawer withdrawable
	Isolation position – pulled out 30mm, main circuit and control loop opened for completing isolation, drawer locked.



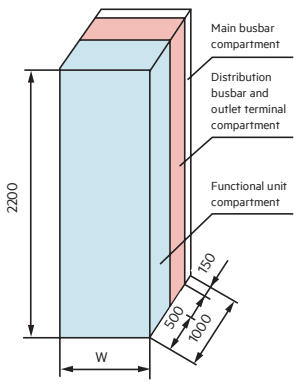
8~24E withdrawable operating handle

	Connected position – main switch closed/opened, drawer locked
	Test position – main switch opened, control loop closed
	Pull-out position – main circuit and control loop opened, drawer withdrawable
	Isolation position – pulled out 45mm, main circuit and control loop opened for completing isolation, drawer locked.

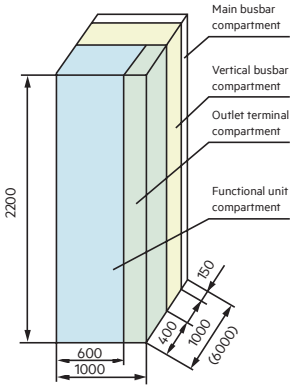
Dimensions and installation

Height (H) mm	Width (W) mm	Depth (D) mm	Remark
2200	300	1000	Cabinet for busbar connection (MLS-600)
2200	400	1000	PC Cabinet
2200	500	1000	
2200	600	1000	PC and reactive compensation cabinet
2200	1000	1000	
2200	1200	1000	
2200	1000	1000(600)	MCC Cabinet (MLS)
2200	600	1000	MCC Cabinet (MLS-600)

MLS structure (rear-mounted busbar)

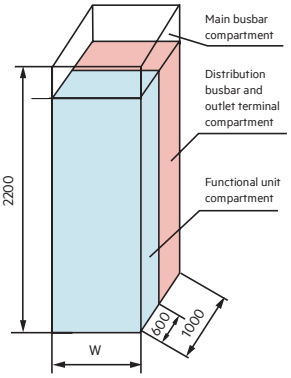


a.PC Cabinet

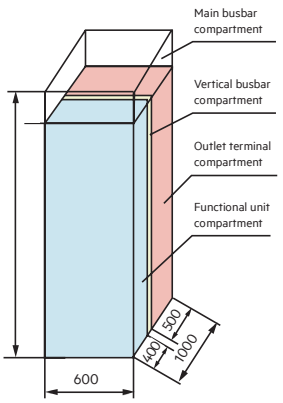


b.MCC Cabinet

MLS-600 structure (top-mounted busbar)



C.PC Cabinet

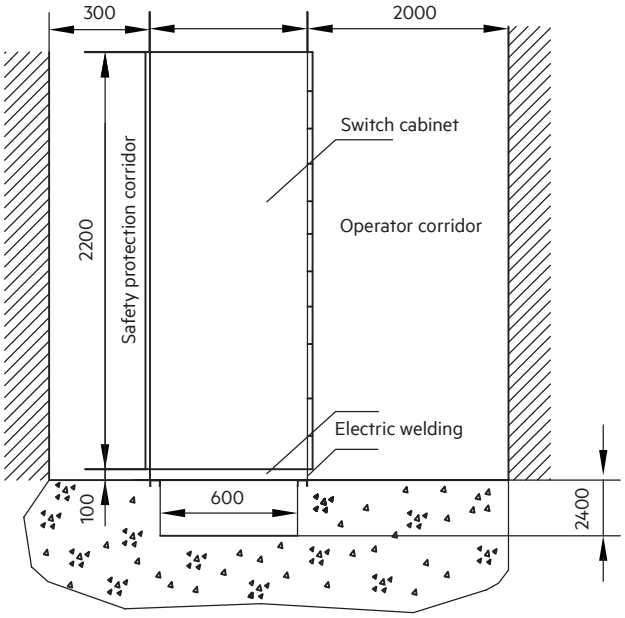


d.MCC Cabinet

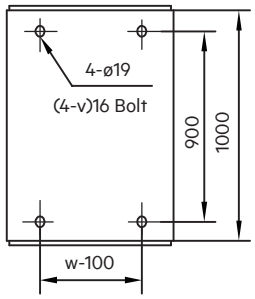
Welding or 4-M16 bolts can be used for securing the supporting studs beneath the product, 8-M8 hexagon socket head screws are used for connecting the display panels of the cabinets into a large one.

Product Description

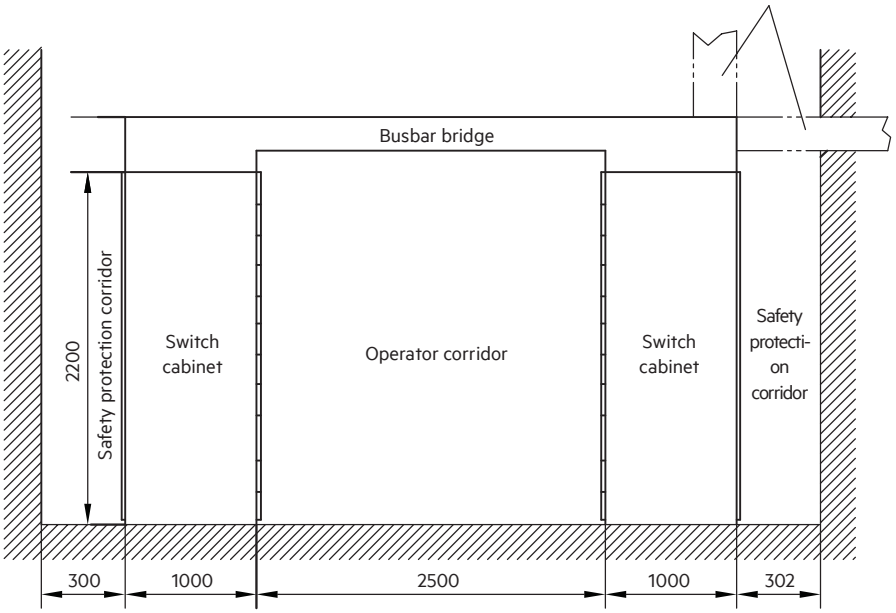
MLS can be wall mounted but a clearance ≥300mm between the cabinet and the wall is advised (as shown in the following Fig.).
MLS-600 can be mounted off-wall and a clearance of ≥800mm is required at the rear of the cabinet.



Installation diagram



Bolt fastener dimensions
(Top view)



Main components

M-PACT
Air Circuit Breakers

M-PACT low voltage air circuit breaker as a low voltage air circuit breaker for worldwide application. It meets GB, IEC and UL standard requirements. The entire series is divided into AC and DC type, rated current from 400 to 6400A, rated breaking capacity up to 150kA and rated voltage up to AC1150V / DC1500V.

A new generation of M-PACT low voltage air circuit breakers is designed to meet users' requirements for rapid detection and safe isolation of fault. It can effectively protect low-voltage distribution systems from damage and minimize maintenance costs and outage times.

- China CCC/CQC, EU CE/CB, NorthAmerica UL certification
- Full electrical measurement and protection: voltage/current protection, reverse power protection, current setting range: 0.2-1xIn
- Record overload, short circuit, and grounding events, and capture optional fault waveform
  Color display of control unit, large screen, with red full screen fault alarm
  RELT short-circuit allowable energy limit, dual settings, protection operation safety
- Patented design of dislocation deionization partition arc extinguishing, with high voltage and high breaking
  Mechanical life up to 40,000 cycles
- Suitable for use under the temperature between -40°C and 70°C at an altitude of 2,000 meters without capacity reduction
- Interconnection with circuit breakers can be achieved through Modbus, Bluetooth, NFC, APP online monitoring and other ways

Key electrical performancer

	M+PACT	M+PACT plus	M+PACT DC
Rated voltage	AC415/690V	AC 415/690/800//1058/1150V	DV 1500V
Rated current	400-6400A	400-6400A	400-4000A
Poles	3P/4P	3P/4P	2P
Breaking capacity	50/70/80kA	55/66/85/100/150kA	150kA,0.2s
Protection	LSIG	LSIG	Isolator for new energy
Frequence	50/60Hz	50/60Hz	-

Product Description

Main components

GEIS
Molded Case Circuit Breaker

GEIS Molded Case Circuit Breaker offered two series: RC+ and MM/MC9, with rated current from 3A to 1600A, rated voltage of AC415V/690V/800V/1000V, and short-circuit breaking capacity up to 150kA.

The product provides extremely high safety interlock function to maximize the protection of on-site operators' safety. Adopting a modular design structure, on-site installation becomes more flexible and efficiency. Excellent current limiting capability will effectively limit the loss of on-site equipment and personnel caused by fault currents.

GEIS Molded Case Circuit Breaker can be widely used in important power supply locations, such as public infrastructure, power production and transmission, oil and gas, industrial and eq, new energy, and buildings.

- China CCC/CQC, EU CE/CB certification
  High breaking capacity, up to 150kA for Icu=Ics, extremely high reliability
- Leading cascading technology: Providing the highest system selectivity and improving the reliable protection of the entire distribution network
- Dedicated visual fault diagnosis window, which can help to quickly determine the fault type and take the most appropriate measure
- The circuit breaker is set at the switching-in position. When the cover is removed, the circuit breaker will automatically trip immediately to ensure a safe operation
- The on-trip-off up to 20000 times

Key electrical performancer

	RC+	MM/MC9	RC+ M
Rated voltage	AC 400V	AC 415/690V	AC 800V
Rated current	10-800A	3-1600A	25-630A
Poles	3P/4P	3P/4P	3P
Breaking capacity	35/50kA	36/50/80/150kA	42/50kA
Trip uint	thermo-magnetic ETU	thermo-magnetic ETU	thermo-magnetic
Setting of thermo-magnetic	Fixed	Adjustable	Fixed, Adjustable
Frequence	50/60Hz	50/60Hz	50/60Hz

Main components

MS10 Series
Digital Multi-function Meter

MS10 Series Digital Multi-function Meter can measure power parameters, such as current voltage, power factor,and electric energy, and it can also measure the harmonics and multi-rate, the measurements of which can be displayed on the Liquid Crystal Display. The extensive functions of this product include RS485 communication,digital inputs, digital outputs, electric energy impulse outputs and multiple analogue outputs. The basic functions and extensive functions of the product can be selected freely by users.

- Equipped with a high-performance CPU processor, it possesses robust capabilities for data acquisition and processing
- Humanized human-computer interfaces displayed on the large LCD screen, which avoid tedious operation through menus, and adopts common data button-pressing reading methods
- The reliability of the power module satisfies the testing standard of the LineagePower (former Bell Labs),and Mean Time Between Failure is larger than 20,000 hours
- MS10 features expandable dual RS485 communication channels with redundant design to achieve remote monitoring
- Special chips of high reliability, and measurement accuracy up to level 0.2

Model	Parameter	Specification	Overall dimension (Length * Width) mm
MS10F	All Power Measurement (voltage and current0.2%, power 0.5%, electric energy 0.5%)	With several functions, including 2nd to 31st harmonics and multi-rate. Extendable functions: Communication, DI, DO, AO, and PO.	96*96 80*80 72*72
MS10E	MS10EA, MS10EU, MS10EP MS10EH, MS10EF, MS10EPF	Ampere meter, Voltmeter, Active Power Meter, Active Electric Energy Meter, Frequency Meter, Power Factor Meter. With extendable function, including Communication, DI, DO, AO, and PO.	96*96 72*72 48*48

Product Description

Main components

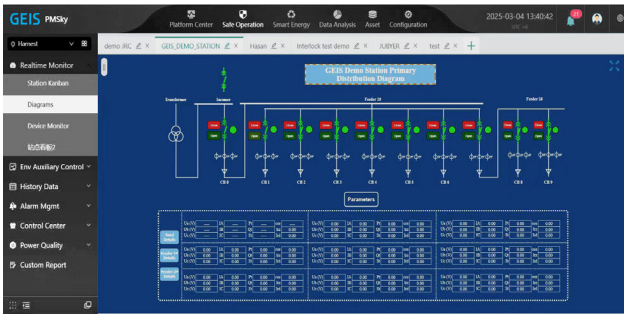
PMSky
Supervisory Control and Data Acquisition

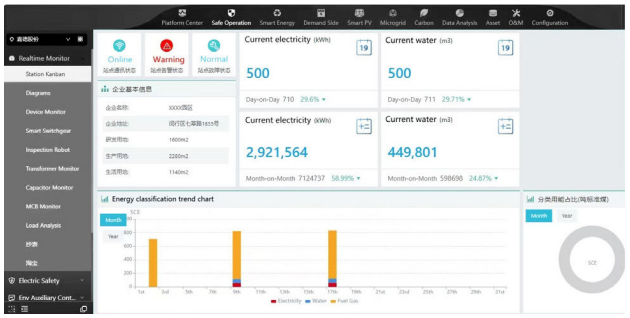
The PMSky SCADA is an intelligent operation and maintenance solution developed by GEIS for distribution systems. It provides comprehensive monitoring and energy management for low-voltage distribution rooms, helping customers continuously monitor and analyze the condition of switchgear cabinets to ensure their safe and reliable operation.

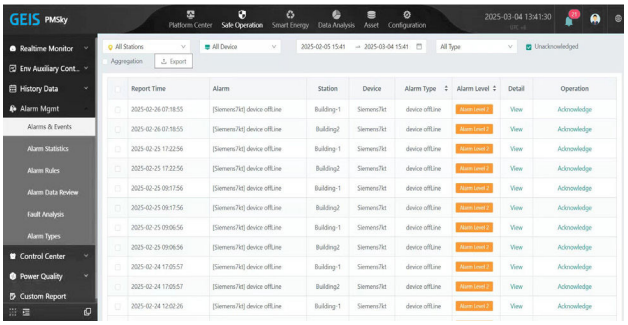
PMSky combines several key components, including a gateway, industrial PC, and display. It offers edge computing, data acquisition, aggregation and analysis, as well as data storage. This design makes installation more convenient and usage simpler.

- Real-time monitoring to enhance the safe operation level of the microgrid
- Coordinated control to shift peak loads and suppress demand
- Energy consumption analysis to optimize the cost structure of electricity usage
- MS10 features expandable dual RS485 communication channels with redundant design to achieve remote monitoring
- Unified management to enhance the management efficiency of the microgrid

Product Description







Energy Consumption Statistics and Analysis

Automatically generates charts

Remote Debugging and Control

Various Communication Protocols:
TCP/IP, ModBUS, IEC 104

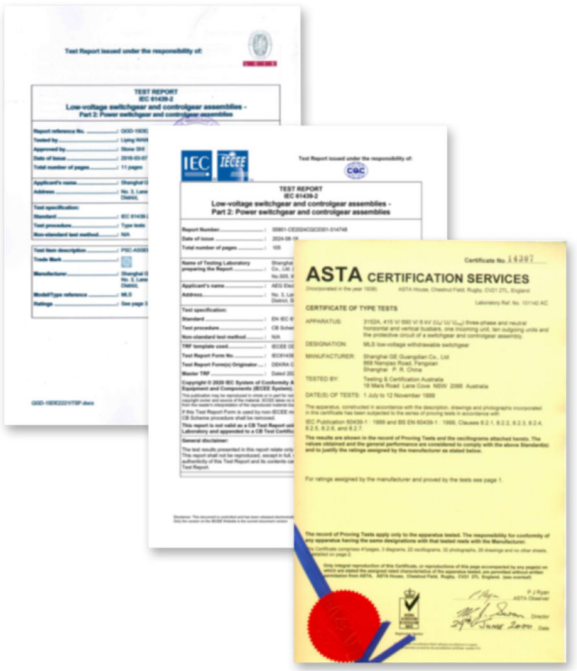
Number of monitored circuits: 200

Number of monitored device points: 6,000

Standard and certification

Compliant with

IEC 61439-1;IEC 61439-2;IEC/TR61641:1996;IEC60068-3-3



Design Scheme

Configuration of a typical solution

Incoming cabinet with M-PACT plus air circuit breaker

Rated current A	Frame	3-pole	4-pole	Cubicle height	Cubicle width	Cubicle depth	Breaking capacity		
							50KA	65KA	80KA
Single withdrawable breaker: lead-in, feeder, bus tie cubicle width +300mm									
630	1	●	●	2000	600	800-1000	●		
1000	1	●	●	2000	600	800-1000	●		
1000	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1250	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1600	1	●		2200	500	800-1000	●	●	●
			●	2200	600	800-1000	●	●	●
2000	1	●		2200	500	800-1000	●	●	●
			●	2200	600	800-1000	●	●	●
2500	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
3200(3150)	2	●		2200	800	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
4000	2	●		2200	800	800-1000		●	●
			●	2200	1000	800-1000		●	●
Two withdrawable breakers: lead-in + bus tie									
630	1	●	●	2000	600	800-1000	●		
1000	1	●	●	2000	600	800-1000	●		
1000	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1250	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1600	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
2000	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
Two withdrawable breakers: 2 feeder loops									
630	1	●	●	2000	600	800-1000	●		
1000	1	●	●	2000	600	800-1000	●		
1000	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1250	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1600	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
2000	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
Three withdrawable breakers: 3 feeder loops									
630	1	●	●	2000	800	800-1000	●		
1000	1	●	●	2000	800	800-1000	●		
1250	1	●		2200	800	800-1000	●		
			●	2200	1000	800-1000	●		

Configuration of a typical solution

Incoming cabinet with M-Pact air circuit breaker

Rated current A	Frame	3-pole	4-pole	Cubicle height	Cubicle width	Cubicle depth	Breaking capacity		
							50KA	65KA	80KA
Single withdrawable breaker: lead-in, feeder; bus tie cubicle width +300mm									
630	1	●	●	2000	600	800-1000	●		
1000	1	●	●	2000	600	800-1000	●		
1000	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1250	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1600	1	●		2200	500	800-1000	●	●	●
			●	2200	600	800-1000	●	●	●
2000	1	●		2200	500	800-1000	●	●	●
			●	2200	600	800-1000	●	●	●
2500	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
3200(3150)	2	●		2200	800	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
4000	2	●		2200	800	800-1000		●	●
			●	2200	1000	800-1000		●	●
Two withdrawable breakers: lead-in + bus tie									
630	1	●	●	2000	600	800-1000	●		
1000	1	●	●	2000	600	800-1000	●		
1000	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1250	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1600	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
2000	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
Two withdrawable breakers: 2 feeder loops									
630	1	●	●	2000	600	800-1000	●		
1000	1	●	●	2000	600	800-1000	●		
1000	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1250	1	●		2200	500	800-1000	●		
			●	2200	600	800-1000	●		
1600	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
2000	1	●		2200	600	800-1000	●	●	●
			●	2200	800	800-1000	●	●	●
Three withdrawable breakers: 3 feeder loops									
630	1	●	●	2000	800	800-1000	●		
1000	1	●	●	2000	800	800-1000	●		
1250	1	●		2200	800	800-1000	●		
			●	2200	1000	800-1000	●		

Design Scheme

Configuration of a typical solution

Selection of functional unit

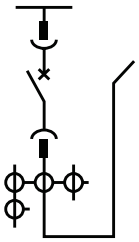
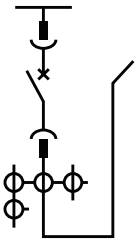
Withdrawable unit

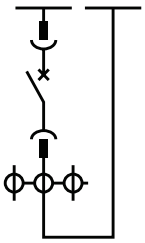
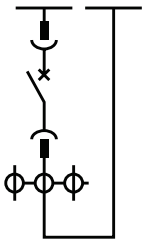
Direct start		CW/CCW		Y/Δ		Feeder (3-pole)		Feeder (4-pole)	
Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)
11	8E/4	/	/	/	/	32	8E/4	32	8E/4
22	8E/2	15	8E/2	7.5	8E/2	63	8E/2	63	8E/2
37	8E	37	8E	15	8E	225	8E	225	8E
75	16E	45	16E	37	16E	400	16E	400	16E
160	24E	110	24E	55	24E	500	24E	500	24E

Plug-in unit

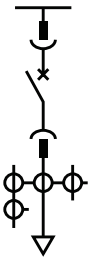
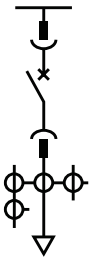
Direct start		CW/CCW		Y/Δ		Feeder (3-pole)		Feeder (4-pole)	
Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)	Maximum load (KW)	Module dimensions (E)
33	8E/2	15	8E/2	11	8E/2	100	8E/2	100	8E/2
37	6E	30	6E	15	6E	225	6E	160	6E
55	8E	37	8E	30	8E	400	8E	250	8E
132	16E	55	16E	55	16E	630	12E	400	12E
						630	16E	630	16E

Primary scheme

Scheme No.	01	02	03	04	05	06	07	08	09	10
Primary scheme										
Cubicle width (mm)	500	600	800	1000	1000	600	800	1000	1200	1200
Unit compartment height(mm)	72E	72E	72E	72E	72E	72E	72E	72E	72E	72E
Maximum operating current(A)	1250A	2500A	3500A	5000A	5000A	1600A	2500A	3500A	5000A	5000A
Major equipment	MP-12	MP-25	MP-40	MP-50	MP-50	MP-16	MP-25	MP-40	MP-50	MP-50
Purpose	Top entry (exit) line (3-pole switch)					Top entry (exit) line (4-pole switch)				

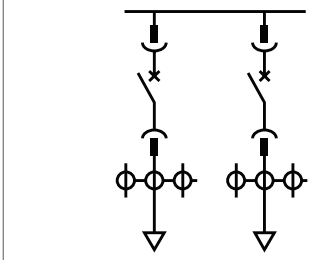
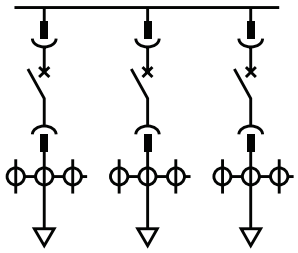
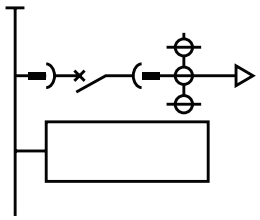
Scheme No.	11	12	13	14	15	16	17	18	19	20
Primary scheme										
Cubicle width (mm)	500/800	600/900	800/1100	1600/1300	1600/1300	600/900	800/1100	1000/1300	1800/1500	1800/1500
Unit compartment height(mm)	72E	72E	72E	72E	72E	72E	72E	72E	72E	72E
Maximum operating current(A)	1250A	2500A	3500A	5000A	6300A	1600A	2500A	3500A	5000A	6300A
Major equipment	MP-12	MP-12	MP-40	MP-50	MP-50	MP-16	MP-25	MP-40	MP-50	MP-64
Purpose	Bus tie (3-way switch)					Bus tie (4-way switch)				

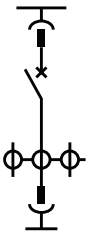
*The figure above the slash denotes the width of MLS busbar rear-mounted models and the figure beneath the slash denotes the width of MLS-600 busbar top-mounted models (with an added 300mm cabinet for flipping over the busbar)

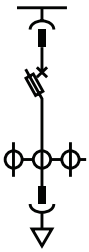
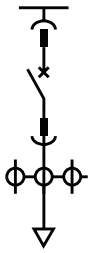
Scheme No.	21	22	23	24	25	26	27	28	29	30
Primary scheme										
Cubicle width (mm)	500	600	800	1000	1000	600	800	1000	1200	1200
Unit compartment height(mm)	72E	72E	72E	72E	72E	72E	72E	72E	72E	72E
Maximum operating current(A)	1250A	2500A	3500A	5000A	6300A	1600A	2500A	3500A	5000A	6300A
Major equipment	MP-12	MP-12	MP-40	MP-50	MP-64	MP-16	MP-25	MP-40	MP-50	MP-64
Purpose	Top entry(exit) line (3-pole switch)					Bus tie (4-way switch)				

Design Scheme

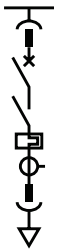
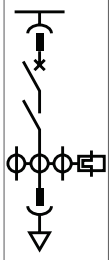
Primary scheme

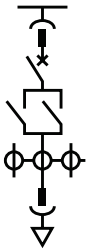
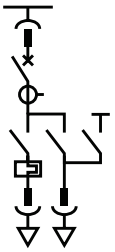
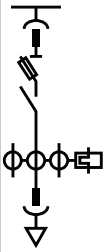
Scheme No.	31	32	33	32	35	36	37	38
Primary scheme								
Cubicle width (mm)	400	500	800	1000	500	1000	1000/600	1000/600
Unit compartment height(mm)	2x32E	2x32E	2x32E	2x32E	2x32E	3×24E	24E(PC)+40E(MCC)	24E(PC)+40E(MCC)
Maximum operating current(A)	2x630	2x630	2x1250	2x1250	3×630	3×1000	1600(PC)	630(PC)
Major equipment	MCCB630 3P BH-40II	MCCB630 3P, 4P BH-40II	MP-12 3P BH-60II	MP-12 3P, 4P BH-60II	MCCB630 3P, 4P BH-40II	MP-10 3P, 4P BH-60II	MP-16 3P BH-80II	MCCB630 3P, 4P BH-40II
Purpose	Feeders (Top/bottom entry or exit lines)				Feeders (Top/bottom entry or exit cables)		Feeders (Top/bottom entry or exit lines)	

Scheme No.	39	40	41	42	43	44	45	46	47
Primary scheme									
Cubicle width (mm)	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600
Unit compartment height(mm)	8E/4	8E/2	8E	8E	16E	24E	24E	8E/4	8E/2
Maximum operating current(A)	30	50	125	225	315	400	500	30	50
Major equipment	MCCB100 3P, 4P BH-40	MCCB160 3P BH-30	MCCB160 3P BH-30	MCCB250 3P, 4P BH-40II	MCCB400 3P, 4P BH-40II	MCCB630 3P, 4P BH-60II	MCCB630 3P, 4P BH-60II	MCCB32A HH17 BH-30	MCCB63 BH-30
Purpose	Feeding and lighting (3-pole/4-pole switch)								

Scheme No.	48	49	50	51	52	53	54	55	56
Primary scheme									
Cubicle width (mm)	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600
Unit compartment height(mm)	8E	16E	16E	8E/2	16E	24E	24E	8E/4	8E/2
Maximum operating current(A)	125	200	315	100	315	400	500	30	50
Major equipment	QSA_125 MCCB160A DH-40	QSA_400 MCCB250A DH-40II	QSA_400 MCCB60A DH-40	MCCB160 3P, 4P, plug-in BH-40	MCCB250 3P, plug-in BH-30~40	MCCB250 3P, 4P, plug-in BH-30~40	MCCB250 3P, 4P, plug-in BH-30~40	MCCB400 3P, plug-in BH-40II	MCCB630 3P, plug-in BH-40II
Purpose	Bus tie (3-way switch)					Bus tie (4-way switch)			

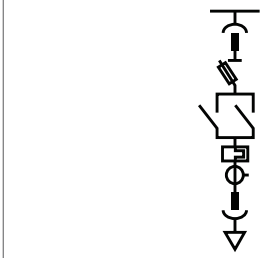
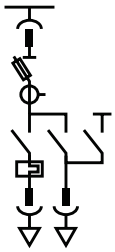
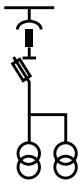
Primary scheme

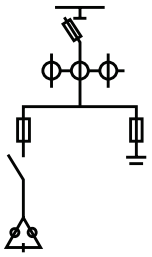
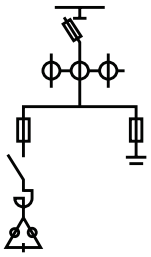
Scheme No.	57	58	59	60	61	62	63	64	65	66
Primary scheme										
Cubicle width (mm)	600/1000	600/1000	600/1000	600/1000	600/1000	600/1000	600/1000	600/1000	600/1000	600/1000
Unit compartment height(mm)	8E/4	8E/2	8E/4	8E/2	8E	16E	24E	8E/2	8E	16E
Maximum operating current(A)	7.5	15	7.5	15	37	75	160	15	37	45
Major equipment	MCCB100 GCM BH-30	MCCB160 GCM BH-30	MCCB100 GCM GRT BH-30	MCCB160 GCM GRT BH-30	MCCB160 GCM GRT BH-40	MCCB250 GCM GRT BH-40II	MCCB400 GCM GRT BH-40II	MCCB160 GCM GRT BH-30	MCCB160 GCM GRT BH-40	MCCB160 GCM GRT BH-40II
Purpose	Motor control(irreversible)							Motor control(reversible)		

Scheme No.	67	68	69	70	71	72	73	74	75	76
Primary scheme										
Cubicle width (mm)	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600
Unit compartment height(mm)	24E	8E/2	8E	16E	24E	8E/4	8E/2	8E	16E	24E
Maximum operating current(A)	110	7.5	15	37	55	7.5	15	37	55	110
Major equipment	MCCB250 GCM GRT BH-40II	MCCB160 GCM GRT BH-30	MCCB160 GCM GRT BH-30	MCCB160 GCM GRT BH-40II	MCCB250 GCM GRT BH-40	MCCB GCM GRT BH-30	MCCB GCM GRT BH-30	MCCB100A QSA100 GCM GRT BH-40	MCCB250A QSA250 GCM GRT BH-40II	MCCB400A QSA400 GCM GRT BH-40II
Purpose	Reversible	(Y/Δ)						Motor control(reversible)		

Design Scheme

Primary scheme

Scheme No.	77	78	79	80	81	82	83	84	85
Primary scheme									
Cubicle width (mm)	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600	1000/600
Unit compartment height(mm)	8E/2	8E	16E	16E	8E	16E	16E	8E	16E
Maximum operating current(A)	15	37	55	110	15	37	55	100VA	200VA
Major equipment	MCCB32-63A GCM GRT BH-30	QSA-125 MCCB63-160A GCM GRT BH-40 Motor control	QSA-250 MCCB≤250 GCM GRT BH-40II (reversible)	QSA≤400A MCCB≤400 GCM GRT BH-40II Motor control	QSA-125 MCCB32-63A GCM GRT T45 BH-30	QSA-160 MCCB≤160 GCM GRT BH-40II	QSA≤400 MCCB≤400 GCM GRT BH-40II Δ	QSA-63 MCCB25A JDG4-0.5 380/100V	QSA-63 MCCB25A JDG4-0.5 380/100V
Purpose	Motor control(reversible)				(Y/Δ)			Power mains	

Scheme No.	86	87	88	89	90	91	92	93	94
Primary scheme									
Cubicle width (mm)	600	800	800	1000	1000	600	800	1000	1200
Unit compartment height(mm)	72E	72E	72E	72E	72E	72E	72E	72E	72E
Maximum operating current(A)	16x8=128	16×12=192	30x10=300	16×8=128	16×16=256	30×4=120	30x6=180	30×8=240	30×10=300
Major equipment	QSA-400 GRT Elfa GCM BH-40II	QSA-400 GRT Elfa GCM BH-40II	QSA-630 GRT Elfa GCM BH-40II	QSA-630 GRT Elfa GCM BH-40II	QSA-630 GRT Elfa GCM BH-60II	QSA-630 GRT Elfa GCM GCM BH-40II	QSA-630 GRT Elfa GCM GCM BH-40II	QSA-630 GRT Elfa GCM GCM BH-40II	QSA-630 GRT Elfa GCM GCM BH-40II
Purpose	Reactive compensation					Reactive compensation and filtering (P=7%)			

Note:

GEIS

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This catalog may be subjected to revision without prior notice.
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