



Better Electric, Better Life

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SASSIN

V 27.7

PRODUCT CATALOG



Smart Electricity





## Company Profile

As one of the leading enterprises in the low voltage electrics field in China, Sassin International Electric Shanghai Co., Ltd is committed to offering professional solutions of low voltage electric and smart electricity for different fields customers from the countries and regions around the world, to satisfy worldwide customers' requirements on utilizing energy more safely and conveniently, help customers to constantly improve efficiency of production and energy, and reducing their impact on the environment.

Sassin focuses on the global market, driving the company development with technical R&D. Sassin is committed to researching and developing different low electric products to satisfy the different requirements from customers all over the world. With the trend of

intelligent electricity, Sassin has developed the smart electric devices and Smart Power Management System - SPMS to protect the safety of life and property, make the electricity management easily and remotely in any time at any place, and improve the power efficiency. In order to achieve the quick R&D, Sassin has set up the Test Center including a 10kA Short Circuit Breaking Laboratory, the Test Center has been certified by the CNAS (China National Accreditation Service for Conformity Assessment).

Quality is company's life. Sassin is always sparing no effort to promote the construction of quality management system and improve it. For this purpose, Sassin implemented the Total Quality Management System, and oriented by market and customers, to drive the employees and suppliers focusing on the continuous improvement of product quality. Sassin has been certified by the ISO9001 Quality Management System and ISO14001 Environment Management System.

## Corporate Culture - Value System

### Vision

Better Electric, Better Life.

### Mission

Make electric safe, simple and efficient.

### Value

Confidence, Faith, Credit.



## Smart Electricity

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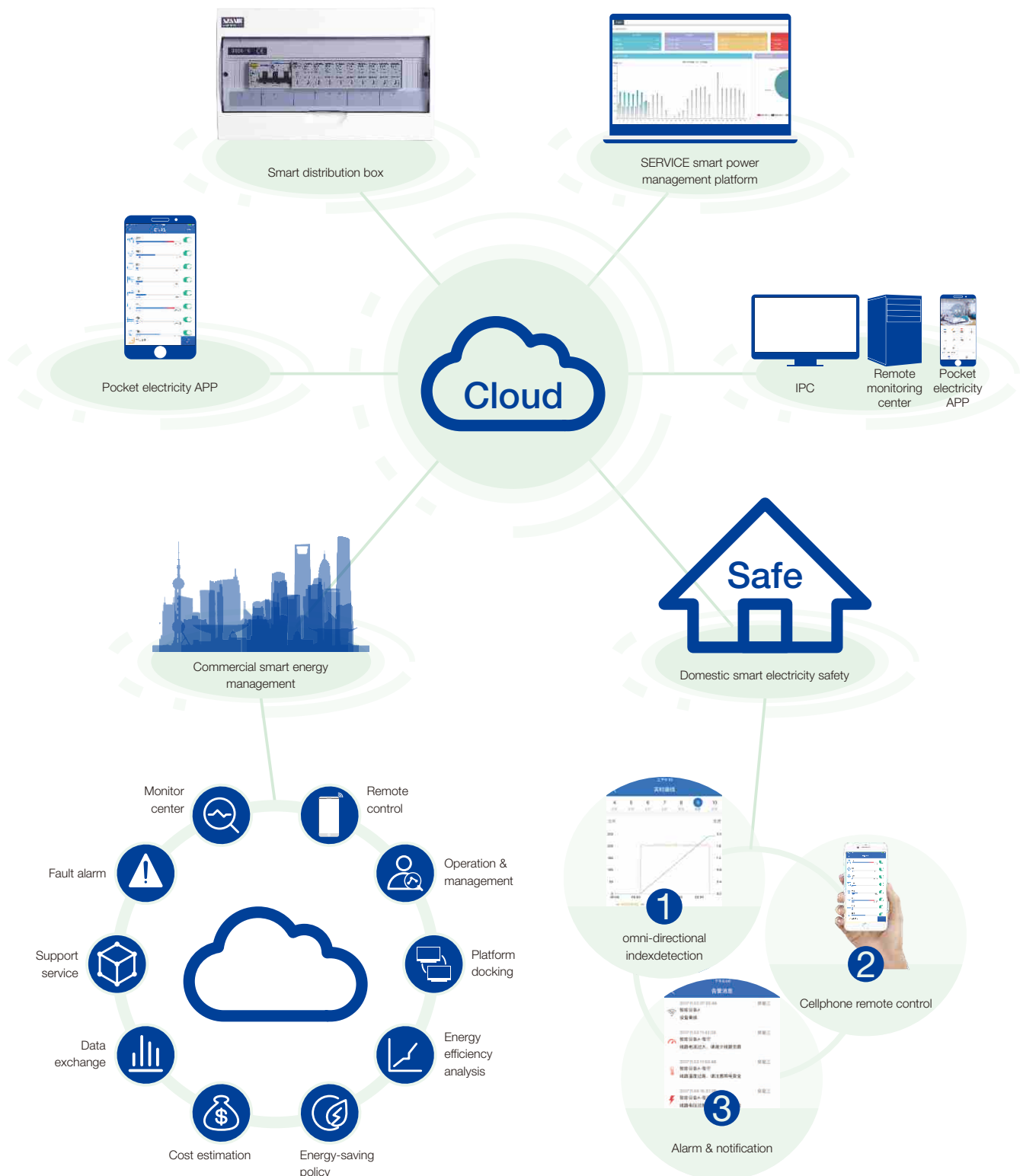


# Smart Power Management System (SPMS) Overview

The Smart Power Management System (SPMS) is an electric fire management system based on big data. Providing "Cloud monitoring" services, fully-safeguarding the safety of electricity.

## Cloud monitoring

Technology of accurate data and information collection and monitoring, integrated with omni-directional detection, real-time alarm and remote control. Thanks to the electricity hosted services, the dream of easy electricity management is fulfilled.



# Smart Power Management System (SPMS) Overview

## Social value

- **Demand lead the product**

SPMS which supplies the real-time monitoring, comprehensive collection and precision analysis of kinds of power factors, is the basis of electrical safety assessment and prevention, as well a positive response to the demand of safe electricity by various industries, including the people's livelihood, city public safety, etc.

- **People-oriented, with a purpose to protect the safety of life and property**

Due to the inadequate personnel, insufficient supervision and limited coverage, electrical fire hazards occur frequently. SPMS is on duty all day, could comprehensively settle them, help to establish scientific, continuous and effective methods to find potential danger then handling them, and promote the transition from passive safety supervision to the proactive security management.

- **Improve the energy efficiency**

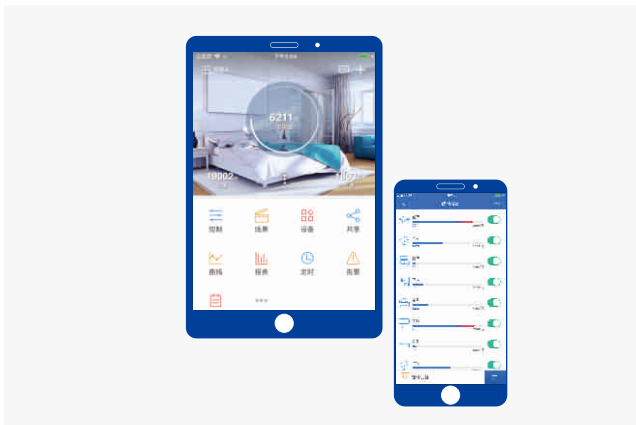
Improve the efficiency of production and management, which make energy conservation and environmental protection, and bring benefits to the mankind.



# Smart Power Management System (SPMS) Smart Electricity

Smart electricity = 2 platforms + 1 termination

SPMS is composed of SASSIN SERVICE Smart power management platform, pocket electricity APP and smart distribution box.



## SASSIN SERVICE Smart Power Management Platform

The smart power management platform provides the supervision, prediction and governance of potential electrical danger, and management of electricity information. It is able to check real-time data, historical data, alarm logs, and statistic information in the circuits online. It can also make adjustment to the power scheme according to the power consumption of peak and valley, accurately calculate the electricity consumption and cost.

## Pocket Electricity APP

Log in the APP by using a registered account and password, customer can study the electricity status and security of power system via cell phone or tablet computer at any time from any place in the world.

## Smart Distribution Box

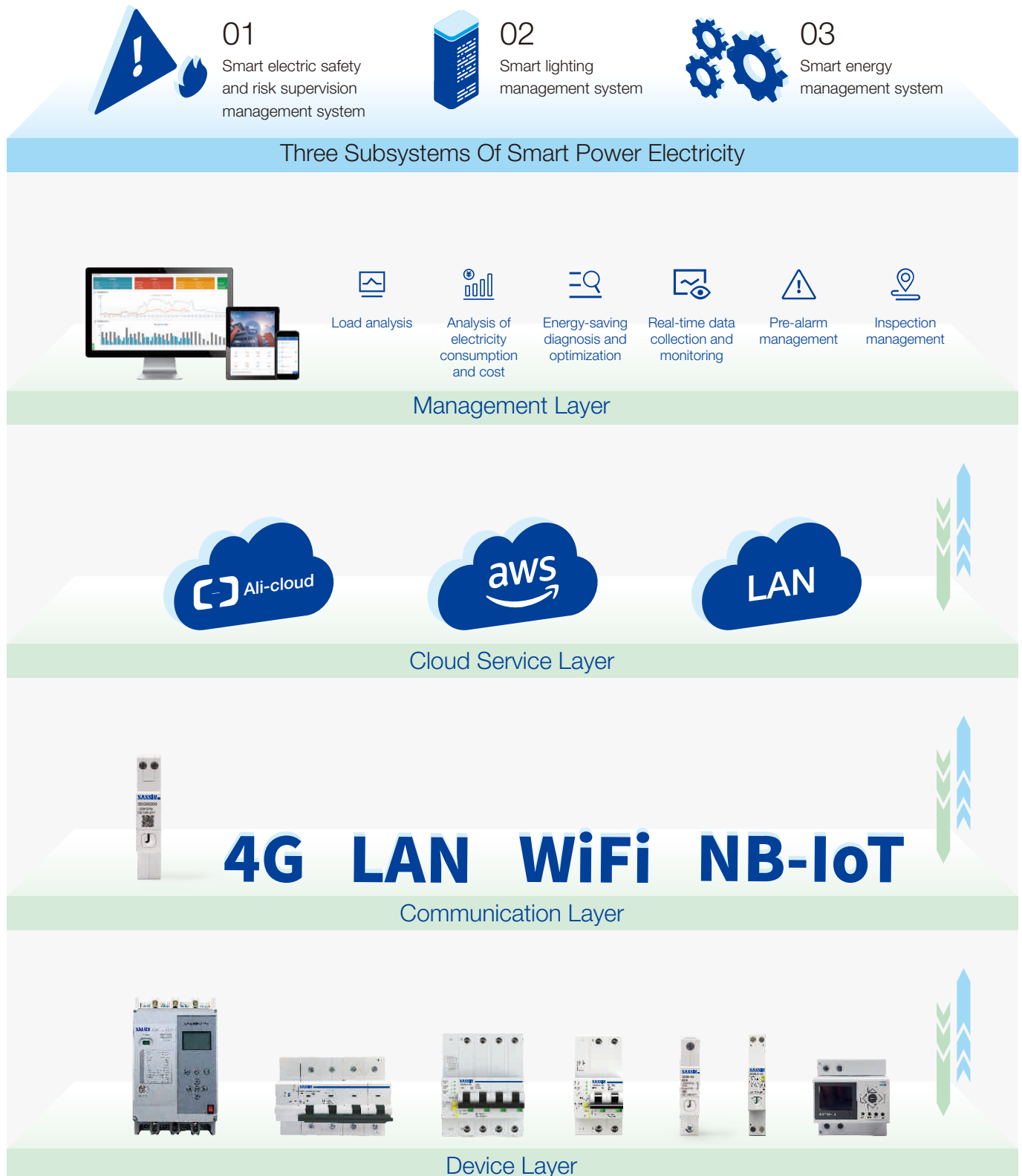
Smart distribution box is integrated with kinds of smart electricity module, can predict and find the potential electrical hazards by detecting and collecting the real-time voltage, current, temperature, residual current, power and their changes of each circuit. Thanks to the functions of real-time alarm, fault locating and reason analyzing, the complex overhaul become simple, save cost and easy to make management.

According to the requirements of electric protection, the residual current devices, auto-reset overvoltage and undervoltage protectors and surge protective devices and so on can be configured to achieve leakage protection, overvoltage protection, undervoltage protection and surge protection for circuits and equipment.

# Smart Power Management System (SPMS)

## Smart Electricity

The design of the intelligent smart power management system uses the typical four layers of the Internet of Things: the application layer, cloud service layer, communication layer and equipment layer. Based on the Internet of Things technology, the system provides intelligent power consumption safety monitoring and fire information management equipment and service platforms for base stations. With unified and centralized management in many aspects, the system can not only provide support for management and service, but also effectively integrate information and reduce human cost.





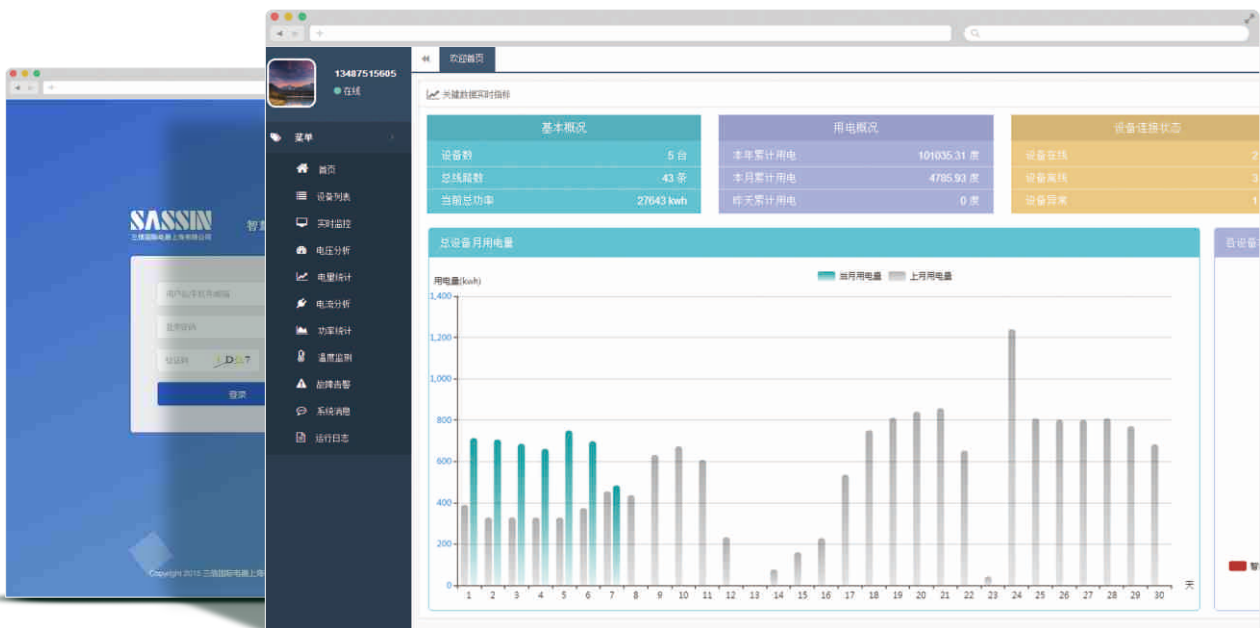
# Smart Power Management System (SPMS) System Formation

## SASSIN SERVICE Smart power management platform

Smart scene type management strategy is adopted to curb man-made energy waste, monitor the lightings, air conditionings and other electrical equipment in whole building. Centralized control and subarea control are combined to improve the management efficiency.

### Visual background management

- Automatically create the parameter report of equipment status and trend lines of changes.
- Relative comparison and trend analysis on energy data, make fault prediction possible.
- Multi trend lines allow users to compare and analyze the associated parameters in the same coordinate system.
- Histogram and pie chart are used to compare the energy consumption between different period or classification, and the time period and classification can be freely allocated.
- Some key parameters are displayed on the page of energy consumption overview.
- The latest table controls facilitate the user to quickly screen out the required information.

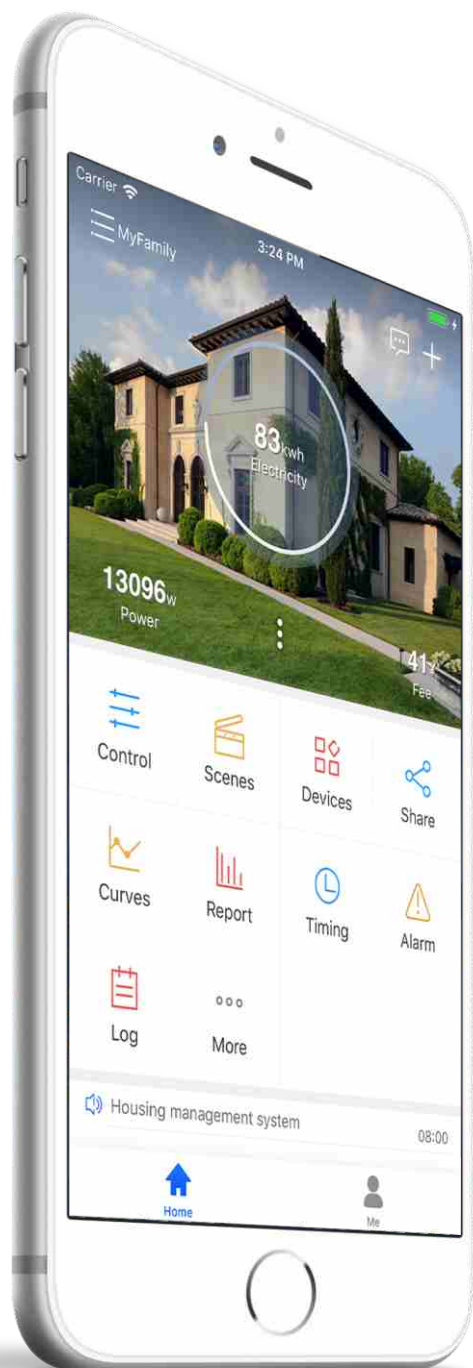


# Smart Power Management System (SPMS) System Formation

## Pocket Electricity APP

Considering the multiple electrical environment and endless electrical problems, it becomes very important to make the electricity controlled continuously on 7 days and 24 hours at any time from any place in the world.

Except the PC Control Platform, a newly developed APP of remote control system base on the Cloud Monitor Platform, break the limits of space and time, and enable the electricity administrators to easily and quickly monitor the electricity status and take rapid response to any electrical risk.



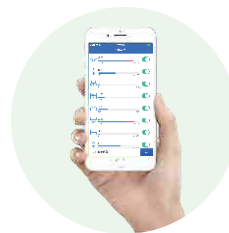
### Omni-directional monitoring

Meet all requirements for power monitoring



### Alarm & notification when abnormal

Real-time monitoring of all power consumption



### Remote control by cellphone

Easier to switch on or switch off with a button only, at any time from any place.

# Smart Power Management System (SPMS)

## Features



Residual current protection



Short circuit protection



Overvoltage protection



Undervoltage protection



Surge protection 1)



Overtemperature protection



Fault predict protection



Overload protection



Voltage detection



Current detection



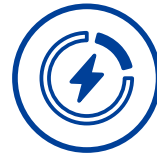
Temperature detection



Power detection



Residual current detection



Electricity calculation



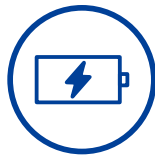
Electricity cost statistics



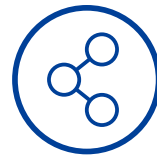
Operation log



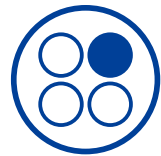
Message record



Electricity limit



Sharing



Customized scenes



Timing switch on or switch off



Power comparison curves



Remote control



Data report



Current limit

### Note:

1. To be with surge protective device

# Application Overview

SPMS can be widely used in rental houses, shopping malls, schools, nursing homes, hospitals and enterprises etc.



IPC



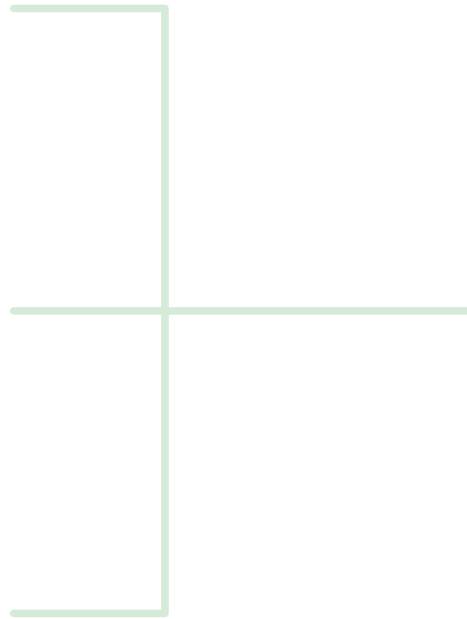
Cloud monitoring



Remote monitoring center



Pocket electricity APP



Smart gateway



Smart distribution box



Smart switch



Smart switch



Smart switch



Smart switch module



Smart circuit breaker

This solution adopts SPMS and smart distribution box as the safety switch and the electric metering equipment for the main circuit and branch circuits of each floor.

## Current electricity status

- Heavy load and trip frequently.
- Low fault-removing efficiency, high maintenance cost, and high pressure of management.
- Lots of combustible decorative materials, easy to trigger electrical fire accidents.

## Solution

In order to achieve safe electricity and energy saving management for all shops, smart distribution boxes are installed in shops, connecting lighting, sockets, air conditioners and other circuits.

NO	Product name	Specification	Quantity	Remarks
1	Residual current circuit breaker with overload protection (optional)	3SB71LM-63 2P C63 30 mA	1	Overload protection Short circuit protection Residual current protection
2	Smart gateway	iGW70	1	Data transmission
3	Smart switch	iSS711	5	Connecting each circuit
4	Distribution box	3SD5-12	1	Flame retardant material

## Benefit

- **User-defined current value**  
Current value in each circuit can be set by user to meet different requirements of use.
- **Curve function**  
Comparable power curves enable the load of each circuit to be analyzed.
- **Fault alarm function**  
Thresholds of current, voltage and other indicators can be set by users. Warning signal will be given first together with fault location, alarm cause analysis and scheduling suggestions when over-limit.
- **Remote control**  
After alarm, user can remote control to open the circuits, or if the alarm is ignored, the distribution box will act accordingly.
- **Over temperature protection**  
Alarm signal will be given and circuits will be opened if temperature is over limit.



# Application in Chain Supermarkets

## Current electricity status

- Lack of effective power safety inspection tools.
- Only few professional electrical personnel.
- A lot of electricity spots, difficult to manage.

## Solution

Adopt smart distribution boxes connecting the circuits of lighting, sockets around counters, the air conditioners etc.

NO	Product name	Specification	Quantity	Remark
1	Residual current circuit breaker with overload protection	3SB71LM-63 2P C63 30 mA	1	Overload protection Short circuit protection Residual current protection
2	Smart Gateway	iGW70	1	data transmission
3	Smart switch	iSS711	30	Connecting each circuit
4	Distribution box	3SD5-36	1	Flame retardant material

## Benefit

- **Real-time monitoring**  
Real-time monitoring electricity factors and timely detect security risks;
- **Digital display**  
The power consumption is digitized which make the power status concrete and simple;
- **Fault-removing suggestion**  
Improve the maintenance efficiency, make fault-removing simple and reliable.



Improving the safety of campus electricity is very important for building a safe campus.

## Current electricity status

- Complex electricity environment in school.
- Illegally using electrical appliances and difficult to make management.
- High population density and poor strain ability.
- Serious waste of electricity.

## Solution

Smart distribution boxes can be directly installed on the DIN-rail of low voltage switchboard of the floor distribution room as devices for guarantee of power safety and electricity metering for each classroom or dormitories in each floor.

The configuration in floor distribution room is as follows:

NO	Product name	Specification	Quantity	Remark
1	Residual current circuit breaker with overload protection	3SB71LM-63 2P C63 30 mA	As per quantity of dormitory	

Indoor

Connect the circuits of lighting, sockets, air conditioner setc.

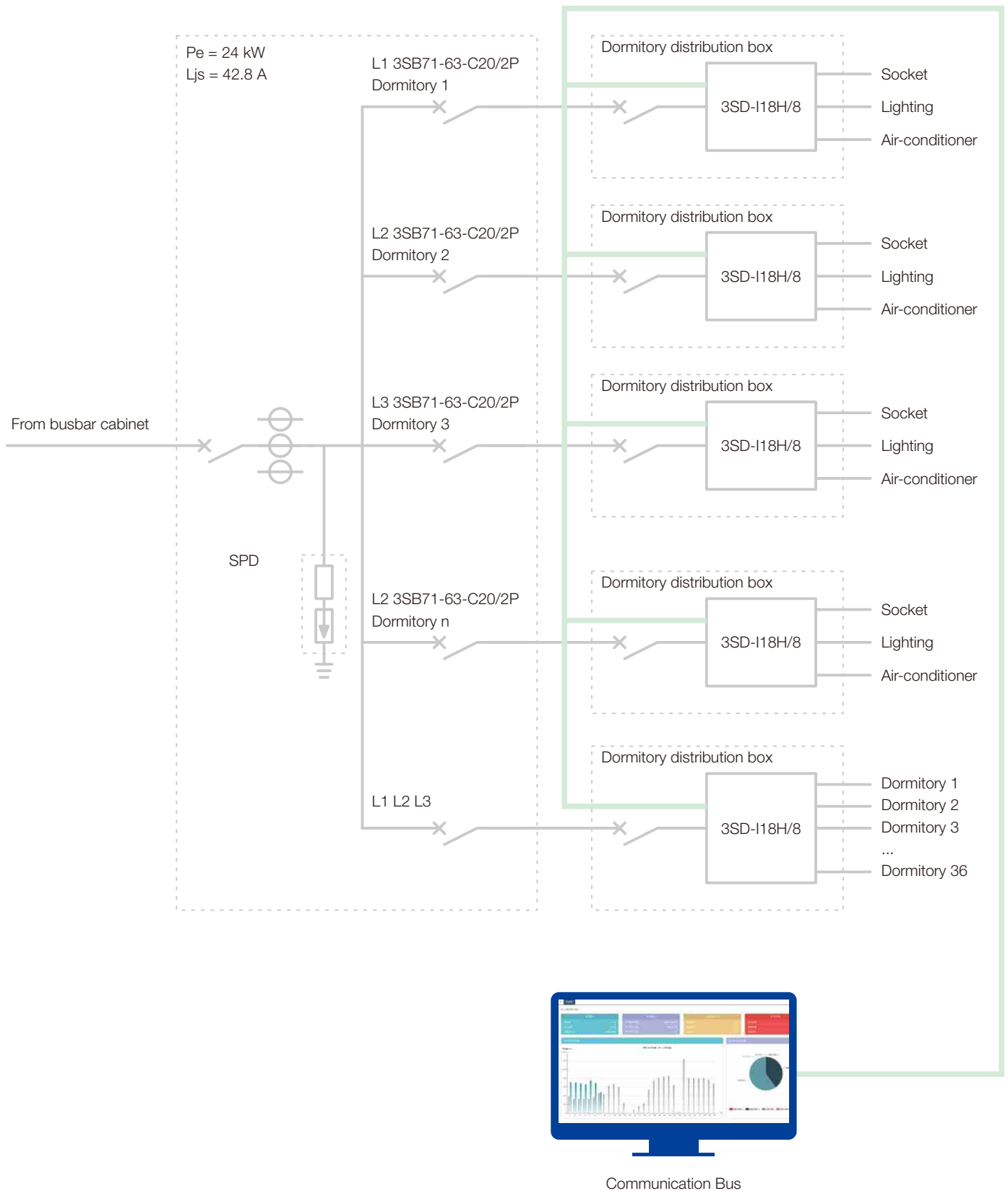
NO	Product name	Specification	Quantity	Remark
1	Residual current circuit breaker with overload protection	3SB71LM-63 2P C63 30 mA	1	Overload protection Short circuit protection Leakage protection
2	Smartgateway	iGW70	1	Data transmission
3	Smart switch	iSS711	4	Connecting each circuit
4	Distribution box	3SD5-12	1	Flame retardant material

## Benefit

- **Overload protection**  
Set rated power, over-limit alarm.
- **Timing function**  
Close or open a circuit at a certain time.
- **Power comparison**  
Timely discovery of illegal use of high-power electrical appliances to eliminate security risks.
- **Remote control**  
Remote control of opening circuit for rooms where large power electrical appliances are used, increase the sense of safety electricity.



# Application in Schools





The electric accidents in the rental houses have come out in an endless stream.

## Current electricity status

- Many electrical apparatus and complex electric environment.
- Aging lines and disorderly connection.
- Many apparatuses with heavy power which may cause electrical fire.
- Uneven allocation of electricity fee.

## Solution

SPMS and Smart distribution box can be used to guarantee the electric safety and make measurement for each rental house.

Install smart distribution boxes in the rental houses or rooming houses, to prevent unsafe electrical behavior, take precise measurement of electricity consumption and reasonable allocation of electricity fee.

NO	Product name	Specification	Quantity	Remark
1	Residual current circuit breaker with overload protection	3SB71LM-63 2P C63 30 mA	1	Overload protection Short circuit protection Residual current protection
2	Smart gateway	iGW70	1	Data transmission1
3	Smart switch	iSS711	4	As per quantity of rental housing
4	Distribution box	3SD5-12	1	Flame retardant material

## Benefit

### ● Remote monitoring

Remote monitoring by computer, check the working status and illegal record and remote switch on or switch off the power supply for rooms.

### ● Overload protection

Automatic cut off the power supply if there is unallowable using of heating appliances (such as electric stove, electric blanket, electric heater).

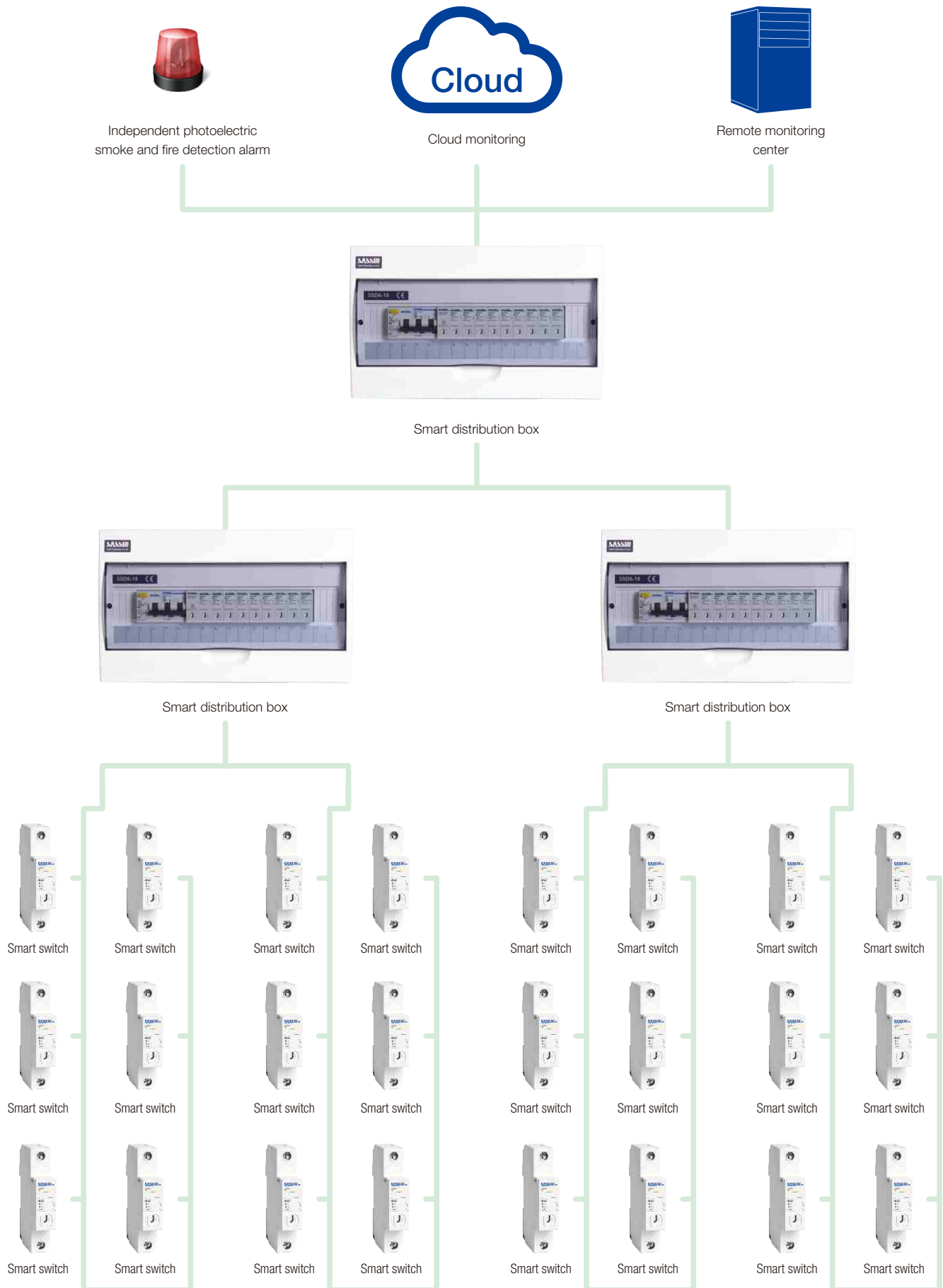
### ● Split the electricity fee

Automatic calculate the real-time electricity fee for each room, avoid the quarrel about uneven allocation of electricity fee.



# Application in Rental Houses

## System network topology



# Smart Electrical Devices

## Smart Switches iS...700

### Overview

iS700 series smart switches are newly developed smart electric product which is with functions of overcurrent protection, short-time delayed short-circuit protection, under-voltage and over-voltage protection, and residual current monitoring or protection.

### Standard

iS.700: IEC 60947-3

iSR.700: IEC61008-1

### Application

Suitable for single phase low voltage power distribution system to protect the circuits and electric equipment against overcurrent, short-circuit, under-voltage and over-voltage, and residual current. The smart switches can be operated by manual, or remotely if a smart gateway is applied.



### Functions

Protection and functions		Characteristic
Protection	Overcurrent protection	Adjustable via RS485
	Over-voltage protection	275 V adjustable via RS485
	Under-voltage protection	160 V adjustable via RS485
	Over temperature protection	80 °C
	Residual current protection	30 mA adjustable for iSRM.700 fixed for iSRP.700
Detection and measurement	Voltage	Real-time monitoring
	Current	
	Temperature	
	Power	
	Power consumption measurement	
Communication port	RS485 (MODBUS)	Standard configuration
Control		Time open or close. Function can be closed.

### LED light

Green	Open
Red	Closed

# Smart Electrical Devices

## Smart Switches iS...700


### Technical specifications

	iSS711	iSS715	iSRPC715	iSRPC715T	iSRMC715	iSRMC715T	iSRP715	iSRP715T	iSRM715	iSRM715T
Number of poles	1P	1P+N	1P+N	1P+N	1P+N	1P+N	1P+N	1P+N	1P+N	1P+N
Rated current In	A	6, 10, 16, 20, 25, 32, 40, 50, 63		6, 10, 16, 20, 25, 32, 40		6, 10, 16, 20, 25, 32, 40, 50, 63				
Rated voltage Ue	V AC	230								
Rated frequency f	Hz	50								
Rated short-circuit breaking capacity	kA	10								
<b>Measurement accuracy</b>										
Voltage		1%		1%		1%		1%		
Current		1%		1%		1%		1%		
Power		1%		1%		1%		1%		
Power consumption		1%		1%		1%		1%		
<b>Protection parameter</b>										
Overcurrent		1...In adjustable		1... In adjustable		1...In adjustable		1...In adjustable		
Residual current	mA	-		30 fixed		1...300 adjustable		30 fixed		1...300 adjustable
Over-voltage action	V	-		275		275		275		
Over-voltage alarm	V	-		265		265		265		
Under-voltage action	V	-		175		175		175		
Under-voltage alarm	V	-		160		160		160		
Over temperature action	°C	80		-		80		-		80
Over temperature alarm	°C	75		-		75		-		75
Protection level		IP20		IP20		IP20		IP20		
Communication		RS485		RS485		RS485		RS485		
Upgrade mode		RS485		RS485		RS485		RS485		
<b>Working and installation conditions</b>										
Altitude	m	≤ 2000								
Ambient temperature	°C	-5 ... +40								
Environmental		No explosion danger, no conductive dust, no corrosion of metal and damage to insulation, no significant shock and impact								
Relative humidity		50 % at +40 °C. Higher relative humidity is available at lower temperatures.								
Storage temperature	°C	-40 ... +80								
Pollution level		II								
Installation		35 mm DIN rail								
<b>Dimensions</b>										
H	mm	95	95	110		95		95		
W	mm	18	36	18		36		36		
D	mm	71.5	71.5	71.5		71.5		71.5		

# Smart Electrical Devices

## iSS700, Smart Switches

### Selection and ordering data

	Number of poles	Width mm	Rated current I <sub>n</sub> A	Adjust range A	Type code	Order code
	1P	18	6	1 ... 6	iSS711-6	37192
			10	1 ... 10	iSS711-10	37193
			16	1 ... 16	iSS711-16	37194
			20	1 ... 20	iSS711-20	37195
			25	1 ... 25	iSS711-25	37196
			32	1 ... 32	iSS711-32	37197
			40	1 ... 40	iSS711-40	37198
			50	1 ... 50	iSS711-50	37199
			63	1 ... 63	iSS711-63	37200
				1P+N	36	6
10	1 ... 10	iSS715-10				37266
16	1 ... 16	iSS715-16				37267
20	1 ... 20	iSS715-20				37268
25	1 ... 25	iSS715-25				37269
32	1 ... 32	iSS715-32				37270
40	1 ... 40	iSS715-40				37271
50	1 ... 50	iSS715-50				37272
63	1 ... 63	iSS715-63				37273

# iSR.C715, Smart Switches with Residual Current Protection, Compact

Selection and ordering data



Number of poles	Width mm	Rated current I <sub>n</sub> A	Adjustable current range A	Type code	Order code
<b>iSRPC715</b>					
I <sub>Δn</sub> = 30 mA fixed, without over temperature protection, compact					
1P+N	18	6	1 ... 6	iSRPC715-6-30	<b>37201</b>
		10	1 ... 10	iSRPC715-10-30	<b>37202</b>
		16	1 ... 16	iSRPC715-16-30	<b>37203</b>
		20	1 ... 20	iSRPC715-20-30	<b>37204</b>
		25	1 ... 25	iSRPC715-25-30	<b>37205</b>
		32	1 ... 32	iSRPC715-32-30	<b>37206</b>
		40	1 ... 40	iSRPC715-40-30	<b>37207</b>
<b>iSRPC715T</b>					
I <sub>Δn</sub> = 30 mA fixed, with over temperature protection, compact					
1P+N	18	6	1 ... 6	iSRPC715T-6-30	<b>37208</b>
		10	1 ... 10	iSRPC715T-10-30	<b>37209</b>
		16	1 ... 16	iSRPC715T-16-30	<b>37210</b>
		20	1 ... 20	iSRPC715T-20-30	<b>37211</b>
		25	1 ... 25	iSRPC715T-25-30	<b>37212</b>
		32	1 ... 32	iSRPC715T-32-30	<b>37213</b>
		40	1 ... 40	iSRPC715T-40-30	<b>37214</b>
<b>iSRMC715</b>					
I <sub>Δn</sub> = 1...300 mA adjustable, without over temperature protection, compact					
1P+N	18	6	1 ... 6	iSRMC715-6-30	<b>37215</b>
		10	1 ... 10	iSRMC715-10-30	<b>37216</b>
		16	1 ... 16	iSRMC715-16-30	<b>37217</b>
		20	1 ... 20	iSRMC715-20-30	<b>37218</b>
		25	1 ... 25	iSRMC715-25-30	<b>37219</b>
		32	1 ... 32	iSRMC715-32-30	<b>37220</b>
		40	1 ... 40	iSRMC715-40-30	<b>37221</b>
<b>iSRMC715T</b>					
I <sub>Δn</sub> = 1...300 mA adjustable, with over temperature protection, compact					
1P+N	18	6	1 ... 6	iSRMC715T-6-30	<b>37222</b>
		10	1 ... 10	iSRMC715T-10-30	<b>37223</b>
		16	1 ... 16	iSRMC715T-16-30	<b>37224</b>
		20	1 ... 20	iSRMC715T-20-30	<b>37225</b>
		25	1 ... 25	iSRMC715T-25-30	<b>37226</b>
		32	1 ... 32	iSRMC715T-32-30	<b>37227</b>
		40	1 ... 40	iSRMC715T-40-30	<b>37228</b>

# Smart Electrical Devices

## iSR.715, Smart Switches with Residual Current Protection

### Selection and ordering data



Number of poles	Width mm	Rated current $I_n$ A	Adjustable current range A	Type code	Order code
<b>iSRP715</b>					
$I_{\Delta n} = 30$ mA fixed, without over temperature protection					
1P+N	36	6	1 ... 6	iSRP715-6-30	37229
		10	1 ... 10	iSRP715-10-30	37230
		16	1 ... 16	iSRP715-16-30	37231
		20	1 ... 20	iSRP715-20-30	37232
		25	1 ... 25	iSRP715-25-30	37233
		32	1 ... 32	iSRP715-32-30	37234
		40	1 ... 40	iSRP715-40-30	37235
		50	1 ... 50	iSRP715-50-30	37236
		63	1 ... 63	iSRP715-63-30	37237
<b>iSRP715T</b>					
$I_{\Delta n} = 30$ mA fixed, with over temperature protection					
1P+N	36	6	1 ... 6	iSRP715T-6-30	37238
		10	1 ... 10	iSRP715T-10-30	37239
		16	1 ... 16	iSRP715T-16-30	37240
		20	1 ... 20	iSRP715T-20-30	37241
		25	1 ... 25	iSRP715T-25-30	37242
		32	1 ... 32	iSRP715T-32-30	37243
		40	1 ... 40	iSRP715T-40-30	37244
		50	1 ... 50	iSRP715T-50-30	37245
		63	1 ... 63	iSRP715T-63-30	37246
<b>iSRM715</b>					
$I_{\Delta n} = 1 \dots 300$ mA adjustable, without over temperature protection					
1P+N	36	6	1 ... 6	iSRM715-6	37247
		10	1 ... 10	iSRM715-10	37248
		16	1 ... 16	iSRM715-16	37249
		20	1 ... 20	iSRM715-20	37250
		25	1 ... 25	iSRM715-25	37251
		32	1 ... 32	iSRM715-32	37252
		40	1 ... 40	iSRM715-40	37253
		50	1 ... 50	iSRM715-50	37254
		63	1 ... 63	iSRM715-63	37255
<b>iSRM715T</b>					
$I_{\Delta n} = 1 \dots 300$ mA adjustable, with over temperature protection					
1P+N	36	6	1 ... 6	iSRM715T-6	37256
		10	1 ... 10	iSRM715T-10	37257
		16	1 ... 16	iSRM715T-16	37258
		20	1 ... 20	iSRM715T-20	37259
		25	1 ... 25	iSRM715T-25	37260
		32	1 ... 32	iSRM715T-32	37261
		40	1 ... 40	iSRM715T-40	37262
		50	1 ... 50	iSRM715T-50	37263
		63	1 ... 63	iSRM715T-63	37264

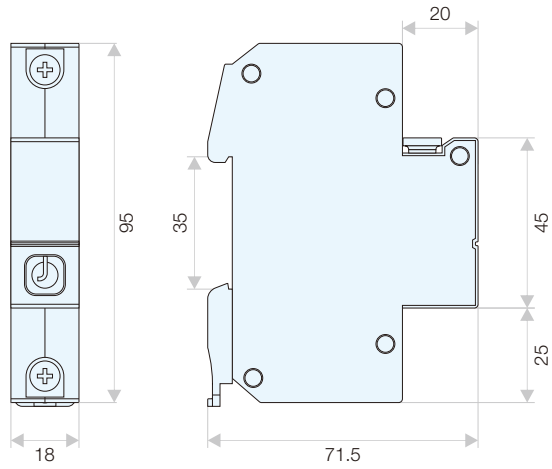
# Smart Electrical Devices

## Smart Switches iS...700

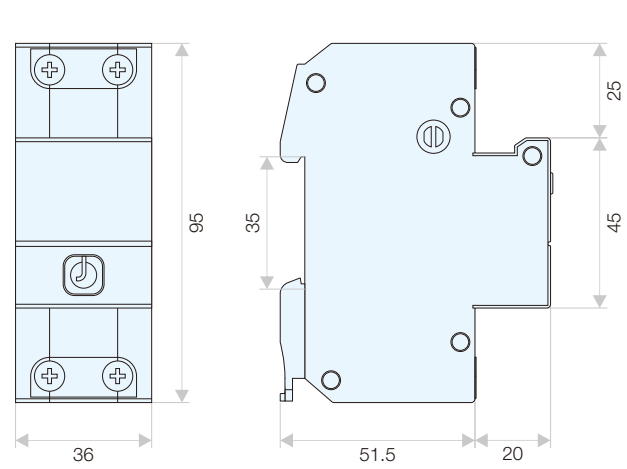
### Outline and installation dimensions

unit in mm

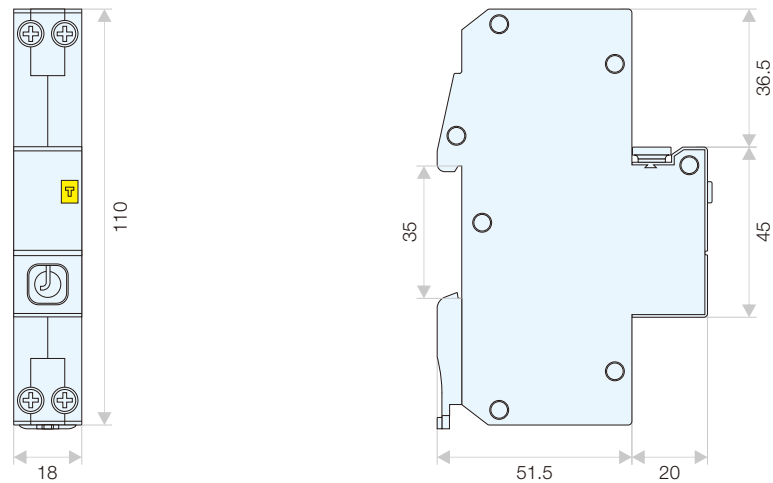
iSS711



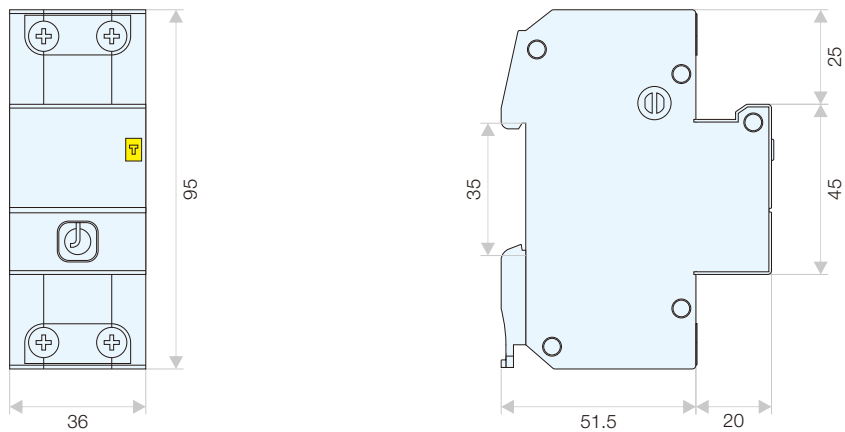
iSS715



iSRPC715 / iSRPC715T / iSRMC715 / iSRMC715T



iSRP715 / iSRP715T / iSRM715 / iSRM715T





# Smart Electrical Devices

## Smart Miniature Circuit Breakers iB700

### Overview

iB700 series smart miniature circuit breakers are newly developed smart electric product which is with functions of overcurrent protection, short-time delayed short-circuit protection, short-circuit instantaneous protection, under-voltage and over-voltage protection, phase-failure protection (three phase) and auto-reclosing.

### Standard

IEC 60898-1

### Application

Suitable for single phase, three phase three line and three phase four line low voltage power distribution system which neutral point grounding directly (TT), to protect the circuits and electric equipment against overcurrent, short-circuit, under-voltage and over-voltage, over temperature and phase failure (three phase).

The smart switches can be operated by manual in local, or remotely if a smart gateway is applied.



### Functions

Functions		Settings
Protection	Overcurrent protection	
	Short circuit protection	
	Auto-reclosing	
	Phase failure protection	Available for iB713 / iB716
	Over-voltage protection	275 V / 480 V
	Under-voltage protection	160 V / 280 V
	Over temperature protection 1)	80 °C (optional function)
	Over power protection	
	Phase imbalance protection	≤ 5%, available for iB713 / iB716
Detection and measurement	Voltage	Real-time monitoring
	Current	
	Temperature	
	Power	
	Power consumption measurement	
Communication port	RS485 (MODBUS)	Standard configuration
Control		Time open or close.
		Function can be closed.

<sup>1)</sup> Over temperature function is optional, additional temperature detection cables PT100 is available depending on order.





### LED light

■ Solid green	Normal working
■ Solid red	Fault
◻ Blink red	Alarm

# Smart Electrical Devices

## Smart Miniature Circuit Breakers iB700

### Technical specifications

				
	iB711	iB715	iB713	iB716
<b>Basic data</b>				
Number of poles	1P	1P+N	3P	3P+N
Standard	IEC 60898-1			
Frame size	A 63			
Tripping characteristics	C characteristic (5-10) I <sub>n</sub> D characteristic (10-14) I <sub>n</sub>			
Rated current I <sub>n</sub>	A 6, 10, 16, 20, 25, 32, 40, 50, 63			
Rated voltage U <sub>e</sub>	V AC 230	230	400	400
Rated frequency f	Hz 50			
Rated short circuit breaking capacity I <sub>cn</sub>	kA 10			
Communication port	RS485			
Upgrade mode	RS485			
<b>Measurement accuracy</b>				
Voltage	1%			
Current	1%			
Power	1%			
Power consumption	1%			
<b>Protection parameter</b>				
Over temperature action	°C 80			
Over-voltage action	V 275			
Under-voltage action	V 165			
Overcurrent protection	1 ~ I <sub>n</sub> adjustable			
Phase imbalance	-	-	≤ 5%	≤ 5%
Short circuit protection	yes	Yes	Yes	Yes
<b>Working and installation conditions</b>				
Altitude	m ≤ 2000			
Ambient temperature	°C -5 ... +40			
Environmental	No explosion danger, no conductive dust, no corrosion of metal and damage to insulation, no significant shock and impact			
Relative humidity	50% at +40 °C. Higher relative humidity is available at lower temperatures.			
Storage temperature	°C -40 ... +80			
Pollution level	II			
Installation category	II			
<b>Dimensions</b>				
L	mm 120.5	120.5	120.5	120.5
W	mm 36	54	72	90
H	mm 77.6	77.6	77.6	77.6

### Trip characteristics

#### Thermal release

Tripping characteristics	Test current	Initial condition	Limit of tripping or non-tripping time	Result to be obtained
C	1.13 I <sub>n</sub>	Cold	≤ 1 h	No tripping
	1.45 I <sub>n</sub>	Immediately following test 1.13 I <sub>n</sub>	< 1 h	Tripping
D	1.13 I <sub>n</sub>	Cold	≤ 1 h	No tripping
	1.45 I <sub>n</sub>	Immediately following test 1.13 I <sub>n</sub>	< 1 h	Tripping


#### Electromagnetic release

Tripping characteristics	Test current	Initial condition	Limit of tripping or non-tripping time	Result to be obtained
C	5 I <sub>n</sub>	Cold	≤ 0.1 s	No tripping
	10 I <sub>n</sub>		< 0.1 s	Tripping
D	10 I <sub>n</sub>	Cold	≤ 0.1 s	No tripping
	14 I <sub>n</sub>		< 0.1 s	Tripping

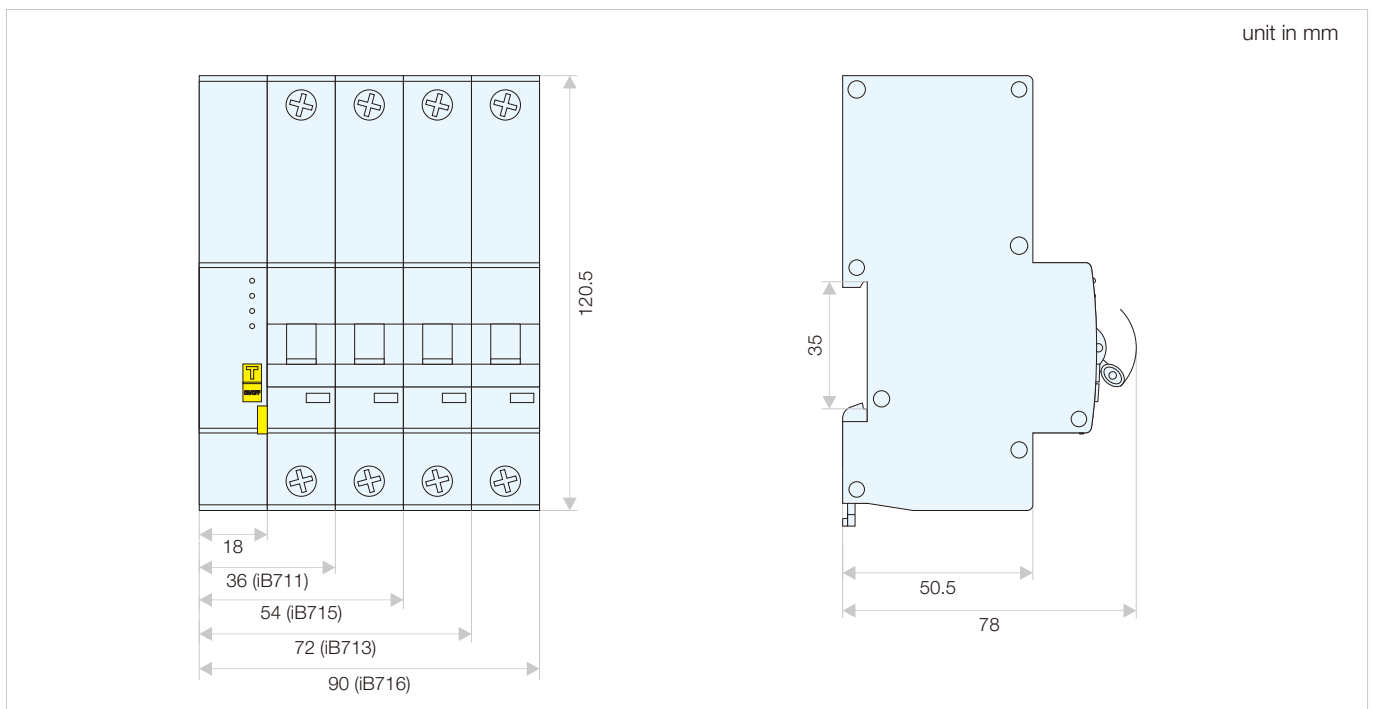
# Smart Electrical Devices

## Smart Miniature Circuit Breakers iB700

### Selection and ordering data

	Number of poles	Width mm	Rated current In A	Characteristic C		Characteristic D	
				Type code	Order code	Type code	Order code
	1P	36	6	iB711-C6	19559	iB711-D6	19613
			10	iB711-C10	19560	iB711-D10	19614
			16	iB711-C16	19561	iB711-D16	19615
			20	iB711-C20	19562	iB711-D20	19616
			25	iB711-C25	19563	iB711-D25	19617
			32	iB711-C32	19564	iB711-D32	19618
			40	iB711-C40	19565	iB711-D40	19619
			50	iB711-C50	19566	iB711-D50	19620
			63	iB711-C63	19567	iB711-D63	19621
			1P+N	54	6	iB715-C6	19595
10	iB715-C10	19596			iB715-D10	19650	
16	iB715-C16	19597			iB715-D16	19651	
20	iB715-C20	19598			iB715-D20	19652	
25	iB715-C25	19599			iB715-D25	19653	
32	iB715-C32	19600			iB715-D32	19654	
40	iB715-C40	19601			iB715-D40	19655	
50	iB715-C50	19602			iB715-D50	19656	
63	iB715-C63	19603			iB715-D63	19657	
3P	72	6			iB713-C6	19577	iB713-D6
		10	iB713-C10	19578	iB713-D10	19632	
		16	iB713-C16	19579	iB713-D16	19633	
		20	iB713-C20	19580	iB713-D20	19634	
		25	iB713-C25	19581	iB713-D25	19635	
		32	iB713-C32	19582	iB713-D32	19636	
		40	iB713-C40	19583	iB713-D40	19637	
		50	iB713-C50	19584	iB713-D50	19638	
		63	iB713-C63	19585	iB713-D63	19639	
		3P+N	90	6	iB716-C6	19604	iB716-D6
10	iB716-C10			19605	iB716-D10	19659	
16	iB716-C16			19606	iB716-D16	19660	
20	iB716-C20			19607	iB716-D20	19661	
25	iB716-C25			19608	iB716-D25	19662	
32	iB716-C32			19609	iB716-D32	19663	
40	iB716-C40			19610	iB716-D40	19664	
50	iB716-C50			19611	iB716-D50	19665	
63	iB716-C63			19612	iB716-D63	19666	

### Outline and installation dimensions



# Smart Residual Current Circuit Breaker with Overcurrent Protection iRB700E

## Overview

iRB700E series smart miniature circuit breakers are newly developed smart electric product which is with functions of residual current protection, overcurrent protection, short-time delayed short-circuit protection, short-circuit instantaneous protection, under-voltage and over-voltage protection, phase-failure protection (three phase) and auto-reclosing.

## Standard

IEC 61009-1

## Application

Suitable for single phase, three phase three line and three phase four line low voltage power distribution system which neutral point grounding directly (TT), to protect the circuits and electric equipment against residual current, overcurrent, short-circuit, under-voltage and over-voltage, over temperature and phase failure (three phase).

The smart switches can be operated by manual in local, or remotely if a smart gateway is applied.



## Functions

Functions		Settings
Protection	Overcurrent protection	
	Short circuit protection	
	Residual current protection	30 mA
	Auto-reclosing	
	Phase failure protection	Available for iRB716E
	Over-voltage protection	275 V / 480 V
	Under-voltage protection	160 V / 280 V
	Over temperature protection <sup>1)</sup>	80 °C (optional function)
	Over power protection	
Detection and measurement	Phase imbalance protection	≤ 5%, available for iRB716E
	Voltage	Real-time monitoring
	Current	
	Temperature	
	Power	
Power consumption measurement		
Communication port	RS485 (MODBUS)	Standard configuration
Control		Time open or close.
		Function can be closed.



<sup>1)</sup> Over temperature function is optional, additional temperature detection cables PT100 is available depending on order.

## LED light

■ Solid green	Normal working
■ Solid red	Fault
■ Blink red	Alarm

## Smart Residual Current Circuit Breaker with Overcurrent Protection iRB700E

## Technical specifications

		
	iRB715E	iRB716E
<b>Basic data</b>		
Number of poles	1P+N	3P+N
Standard	IEC 61009-1	
Frame size	A 63	
Tripping characteristics	C characteristic (5-10) I <sub>n</sub> D characteristic (10-14) I <sub>n</sub>	
Rated current I <sub>n</sub>	A 6, 10, 16, 20, 25, 32, 40, 50, 63	
Rated voltage U <sub>e</sub>	V AC 230	400
Rated residual current I <sub>Δn</sub>	mA 30	
Rated frequency f	Hz 50	
Rated short circuit breaking capacity I <sub>cn</sub>	kA 10	
Communication port	RS485	
Upgrade mode	RS485	
<b>Measurement accuracy</b>		
Voltage	1%	
Current	1%	
Power	1%	
Power consumption	1%	
<b>Protection parameter</b>		
Over temperature action	°C 80	
Over-voltage action	V 275	
Under-voltage action	V 165	
Overcurrent protection	1 ~ I <sub>n</sub> adjustable	
Residual current protection	mA 30 fixed	
Phase imbalance	-	≤ 5%
Short circuit protection	yes	Yes
<b>Working and installation conditions</b>		
Altitude	m ≤ 2000	
Ambient temperature	°C -5 ... +40	
Environmental	No explosion danger, no conductive dust, no corrosion of metal and damage to insulation, no significant shock and impact	
Relative humidity	50% at +40 °C. Higher relative humidity is available at lower temperatures.	
Storage temperature	°C -40 ... +80	
Pollution level	II	
Installation category	II	
<b>Dimensions</b>		
L	mm 120.5	120.5
W	mm 54	90
H	mm 77.6	77.6

## Trip characteristics

## Thermal release

Tripping characteristics	Test current	Initial condition	Limit of tripping or non-tripping time	Result to be obtained
C	1.13 I <sub>n</sub>	Cold	≤ 1 h	No tripping
	1.45 I <sub>n</sub>	Immediately following test 1.13 I <sub>n</sub>	< 1 h	Tripping
D	1.13 I <sub>n</sub>	Cold	≤ 1 h	No tripping
	1.45 I <sub>n</sub>	Immediately following test 1.13 I <sub>n</sub>	< 1 h	Tripping


## Electromagnetic release

Tripping characteristics	Test current	Initial condition	Limit of tripping or non-tripping time	Result to be obtained
C	5 I <sub>n</sub>	Cold	≤ 0.1 s	No tripping
	10 I <sub>n</sub>		< 0.1 s	Tripping
D	10 I <sub>n</sub>	Cold	≤ 0.1 s	No tripping
	14 I <sub>n</sub>		< 0.1 s	Tripping

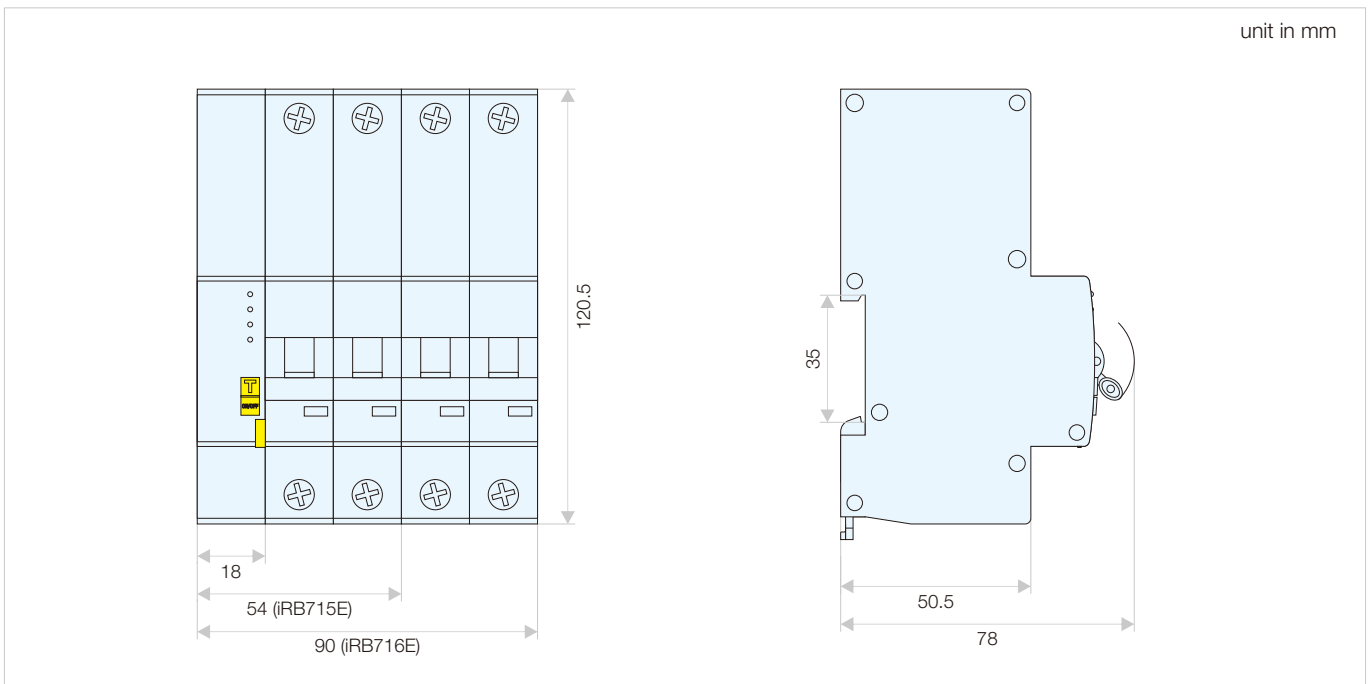
# Smart Electrical Devices

## Smart Residual Current Circuit Breaker with Overcurrent Protection iRB700E

### Selection and ordering data

	Number of poles	Width mm	Rated residual current $I_{\Delta n}$ mA	Rated current $I_n$ A	Characteristic C		Characteristic D				
					Type code	Order code	Type code	Order code			
	1P+N	54	30	6	iRB715EC-C6-30	<b>39139</b>	iRB715EC-D6-30	<b>39148</b>			
				10	iRB715EC-C10-30	<b>39140</b>	iRB715EC-D10-30	<b>39149</b>			
				16	iRB715EC-C16-30	<b>39141</b>	iRB715EC-D16-30	<b>39150</b>			
				20	iRB715EC-C20-30	<b>39142</b>	iRB715EC-D20-30	<b>39151</b>			
				25	iRB715EC-C25-30	<b>39143</b>	iRB715EC-D25-30	<b>39152</b>			
				32	iRB715EC-C32-30	<b>39144</b>	iRB715EC-D32-30	<b>39153</b>			
				40	iRB715EC-C40-30	<b>39145</b>	iRB715EC-D40-30	<b>39154</b>			
				50	iRB715EC-C50-30	<b>39146</b>	iRB715EC-D50-30	<b>39155</b>			
				63	iRB715EC-C63-30	<b>39147</b>	iRB715EC-D63-30	<b>39156</b>			
				3P+N	90	30	6	iRB716EC-C6-30	<b>39157</b>	iRB716EC-D6-30	<b>39166</b>
							10	iRB716EC-C10-30	<b>39158</b>	iRB716EC-D10-30	<b>39167</b>
							16	iRB716EC-C16-30	<b>39159</b>	iRB716EC-D16-30	<b>39168</b>
							20	iRB716EC-C20-30	<b>39160</b>	iRB716EC-D20-30	<b>39169</b>
							25	iRB716EC-C25-30	<b>39161</b>	iRB716EC-D25-30	<b>39170</b>
32	iRB716EC-C32-30	<b>39162</b>	iRB716EC-D32-30				<b>39171</b>				
40	iRB716EC-C40-30	<b>39163</b>	iRB716EC-D40-30				<b>39172</b>				
50	iRB716EC-C50-30	<b>39164</b>	iRB716EC-D50-30				<b>39173</b>				
			63	iRB716EC-C63-30	<b>39165</b>	iRB716EC-D63-30	<b>39174</b>				

### Outline and installation dimensions



### Overview

iGW70 series smart gateway is used together with smart electric devices to provide two-way internet communication and ensure the possibilities to remotely control the smart electric devices or make adjustment on available parameters.

Available versions:

- 4G
- Wireless Wi-Fi
- Wired Ethernet (LAN)
- NB-IoT
- GPRS

### Standard

CQC 1308-2017: Technical specification on intelligent power unit

### Application

Smart gateway is used together with smart electric devices to collect and read the data of a number of parameters such as voltage, current, power, electricity on the software, and make partial metering and analysis for each circuit, thus achieve the purpose of monitoring power consumption, predict electrical failure, diagnose online, real-time alarm and remote breaking.

### Technical specifications

#### 4G version

Rated voltage	V AC	230	
Rated frequency	Hz	50	
Uplink communication		4G	
Downlink communication		RS485	
Max. communication rate	Uplink	Mbps	50
	Downlink	Mbps	150
Standard		Supporting kinds of network systems: GSM/GPRS/EDGE/CDMA1xd/EVDO/WCDMA/TD-SCDMA/TDD/FDD/FDD-LTE	
Frequency band	2G	CDMA: BC0	
	3G	UMTS: B1/88	
		CDMA EVDO: BC0 TD-SCDMA: B34/B39	
4G	LTE-TDD: B38/B39/B40/B41 LTE-FDD: B1/B3/B5/B8		
Communication width	MB	20	
Transmission power		DL	UL
	CDMA	Mbps	3.1
	WCDMA, DC-HSPA+	Mbps	42
	TD-SCDMA	Mbps	4.2
	LTE FDD, non-CA cat4	Mbps	150
	LTE TDD, non-CA cat4	Mbps	130
Drive capacity	Piece	32	

#### Wi-Fi version

Rated voltage	V AC	230	
Rated frequency	Hz	50	
Uplink communication		Wi-Fi	
Downlink communication		RS485	
Max. communication rate	20 MHz bandwidth	Mbps	72.23
	40 MHz bandwidth	Mbps	150
Wi-Fi characteristics		802.11b/g/n standard HT-40 Station or SoftAP mode is been supported	
Drive capacity	Piece	32	



### Structure

The smart gateway is made up of a plastic shell and communication circuit board. The shell is made by high flame-retardant and high strength plastic which can ensure the strong impact resistance and light weight, and has similar appearance with MCBs 3SB71-63. Communication circuit board adopts low power consumption design and asynchronous serial port RS485 communication mode, can drive up to 32 smart switches. It can be conveniently mounted on a standard 35 mm DIN-rail.

# Smart Electrical Devices

## Smart Gateway iGW70

### Technical specifications

#### Ethernet (LAN) version

Rated voltage	V AC	230
Rated frequency	Hz	50
Uplink communication		LAN
Downlink communication		RS485
Max. communication rate	Mbps	10/100, self-adaptation
Connection		8 pins RJ45
Electromagnetic isolation protection	kV	1.5
Drive capacity	Piece	32

#### NB-IoT version

Rated voltage	V AC	230
Rated frequency	Hz	50
Uplink communication		NB-IoT
Downlink communication		RS485
Max. communication rate	Uplink	Kbps 54
	Downlink	Kbps 25.2
Frequency band		B1/B3/B8/B5/B20/B28
Protocol stack		TCP, UDP, MQTT
Drive capacity	Piece	11

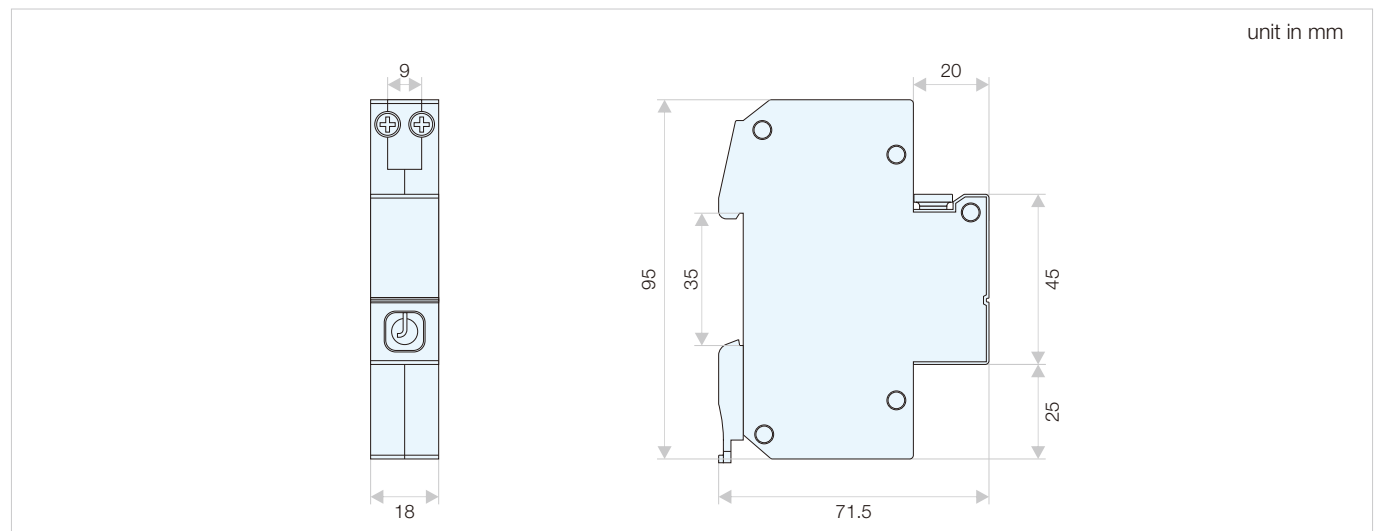
#### GPRS version

Rated voltage	V AC	230
Rated frequency	Hz	50
Uplink communication		GPRS
Downlink communication		RS485
Max. communication rate	Uplink	Kbps 85.6
Drive capacity	Downlink	Kbps 85.6
	Piece	22

### Selection and ordering data

Description	Type code	Order code
	Wi-Fi version	iGW71
Ethernet (LAN) version	iGW71E	37186
4G version (Internal antenna)	iGW71L	37187
4G version (External extension antenna)	iGW71LX	37188
NB-IoT version	iGW71N	37189
LoRa version	iGW71R	37190
4G version (Internal antenna) for MCCB	iGW72L	37191

### Outline and installation dimensions





Order code	Type code	Page
19559	iB711-C6	7-23
19560	iB711-C10	7-23
19561	iB711-C16	7-23
19562	iB711-C20	7-23
19563	iB711-C25	7-23
19564	iB711-C32	7-23
19565	iB711-C40	7-23
19566	iB711-C50	7-23
19567	iB711-C63	7-23
19577	iB713-C6	7-23
19578	iB713-C10	7-23
19579	iB713-C16	7-23
19580	iB713-C20	7-23
19581	iB713-C25	7-23
19582	iB713-C32	7-23
19583	iB713-C40	7-23
19584	iB713-C50	7-23
19585	iB713-C63	7-23
19595	iB715-C6	7-23
19596	iB715-C10	7-23
19597	iB715-C16	7-23
19598	iB715-C20	7-23
19599	iB715-C25	7-23
19600	iB715-C32	7-23
19601	iB715-C40	7-23
19602	iB715-C50	7-23
19603	iB715-C63	7-23
19604	iB716-C6	7-23
19605	iB716-C10	7-23
19606	iB716-C16	7-23
19607	iB716-C20	7-23
19608	iB716-C25	7-23
19609	iB716-C32	7-23
19610	iB716-C40	7-23
19611	iB716-C50	7-23
19612	iB716-C63	7-23
19613	iB711-D6	7-23
19614	iB711-D10	7-23
19615	iB711-D16	7-23
19616	iB711-D20	7-23
19617	iB711-D25	7-23
19618	iB711-D32	7-23
19619	iB711-D40	7-23
19620	iB711-D50	7-23
19621	iB711-D63	7-23
19631	iB713-D6	7-23
19632	iB713-D10	7-23
19633	iB713-D16	7-23
19634	iB713-D20	7-23
19635	iB713-D25	7-23
19636	iB713-D32	7-23
19637	iB713-D40	7-23
19638	iB713-D50	7-23
19639	iB713-D63	7-23
19649	iB715-D6	7-23
19650	iB715-D10	7-23
19651	iB715-D16	7-23
19652	iB715-D20	7-23
19653	iB715-D25	7-23
19654	iB715-D32	7-23
19655	iB715-D40	7-23
19656	iB715-D50	7-23
19657	iB715-D63	7-23
19658	iB716-D6	7-23
19659	iB716-D10	7-23
19660	iB716-D16	7-23
19661	iB716-D20	7-23
19662	iB716-D25	7-23
19663	iB716-D32	7-23
19664	iB716-D40	7-23
19665	iB716-D50	7-23

Order code	Type code	Page
19666	iB716-D63	7-23
37185	iGW71	7-28
37186	iGW71E	7-28
37187	iGW71L	7-28
37188	iGW71LX	7-28
37189	iGW71N	7-28
37190	iGW71R	7-28
37191	iGW72L	7-28
37192	iSS711-6	7-17
37193	iSS711-10	7-17
37194	iSS711-16	7-17
37195	iSS711-20	7-17
37196	iSS711-25	7-17
37197	iSS711-32	7-17
37198	iSS711-40	7-17
37199	iSS711-50	7-17
37200	iSS711-63	7-17
37201	iSRPC715-6-30	7-18
37202	iSRPC715-10-30	7-18
37203	iSRPC715-16-30	7-18
37204	iSRPC715-20-30	7-18
37205	iSRPC715-25-30	7-18
37206	iSRPC715-32-30	7-18
37207	iSRPC715-40-30	7-18
37208	iSRPC715T-6-30	7-18
37209	iSRPC715T-10-30	7-18
37210	iSRPC715T-16-30	7-18
37211	iSRPC715T-20-30	7-18
37212	iSRPC715T-25-30	7-18
37213	iSRPC715T-32-30	7-18
37214	iSRPC715T-40-30	7-18
37215	iSRMC715-6-30	7-18
37216	iSRMC715-10-30	7-18
37217	iSRMC715-16-30	7-18
37218	iSRMC715-20-30	7-18
37219	iSRMC715-25-30	7-18
37220	iSRMC715-32-30	7-18
37221	iSRMC715-40-30	7-18
37222	iSRMC715T-6-30	7-18
37223	iSRMC715T-10-30	7-18
37224	iSRMC715T-16-30	7-18
37225	iSRMC715T-20-30	7-18
37226	iSRMC715T-25-30	7-18
37227	iSRMC715T-32-30	7-18
37228	iSRMC715T-40-30	7-18
37229	iSRP715-6-30	7-19
37230	iSRP715-10-30	7-19
37231	iSRP715-16-30	7-19
37232	iSRP715-20-30	7-19
37233	iSRP715-25-30	7-19
37234	iSRP715-32-30	7-19
37235	iSRP715-40-30	7-19
37236	iSRP715-50-30	7-19
37237	iSRP715-63-30	7-19
37238	iSRP715T-6-30	7-19
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