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IoT

Smart Electric Safety Supervision And Power Management System

MTS3

Focus on Smart Electricity

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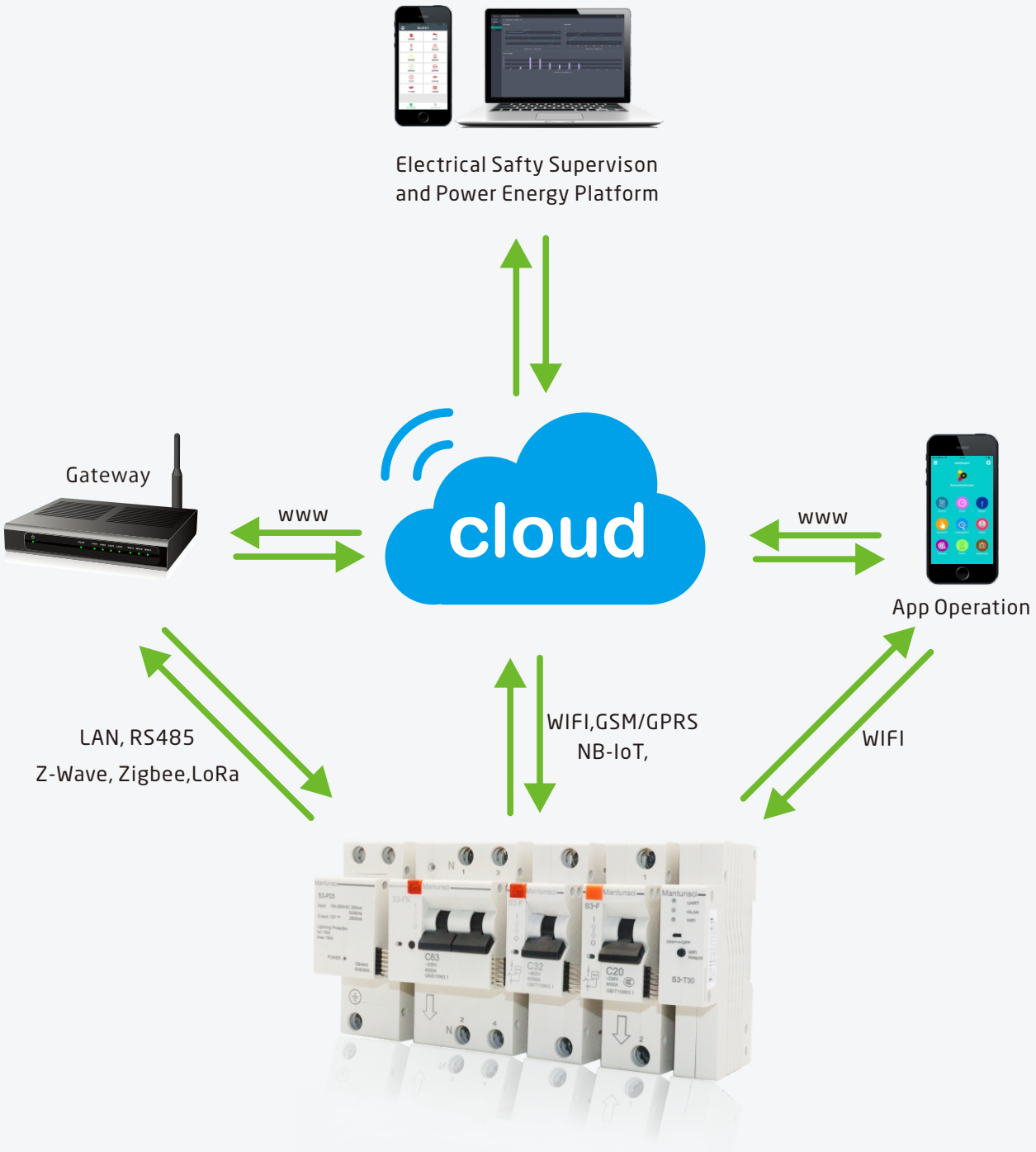
Smart Electric Safety Supervision and Power Management System

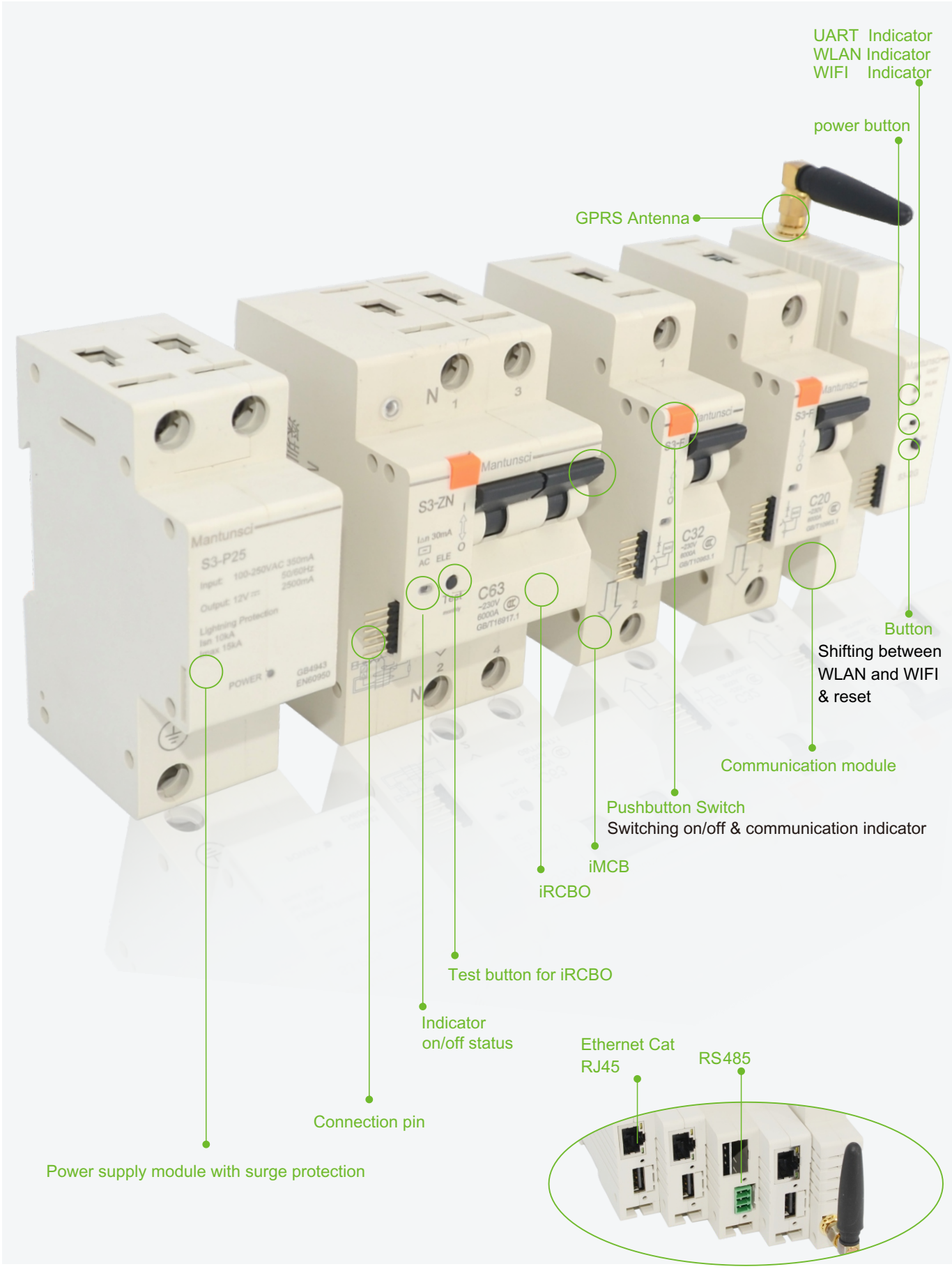
Overview



MTS3 is a smart electric safety supervision and power Management system that includes both hardware and software, which integrates the most latest & advanced technologies like AI, Big data, IoT and cloud computing.

The system raises a pre-alarm before reporting a failure. This device has features like Online power management, real-time power efficiency monitoring, real-time monitoring of electrical circuit parameter (voltage, current, power KWH, etc), and are reported, which help identify where energy savings are required, and further save power bills through analysis of collected data, power consumption analysis.

Structure


UART Indicator
WLAN Indicator
WIFI Indicator
power button
GPRS Antenna
Button
Shifting between
WLAN and WIFI
& reset
Communication module
Pushbutton Switch
Switching on/off & communication indicator
iMCB
iRCBO
Test button for iRCBO
Indicator
on/off status
Ethernet Cat
RJ45
RS485
Connection pin
Power supply module with surge protection

Smart Electric Safety Supervision and Power Management System

Hardware Introdution

Power supply module with surge protection

- Provides DC power for smart circuit breaker and communication module.
- Provides lightning & surge protection.
- Main technical parameters:
  Input voltage: 100-250 V AC
  Input current: 3.5 A
  Output voltage: 12 VDC
  Imax for lightning protection: 15 kA
- Working with max.10pcs iRCBO or iMCB

Smart Metering Breaker - iMCB

- Full protection :
  Overload,Short circuit,Over/under voltage
  Arcing fault,Phase loss,Unbalance,High temperature
- Main technical parameter:
  Poles: 1P, 2P, 3P, 4P
  Rated Current (A): 10, 16, 20, 25, 32, 40, 50, 63, 80
  Breaking Capacity: 6000 A
  Curve: B, C, D

Smart metering breaker - iRCBO

- Full protection :
  Identifies Earth leakage, Overload, Short circuit,
  Over/under voltage,
- Arcing fault, Phase loss, Unbalance, High temperature
  Main technical parameter:
  Poles: 2P, 4P
  Rated Current (A): 10, 16, 20, 25, 32, 40, 50, 63, 80
  Rated Residual Current: 30 mA
  Curve: C

Communication module

- Voltage: 12VDC
- Communication Modes:
  WiFi, LAN, Rs485, NB-IoT, GSM/GPRS, Zigbee, LoRa
- Protocol: UDP, TCP/IP, Modbus
- Working with max.24pcs iRCBO or iMCB

Connection pin

Connection is extremely simple and requires no special tools, all the modules in one row can be connected by connection pins

Flexible flat cable

Flexible flat cable is used for connection of multi-rows in power cabinet.

Features

Device extendable
This is a modular device which can be extendable as traditional MCB and RCBO. It withstands maximum current up to 80A. 1,2,3 & 4Pole for iMCB are available.

Minimum space requirement
Except for Power supply module of 36mm and Communication module of 18mm, the iMCB and iRCBO have an extra 9mm or 18mm control module, different from traditional MCB and RCBO.

Very simple installation
All devices are mounted in 35mm Din Rail and connected by connection pins or flexible flat cable. No special tools are required for the entire connection process.

System compatibility
This system can be compatible with other systems, such as smart home, fire monitoring system, energy efficiency management system, smoke and voice control etc..

Electrical faults analysis
The system can realize real-time analysis of all electrical faults of both main and branch lines: short circuit, earth leakage, overload, over/under voltage, overheated, arc fault, etc..

Monitor of electrical circuit parameter
The system can realize real-time monitoring of electrical circuit parameters: voltage, current, power ,temperature, residual current and KWH.

Full protection
This system includes all protections: overload, short circuit, earth leakage, surge, over/under voltage, arcing fault, phase loss, unbalance, high temperature

Max. power and current setting
The power and current under rated current and power can be adjustable through the App or software platform

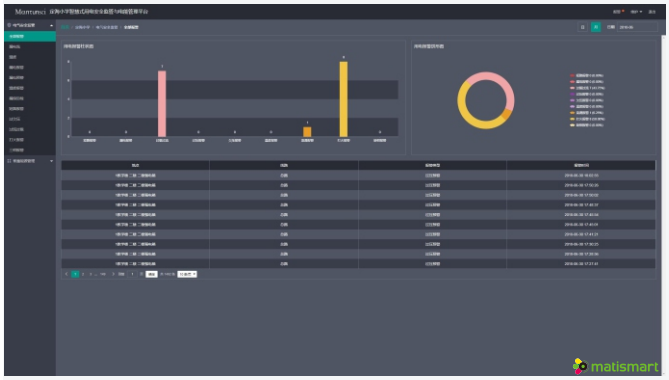
Auto-test of earth leakage current
The device periodically tests the working of the residual current circuit protection, which can be set on fixed dated each month in the APP, rather than traditional test monthly on site.

Anti-fraud of electricity

Smart Electric Safety Supervision and Power Management System

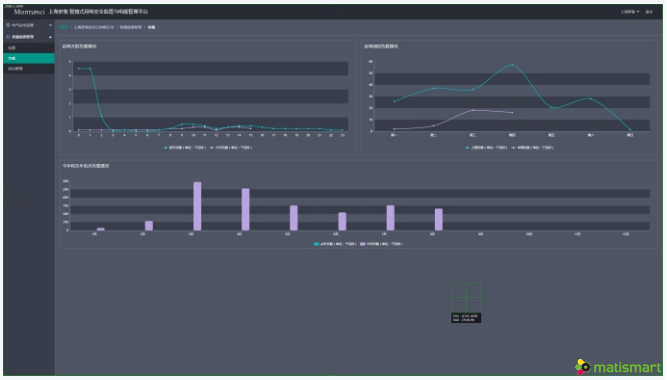
Benefits

Early warning system and alarm (Pre-alarm Maintenance)



Continuous monitoring of electrical parameters of each breaker including both main and branch lines (such as current, voltage, earth leakage current, power and temperature) makes it possible to detect the early electrical faults and make early-warning before any unforeseen event. It improves the safety and reliability and electrical system and may be used widely in building as fire system solution.

Power management and cost analysis to reduce and schedule energy costs.



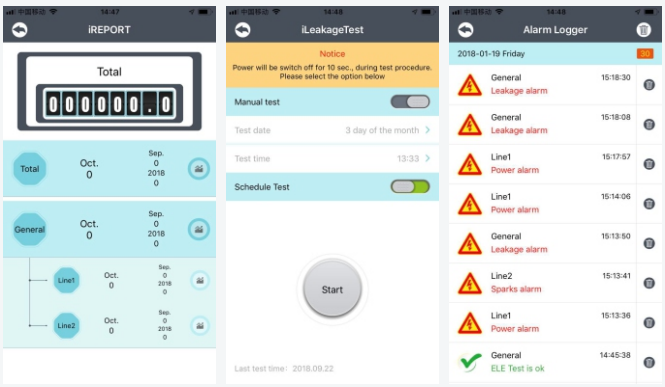
The cost of energy will rise continuously. In order to cut costs, we first have to identify where they occur. The smart power management system helps illustrate and analyze the instantaneous energy consumption levels and realize the real-time power efficiency monitoring. Furthermore, the calculated active energy can be used to roughly allocate the costs at the output level. Therefore, it helps identify energy saving, and further to save energy cost, through analysis of collected data and power consumption.

Remote control

The hardware device may be controlled by App and software anytime and anywhere, to make life easier and safer.

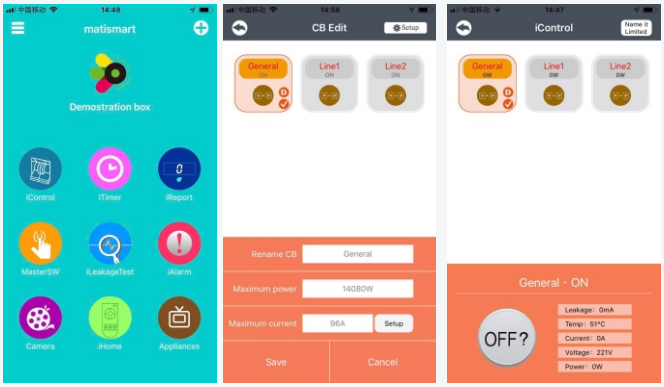
Software Introduction

The Matismart smart electric safety supervision and power management system is an innovative cloud-computing platform designed to monitor, optimize and control the electrical system. This system also provides access to multi-site level, simultaneously monitoring and comparing the performance of different of different facilities. It also can provide personal user profiles depending on the level of access they require. It mainly include App operation version in smart phone and software platform for Electric safety supervision and power management.



APP (Android/IoS)

It includes six functions:
Remote control, Real-time monitoring, Event alarm and push, Power consumption curve, Timer, Max. Power and Current setting, auto-test of Residual Current.



Power consumption
Power concumption curve of main lines and each sub-lines may be showed in APP monthly and hourly.

Event alarm and push
All the events recorded and fault alarm will be pushed through App.

Auto-test of residual current
Auto-test of earth leakage current in fixed date each month in the App instead of manual test monthly

Timer
Users are able to remotely set the power demand they want to target with a weekly,daily or hourly resolution

Remote control
iMCB and iRCBO can be operated individually or be switched on/off all together through App remotely. And for safety, it can not be switch on through APP after switching off manually.

Real-time monitoring
The system monitors electrical circuit parameters : voltage, current, Power ,temperature, Residual Current and KWH and these parameters may be showed in APP.

Max. Power and current setting
The max. power and current may be set through APP and the seting value must lower than rated current and power.

Smart Electric Safety Supervision and Power Management System

Software Platform

The software platform includes two main parts: electrical safety supervision and power management.

Electrical Safety Supervision

The system will monitor all the electrical circuit parameter of all main and branch lines in real-time such as voltage, current, Power ,temperature, residual current and KWH and it may do pre-judgement and action through these electrical data collection and analysis.

Device location montioring

After installation, the location information of each device will be recorded and showed in the map in software platform. The software platform will monitor the real-time status of all device installed all over the world, in case early warning or fault alarm raised, the supervisor can identify the device and its location quickly, then resolve the problem accordingly before any unforeseen event.

Information management

Through software platform, you can easily view contact information of technician of each project management site. In case of any warning/alarm raised, the software platform sends an alert to the contact person so that he deals with it immediately.

Early warning and alarms

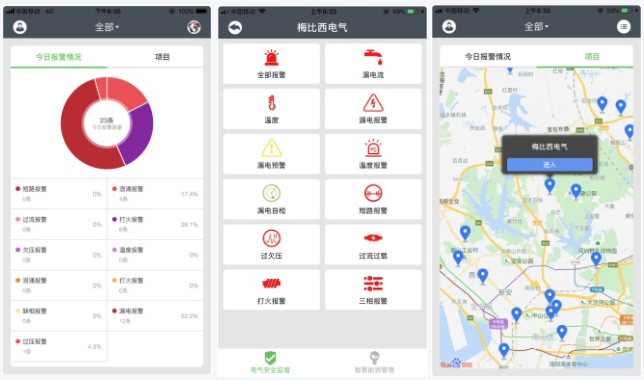
Early warning and alarm information in software platform can be read /understood as follows:

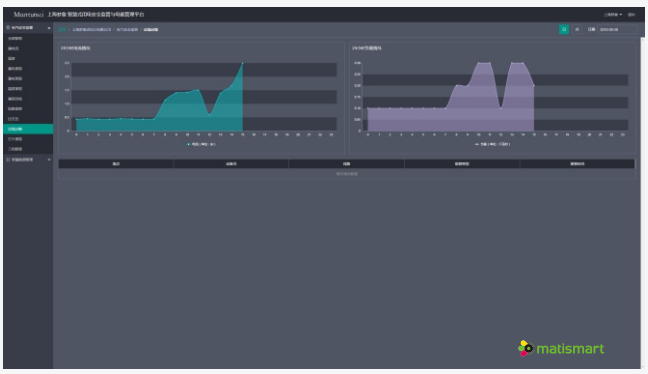
- Alarm of earth leakage current
- Early warning of earth leakage current
- Early warning of high temperature
- Autotest function of earth leakage protection
- Early warning and alarm of overload and over current
- Early warning and alarm of over voltage and undervoltage
- Alarm of short circuit
- Alarm of unbalance
- Alarm of electricity fraud

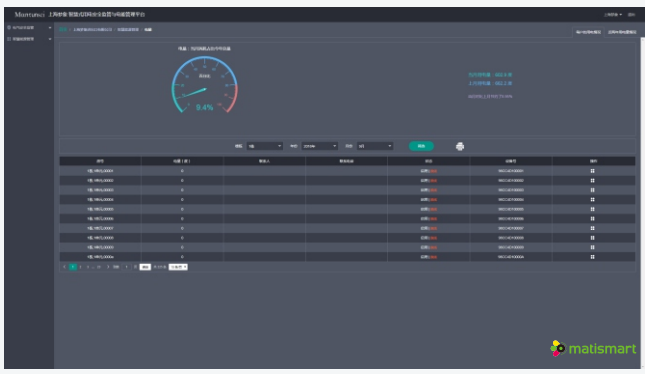
Electrical parameter monitoring

Electrical parameter monitoring in software platform can be read/understood as follows:

- Temperature monitoring
- Current monitoring
- Voltage monitoring
- Power monitoring
- Earth Leakage current monitoring







Software Platform

Power Management

In this software platform, the user will find the basic analytic functions such as a dashboard data, instantaneous values, comparison functions and cost allocation by consumer group.
The building energy flows and costs are transparent, therefore, this solution is suitable for energy management and energy cost allocation application seeking energy efficiency improvement and cost reductions.

The platform realizes the collection, storage, management and efficient use of the terminal energy information. It analyzes, processes, handles all energy data, and output to keep the system run in best state, after system intelligent configuration.

In order to further provide conditions for mining, analyzing, processing and handling energy data, The energy efficiency management system we built, can not only effectively solve real-time energy balance and monitoring management, but also build up condition to further dig, analyze, process, handle data, through filing and management of a large amount of historical data.

Power consumption statistic, analysis and comparison

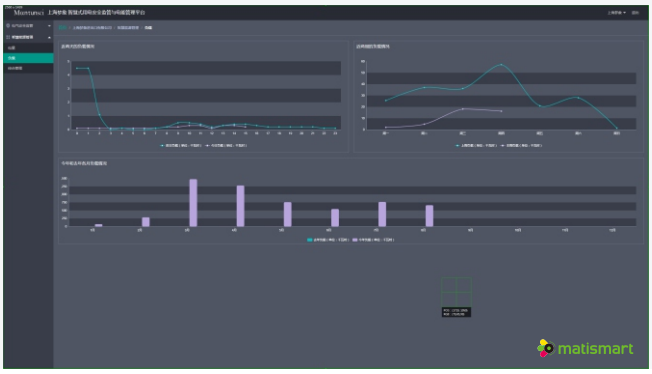
- Power consumption comparison between current month and last month
- Power consumption percentage of current month in the total amount of the whole year.
- Power consumption statistic and sum of each classified divisions
- Power consumption comparison monthly in last two years

Load statistic and comparison

- Load status and comparison of today and yesterday
- Load status and comparison of this week and last week
- Load status and comparison of this year and last year

Control and Management

- Rename of each device
- Remote control
- Scene setting with timer function
- Password management



Applications

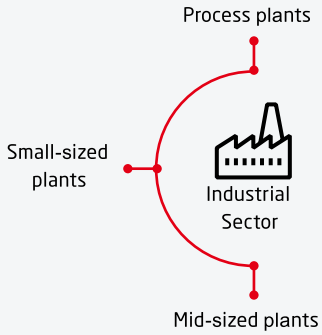
The device is based on a simple, integrated architecture. It guarantees high levels of flexibility, making it suitable for applications in different sectors.

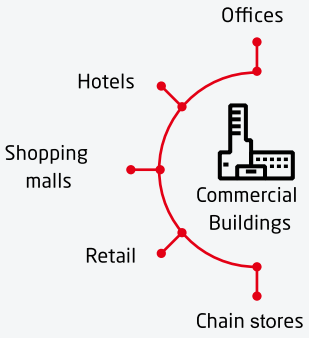
In the industrial sector, solutions can be installed in small to mid-sized plants, in infrastructure facilities and process plants to monitor operations, using data analysis to minimize downtime.

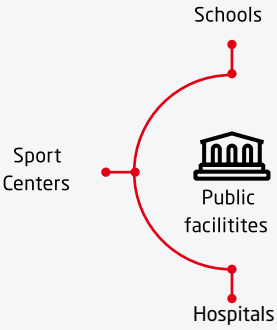
Optimized management of assets creates a competitive advantage that enables customers to maximize business opportunities.

Commercial and public buildings can also leverage the scalable solution to achieve higher energy efficiency and to have more detailed monitoring and control of their facility. Offices, shopping malls, hotels, retail or chain stores can increase their awareness of energy consumption and cost allocation to improve performance.

Public facilities, such as schools, sport centers and healthcare facilities, can secure service continuity and develop predictive maintenance forecasts.

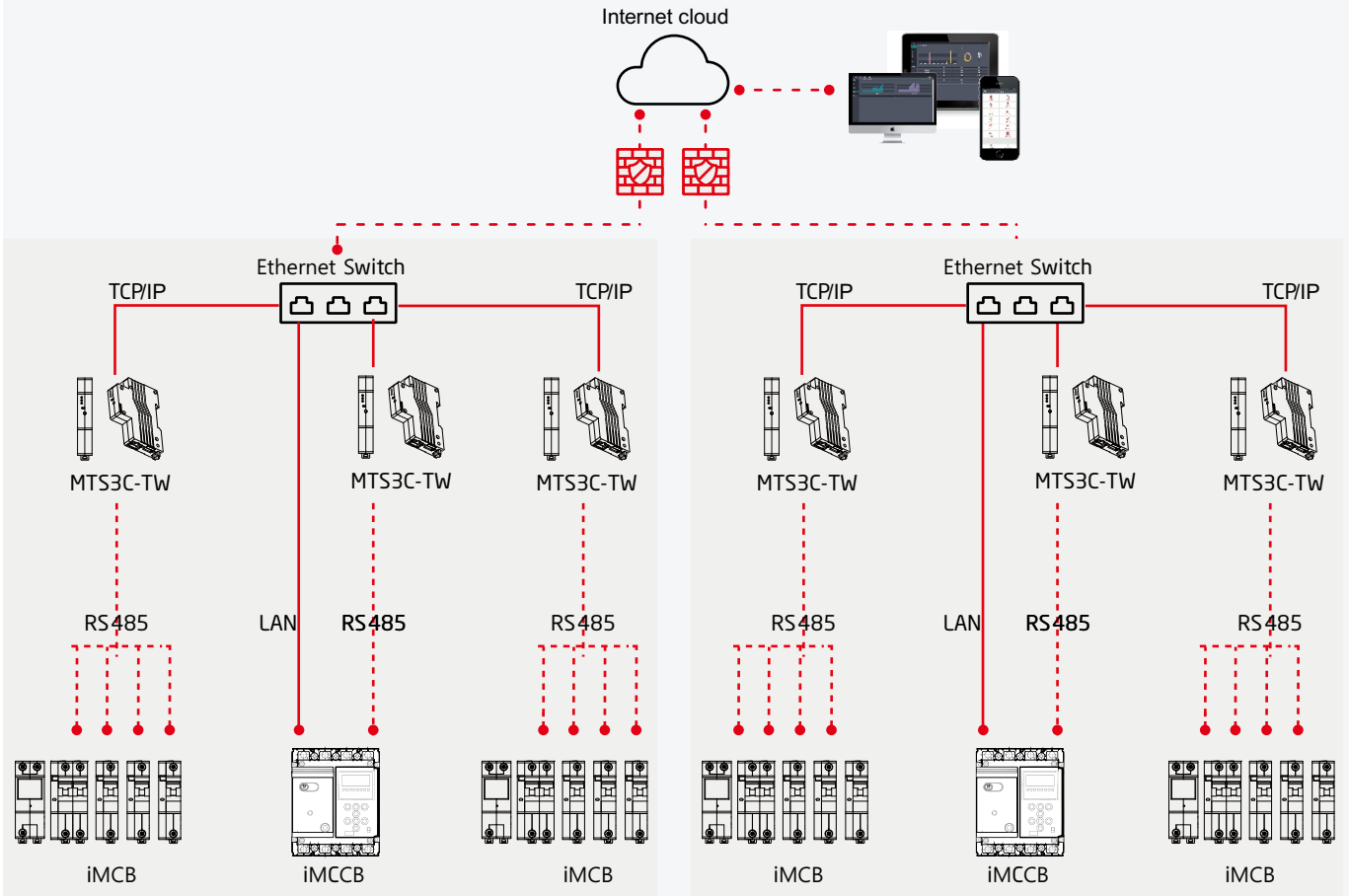






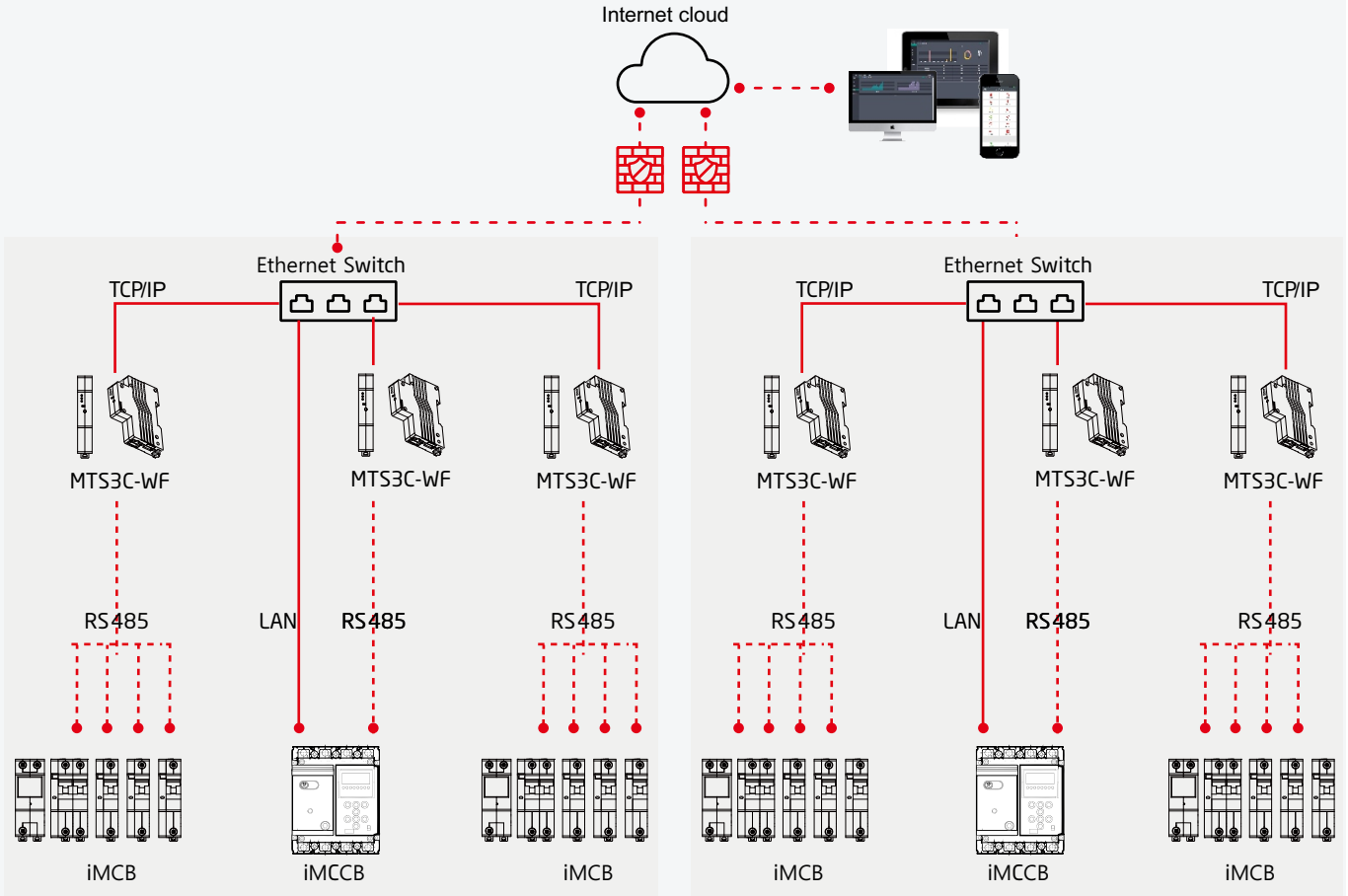
Application Examples

SHANGHAI ELECTRIC POWER INDUSTRY SCHOOL



Application Examples

HOTEL



Application Examples

This smart electrical safety supervision and power management system has changed the traditional operation and maintenance mode. By establishing an automatic monitoring and management platform, it is easier to use electrical safety supervision to eliminate potential safety hazards and achieve scientific energy management.

Shenzhen People's Hospital

The "Smart Electricity" APP helps hospitals to realize terminal power collection, store large amounts of data in real time, acquire first-hand data in real time, develop data center to extract, dig, analyze and summarize data, and finally provide proof for important decisions.

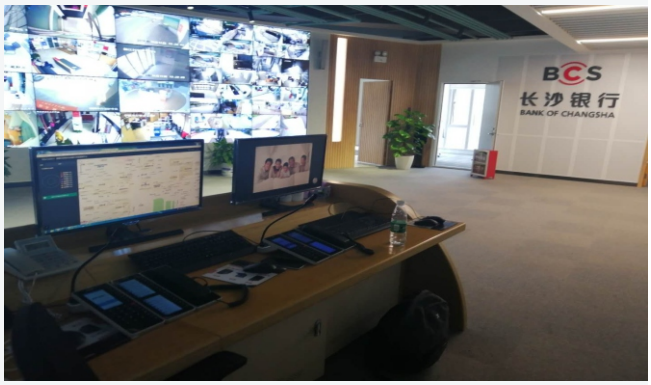
Beijing Normal University Experimental Primary School

The "Smart Electricity" system can realize 7×24-hour school monitoring, get out of the limit and low efficiency of human work, and monitor the device operation status in real time through IoT system.

Dazhou Shopping Mall

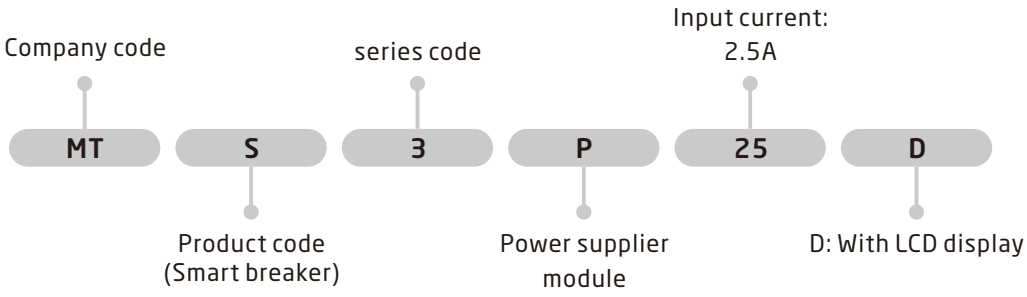
The mobile operation APP, with big data system, can digitally visualize all shop's power consumption, to graphically show and monitor the electrical operation.

Changsha Bank

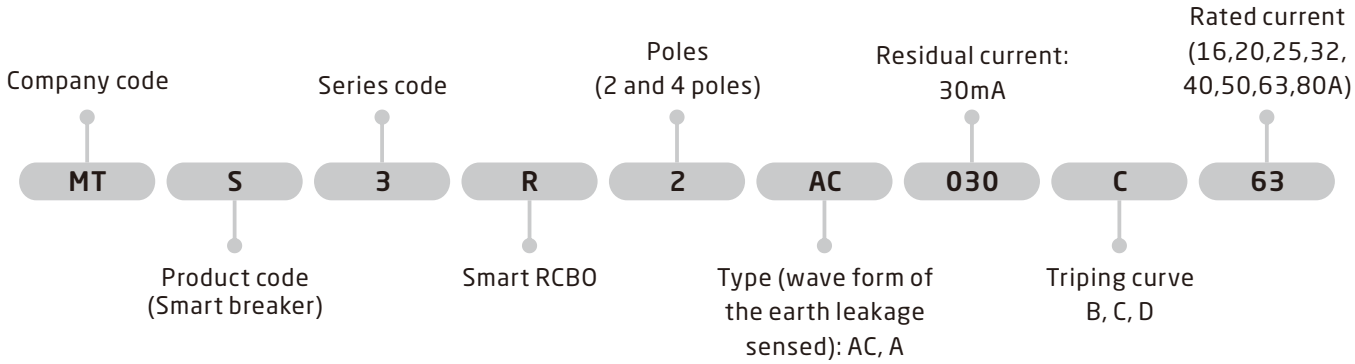


To realize the smart electrical management in bank, the system will activate alarm in time while there are potential hazard, such as abnormal lines or overload circuit. It will accurately report the fault cause, and timely check the safety hazards through technical means.

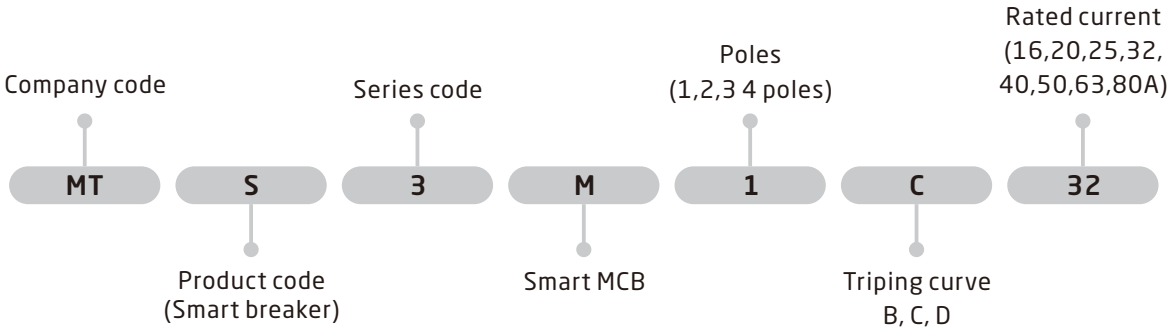
Instruction of Type Code for Power Supply Module



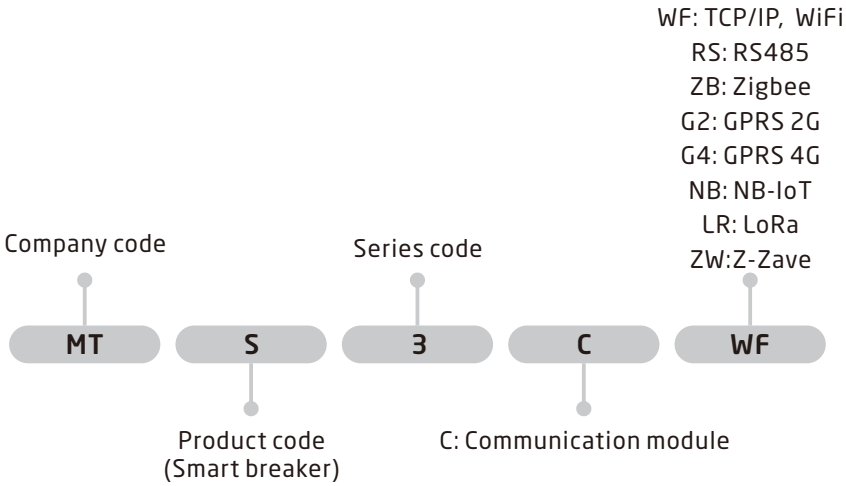
Instruction of type code for iRCBO



Instruction of type code for iMCB



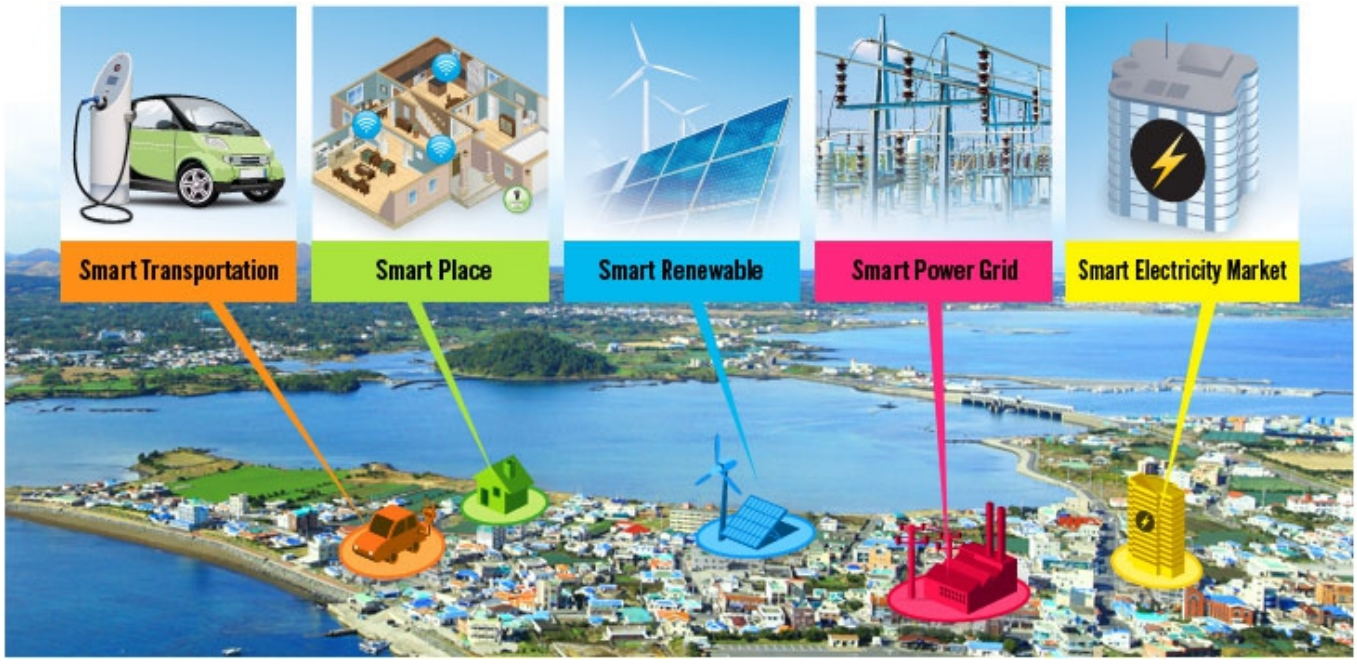
Instruction of type code for communication



Technical Specification of Power Supply Module

Power supply module will offer stable DC power for smart breaker MTS3 and owns class II surge protection. It is also the necessary part for smart breaker MTS3 system.

Order Code		MTS3-P25	MTS3-P25D
Product Code		S3-P25	S3-P25D
Picture			
Standards:		En55022, EN55024,EN61000,EN60950,GB4943	
Approvals:		CE,CCC	
Functions	Vac	Power supply, surge protection	
Rated voltage Ue:	Vac	220	
Rated input voltage range:	Hz	100-265	
Frequency (HZ):	mA	50/60	
Rated input current	Vdc	350	
Rated output voltage	A	12	
Rated output current		2.5	
Type / test class of surge protection:	mm	2 / II	
Numbers of Modules(1 module=18mm)	KA	36(2 P)	
Max.discharge current Imax (8/20) per pole Imax:	KA	15	
Nominal discharge current In (8/20) per pole In:		10	
Max. working capacity (Max.numbers of breakers)	mm²	10*(iRCBO/ iMCB)	
Conductor cross-sections		38	
Pollution degree	°C	2	
Ambient temperature:	°C	-15 - +40	
Storage temperature:		-25---+70	
Humidity	m	< 95%	
Altitude:		<=2000	
Terminal connection		Cable/Pin-type busbar	
Mounting		Din rail En60715(35mm) by means of fast clip device	
Connection		Both from top to bottom or reverse	



Technical Specification of iRCBO

Smart RCBO can be used as main switch and line protection in Smart Breaker MTS3 system. It is also the necessary part for Smart Breaker MTS3 system as main switch.

Order Code		MTS3-R2	MTS3-R4
Product Code		S3-ZNC	S3-TZC
Picture			
Standards:		IEC61009.1, GB16917.1	
Approvals:		CE, CCC	
Poles	Vac	2P	4P
Rated voltage Ue	Hz	230	400
Frequency (HZ):	A	50/60	
Rated current		16,20,25,32,40,50,63,80	
Type (wave form of the earth leakage sensed)	mA	AC	
Rated residual current (IΔn)	Vac	30	
Rated insulation voltage Ui	A	500	
Rated Breaking capacity acc.to IEC61009 ultimate Icn		6000	
Breaking time under IΔn		<=0.1 S	
Breaking time under Icn		<=0.04S	
Triping characteristic		C (5-10In)	
Other functions		Over/under voltage protection , warning and alarm Max.power and current setting Auto test of earth leakage current High temperature protection, warning and alarm Monitor of current, power and voltage in real-time Arcing fault protection, warning and alarm Remote control Timer Meter Event record and notice	
Breaking time when voltage is over 265Vac		10S	
Over/undder voltage warning		Voltage is higher than 250Vac or lower than 190Vac	
Breaking time when the current reach the		5s	
Max.current or power setup			
The time for switching on automatically after		5s	
Auto-test of earth leakage current		30mA	
Electric life	Times	10000	
Mechanical life	Times	20000	
Conductor cross-sections	mm²	38	
Protection degree		2	
Numbers of modules(1 module=18mm)		3 (54mm)	5 (90mm)
Ambient temperature:	°C	-15 - +40	
Storage temperature:	°C	-25---+70	
Humidity		< 95%	
Altitude:	m	<=2000	
Terminal connection		Cable/Pin-type busbar	
Mounting		Din rail En60715(35mm) by means of fast clip device	
Connection		Both from top to bottom or reverse	

Technical Specification of iMCB

Smart Breakers are the core part of MTS3 smart system, it combines protection, metering, monitor, timer, automation, event record and notice.

Order Code		MTS3-M1	MTS3-M2	MTS3-M3	MTS3-M4
Product Code		S3-FC	S3-FNC	S3-TC/TD	S3-TNC/TND
Picture					
Standards:		IEC60898.1, GB10963.1			
Approvals:		CE, CCC			
Poles		1P	2P	3P	4P
Rated voltage Ue	Vac	230/400-240/415			
Operational voltage	Vac	Min.90 Max:250/440			
Frequency (HZ):	Hz	50/60			
Rated Current	A	10,16,20,25,32,40,50,63,80			
Rated insulation voltage Ui	Vac	500			
Rated impulse withstand voltage (1.2/50) Uimp	Vac	2500			
Rated Breaking capacity acc.to IEC60899 Icn	A	6000			
Breaking time under Icn		<=0.04S			
Triping Characteristic		B (3-5In) C (5-10In) D (10-14In)			
Other Functions		Over/under voltage protection , warning and Alarm Max.Power and Current Setting Auto test of earth leakage current High Temperature protection, warning and Alarm Arcing Fault Protection, warning and Alarm Monitor of Current, power, voltage in real-time Remote control Timer Meter			
		Event record and notice			
Breaking time when voltage is over 263Vac		10S			
Over/undder voltage warning		when voltage is higher than 250Vac or lower than 190Vac			
Breaking time when the current reach the max.current or power setup		5s			
Electric Life	Times	10000			
Mechanical life	Times	20000			
Conductor cross-sections	mm²	38			
Pollution Degree		2			
Numbers of Modules(1 module=18mm):		1.5 (27mm)	2.5 (45mm)	4 (72mm)	5(90mm)
Ambient temperature:	°C	-15 - +40			
Storage temperature:	°C	-25---+70			
Humidity		< 95%			
Altitude:	m	<=2000			
Terminal Connection		Cable/Pin-type busbar			
Mounting		Din rail En60715(35mm) by means of fast clip device			
Connection		Both from top to bottom or reverse			

Technical Specification of Communicaiton Module

Communication module includes wireless and wired mechanism's. It also functions as hotspot.

Order Code		MTS3-C
Product Code		S3-T30/RS485/Zigbee/NB-IoT/T2G/T4G/LoRa
Picture		
Standards:		EN301489,EN300328,EN62479,EN60950
Approvals:		CE,CCC
Types	Vdc	TCP/IP, RS485,Wi-Fi, GPRS-2G, NB-IoT, Zigbee, LoRa
Rated input voltage		12
Numbers of modules(1 module=18mm)		1 (18mm)
Max. working capacity (Max.numbers of breaker powering)	mm²	(iRCBO+ iMCB) x 32pcs
Conductor cross-sections		38
Pollution degree	℃	2
Ambient temperature:	℃	-15 - +40
Storage temperature:		-25---+70
Humidity	m	< 95%
Altitude:		<=2000
Terminal connection		Cable/Pin-type busbar
Mounting		Din rail EN60715(35mm) by means of fast clip
Connection		Both from top to bottom or reverse

Ordering Information

Power supply module

Pictures	Input & Output voltage (V)	Input & Output Current(A)	Lighting Protection	LCD Display	Order Code	Product Code	Numbers of Modules(1 module=18mm)	Weight Unit: g
	Input: 100-250VAC Output: 12VDC	Input: 350mA Output: 2500mA	Isn: 10kA Imax: 15kA	No	MTS3-P25	MTS3-P25	2(36mm)	187
	Input: 100-250VAC Output: 12VDC	Input: 350mA Output: 2500mA	Isn: 10kA Imax: 15kA	Yes	MTS3-P25D	MTS3-P25D	2(36mm)	187

Communication Module

Pictures	Rated voltage	Communication type	Order Code	Product Code	Numbers of Modules(1 module=18mm)	Weight Unit: g
	12VDC	TCP/IP, Wi-Fi	MTS3-CWF	S3-T30/WF	1(18mm)	2.43
		RS485	MTS3-CRS	S3-RS485		
		ZigBee	MTS3-CZB	S3-ZigBee		
		NB-IoT	MTS3-CNB	S3-T30/NB-E8		
		LoRa	MTS3-CLR	S3-LoRa		
		GPRS-2G	MTS3-CG2	S3-T30/2G		
		GPRS-4G	MTS3-C4G	S3-T30/4G		
		Z-Wave	MTS3-CZW	S3-Z-Wave		

Accessory

Pictures	Accessory name	Communication type	Order Code	Product Code	Weight Unit: g
	Connection pin	6 pins	MTS3-P6	S3-pin	0.01
	flexible flat cable	40mm	MTS3-CT50	S3-50line	0.6
		50mm	MTS3-CT60	S3-60line	0.7
		60mm	MTS3-CT80	S3-80line	0.8

iRCBO module

Pictures	Curve	Number of poles	Rated residual current (mA)	Rated current In (A)	RCD type	Order Code	Product Code	Numbers of Modules(1 module=18mm)	Weight Unit: g
	C	2P	30	16	AC	MTS3-R2AC30C16	S3-ZNC16	3(54mm)	367
				32		MTS3-R2AC30C32	S3-ZNC32		
				63		MTS3-R2AC30C63	S3-ZNC63		
				80		MTS3-R2AC30C80	S3-ZNC80		
	C	2P	30	32	AC	MTS3-R4AC30C32	S3-TZC32	5(90mm)	787
				63		MTS3-R4AC30C63	S3-TZC63		
				80		MTS3-R4AC30C80	S3-TZC80		

Ordering Information

iMCB module

Pictures	Number of Poles	Curve	Rated Current In (A)	Order Code	Product Code	Numbers of Modules(1 module=18mm)	Weight Unit: g
	1P	B	20	MTS3-M1B20	S3-FB20	1.5(27mm)	174
			32	MTS3-M1B32	S3-FB32		
			63	MTS3-M1B63	S3-FB63		
		C	20	MTS3-M1C20	S3-FC20	1.5(27mm)	
			32	MTS3-M1C32	S3-FC32		
			63	MTS3-M1C63	S3-FC63		
		D	20	MTS3-M1D20	S3-FD20	1.5(27mm)	
			32	MTS3-M1D32	S3-FD32		
			63	MTS3-M1D63	S3-FD63		
	2P	B	32	MTS3-M2B32	S3-FNB32	3(54mm)	368
			63	MTS3-M2B63	S3-FNB63		
			80	MTS3-M1B80	S3-FNB80		
		C	32	MTS3-M2C32	S3-FNC32	3(54mm)	
			63	MTS3-M2C63	S3-FNC63		
			80	MTS3-M2C80	S3-FNC80		
		D	32	MTS3-M2D32	S3-FND32	3(54mm)	
			63	MTS3-M2D63	S3-FND63		
			80	MTS3-M2D80	S3-FND80		
	2P	C	iMCB with earth leakage current detection				
			63	MTS3-M2C63L	S3-FN(L)C63	4(72mm)	
			80	MTS3-M2C80L	S3-FN(L)C80		
	3P	B	32	MTS3-M3B32	S3-TB20	4(72mm)	502
			63	MTS3-M3B63	S3-TB32		
			80	MTS3-M3B80	S3-TB63		
		C	32	MTS3-M3C32	S3-TC20	4(72mm)	
			63	MTS3-M3C63	S3-TC32		
			80	MTS3-M2C80	S3-TC63		
		D	32	MTS3-M3D32	S3-TD20	4(72mm)	
			63	MTS3-M3D63	S3-TD32		
			80	MTS3-M3D80	S3-TD63		
	4P	B	32	MTS3-M4B32	S3-TNB32	5(90mm)	637
			63	MTS3-M4B63	S3-TNB63		
			80	MTS3-M4B80	S3-TNB80		
		C	32	MTS3-M4C32	S3-TNC32	5(90mm)	
			63	MTS3-M4C63	S3-TNC63		
			80	MTS3-M4C80	S3-TNC80		
		D	32	MTS3-M4D32	S3-TND32	5(90mm)	
			63	MTS3-M4D63	S3-TND63		
			80	MTS3-M4D80	S3-TND80		
	4P	C	iMCB with earth leakage current detection				
			63	MTS3-M4C63L	S3-TN(L)C63	5(90mm)	
			80	MTS3-M4C80L	S3-TN(L)C80		

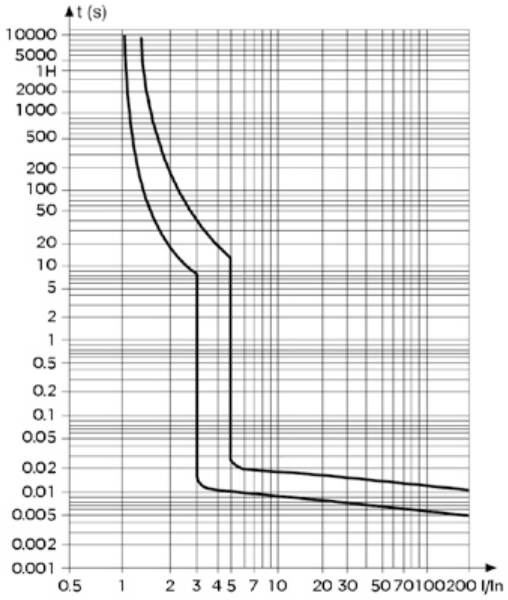
Software

Pictures	Name	System Requirement	Order Code	Product Code
	APP (Personal)	Search "**matismart**" in both iOS or Google play store to download	MTS3-AP-PSN	S3-AP-PSN
	APP (Property)	Search "**matismart**" in both iOS or Google play store to download	MTS3-AP-PPT	S3-AP-PPT
	Software Platform	**Hardware:** CPU: Intel Xeon E3 Storage: 8G Harddisk: above 100G(SSD rcmded) **Software:** OS system Windows 2008 Server 64 bit, Enviroment: JRE7(32bit), Redis-x64-2.8, Mysql-5.6	MTS3-PMS2.0	PMS2.0

Technical Information

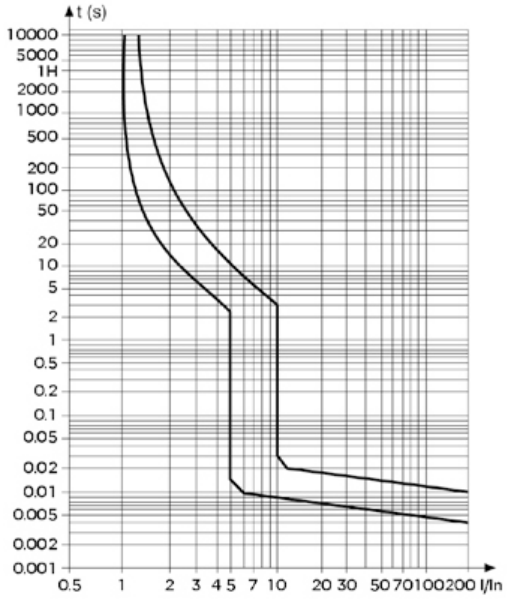
Tripping characteristic curves

B-curve: (3-5) In



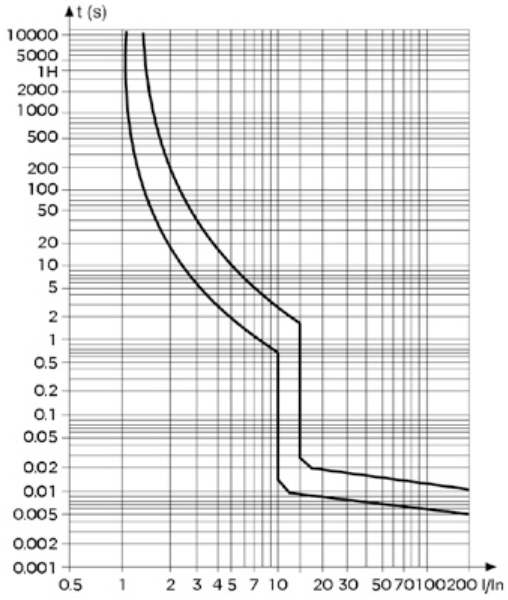
B type trip curve

C-curve: (5-10) In

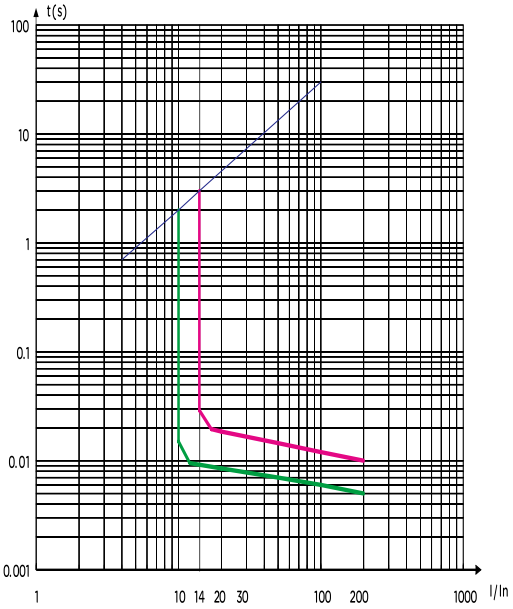


C type trip curve

D-curve: (10-14) In



D type trip curve



Magnetic trip diagram

Magnetic Release Characteristics for iMCB

An electromagnet with plunger ensures instantaneous tripping in case of short circuit. The IEC60898 distinguishes three different types: B, C, D

Standard	Curve	Start Status	Test current	Test Request	Tripping time	Applications	Ambient Temperature for Test
IEC60898	B	Cold	3In	No trip	t≤ 0.1s	Only for resistive loads such as: Electrical heating water heating stoves	30°C
		Cold	5In	Trip	t < 0.1s		
	C	Cold	5In	No trip	t≤ 0.1s	Usual loads such as: Lighting Socket outlets small motor	
		Cold	10In	Trip	t < 0.1s		
	D	Cold	10In	No trip	t≤ 0.1s	Control and protection of circuits having important transient inrush currents(large motors)	
		Cold	14In	Trip	t < 0.1s		

Thermal Release Characteristics for iMCB

The release is activated by a MCU unit in case of overload, the standard defines the range of release for specific overload value

Referece ambient temperature is 30°C

Standard	Start Status	Test current	Test Request	Tripping time	Ambient Temp
IEC60898	Cold	1.13In	No Trip	T>= 1h(In<=63A)	30°C
				T>=2h(In>63A)	
	Hot	1.45In	Trip	T<1h(In<=63A)	
				T<<2h(In>63A)	
	Cold	2.55In	Trip	1s<t<60s(In<=32A)	
				1s<t<120s(In>32A)	

Detectable WaveForm for iRCBO

- Type AC : For which tripping is ensured for residual sinusoidal alternating currents, whether suddenly applied or slowly rising.
- Type A : For which tripping is ensured for residual sinusoidal alternating currents and residual pulsating direct currents, whether suddenly applied or slowly rising.

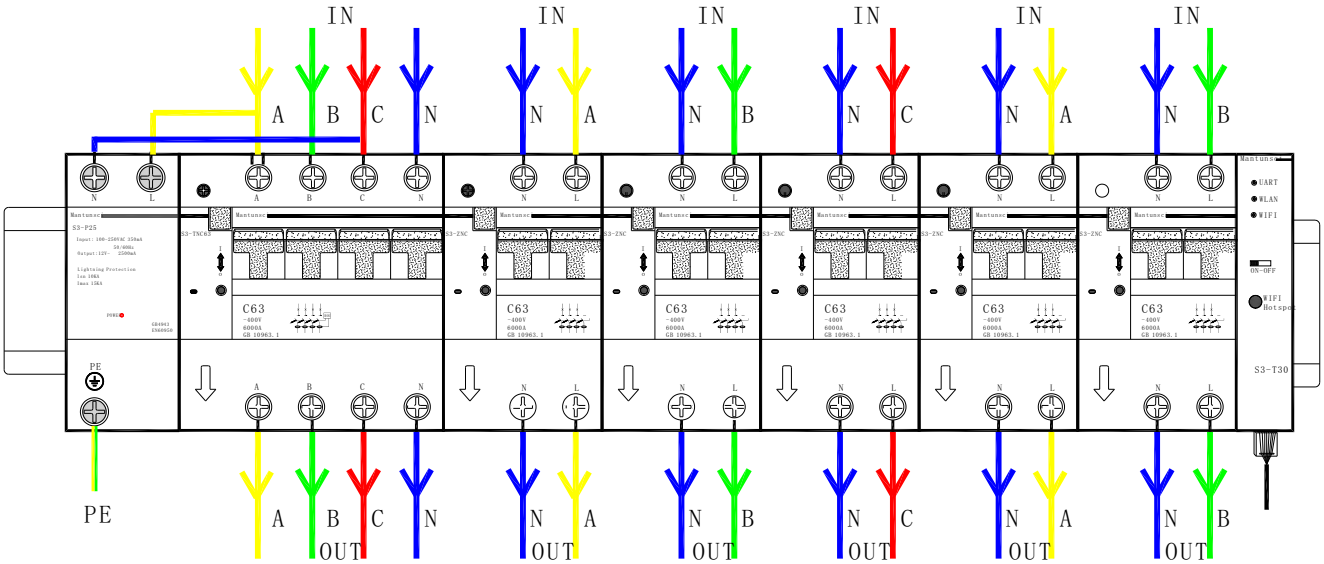
Tripping Senitivity for iRCBO

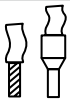
- 30mA-additional protection agains direct contact.
- 100mA- Co-ordinated with the earth system according to the formula <50/R, to provide protection against indirect contacts.
- 300mA- Protection against indirect contact, as well as fire harzard

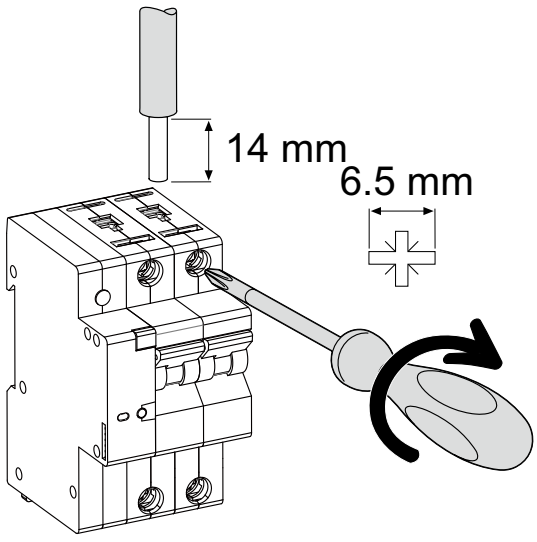
Installation and Wiring Diagram

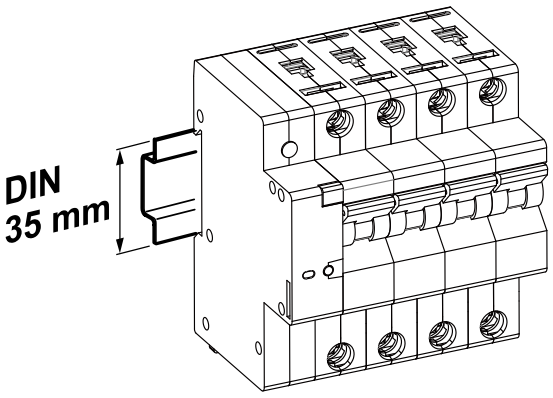
Combined installation and wiring shown according to the illustrated module as below:

- Power supply module is mandatory module, and installed in first place of the row. It can drive max.10pcs iMCB / iRCBO.
- 1pc iRCBO / iMCB(2,3,4 poles) used as main switch, and follows to the power supply in second place.
- Required quantity of iMCB /iRCBO to be installed as branch switches, followed the main switch.
- Communication module is also a mandatory module, and installed in last place of the row. It can drive max.32pcs iMCB / iRCBO.
- All modules are connected by connection pins in each row, and a flexible flat cable is needed to connect multi rows.



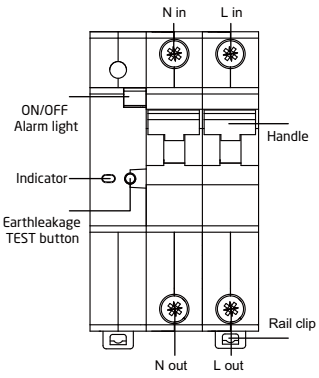
Screw size	Rated torque	Ultimate torque	National standard	Hard line	Cord or hoop terminal
					
1~25	2.5 Nm	5.1 Nm	2.0 Nm	1-25mm²	1-16mm²
32~80	3.5 Nm	5.6 Nm	3.5 Nm	1-35mm²	1-25mm²

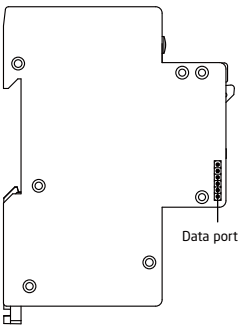


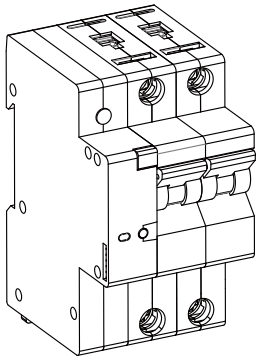


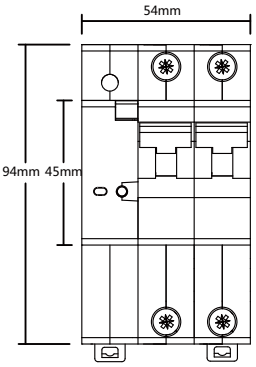
Outline and Installation Dimensions

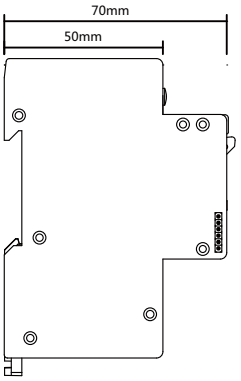
iRCBO 2P



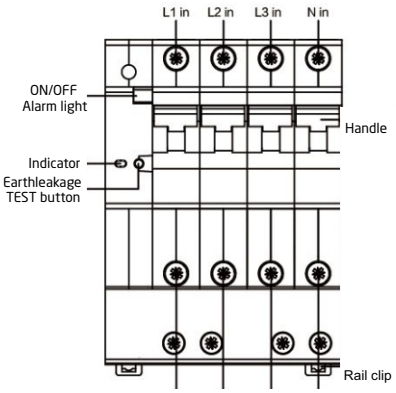


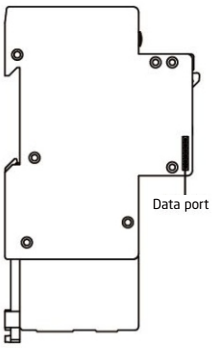


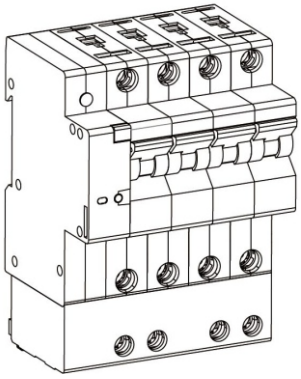


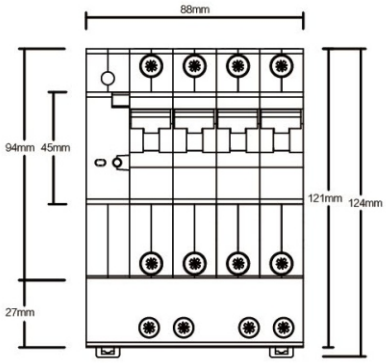


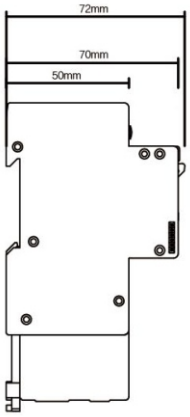
iRCBO 4P





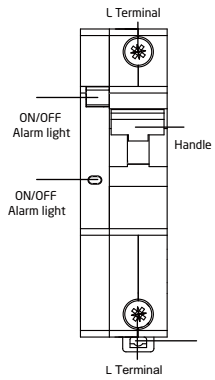


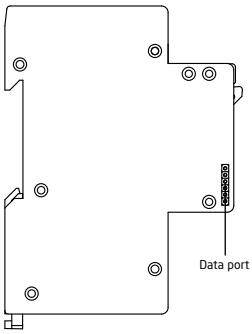


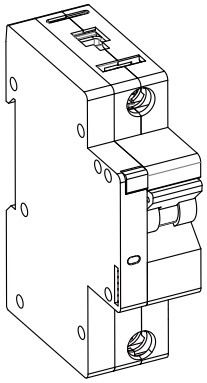


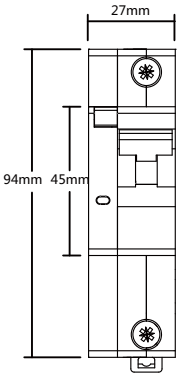
Outline and Installation Dimensions

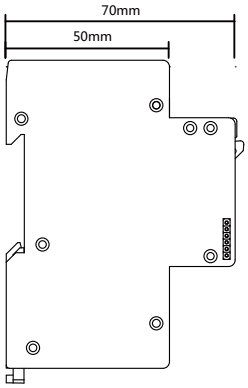
iMCB 1P



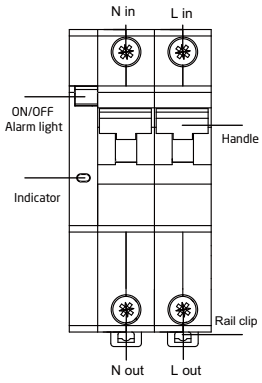


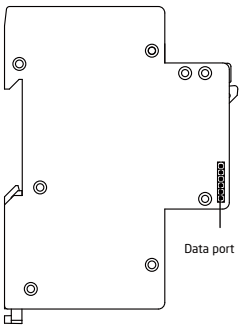


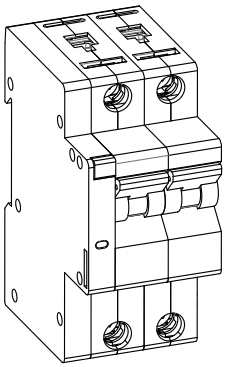


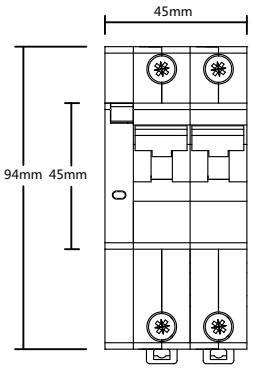


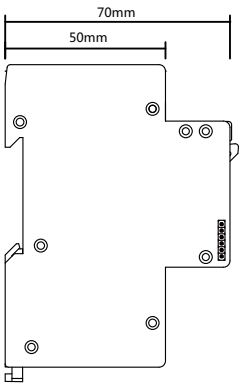
iMCB 2P





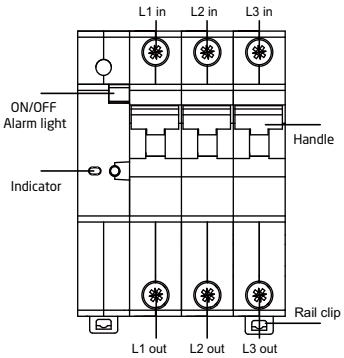


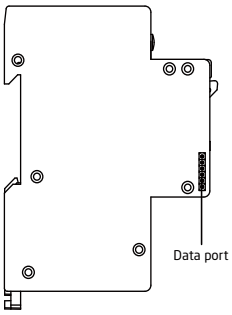


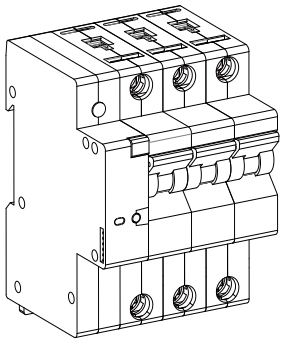


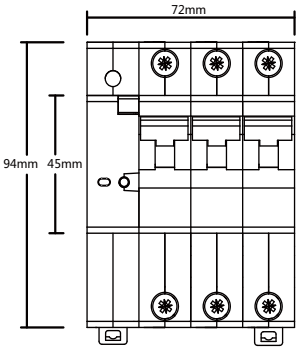
Outline and Installation Dimensions

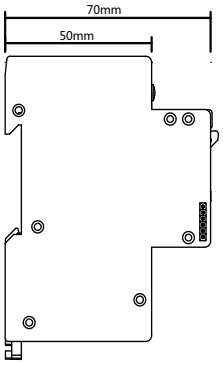
iMCB 3P



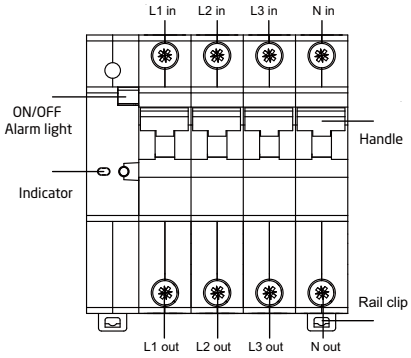


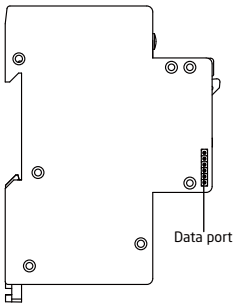


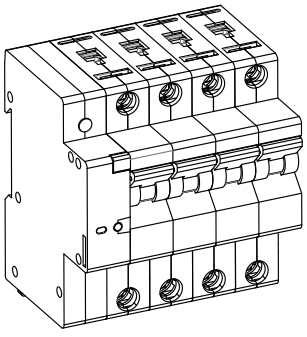


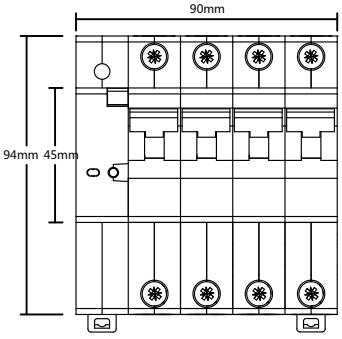


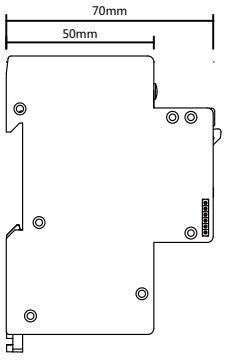
iMCB 4P





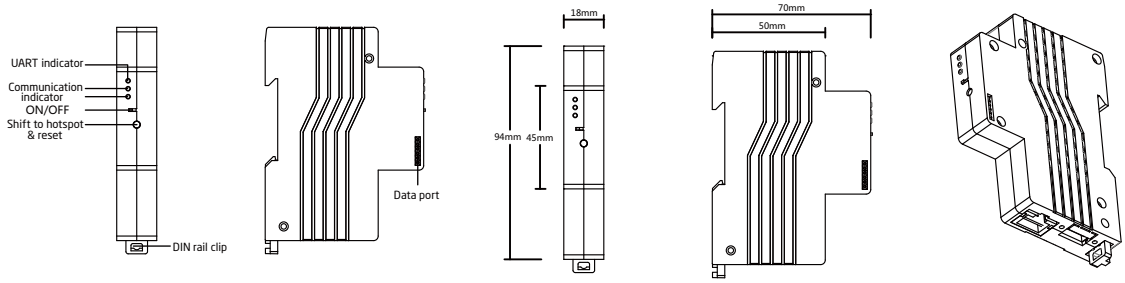






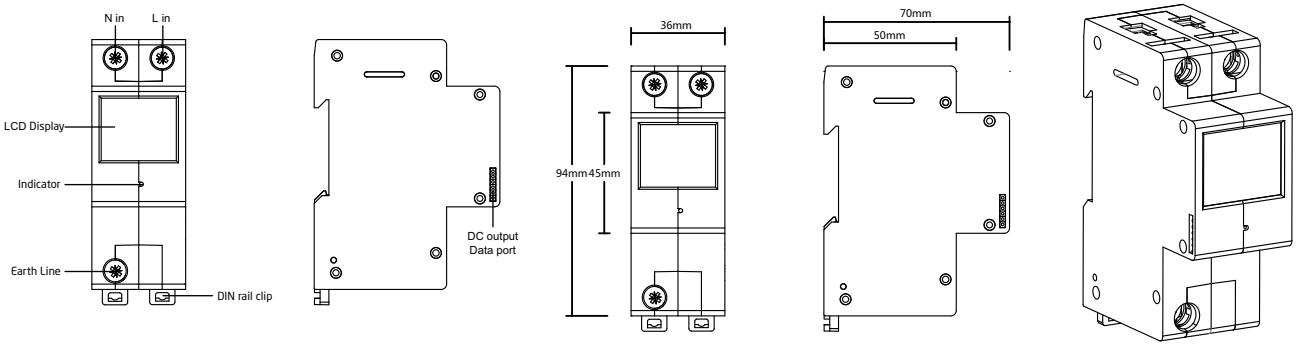
Outline and Installation Dimensions

iMCB 1P



Outline and Installation Dimensions

Power Supplier Module



Note

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MTS3 iBreaker
iOS

MTS3 iBreaker
Android

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