matismart

AIoT Electric

Smart Metering Breaker

Smarter Electric, Safer Efficiency!

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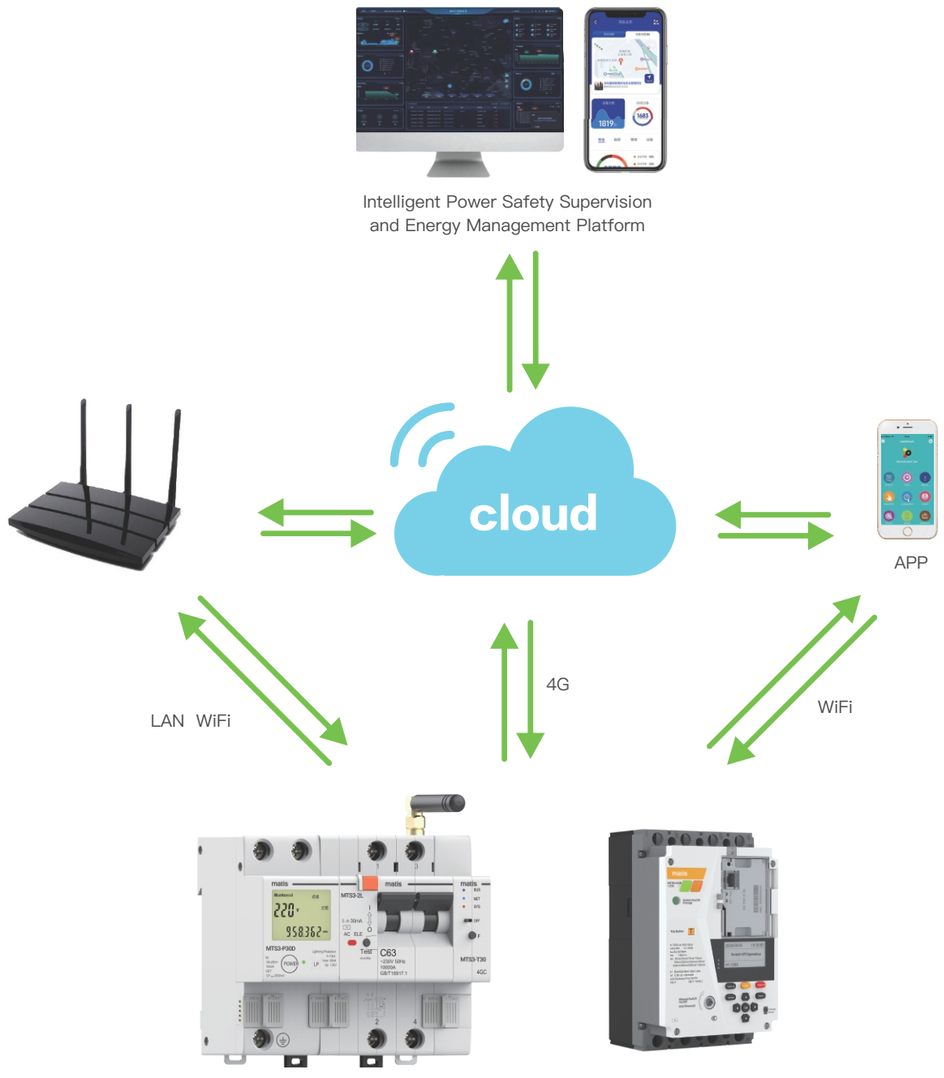
Overview



| Intelligent Power Safety Supervision and Energy Management Platform

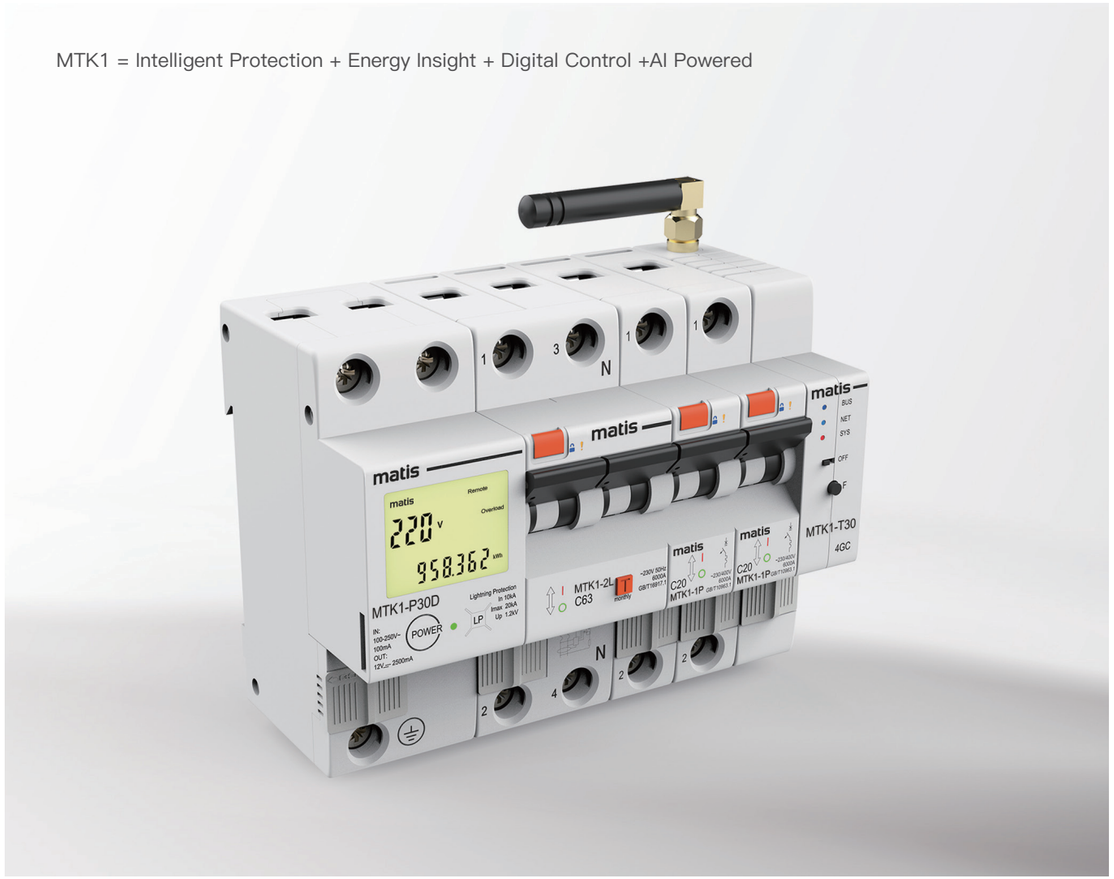
Summary

OVERVIEW

Matismart Smart Electrical Safety Supervision and Energy Management Platform innovatively utilizes IoT, big data, and cloud computing technologies. It enables remote control, real-time monitoring, circuit fault early warning, fault alarms, and energy consumption monitoring. Leveraging big data mining and analytics, the platform supports electricity usage behavior analysis, equipment health management, and energy efficiency management.

The Matismart Cloud Platform provides multi-site access, allowing for the simultaneous monitoring and performance comparison of different facilities. It features role-based user management configurations, offering tailored application versions for various terminals, including smartphones and dedicated software platforms for electrical safety supervision and power management.

MTK1 Smart Circuit Breaker



MTK1 Smart Circuit Breaker is an advanced AIoT-enabled protection and energy management device designed for modern electrical systems. Integrating comprehensive electrical protection, precise power metering, multi-mode communication, and powerful edge-AI analytics, MTK1 delivers superior safety, reliability, and intelligence for residential, commercial, and industrial applications.

Built to support future-ready digital power infrastructure, the MTK1 offers seamless installation, flexible configuration, and high adaptability across diverse operating environments.

Key Advantages for Users

- Predictive Protection That Stops Problems Before They Start: Fewer surprises. Less downtime. More safety.
- AI Intelligence That Makes Every Circuit Smarter: No false trips. No delays. Just reliable protection—instantly.
- Deep Energy Insights for Real Savings: See more. Waste less. Save more.
- Always Connected. Always In Control.: Zero blind spots. Zero data loss.
- Fast Installation, Instant Upgrades: Install faster. Scale easier. Maintain smarter.
- Designed for the Real World: Reliable performance in every environment.
- One Series, Endless Applications: One product family for all scenarios.

Comprehensive Electrical Protection

Short circuit, overload, overcurrent, overtemperature, terminal overtemperature, voltage fluctuations, leakage, phase loss, harmonic distortion, and three-phase imbalance protection.
Advanced four-quadrant detection, auto-reclosing, start-upprotection, islanding detection (three-phase), waveform extraction, series arc detection.
Customizable protection settings via a new-generation protection module.
Scheduled automatic leakage-current self-test through mobile App to prevent protection failure.

Intelligent Early Warning & Fault Diagnostics

Real-time circuit monitoring with automated anomaly detection, early warnings, and alarms.
Flexible configuration of thresholds, alarm conditions, and protection timing.
Adjustable power/current limit for post-installation fine-tuning and risk identification.

AI-Driven Edge Computing

Built-in high-performance chip for local AI model processing, real-time analytics and load identification.
AI-optimized protection strategies for complex electrical scenarios.
Ultra-low latency decision-making ensures precise and instantaneous fault response.

High-Accuracy Energy Measurement

Real-time monitoring of voltage, current, power, leakage current, temperature, and energy usage.
Harmonic analysis, power factor monitoring, and power quality assessment.
Metering Accuracy: Class 1.0.

Multi-Mode Connectivity

Supports 4G, WiFi, LAN, RS485, and CAN bus communication.
Redundant communication ensures stable data transmission.

Optimized Design & Easy Installation

Modular 18mm form factor with standard 35mm DIN-rail mounting.
Sliding bus connector for fast installation and replacement.

Remote App Control

Remote switching, configuration, and operation via mobile App.
Real-time monitoring of system status and energy data.

Full Specification Range

Pole options: 1P to 4LN
Current rating: 6A to 63A
Breaking capacity: 6 kA
Compatible with diverse circuit designs and load requirements.

Multi-Color LED Status Indicators

Clear indication of device status, network status, communication, and fault conditions.

Wide Operating Temperature

Stable performance under − 20° C to +60° C environments.

MTK1 Small Digital Micro Breaker

Protection features: short circuit, overcurrent, overload, overtemperature, over/under voltage, terminal temperature protection,harmonic protection, phase loss (three-phase models), three-phase imbalance (three-phase models), phase sequence (three-phase models), and leakage current detection (with K model)

Main technical parameters:
Number of poles: 1P,2P,3P,4P,3PN, 1PN
Rated current (A): 6, 10,16,20,25,32,40,50,63
Rated short-circuit breaking capacity: 6000A
Instant trip type: C, D
Matismart CAN bus
Load identification: 1P,1PN, 1KN

MTK1 Digital Leakage Protection Micro-Disconnector

Protection functions: short circuit, over current, overload, over temperature, over/under voltage, leakage current, phase loss (threephase models), terminal temperature protection, harmonic protection, three-phase imbalance (three-phase models), phase sequence(three-phase models)

Main technical parameters:
Polarities: 2P,3P,4P,3PN (N pole continuous)
Rated current (A): 6, 10,16,20,25,32,40,50,63
Rated short-circuit breaking capacity: 6000A
Instant trip type: C, D
Matismart CAN bus

MTK1 Power Module

Provide DC power for digital micro-breaker.

Main technical parameters:
Input voltage: AC 85-300V
Rated output current: 3A
Output voltage: DC
12V with LCD display

MTK1 Internet of Things Gateway

Multi-communication methods enable local-cloud data exchange, remote device control and universal linkage logic.

Main technical parameters:
Voltage: DC12V
Communication methods: WiFi, LAN, 4G, RS485
Protocol: UDP,HTTP, Manton Modbus, Matismart CAN bus, Matismart TTL bus

MTK1 Common Models for Small Digital Micro-disconnector Modules

Series	Model	Instant trip type	Rated current class (A)
MTK1	1P/2P/3P/4P/1PN 2K/3K/4K/1KN 2L/3L/4L/3LN	C/D	6A/10A/16A/20A/25A/ 32A/40A/50A/63A

Type	1P	1PN	2P	3P	4P	1KN	2K	3K	4K	2L	3L	4L	3LN
Rated insulation voltage Ui	500V												
Rated impulse withstand voltage Uimp	6KV												
Rated current In	6A,10A,16A,20A,25A,32A,40A,50A,63A (Standard stock: 20A,32A,63A; other models require ordering lead time)												
Binding post	Tunnel type terminal, M5, rated torque 3.5N.m												
Electric life	10,000 times												
Mechanical life	20000 times												
Power dissipation	⩽ 0.4W												
Working temperature	-20 ℃ ~ +60 ℃												
Storage temperature	-40 ℃ ~ +85 ℃												
Relative humidity	5%-95% (no condensation)												
Exterior flame retardant rating	V0												
Communication	Supports the Matismart CAN bus communication protocol												
Certification status	CCC												
Rated operating voltage Ue	AC230V				AC400V	AC230V		AC400V		AC230V		AC400V	
Rated short circuit capacity Icn	6000A												
Rated short-circuit capacity Ics	6000A												
Number of poles ("N" indicates no protective pole and also represents the open/closed state of the N pole in leakage current models)	1P	1P+N (one protective pole, N Extremally open and closed)	2P	3P	4P	1P+N (one protective pole, N Extremally open and closed)	2P	3P with Nlevel connection attachment	4P	2P	3P	4P	3P+N (three protective poles, N-level nonremovable)
Instant trip type	Type C / Type D												
Operative norm	GB/T10963.1								GB/T16917.1				
Basic function	RMS current, RMS voltage, active power, reactive power, apparent power, harmonics, and terminal temperature measurement; local/remote switch control; multi-parameter three-stage protection (secondary alarm, alarm, and warning); electricity metering.												
General Protection Function	Ir reverse time limit protection; Overcurrent warning; Settable overcurrent reverse time limit protection; Power overload protection; Terminal temperature protection and differential temperature protection; Over/under voltage protection; Intelligent single-phase switch operation; Series arc protection; Load identification (P/PN/KN); Phase loss protection (three-phase), unbalance protection (three-phase), phase sequence protection (three-phase switches only); Voltage amplitude fluctuation, phase fluctuation, harmonic fluctuation protection (three-phase switches only)												
Software leakage detection and protection	/							Leakage current warning alarm					
Leakage current protection characteristics	/									AC type, electronic; / I △ n: 30mA; 50Hz	AC type, electronic; I △ n: 30mA, 50mA, 100mA, 1000mA (adjustable on-site; press the test button to identify the current setting); 50Hz		

Note: The latest product details are subject to the actual product.

MTK1 Common Models for Small Digital Micro-disconnector Modules

Number of poles		Type	Current level	Product model	Width mm	Weight g
	1P	C	20	MTK1-1PC20	18mm(1P)	132
			32	MTK1-1PC32		
			63	MTK1-1PC63		
		D	20	MTK1-1PD20		
			32	MTK1-1PD32		
			63	MTK1-2PD63		
	2P	C	20	MTK1-2PC20	36mm(2P)	254
			32	MTK1-2PC32		
			63	MTK1-2PC63		
		D	20	MTK1-2PD20		
			32	MTK1-2PD32		
			63	MTK1-2PD63		
	3P	C	20	MTK1-3PC20	54mm(3P)	373
			32	MTK1-3PC32		
			63	MTK1-3PC63		
		D	20	MTK1-3PD20		
			32	MTK1-3PD32		
			63	MTK1-3PD63		

MTK1 Common Models for Small Digital Micro-disconnector Modules

	4P	C	20	MTK1-4PC20	72mm(4P)	493
			32	MTK1-4PC32		
			63	MTK1-4PC63		
		D	20	MTK1-4PD20		
			32	MTK1-4PD32		
			63	MTK1-4PD63		
	1PN	C	20	MTK1-1PNC20	36mm(2P)	252
			32	MTK1-1PNC32		
			63	MTK1-1PNC63		
		D	20	MTK1-1PND20		
			32	MTK1-1PND32		
			63	MTK1-1PND63		
	2K	C	20	MTK1-2KC20	36mm(2P)	254
			32	MTK1-2KC32		
			63	MTK1-2KC63		
		D	20	MTK1-2KD20		
			32	MTK1-2KD32		
			63	MTK1-2KD63		
	3K pole Coupling	C	20	MTK1-3KC20	72mm(4P)	503
			32	MTK1-3KC32		
			63	MTK1-3KC63		
		D	20	MTK1-3KD20		
			32	MTK1-3KD32		
			63	MTK1-3KD63		
	4K	C	20	MTK1-4KC20	72mm(4P)	540
			32	MTK1-4KC32		
			63	K1-4KC63		
		D	20	MTK1-4KD20		
			32	MTK1-4KD32		
			63	MTK1-4KD63		
	1KN	C	20	MTK1-1KNC20	36mm(2P)	265
			32	MTK1-1KNC32		
			63	MTK1-1KNC63		
		D	20	MTK1-1KND20		
			32	MTK1-1KND32		
			63	MTK1-1KND63		

Note: Product details are subject to the actual item.

MTK1 Common Models of Digital Micro Breaker Modules for Leakage Protection

Number of poles		Type	Current level	Product model	Width mm	Weight g
	2L	C	20	MTK1-2LC20	36mm(2P)	263
			32	MTK1-2LC32		
			63	MTK1-2LC63		
		D	20	MTK1-2LD20		
			32	MTK1-2LD32		
			63	MTK1-2LD63		
	3L	C	20	MTK1-3LC20	54mm(3P)	419
			32	MTK1-3LC32		
			63	MTK1-3LC63		
		D	20	MTK1-3LD20		
			32	MTK1-3LD32		
			63	MTK1-3LD63		

MTK1 Common Models of Digital Micro Breaker Modules for Leakage Protection

	4L	C	20	MTK1-4LC20	72mm(4P)	563
			32	MTK1-4LC32		
			63	MTK1-4LC63		
		D	20	MTK1-4LD20		
			32	MTK1-4LD32		
			63	MTK1-4LD63		
	3LN N-level continuous path	C	20	MTK1-3LNC20	72mm(4P)	528
			32	MTK1-3LNC32		
			63	MTK1-3LNC63		
		D	20	MTK1-3LND20		
			32	MTK1-3LND32		
			63	MTK1-3LND63		

Note: Product details are subject to the actual item.

MTK1 Power Module (for Digital Micro Breakers)

Model	MTK1-P30	MTK1-P30D	MTK1-P30R	MTK1-P10
Surface				
Attestation	EN55022:2010,EN55024:2010,EN61000-3-2:2014,EN61000-3-2:2013，EN60950-1：2006			/
Function	Provide DC power for the bus			
Input voltage range	100-180 Vac/180-300 Vac			100-180 Vac/180-265 Vac
Rated input current (mA)	350			300
Frequency Hz	50/60			50/60
Rated output voltage	12Vdc			12Vdc
Rated output current A	2A/2.5A			0.5A/1A
Size mm	36(2P)			18（1P)
Maximum working capacity (number of circuit breakers)	10*（IRCBO/IMCB)			8*（IRCBO/IMCB)
Class of pollution	2			
Working temperature ℃	-15℃—+60℃			
Relative humidity	<95%			
Height m	⩽ 2000			
Fixed form	Guide rail clip			
Way to install	35mm guide rail compliant with EN60715			

Note: Product details are subject to the actual item.

MTK1 Technical Specifications of Internet of Things Gateway

The power module will provide stable DC power for the digital micro-breaker, and it is also an essential component of the digital microbreaker system.

Model	MTK1-T30/4GC-W	MTK1-T30/4GC-WR	MTK1-T30/4GC-AU	MTK1-30/4GC-ARU	MTK1-T30-W	MTK1-T30-WR	MTK1-T30-A	MTK1-T30-AR
Surface								
Working voltage	DC12V							
Power dissipation	⩽ 2W							
Working temperature	-20℃ ~+60℃							
Storage temperature	-40℃ ~+85℃							
Relative humidity	5%~95% (no condensation)							
Outline dimension	93.8×69.7×17.8mm							
Installation space	1P							
Way to install	35mm guide rail installation							
4G	LTE-FDD:B1/B3/B5/B8 LTE-TDD:B34/B38/B39/B40/B41				/			
WIFI(2.4G)	IEEE 802.11 b/g/n station+AP							
LAN	/	/	Standard configuration	Standard configuration	/	/	Standard configuration	Standard configuration
RS485	/	Standard configuration	/	Standard configuration	/	Standard configuration	/	Standard configuration
SIM card slot	Supports Micro SIM card							
Antenna interface	SMA							
Joggle	Flexible interface, using Manton CAN bus protocol							
BUS	Bus indicator / blue							
NET	Network indicator / blue							
SYS	System mode indicator / Network mode indicator / Red							

Note: The latest product details are subject to the actual product.

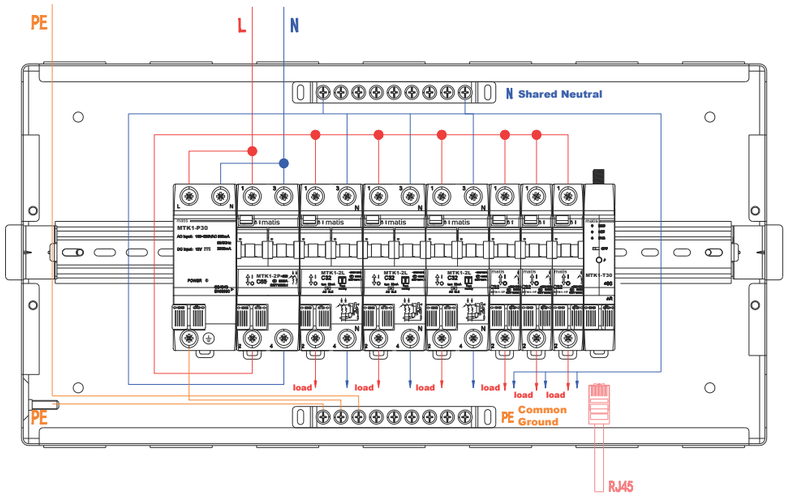
MTK1 Technical Specifications of Edge Computing Module (For Digital Micro Breaker)

Model	MTK1-C30-E
Surface	
Working voltage	DC12V
Power dissipation	<2W
Working temperature	-20℃ ~+60℃
Storage temperature	-40℃ ~+85℃
Relative humidity	5%~95% (no condensation)
Outline dimension	93.8×69.7×17.6mm
Installation space	1p
Way to install	35mm guide rail installation
Function	Built-in high-performance chip with AI model, combined with switches and other devices to achieve non-intrusive load recognition
Internet access	Supports 10/100/1000base-TX standards and supports Category 5 or Category 6 network cables
Joggle	Flexible interface, using Matimart CAN bus protocol
BUS	Blue
NET	Blue
SYS	Red

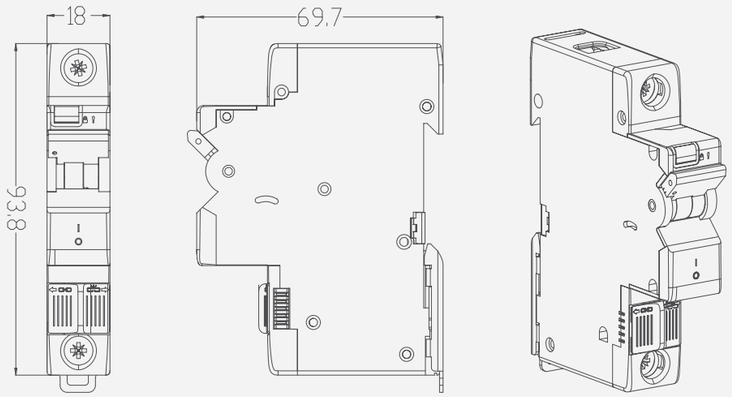
Note: The latest product details are subject to the actual product.

Example of MTK1 wiring diagram

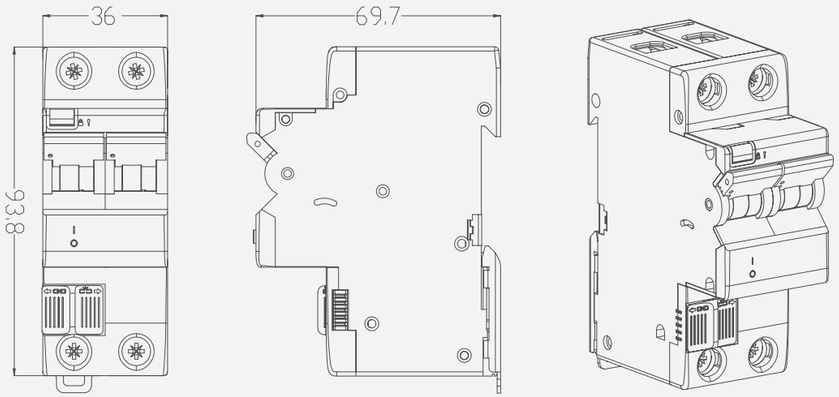
- The power module provides stable DC power for digital micro switches and is an essential component of the system. It is recommended to install it on the far left. A single power module can support up to 20 digital micro switches (including 1P,2P,3P, and 4P switches).
- The main switch (2P,3P, or 4P) is typically installed after the power module, followed by the required circuit breakers. The IoT gateway is placed on the far right.
- The IoT gateway is a critical component of the digital micro-switch system, capable of supporting up to 64 digital micro-switches (including 1P,2P,3P, and 4P switches).
- The 1P switch must maintain the same phase as the left-side switch. When phase separation is required, use the power supply or 1P+N/2P switches to isolate the 1P switch from different phase circuits.



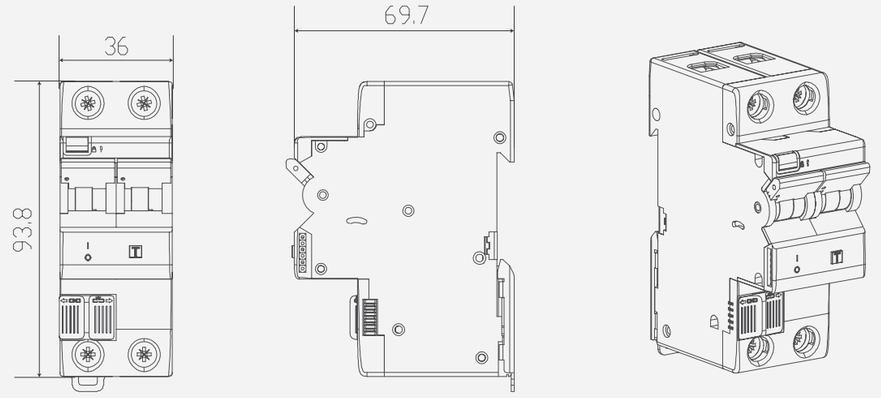
MTK1-1P



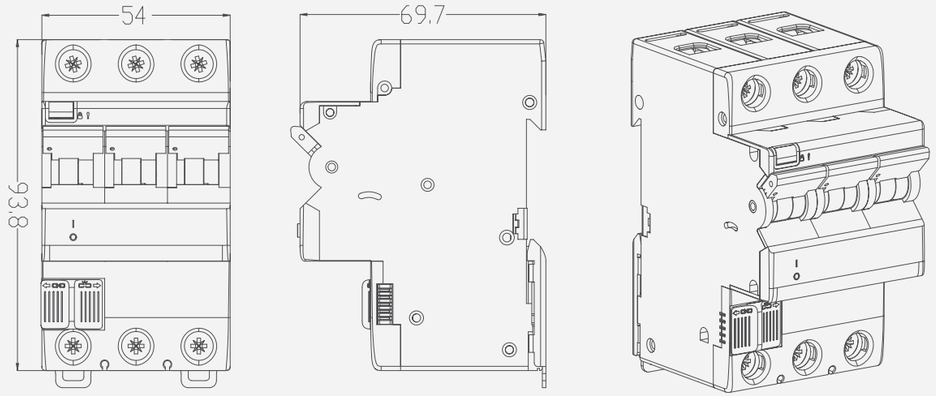
MTK1-2P/2K



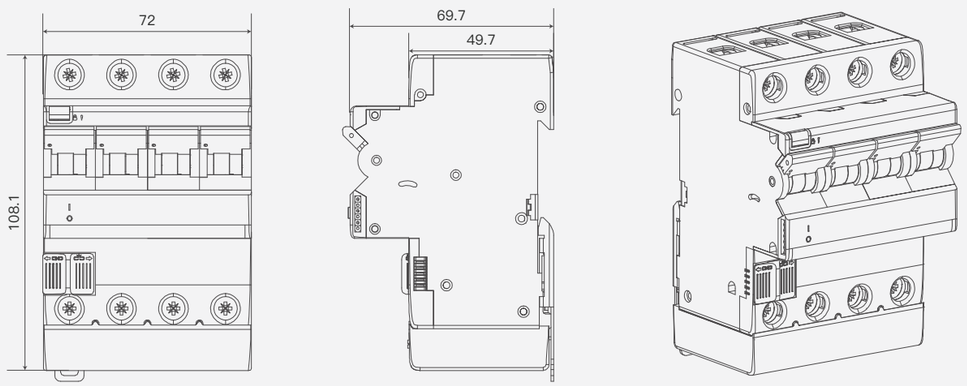
MTK1-2L



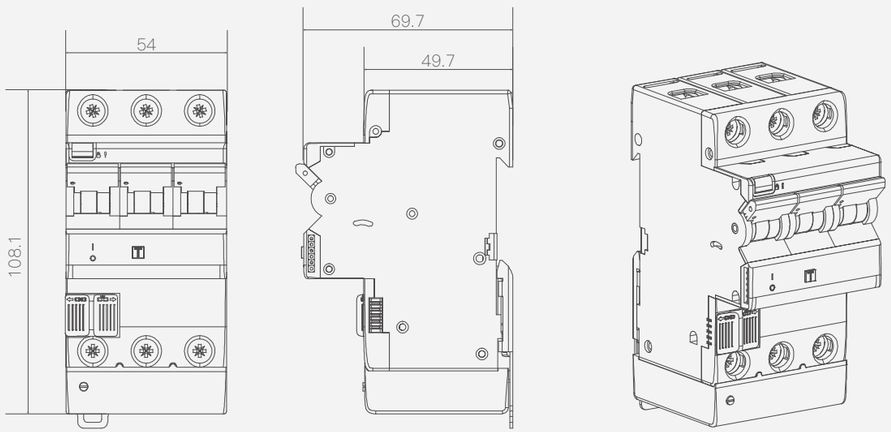
MTK1-3P



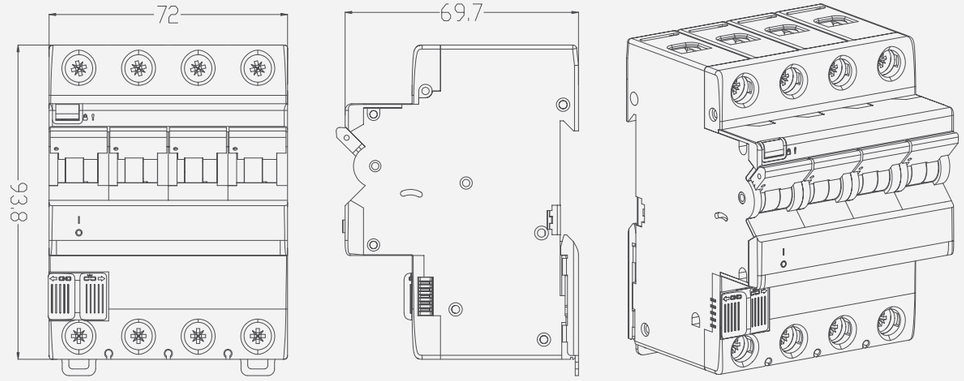
MTK1-3K / 4K



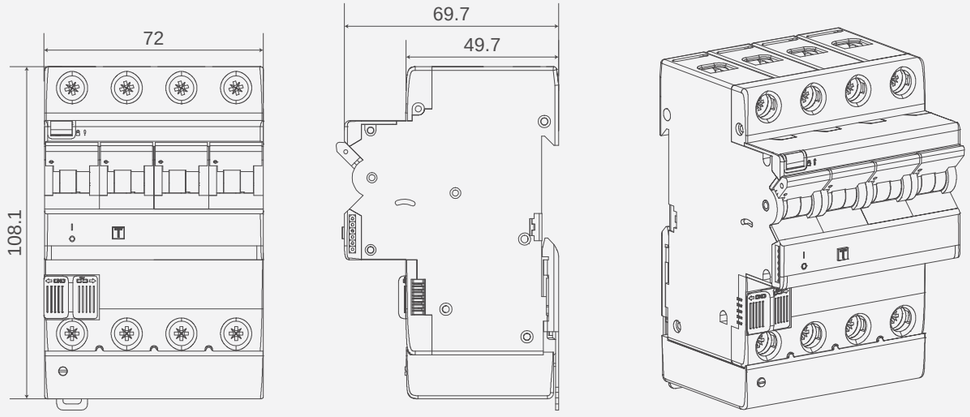
MTK1-3L



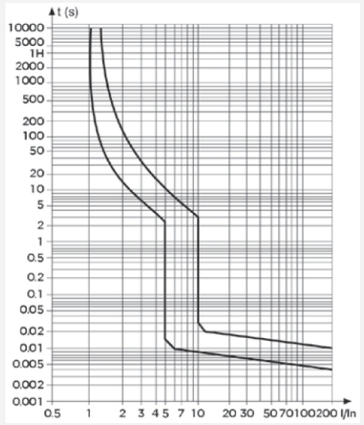
MTK1-4P



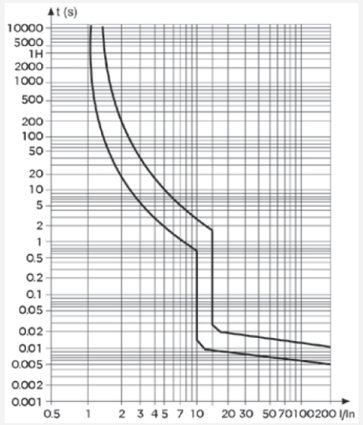
MTK1-4L



Digital micro-break trip curve

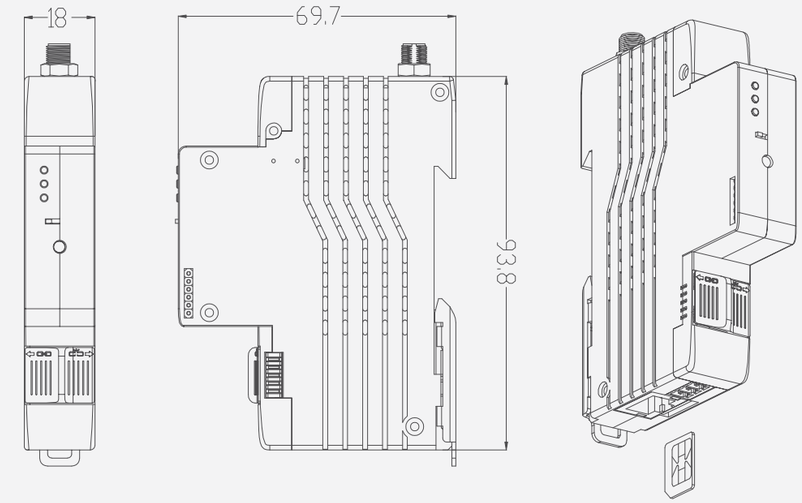


Type C trip curve

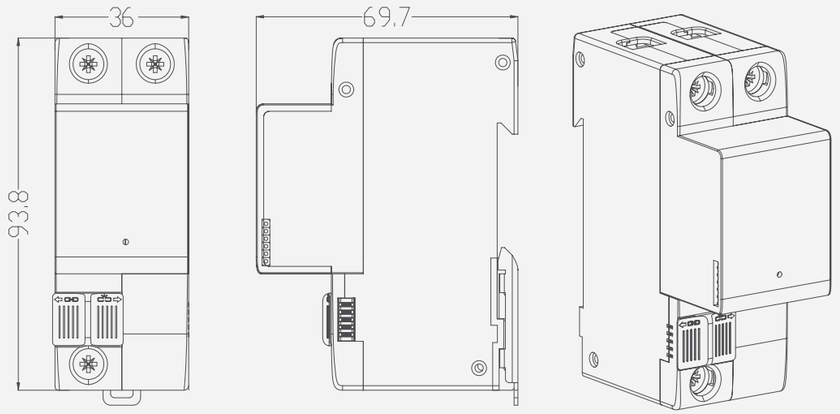


D-type trip curve

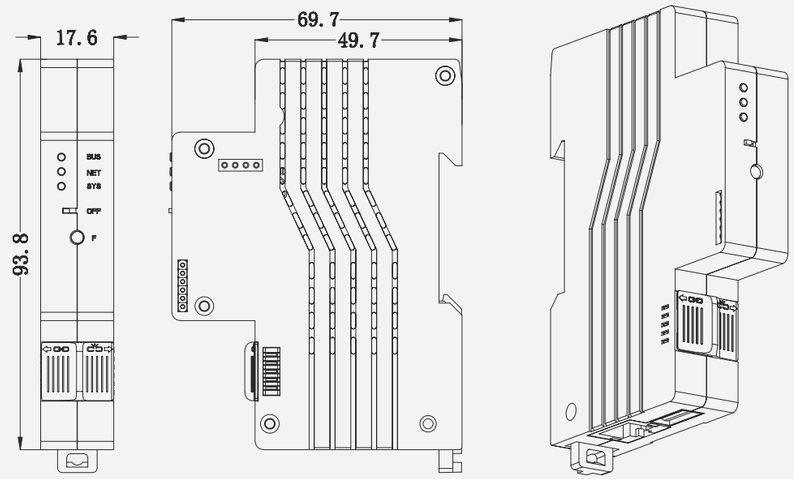
MTK1-T30



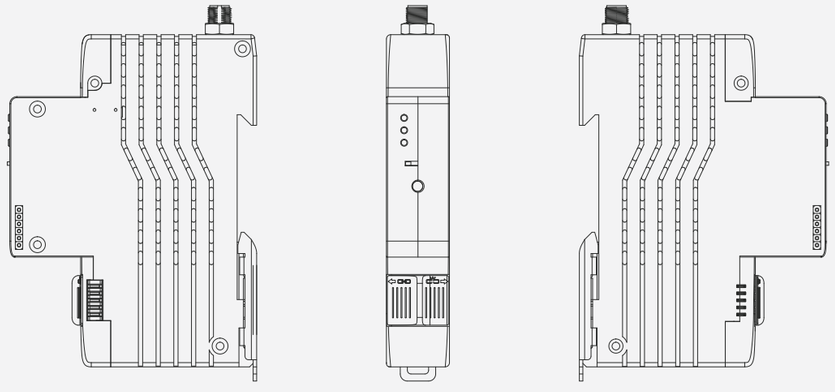
MTK1-P30



MTK1-C30



MTK1-C30T



MTS3 series digital MCB

New generation intelligent power protection and management core

The MTS3 Intelligent Micro-Circuit Breaker is a next-generation smart circuit breaker that seamlessly integrates traditional mechanical protection with cutting-edge digital intelligence. It not only delivers fundamental safety features for mechanical short-circuit and overload protection, but also incorporates remote control capabilities, reverse-phase time-delay overcurrent protection, precise power overload protection, and phase loss, imbalance, and phase sequence protection for three-phase systems. Additionally, it provides comprehensive realtime warnings and alarms for overvoltage/undervoltage conditions, terminal/internal temperature, and other parameters, ensuring the power system operates at the highest safety standards.

As your smart power manager, the MTS3 Micro-Disconnector utilizes cutting-edge CAN bus communication technology with advanced power quality analysis and metering capabilities. It precisely monitors harmonics, frequency, active/reactive power, and power factor, delivering accurate energy measurement. Featuring residual current protection and monitoring (available on select models) along with load identification, it adapts seamlessly to diverse application environments while optimizing performance.

The MTS3 series offers multiple pole configurations (1P to 4L), with rated currents ranging from 6A to 100A and a maximum short-circuit breaking capacity of 10kA. Featuring outstanding performance and comprehensive smart monitoring, the MTS3 Intelligent Micro-Circuit Breaker serves as the ideal core component for building safe, efficient, and transparent power systems.

Building block design

The module design is adopted, the shell frame current is 80A and the 1P,2P,3P,4P digital micro-breaks are provided for convenient selection.

Fault warning and alarm

The module design is adopted, the shell frame current is 80A and the 1P,2P,3P,4P digital micro-breaks are provided for convenient selection.

Comprehensive, thorough and precise protection

The system can cut off the power according to the setting, including short circuit, leakage, over current, overload, over temperature, over / under voltage, phase loss, three-phase unbalance and other faults.

Flexibly adjust the limit value

The system allows flexible configuration of warning and alarm thresholds via platforms or apps. By adjusting the circuit's current and power limits, users can fine-tune protection settings post-installation to identify risks, thereby significantly enhancing electrical safety.

Easy to install

The standard 35mm DIN rail is installed, and once the wiring is laid, the installation can be completed with just a screwdriver.

Reduce space usage

Multiple digital micro switches share a single power supply, significantly reducing the space required for installation.

Real-time monitoring

The digital micro-breaker can realize the real-time monitoring of the parameters of the power line, including the voltage, current, power, temperature, leakage current and electricity consumption.

Overcurrent protection selftest

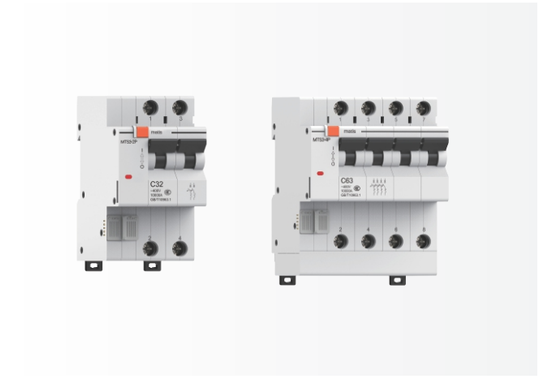
The leakage current protection can be set automatically at a fixed time every month by the application, so as to avoid the failure of the protection device.

MTS3 Power Module

The DC power supply is provided for the digital micro-breaker.

Main technical parameters:
Input voltage: AC100-320V
Output current: 3A
Output voltage: DC12V

MTS3 Small Digital Micro Breaker



Protection functions: short circuit, overcurrent, overload, overheating, over/under voltage, phase loss, three-phase imbalance, and phase sequence

Main technical parameters:
Polarities: 1P/2P/3P/4P
Rated current (A): 6/10/16/20/25/32/40/50/63/80/100
Rated short-circuit capacity: 10000A
Instant trip type: C/D

MTS3 Digital Micro Breaker for Leakage Protection

Protection functions: short circuit, overcurrent, overload, overheating, over/under voltage, leakage current, phase loss, three-phase imbalance, and phase sequence

Main technical parameters:
Number of poles: 2P/3P/4P
Rated current (A): 6/10/16/20/25/32/40/50/63/80/100
Rated short-circuit capacity: 10,000A
Instant trip type: C, D

MTS3 IoT Gateway

Multiple communication methods enable data exchange between local devices and the cloud, allowing remote control of local devices and various generalized linkage logic.

Main technical parameters:
Voltage: DC12V
Communication methods: WiFi, LAN, 4G, RS485
Protocol: UDP,HTTP, Modbus, CAN bus

MTS3 Common Models of Digital Micro-disconnector Modules

Series	Model	Instant trip type	Rated current class (A)
IM-MTS3	1P	C/D	6/10/16/20/25/ 32/40/50/63/80
	2P/2K/2L		
	3P/3K/3L		
	4P/4K/4L		

Type	1P	2P	2K	3P	4P	3K	4K	2L	3L	4L	1D	2D
Rated insulation volt-age Ui	500V											
Rated impulse withst and voltage Uimp	4KV											
Rated current In	6A,10A,16A,20A,25A,32A,40A,50A,63A,80A,100A (Standard stock: 20A,32A,63A,80A; other models require custom ordering)											
Binding post	Tunnel type terminal, M5, rated torque 3.5N.m											
Electric life	10000 times											
Mechanical life	20000 times											
Normal working environment temperature	-15℃ ~+60℃											
Exterior flame retard ant rating	V0											
Communication	Supports the Matismart Bus Communication Protocol (CAN)											
Certification status	CCC											
Rated operating voltage Ue	AC230 /400V		AC400V					AC230V	AC400V		DC220	DC440
											Rated short circuit capacity Icn	
Rated short-circuit capacity Icn	10000A										6000A	
Rated short-circuit capacity Ics	7500A										6000A	
Number of poles *	1P	2P	2P	3P	4P	3P	4P	2P	3P	4P	1P	2P
Instant trip type	Type C / Type D										C mould	
Operative norm	GB/T 10963.1							GB/T 16917.1			GB/T 10963.2	
Basic function	Current, voltage, power, and temperature measurement functions; local/remote switch control functions; protection functions; electricity metering functions											
General Protection Function	Fixed short-circuit protection; Fixed current overcurrent protection; Phase-specific overcurrent warning; Phase-specific overcurrent protection setting; Phase-specific/total power overload protection; Upper/lower terminal temperature overheat warning/alarm; Internal temperature overheat warning/alarm; Overvoltage warning/alarm; Undervoltage warning/alarm (1P, notavailable for 1D DC switches with ungrounded positive pole)											
Exclusive Protection	Intelligent 4P Switch with Series Arc Fault Alarm and Malicious Load Recognition		Intelligent disengagement and engagement		Inverse time curve overcurrent protection, phase fault protection, unbalance protection, phase sequence protection			Intelligent disengagement and engagement		Anti-time-reversal curve overcurrent protection, phase loss protection, unbalance protection, and phase sequence protection	Orbit power supply, automatic reclosing after voltage recovery, temperature difference warning and alarm	
Software leakage detection and rotection	/	/	Leakage current pre Alert	/		Leakage current warning and alarm					/	
Leakage current protection characteristics	/							AC type, electronic type; I △ n: 30mA; 50Hz	AC type, electronic; I △ n: 30mA, 50mA, 100mA, 1000mA (adjustable on-site; press the test button to identify the current setting). 50Hz		/	

Note: The latest product details are subject to the actual product.

MTS3 Common Models of Digital Micro Breaker Modules for Leakage Protection

Number of poles		Type	Current level	Product model	Width	Weight
	2P	C	32	IM-MTS3-2LC32	52.8mm(3P)	396
			63	IM-MTS3-2LC63		
			80	IM-MTS3-2LC80		
		D	32	IM-MTS3-2LD32		
			63	IM-MTS3-2LD63		
			80	IM-MTS3-2LMTS30		
	3P	C	32	IM-MTS3-3LC32	70.4mm(4P)	572
			63	IM-MTS3-3LC63		
			80	IM-MTS3-3LC80		
		D	32	IM-MTS3-3LD32		
			63	IM-MTS3-3LD63		
			80	IM-MTS3-3LMTS30		
	4P	C	32	IM-MTS3-4LC32	88mm(5P)	714
			63	IM-MTS3-4LC63		
			80	IM-MTS3-4LC80		
		D	32	IM-MTS3-4LD32		
			63	IM-MTS3-4LD63		
			80	IM-MTS3-4LMTS30		

MTS3 Commonly Used Models for Small Digital Micro-disconnector Modules

Number of poles		Type	Current level	Product model	Width	Weight
	1P	C	20	IM-MTS3-1PC20	26.4mm(1.5P)	175
			32	IM-MTS3-1PC32		
			63	IM-MTS3-1PC63		
		D	20	IM-MTS3-1PD20		
			32	IM-MTS3-1PD32		
			63	IM-MTS3-1PD63		
	2P	C	32	IM-MTS3-2PC32	52.8mm(3P)	370
			63	IM-MTS3-2PC63		
			80	IM-MTS3-2PC80		
		D	32	IM-MTS3-2PD32		
			63	IM-MTS3-2PD63		
			80	IM-MTS3-2PMTS30		
	2K	C	32	IM-MTS3-2KC32		
			63	IM-MTS3-2KC63		
			80	IM-MTS3-2KC80		
		D	32	IM-MTS3-2KD32		
			63	IM-MTS3-2KD63		
			80	IM-MTS3-2KMTS30		
	3P	C	32	IM-MTS3-3PC32	70.4mm(4P)	497
			63	IM-MTS3-3PC63		
			80	IM-MTS3-3PC80		
		D	32	IM-MTS3-3PD32		
			63	IM-MTS3-3PD63		
			80	IM-MTS3-3PMTS30		
	4P	C	32	IM-MTS3-4PC32	88mm(5P)	645
			63	IM-MTS3-4PC63		
			80	IM-MTS3-4PC80		
		D	32	IM-MTS3-4PD32		
			63	IM-MTS3-4PD63		
			80	IM-MTS3-4PMTS30		
	3K	C	32	IM-MTS3-3KC32	70.4mm(4P)	650
			63	IM-MTS3-3KC63		
			80	IM-MTS3-3KC80		
		D	32	IM-MTS3-3KD32		
			63	IM-MTS3-3KD63		
			80	IM-MTS3-3KMTS30		
	4K	C	32	IM-MTS3-4KC32	88mm(5P)	705
			63	IM-MTS3-4KC63		
			80	IM-MTS3-4KC80		
		D	32	IM-MTS3-4KD32		
			63	IM-MTS3-4KD63		
			80	IM-MTS3-4KMTS30		

Note: The latest product details are subject to the actual product.

MTS3 Commonly Used Models for Small Digital Micro-disconnector Modules

Model	MTS3-T30A	MTS3-T30AR	MTS3-T304GC-W	MTS3-T304GC-A	MTS3-T304GC-AR	MTS3-RS485
Surface						
Working voltage	DC12V					
Power dissipation	⩽ 0.3W		⩽ 0.5W			⩽ 0.1W
Normal working environment temperature	-15℃ ~+60℃					
Relative humidity	5% ~95% (no condensation)					
Outline dimension	95*72*18 mm					
Installation space	1P					
Way to install	Guide rail installation					
4G	/	/	Standard configuration	Standard configuration	Standard configuration	/
WIFI(2.4G)	Standard configuration	Standard configuration	Standard configuration	Standard configuration	Standard configuration	/
LAN	Standard configuration	Standard configuration	/	Standard configuration	Standard configuration	/
RS485	/	Standard configuration	/		Standard configuration	Standard configuration
SIM card slot	/		Supports Micro SIM card			/
Antenna interface	/		SMA			/
Joggle	Flexible interface, using Matismart CAN bus protocol					
BUS	Bus indicator / blue					/
NET	Network indicator / blue					/
SYS	System mode indicator / Network mode indicator / Red					/
UART	/					Bus light / blue
Rx/Tx	/					Data Light / Blue
SYS	/					System Light / Red

Note: The latest product details are subject to the actual product.

MTS3 Common Models of Power Module Technical Parameters

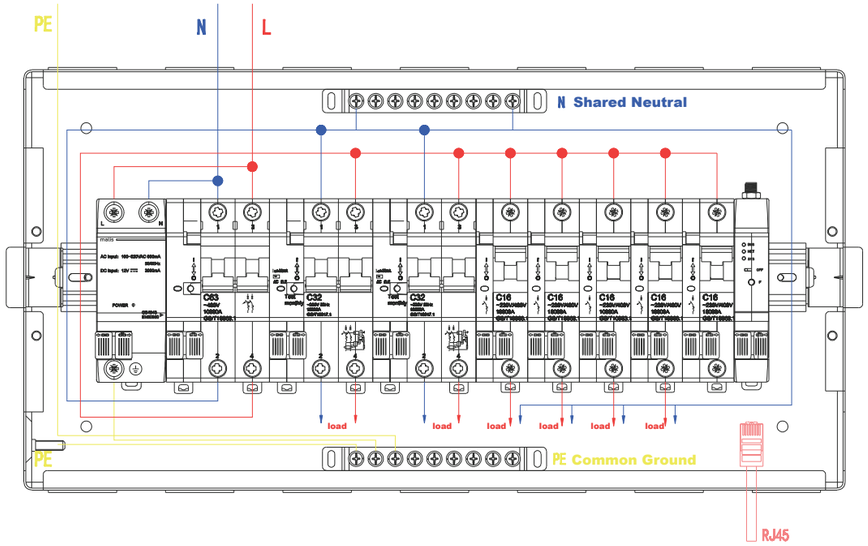
The power module provides a stable DC power supply for the digital micro-breaker and features surge protection, making it an essential component of the digital micro-breaker system.

Model	MTS3-P30	MTS3-P30D	MTS3-P30R	MTS3-P10
Surface				
Attestation	EN55022:2010,EN55024:2010,EN61000-3-2:2014,EN61000-3-2:2013, EN60950-1：2006			/
Function	Provide DC power for the bus			
Input voltage range	100-180 Vac/180-300 Vac			100-180 Vac/180-265 Vac
Rated input current (mA)	350			300
Frequency Hz	50/60			50/60
Rated output voltage	12Vdc			12Vdc
Rated output current A	2A/2.5A			0.5A/1A
Size mm	36(2P)			18 (1P)
Maximum working capacity (number of circuit breakers)	10* (IRCBO/IMCB)			8* (IRCBO/IMCB)
Class of pollution	2			
Working temperature ℃	-15℃—+60℃			
Relative humidity	<95%			
Height m	⩽ 2000			
Fixed form	Guide rail clip			
Way to install	35mm guide rail compliant with EN60715			

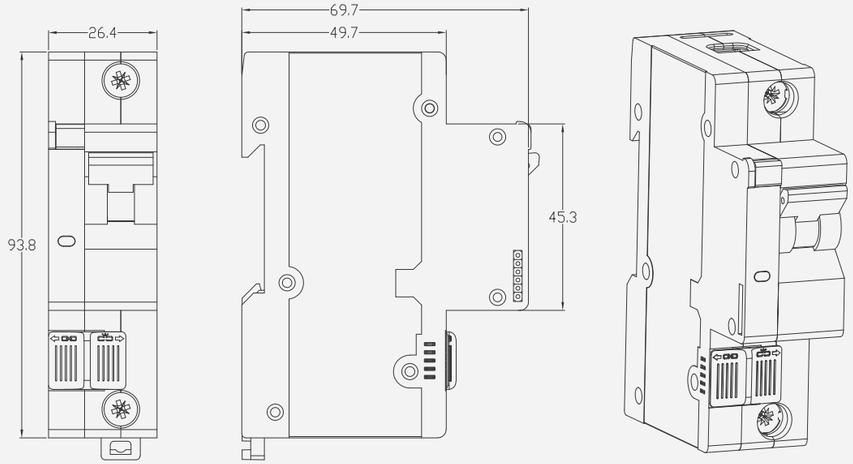
Note: The latest product details are subject to the actual product.

Example of MTS3 wiring diagram

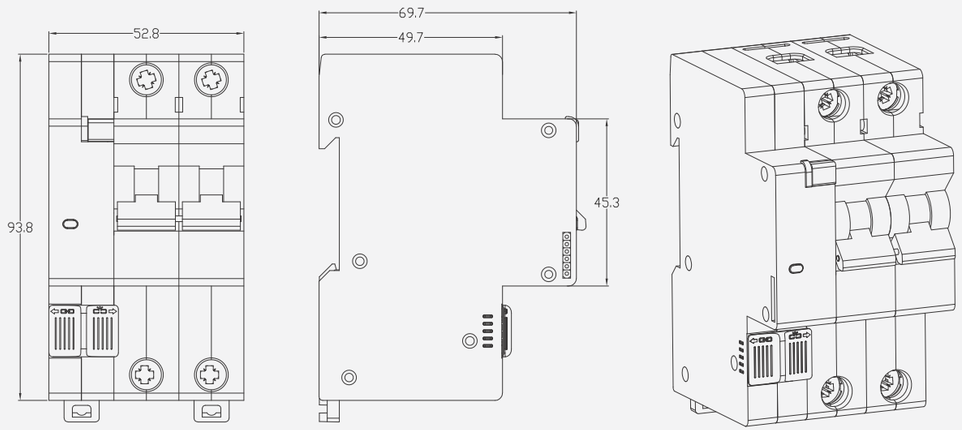
- The power module provides stable DC power for digital micro switches and is an essential component of the system. It is recommended to install it on the far left. A single power module can support up to 10 digital micro switches (including 1P,2P,3P, and 4P switches).
- The main switch (2P,3P, or 4P) is typically installed after the power module, followed by the required circuit breakers. The IoT gateway is IM-D8-1P placed on the far right.
- The IoT gateway is a critical component of the digital micro-switch system, supporting up to 29 digital micro-switches (including 1P,2P,3P, and 4P models).



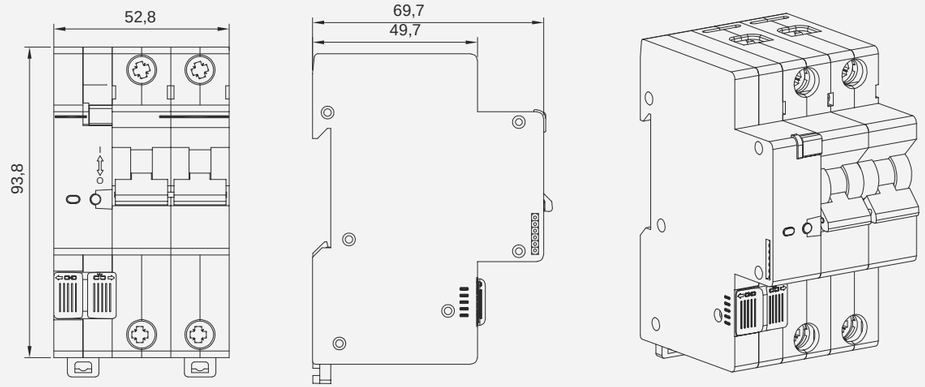
MTS3–1P



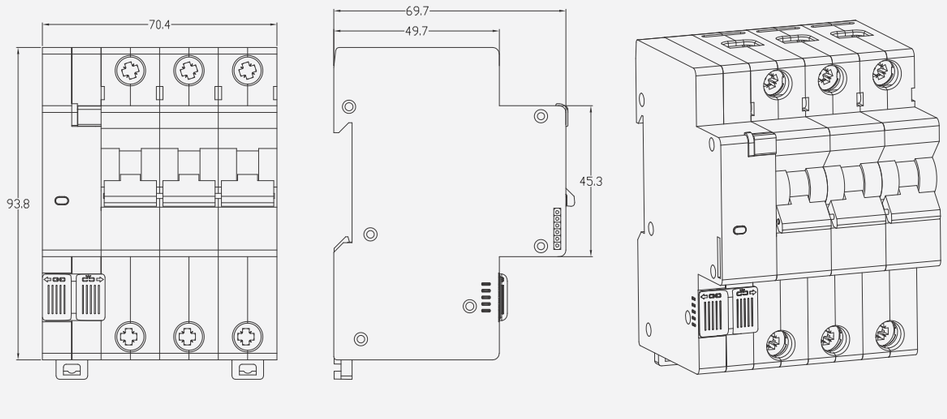
MTS3–2P/2K



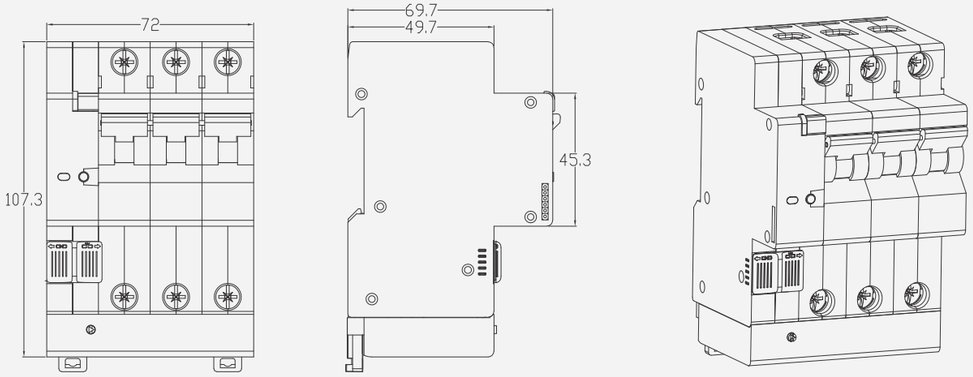
MTS3–2L



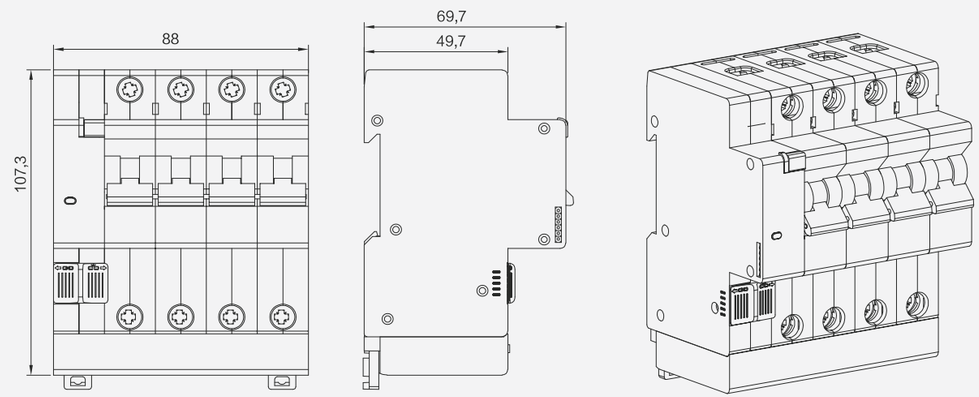
MTS3–3P



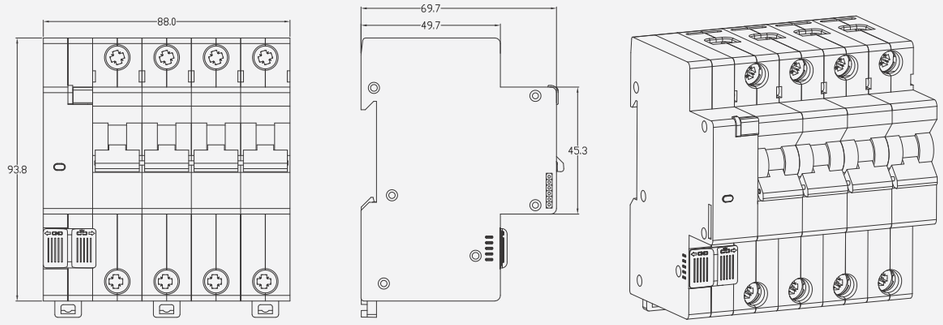
MTS3–3L



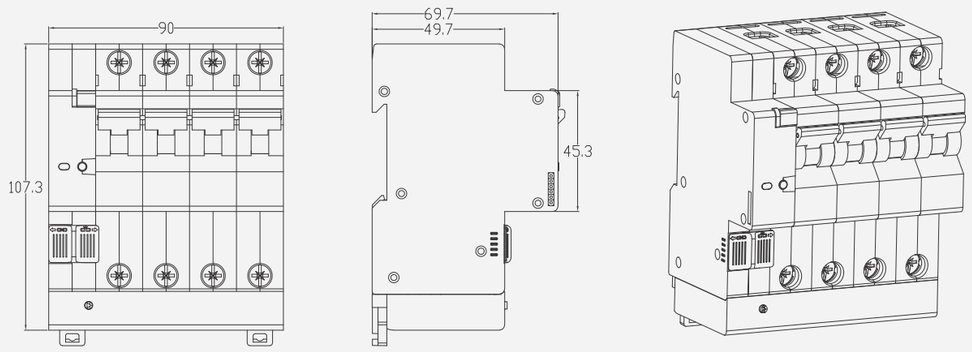
MTS3–3K/4K



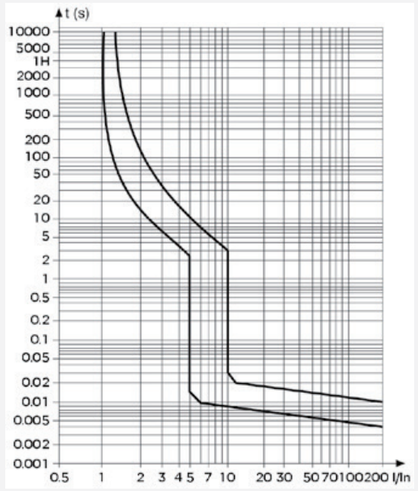
MTS3–4P



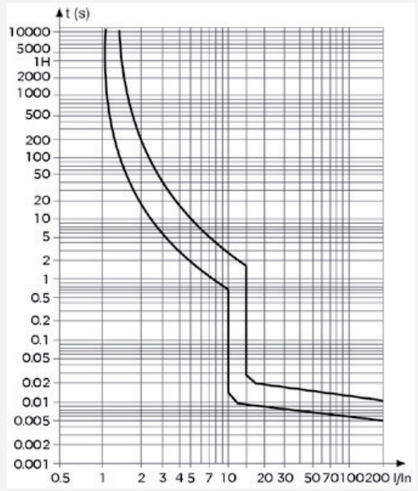
MTS3–4L



Digital micro-break trip curve

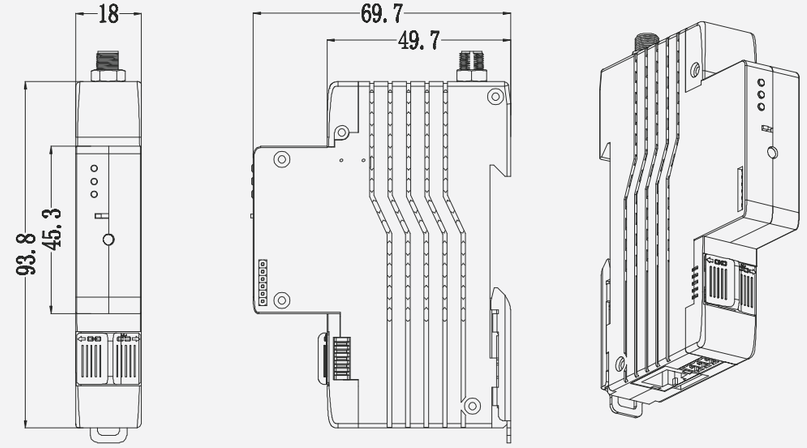


Type C trip curve

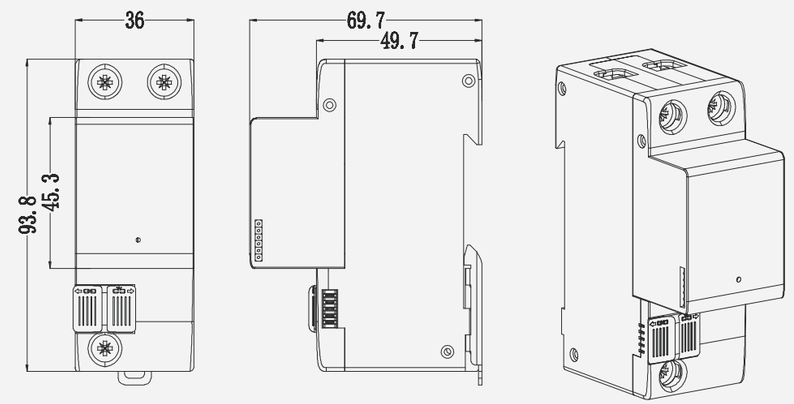


D-Type Trip Curve

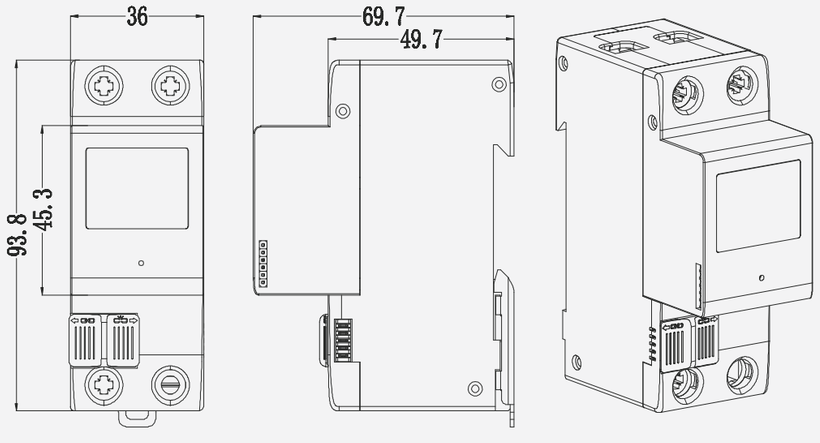
MTS3-T30



MTS3-P30



MTS3-P30D



Smart MCCB

The perfect fusion of aesthetics, intelligence and powerful performance

This series of smart molded case circuit breakers redefines the aesthetics and spatial efficiency of industrial-grade power distribution equipment through its innovative design and compact dimensions. More than just a reliable power system protection foundation, it serves as a highly integrated intelligent management terminal. Featuring phase-specific short-circuit protection, phase-specific time-delay overcurrent protection, and an innovative phase/total combined power overload protection, the device supports on-site current adjustment to meet flexible power demands.

The smart molded case circuit breaker (MCCB) delivers core advantages through its robust digital capabilities and remote control functionality. Supporting multiple communication protocols, it enables remote operation and data exchange while providing comprehensive condition monitoring. This includes real-time alerts for terminal/interior temperature, overvoltage/undervoltage conditions, phase loss, three-phase imbalance, and phase sequence protection. Its fault recording and waveform display features allow precise fault localization, significantly enhancing system maintenance efficiency and operational accuracy.

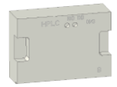
For power management, it integrates comprehensive power quality analysis capabilities and supports leakage current protection. In professional applications, the product features a unique photovoltaic switching function. The series offers 3P+N pole configurations with rated currents ranging from 125A to 800A, and a maximum rated short-circuit breaking capacity of 100kA (800A model). With outstanding performance, an elegant design, and powerful intelligent functions, it stands as the flagship choice for medium-to-high current distribution systems.

MTS3-EL Common Models of Smart Plastic Enclosure

Model	MTS3-EL125S	MTS3-EL250S	MTS3-EL400S	MTS3-EL630S	MTS3-EL800S
Surface					
Rated current of the shell and frame class	125A	250A	400A	630A	800A
Rated insulation voltage Ui	AC1000V				
Rated impulse withstand voltage Uimp	8KV				
Rated operating voltage Ue	400V		415V		
Number of poles *	3P+N (N pole continuous)				
Rated residual operating current	30mA, 50mA, 75mA, 100mA, 150mA, 200mA, 300mA, 400mA, 500mA, 600mA, 800mA, 1000mA, OFF, Auto				
Rated current Ir1	50A, 63A, 80A, 100A, 125A	100A, 125A, 140A, 160A, 180A, 200A, 225A, 250A	225A, 250A, 315A, 350A, 400A	400A, 500A, 630A	320A-800A continuously adjustable
Rated short-circuit capacity: Icu	50kA		90kA		100kA
Rated short-circuit capacity Ics	35kA		70kA		65kA
Electric life	1500	1000			500
Mechanical life	8500	7000	4000		2500
Normal working environment temperature	-15℃~+60℃				
Exterior flame retardant rating	V0				
Communication	Supports the Matismart bus protocol, 645 protocol, Matismart RS485 protocol, switch control, and alarm output.				
Certification status	CCC				
Binding post	M8, rated torque 12N.m	M8, rated torque 12N.m	M10, rated torque 28N.m	M10, rated torque 28N.m	M12, rated torque 90N.m
Operative norm	GB/T 14048.2				
Basic function	Remote disconnection and closing control, high-precision electrical parameter measurement, power quality analysis, waveform display, fault recording and statistics, as well as remote signaling, remote adjustment, remote control, and remote measurement.				
General Protection Function	Phase short-circuit protection; Phase reverse time limit overcurrent protection; Phase/total set power overload protection; Upper and lower terminal temperature overtemperature warning and alarm; Phase loss; Phase sequence; Three-phase imbalance; Over-voltage and under-voltage warning and alarm; Leakage current protection;Can be adjusted on-site				
Measuring accuracy	Voltage, current, and power are rated at 0.5 level, and energy metering is rated at 1 level				
Photovoltaic grid-connected protection function	Island Judgment, Power Outage Isolation, Monitoring of Power Grid State and Re-closing, Peak and Valley Statistics				
Inverse time delay alarm (2Irl)	3~200 seconds (default: 5 seconds)				
Current over-limit alarm delay	3~15 seconds (default 5 seconds)				
Inverse time parameter	1~3 (default value 2)				
Instantaneous short circuit Ir3	4~14Ir1 (default value 10Ir1)				
Delayed short circuit Ir2	2~12Ir1 (default value 6Ir1)				
Delayed short circuit delay	100~1000ms (default 500ms)				
Linked Protection	External closing input; external closing signal; external alarm input				
Alarm input/output function	Output alarms: short circuit, overload, leakage current, overcurrent, overvoltage, voltage phase loss, undervoltage, overtemperature, imbalance, reverse phase sequence, current phase loss; External input alarms				
Communication interface	Plug and play interface of Internet of Things; RS485 interface; Matismart fieldbus interface				
The instantaneous action current set value Ir3	4Ir1, 5Ir1, 6Ir1, 7Ir1, 8Ir1, 9Ir1, 10Ir1, 11Ir1, 12Ir1, 13Ir1, 14Ir1				
Transient action characteristics	Instantaneous protection current setting value Ir3; Trip current accuracy (1±20%) Ir3; Delay error ±40ms				
Short delay action current setting value Ir2	2Ir1, 3Ir1, 4Ir1, 5Ir1, 6Ir1, 7Ir1, 8Ir1, 9Ir1, 10Ir1, 11Ir1, 12Ir1				
Short delay time setting value	0.1s, 0.2s, 0.3s, 0.4s, 0.5s, 0.6s, 0.7s, 0.8s, 0.9s, 1.0s				
Short Circuit Short Delay Action Characteristics	Short-circuit delay protection current setting value Ir2; Trip current accuracy (1±20%) Ir2; Delay error ±40ms				

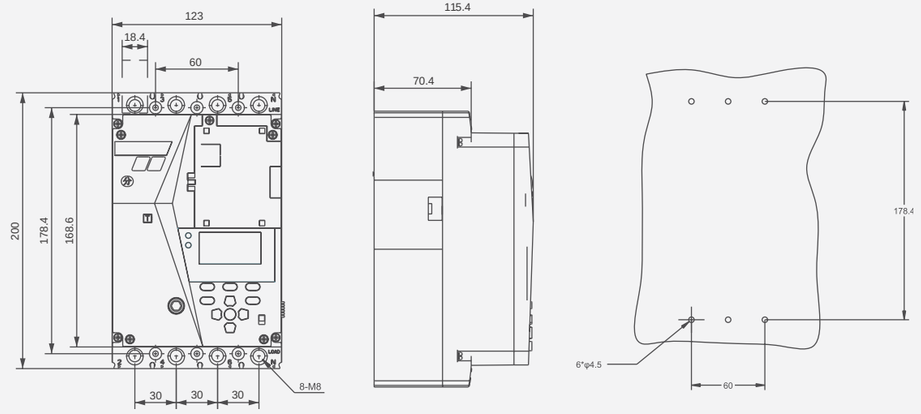
Note: Product details are subject to the actual item.

IoT Connection Common Models for Smart Plastic Enclosure

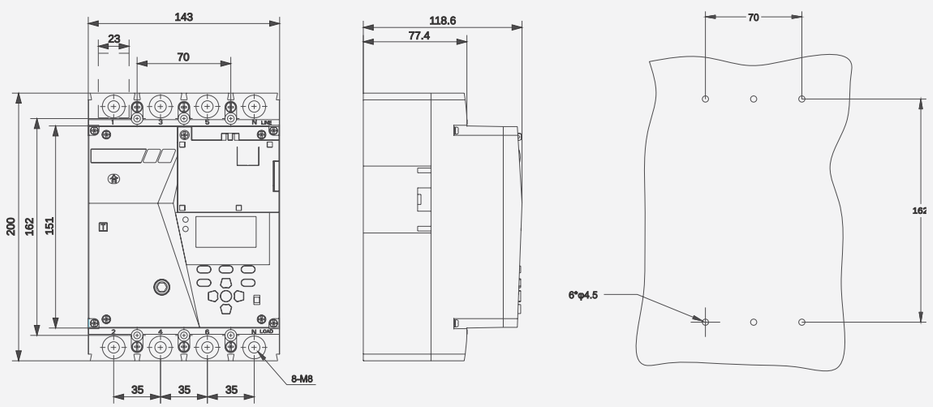
Model	MTS3-T30A-EL	MTS3-T30-4GC-ELW	H5-EL-LH-GW
Surface			
Working voltage	DC12V		
Power dissipation	⩽ 0.3W	⩽ 0.5W	/
Normal working environment temperature	-15° C~+60° C		
Relative humidity	5% ~95% (no condensation)		
Outline dimension	70*50*22.7 mm		
Way to install	Plug-in mounting		
4G	/	Standard configuration	/
LAN	Standard configuration	/	/
SIM card slot	/	Supports Micro SIM card	/
Antenna interface	/	SMA	/
BUS	Bus indicator / blue		/
NET	Network indicator / blue		/
HPLC	/	/	HPLC (State Grid)

Note: The latest product details are subject to the actual product.

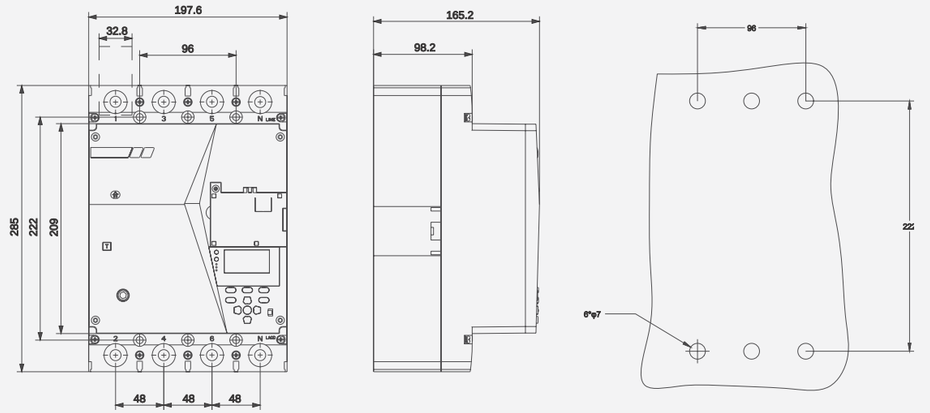
MTS3-EL125S



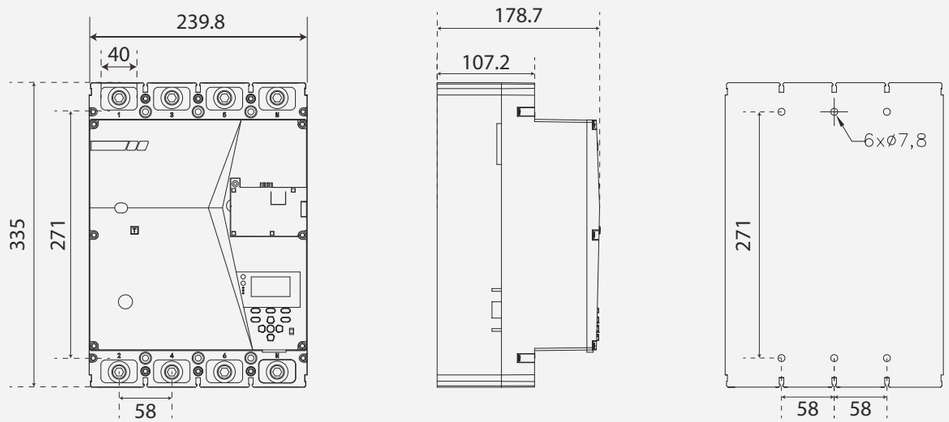
MTS3-EL250S



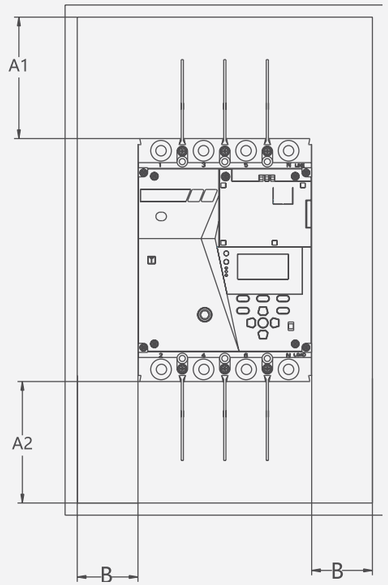
MTS3-EL400S（630S）



MTS3-EL800S



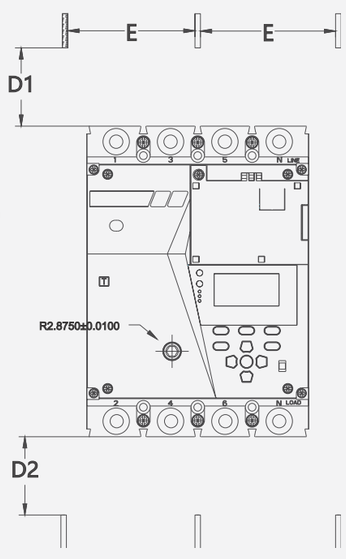
MTS3-EL installation requirements



Distance between circuit breaker and metal plate (mm)

A1:100 A2:100 B:50

◄



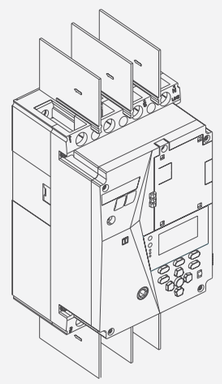
Minimum safe distance from bare busbar (mm)

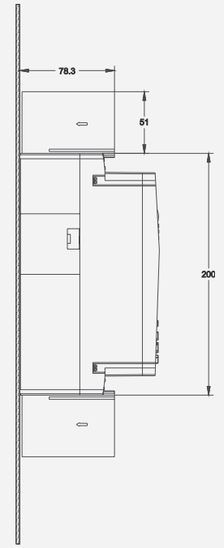
E ⩽ 60mm D1：200 D2：100

E > 60mm D1：120 D2：60

►

MTS3-EL125S spacer plate





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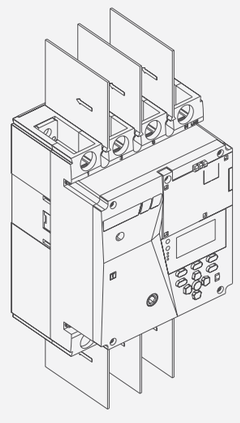
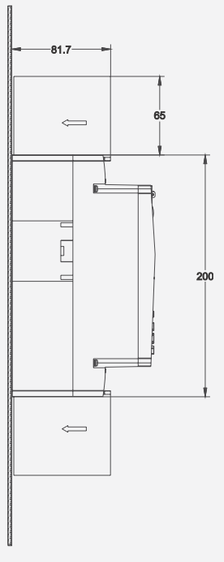
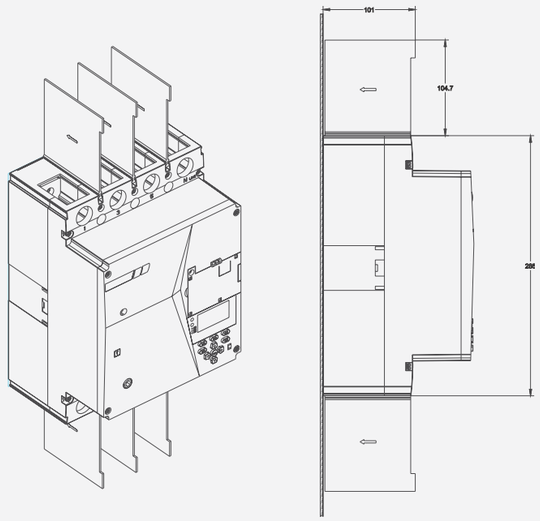
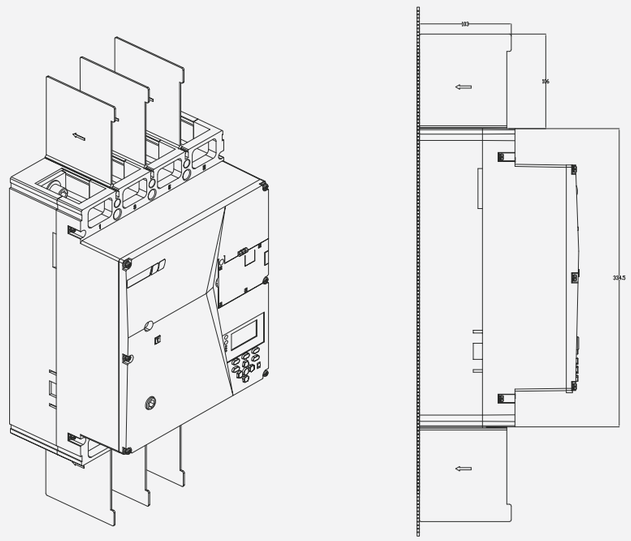


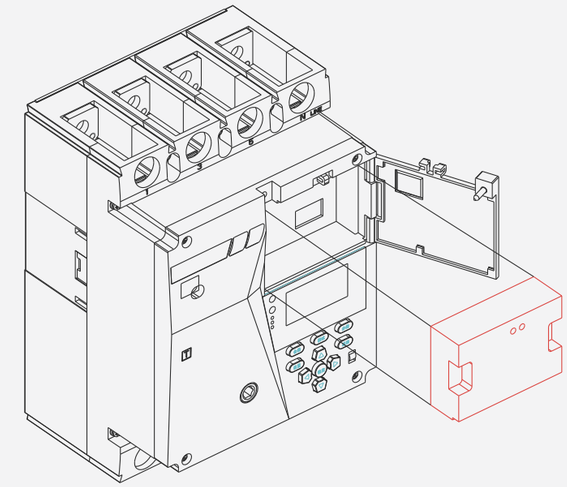


MTS3-EL400S/630S spacer plate

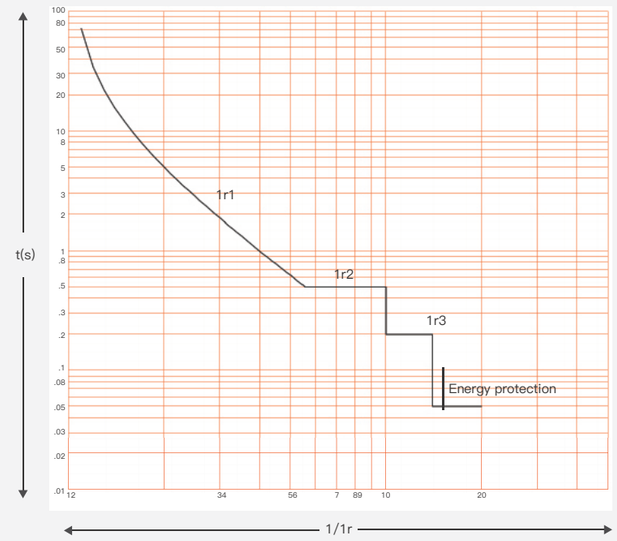


MTS3-EL800S spacer plate

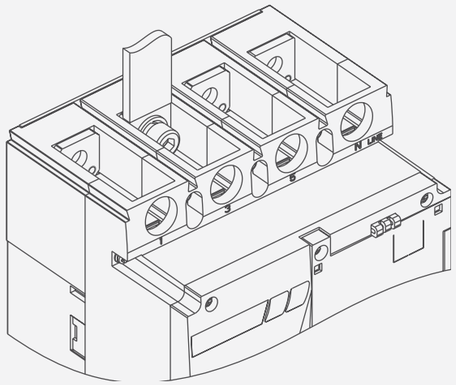


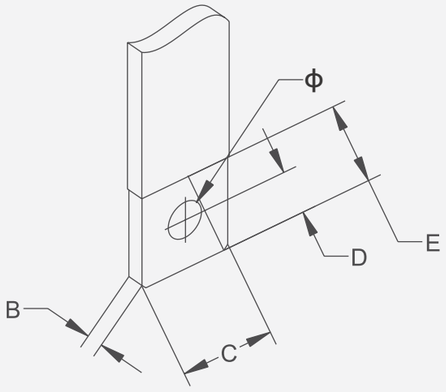


Smart Shell Trip Curve



MTS3-EL busbar or terminal block size





Busbar or terminal block dimensions					
Size (mm)	ϕ	B	C	D	E
MTS3-EL125S	8.5	⩽ 8	⩽ 17.5	⩽ 7	⩾ 16
MTS3-EL250S	8.5	⩽ 10	⩽ 22	⩽ 11.8	⩾ 22
MTS3-EL400S	10.5	⩽ 10	⩽ 30	⩽ 12.8	⩾ 29
MTS3-EL630S	10.5	⩽ 12	⩽ 30	⩽ 12.8	⩾ 29
MTS3-EL800S	13	⩽ 14	⩽ 43	⩽ 14.5	⩾ 32

3-in-1 product & collector

3-in-1 Product Series of Communication Power Supply (MTDK63)

The power supply and communication are integrated, which realizes the control of opening and closing, protection, data collection, data summary and two-way Internet communication of a single product.

Main technical parameters:
Polar order: 2P
Communication methods: WiFi, LAN, 4G, RS485
Rated short-circuit capacity: 10000A
Instant trip type: C, D

3-in-1 Product Series of Communication Power Supply (MT4DK63)

The power supply and communication are integrated, which realizes the control of opening and closing, protection, data collection, data summary and two-way Internet communication of a single product.

Main technical parameters:
Polarities: 4P
Communication methods: WiFi, LAN, 4G, RS485
Rated short-circuit capacity: 10,000A
Instant trip type: C, D

MTT3C Series Full Power Collector

The smart electricity collector enables precise data collection of all electrical parameters, including voltage, current, residual current, and temperature. It features a flexible CAN interface, allowing seamless integration with compatible devices for versatile control and measurement applications.
It supports single-phase and three-phase selection, 2-winding current transformers, and flexible data acquisition ranging from 6A to 6300A.

Main technical parameters:
Input voltage: 12V
Power consumption: 0.15W
Sensors: Built-in voltage sensor, external current transformer,residual current transformer, temperature sensor

MTT3-808 signal linkage module

Supports offline operation and digital micro-break linkage alarm tripping functions for water, smoke, temperature, and humidity. The platform displays the current status of each input and output in real time and pushes status change notifications.

Main technical parameters:
T3-808-A4/E4: 4 dry contact inputs and outputs
T3-808-A2B4/E2: Features 2 dry contact inputs/output channels, 4 compatible analog inputs, supports analog voltage (0-10V) and current (4-20mA) inputs, and can connect external resistance-type
temperature probes.

AI Edge Computing Module

AI Edge Computing Module

The MTK1-C30 Series Non-intrusive Load Recognition Edge Computing Matismart works with Matismart MTK1 Digital Micro-disconnectors. Its built-in AI model analyzes collected data to identify residential loads (including unauthorized EV charging), and triggers alarms or tripping via linked smart micro-disconnectors, effectively preventing electrical fires caused by non-standard appliances and large-battery charging.

Model	MTK1-T30C/4GC-A	MTK1-T30/4GC-AQ
Surface		
Working voltage	DC12V	
Relative humidity	5%~95% (no condensation)	
Installation space	1P	
Way to install	Guide rail installation	
4G	Standard configuration	Standard configuration
WIFI(2.4G)	Standard configuration	Standard configuration
LAN	Standard configuration	Standard configuration
RS485	/	Standard configuration
Joggle	Flexible interface, using Matismart CAN bus protocol	

Smart electrical panel

MTL10S Smart Electrical Box

10.1-inch HD LCD touchscreen with a streamlined interface for intuitive information display.Built-in ”Power Doctor” intelligent software platform, integrating control, real-time energy data display and line abnormality alert functions. Integrated power and communication design eliminates the need for additional cabinet configurations, supporting Ethernet, 4G and WiFi connectivity.The LCD panel features manual/auto vertical lifting, ideal for high-end decorations and delivering a futuristic tech aesthetic.20P installation space enables flexible combinations, compatible with various Matimart smart micro-disconnectors and the full range of circuit breaker products.

Main technical parameters:

Rated voltage: 230V
Rated power: 30W
Number of slave devices: 30 switch addresses (expandable to multiple layers)
Communication methods: wired network, WiFi, 4G (optional)

Cloud platform

The software platform(www.snd02.com) consists of the following five parts:

Electrical safety supervision

Real-time monitors circuit parameters (voltage, current, power, temperature, leakage current, energy consumption) and conducts safety supervision via data collection and analysis.

Quick Location Device

Device location is mapped on the platform for global real-time operation monitoring. When faults alert, admins can quickly locate devices and resolve issues proactively.

Early warning and alarm

Triggers alarms for faults like leakage current, abnormal temperature, short circuit, over/undervoltage, overcurrent, and three-phase imbalance.

Maintain contact management

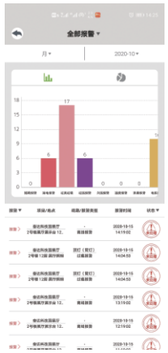
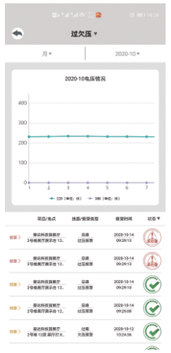
Stores maintenance staff contact info; automatically notifies designated contacts to handle alarms immediately when triggered.

Smart Energy Management

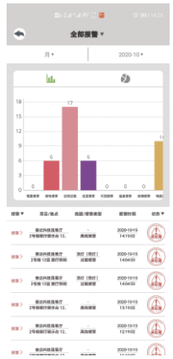
Collects, stores and analyzes terminal energy data to enable intelligent allocation and optimal system configuration;

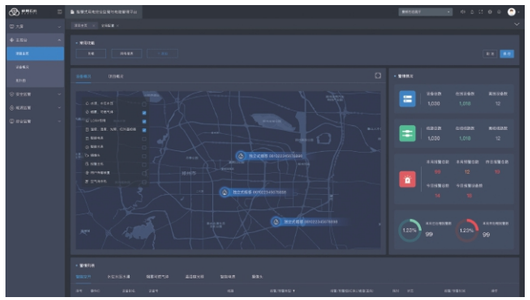
Cuts electrical system operation costs, simplifies management and reduces labor input;

Supports real-time energy monitoring/management and historical data archiving for in-depth analysis.







Merit


Real-time monitoring of line data, fault warning and alarm

Real-time monitoring of power parameters (e.g., current, voltage,leakage current, power, and temperature) on each line enables instant detection of electrical faults and provides early warnings before incidents occur.
The technology improves the security and reliability of the system, and is widely used in the building fire protection system solution.

Reducing Energy Cost by Energy Consumption Analysis and Scientific Planning

Through real-time power monitoring, instantaneous energy consumption level detection, comparing historical electricity consumption data, energy consumption analysis, and different regions, different time periods, reasonable distribution of power,energy saving and cost reduction.

Remote control

Control your hardware devices through the app and software. Make electricity use easier and safer anytime, anywhere.

Mobile terminal

Mantone Pro (Personal Version)

Individual users can log in via phone number, WeChat, or QQ to remotely configure, check, control, or schedule the device. The system automatically performs leakage protection self-checks, measures power consumption by circuit, and provides real-time fault alerts.

Smart Electricity Pro (Admin Edition)

The mobile app allows real-time household electricity management and statistical analysis of current and voltage fluctuations.

The APP features include: remote control, real-time monitoring, fault warning and alarm, energy consumption analysis, timed control, maximum power and current protection value setting, and automatic leakage protection detection.

Note: The latest product details are subject to the actual version.

Telecontrol

The digital circuit breaker can be remotely controlled to open or close via the APP. (After manual opening, unlock to control and perform remote disconnection locking.)

Real time protection

The system monitors circuit parameters including voltage, current, power, temperature, leakage current, and battery level, all of which are displayed in the APP.

Maximum power and current settings

Maximum power and current can be set via the APP

Energy consumption analysis

You can view monthly and hourly power consumption curves in the APP to analyze energy usage trends.

Overcurrent protection self-test

You can set a fixed monthly date for leakage current self-check via the app, allowing the system to automatically verify the reliability of the leakage current protection.

Timing control

Users can remotely set their electricity needs to match weekly, daily, or hourly solutions.

Fault warning and alarm

All event logs and fault alarms are pushed through the APP.

Application scenarios

The high integration of products and systems ensures high flexibility, making them widely applicable across various industries.

Shenzhen Futian 120,000 households old renovation project

Industrial circle

In the industrial sector, it can address the operational monitoring of factories, infrastructure and manufacturing processes, minimizing downtime.

Commercial and public buildings

Business and public buildings use scalable solutions to monitor and control facilities in greater detail, improving energy efficiency. By optimizing asset management, they create competitive advantages and maximize customer business opportunities.

Offices, shopping malls, hotels, retail, or chain stores

For offices, shopping malls, hotels, retail or chain stores, energy management efficiency can be improved to reduce energy
consumption and costs to improve performance.

Public institutions such as schools, sports centres and health care

For public institutions such as schools, sports centres and healthcare, continuity of services and stability of facility maintenance can be ensured.

Matismart intelligent electrical safety monitoring and energy management system revolutionizes traditional operation and maintenance models. The automated monitoring platform streamlines operations, eliminates potential safety hazards, and enables scientific energy management. Through mobile apps, cloud platforms, and big data systems, it digitizes, visualizes, and graphically presents electrical data,integrating monitoring, control, and management into a unified system.

Matismart Digital Energy System for 2022 Hangzhou Asian Games

Enhance energy efficiency and operational efficiency

Smart timed control cuts waste/standby/leakage consumption; real-time monitoring ensures efficient system operation and higher energy/O&M efficiency.

Reduce operational and labor costs

Lower the running costs of electrical terminal systems, simplify operation management, and cut down on operational and labor expenses.

Full lifecycle management of electrical devices for efficient energy use

Analyze energy efficiency and power consumption based on device operating status. Comprehensive consideration of load conditions, service life, and the latest energy efficiency ratings ensures service continuity and stable facility maintenance.

China Petrochemical Gas Station Digital Energy Use

Xiamen University Smart Electricity Usage Project

- Smart Electricity Management in Schools
- Upgrading of power distribution systems in urban renewal projects
- Smart Power Management in Industrial Parks
- Integrated management of electricity consumption in large venues
- Upgrading and renovating the building's power distribution system
- Energy Management and Anti-theft Management of Tower Base Station
- Smart Community Electricity Management
- Monitoring of electricity consumption in medical institutions
- Fire and electrical monitoring in gas stations
- Management of safe electricity usage in historical buildings
- Safety monitoring of charging piles
- Intelligent lighting management and energy saving
- Financial Institutions Electricity Monitoring and Energy Saving