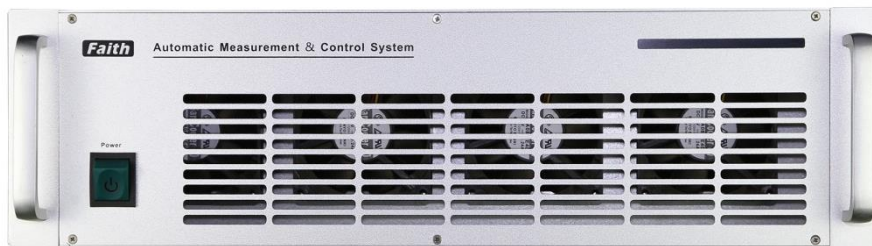
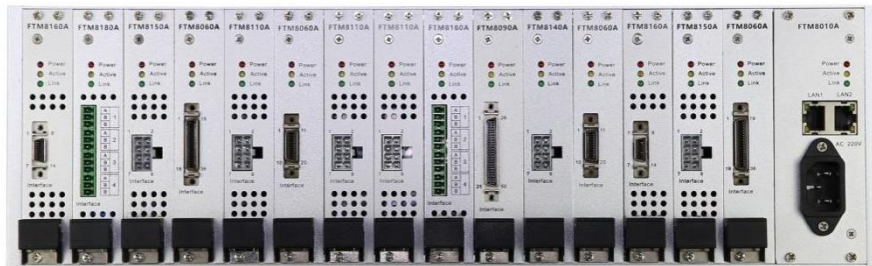


Data acquisition and modular instruments

FTM8000 series



|Sketch

FTM8000 series is a powerful and flexible data acquisition and modular instrument platform. The product realizes high-speed digital I/O, voltage, current, temperature signal acquisition and output, relay control, temperature simulation and other functions.

FTM8000 test platform is composed of main chassis, main control card and various data acquisition and modular instrument boards. The chassis has a compact design (standard 3U/19 ") with 15 card slots. The board adopts modular design, and any board can be installed in any slot of the main chassis.

The board can be used alone by a single card, or can be used by multiple cards at the same time through the main chassis, which can be very convenient to realize simple or complex automation system data acquisition and control.

|Features

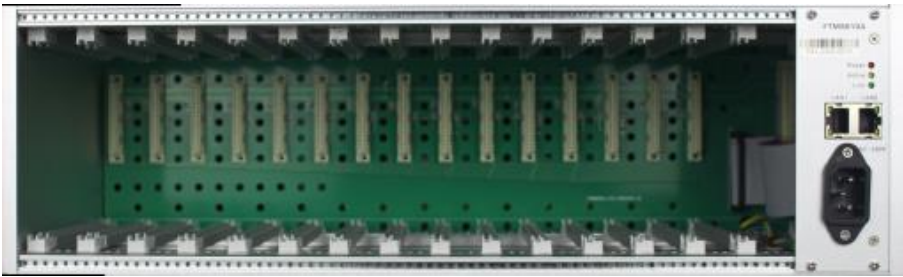
FTM8000 includes: chassis, main control card, analog input and output card (DAQ), digital I/O card, AC measurement card, DC measurement card, temperature measurement card, relay card, thermocouple temperature simulation card, thermal resistance temperature simulation card, programmable resistance card and other boards, the main features are as follows:

- One chassis can support up to 15 boards;
- Internal card slot communication for independent Ethernet communication;
- The chassis provides DC12V power supply, Ethernet interface, all the board can be installed at any position.
- All boards standard modular design, unified interface, can be arbitrarily combined;
- The board has the synchronization mechanism, can configure the signal synchronization between any board;
- The host case supports two external gigabit Ethernet, which can realize the expansion of the number of boards through the host case cascade;
- The main chassis is a standard 19 inch 3U chassis, convenient to rack;

Each board can be used separately.

|Chassis

The FTM8000 series features two types of chassis: FTM8000A and FTM8000C. The FTM8000A can install up to 15 test cards, while the FTM8000C is designed for single-card applications. Users can make flexible choices according to the test scenarios.



FT8000A chassis



FT8000C chassis

Chassis	Model	FTM8000A	FTM8000C
	Slot installation position	15	1
	Size	3U/19"	238(D)*130(W)*36(H)mm
	External communication interface	LAN（Configuration required FTM8010A）	LAN、USB
	Power supply mode	220V ac	12V dc

|Main control card

The FTM8010A is a high-performance main control card, serving as a data exchange bridge between various functional boards within the FTM8000A device and the PC. The FTM8010A main control card is installed in the FTM8000A host frame, providing a gigabit high-speed Ethernet communication bandwidth externally. The communication interface adopts a standard dual RJ45 interface, which is convenient for users to wire, operate

and integrate the system.



Main	Model	FTM8010A
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control card	Communication interface	LAN
	External network interface	2CH/ Gigabit Ethernet
	Internal network interface	4CH/ gigabit, 11CH/ 100m
	Internal synchronization control line	15CH input, 15CH output

Data Acquisition Card

The FTM8000 series data acquisition (DAQ) card features multi-channel input, two-channel analog output, high sampling speed, and high sampling accuracy. Data acquisition cards can be widely applied in voltage signal acquisition, data processing and analysis in multiple fields and scenarios, such as industrial inspection, data acquisition on automated production lines, experimental teaching and research, etc.



Data Acquisition (DAQ) card	Model		FTM8060A	FTM8060B	FTM8061A	FTM8061B	FTM8062A	FTM8062B	
	interface type		SCSI-20 pedestal	SCSI-36 pedestal	SCSI-20 pedestal	SCSI-36pedestal	DB37pedestal	DB37pedestal	
	AI analog input	Number of input channels	16CH single-ended or 8CH differential	32CH single-ended or 16CH differential	16CH single-ended or 8CH differential	32CH single-ended or 16CH differential	16CH single-ended or 8CH differential	32CH single-ended or 16CH differential	
		ADC resolution	16bit						
		Input range	$\pm 10V$ 、 $\pm 5V$ 、 $\pm 1V$ 、 $\pm 0.2V$						
		Protection voltage	$\pm 12V$						
		Sampling accuracy	0.1%+0.1%F. S. （ $25^{\circ}C \pm 5^{\circ}C$ ）						
		Sampling rate	Single channel: the maximum rate is 1MS/s.						
			Multi-channel: the maximum rate of each channel is 100kS/s;						
		Channel scanning mode	Asynchronous loop scanning						
		Sampling mode	On-demand single point sampling, finite point sampling, multi-point continuous sampling						
		Memory depth	64k word (dot) FIFO memory						
		Coupling mode	Direct current coupling						
		Trigger source	Software trigger, synchronous trigger						
	AO analog output	Number of output channels	2CH						
		DAC resolution	12bit			16bit		12bit	
		Range of output	$\pm 10V$						
		accuracy	0.1%F. S. （ $25^{\circ}C \pm 5^{\circ}C$ ）						
		Drive capability	5mA						
		Memory depth	64k word (dot) FIFO memory						

	Channel output mode	Synchronous output
	Generation pattern	Single point (on demand) output, finite point output, continuous output
	Source of trigger	Software trigger, synchronous trigger
	Slot cards	1

Digital I/O cards

FTM8000 series digital I/O card, support CMOS level, 3.3V/5V level optional, with PWM output, pulse measurement, counter/timer and other functions. It can be used not only in FTM8000A chassis, but also in a separate power supply. It is suitable for high-speed digital signal detection, measurement and transmission control in industrial control and intelligent manufacturing.



DigitalI/OCard	Model		FTM8080A
	interface type		IDC34
	Input	Number of input channels	16CH
		Input voltage	3.3V or 5V
		Input low level	0.8V@3.3V or 1.5V@5V
		Input high level	2V@3.3V or 3.5V@5V
		Maximum frequency	25MHz
	Output	Number of output channels	16CH
		Output voltage	3.3V or 5V
		Current of output	24mA@3.3V or 32mA@5V
		Maximum frequency	500mA
		Number of input channels	50MHz
	Slot cards		1

High voltage I/O card

FTM8000 series high voltage I/O card, support up to 32V input, 24V output level signal, with PWM output, pulse measurement, counter/timer and other functions. It can be used not only in FTM8000A chassis, but also in a separate power supply. It is suitable for

high-voltage digital signal detection, measurement and control in automotive electronics, industrial control and intelligent manufacturing.

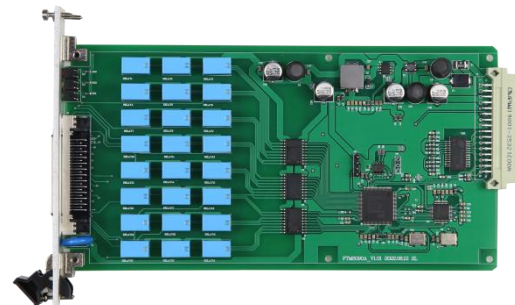


Digital I/O card	Model		FTM8081A
	Interface type		IDC34
	Input	Number of input channels	16CH
		Input voltage	12V~32V
		Input low level	$\leq 1.2V$
		Input high level	$\geq 1.8V$
		Maximum frequency	100kHz
	Output	Number of output channels	16CH
		Output voltage	24V
		Current of output	Single channel 100mA (MAX)
		Total output current	1A
		Maximum frequency	100kHz
	Slot cards		1

Relay card

FTM8000 series relay card uses high reliability electromagnetic relay, through software to achieve a variety of switching timing control. The relay card has the characteristics of strong load capacity, good isolation strength and many channels, which can be used in a wide range of application scenarios for switching AC and DC voltage

and current.



Relay card	Model		FTM8090A
	Interface type		SCSI-50 pedestal
	Number of channels		24CH
	Type of relay		Single cut, single throw

	Maximum switching voltage (single channel)	120Vac/60Vdc
	Maximum switching power (single channel)	60VA/24W
	Maximum switching current (single channel)	1A
	Maximum carrying current (single channel)	2A
	Relay operation time (20°C)	5ms(Tmax)
	Operating temperature	-20°C~40°C
	Slot cards	1

|Ac measuring card

FTM8000 series AC measuring card has multi-channel, high-precision AC voltage and current measurement. The channels are isolated from each other, which can be applied to various AC measurement occasions.

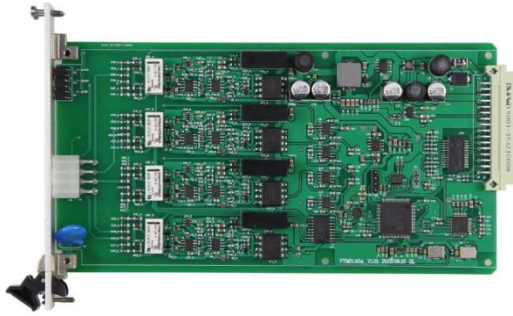


AC measuring card	Model	FTM8110A	FTM8120A
	Interface type	5569-8P	5569-8P
	Type of measurement	AC voltage (ACV)	AC current (ACI)
	Number of channels	4CH (Inter-channel isolation)	
	ADC resolution	16bit	
	Range of input	60Vac/600Vac	1A ac/10A ac
	Sampling accuracy	0.2%+0.2%F. S. (25°C±5°C)	
	Sampling rate	Maximum speed of a single channel 100S/s	
	Channel scanning mode	Asynchronous loop scanning	
	Sampling pattern	On-demand single point sampling, finite point sampling, multi-point continuous sampling	
	Memory depth	8K word (dot) FIFO memory	
	Mode of coupling	Ac coupling	
	Source of trigger	Software trigger, synchronous trigger	
	Slot cards	1	

|DC measuring card

FTM8000 series DC measuring card has multi-channel, high-precision DC voltage and current measurement. The electrical isolation between each channel of the single card can ensure the safety of the measurement work.

The product can be widely used in automotive electronics, white goods, integration testing and other scenarios that require strong electrical measurement.



DC measuring card	Model	FTM8140A	FTM8150A	FTM8240A
	Interface type	5569-8P	5569-8P	3.5-2P*4
	Type of measurement	DC voltage (DCV)	DC current (DCI)	DC voltage (DCV)
	Number of channels	4CH (Inter-channel isolation)		4CH (Non-isolated)
	ADC resolution	16bit		24bit
	Range of input	60Vdc/600Vdc	1A dc/10A dc	$\pm 100V$, $\pm 10V$, $\pm 1V$, $\pm 100mV$
	Sampling accuracy	0.1%+0.1%F.S. ($25^{\circ}C \pm 5^{\circ}C$)		0.01%+0.01%F.S. ($25^{\circ}C \pm 5^{\circ}C$)
	Sampling rate	Maximum rate in a single channel 100S/s		Maximum rate in a single channel 10S/s
	Channel scanning mode	Asynchronous loop scanning		
	Sampling pattern	On-demand single point sampling, finite point sampling, multi-point continuous sampling		
	Memory depth	8K word (dot) FIFO memory		
	Mode of coupling	Direct current coupling		
	Source of trigger	Software trigger, synchronous trigger		
	Slot cards	1		

Programmable resistance card

FTM8000 series programmable resistor card is a high-density multi-channel programmable resistor card with a wide range of resistors: $0\Omega \sim 16M\Omega$, resistance accuracy up to 0.1%. The flexible design architecture supports up to 24 channels on a single board and provides a corresponding level of resistance resolution up to 1Ω , which can be used to simulate resistive sensors and system test simulations.



Programmable	Model	Channel	Resistance range	Resolution	Accuracy
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resistance card	FTM8164B	1CH	200k~111MΩ	1kΩ	1%+1kΩ, Withstand pressure1000V, Total power3W
	FTM8160A	2CH	0Ω~16MΩ	1Ω	0.1%+1Ω
	FTM8160B	3CH	0Ω~64kΩ		
	FTM8160C	4CH	0Ω~4kΩ		
	FTM8160D	6CH	0Ω~255Ω		
	FTM8161A	8CH	0Ω~16MΩ		
	FTM8161B-1	12CH	0Ω~64kΩ	1Ω	0.1%+1Ω
	FTM8161B-2		0Ω~262kΩ	4Ω	0.1%+4Ω
	FTM8161B-3		0Ω~524kΩ	8Ω	0.1%+8Ω
	FTM8161B-4		0Ω~1MΩ	16Ω	0.1%+16Ω
	FTM8161B-5		0Ω~4MΩ	64Ω	0.1%+64Ω
	FTM8161B-6		0Ω~16MΩ	256Ω	0.1%+256Ω
	FTM8161C-1	16CH	0Ω~4kΩ	1Ω	0.1%+1Ω
	FTM8161C-2		0Ω~16kΩ	4Ω	0.1%+4Ω
	FTM8161C-3		0Ω~32kΩ	8Ω	0.1%+8Ω
	FTM8161C-4		0Ω~64kΩ	16Ω	0.1%+16Ω
	FTM8161C-5		0Ω~262kΩ	64Ω	0.1%+64Ω
	FTM8161C-6		0Ω~1MΩ	256Ω	0.1%+256Ω
	FTM8161C-7		0Ω~4MΩ	1024Ω	0.1%+1024Ω
	FTM8161C-8		0Ω~16MΩ	4kΩ	0.1%+4kΩ
	FTM8161D-1	24CH	0Ω~255Ω	1Ω	0.1%+1Ω
	FTM8161D-2		0Ω~1kΩ	4Ω	0.1%+4Ω
	FTM8161D-3		0Ω~2kΩ	8Ω	0.1%+8Ω
	FTM8161D-4		0Ω~4kΩ	16Ω	0.1%+16Ω
	FTM8161D-5		0Ω~16kΩ	64Ω	0.1%+64Ω
	FTM8161D-6		0Ω~64kΩ	256Ω	0.1%+256Ω
	FTM8161D-7		0Ω~262kΩ	1024Ω	0.1%+1024Ω
	FTM8161D-8		0Ω~1MΩ	4kΩ	0.1%+4kΩ
	FTM8161D-9		0Ω~4MΩ	16kΩ	0.1%+16kΩ
	FTM8161D-10		0Ω~16MΩ	64kΩ	0.1%+64kΩ

| Thermocouple temperature simulation card

FTM8200 series thermocouple temperature simulation card is a high precision, multi-channel programmable temperature simulation card. The simulation card can simulate the output signal of common

types of thermocouples such as B type, R type, S type, k type, N type, J type, E type, T type, and can realize the temperature simulation with a minimum temperature resolution of 0.03°C and an accuracy of 0.1%. The

FTM8200 series adopts a flexible design architecture and supports up to 12 channels on a single board, which greatly facilitates the development and testing of temperature measurement and monitoring equipment

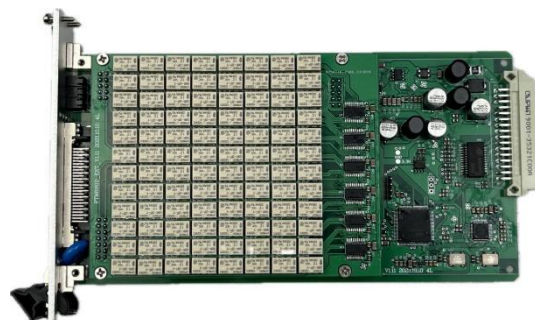


	Model	Channel	Range of output (Output to cold terminal voltage))	Resolution	Accuracy	Remarks
Thermocouple temperature simulator	FTM8200A-08	8CH	-15mV~+85mV	1.6uV	0.1%+10uV	Isolation between channels
	FTM8200A-12	12CH				
	FTM8200B-08	8CH				Non-isolated type between channels
	FTM8200B-12	12CH				
	FTM8200B-24	24CH				

|Thermal resistance temperature simulation card

FTM8162 series thermal resistance temperature simulation card is a high precision, multi-channel programmable temperature simulation card. The simulation card can simulate the output resistance of PT100, PT200, PT500, PT1000, Cu50, Cu100 and other common types of thermal resistance, and can realize the minimum resistance resolution of 0.01Ω and the accuracy of 0.1% resistance simulation. The FTM8162 series adopts a flexible design architecture and supports a single board to support up to 12

channels, which brings great convenience to the development and testing of temperature measurement and monitoring equipment.



Model	Resistance Range	Resolution	Accuracy	Resistor type and temperature range can be simulated
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FTM8162B-1	0Ω~512Ω	0.01Ω	0.1%±0.01Ω	PT100(resolution: 0.026°C, range: full range)
				PT200(resolution: 0.013°C, range: ≤410°C)
				Cu50(resolution: 0.05°C, range: full range)
				Cu100(resolution: 0.023°C, range: full range)
FTM8162B-2	0Ω~1024Ω	0.02Ω	0.1%±0.02Ω	PT100(resolution: 0.05°C, range: full range)
				PT200(resolution: 0.026°C, range: full range)
				PT500(resolution: 0.01°C, range: ≤270°C)
				Cu50(resolution: 0.1°C, range: full range)
FTM8162B-3	0Ω~2048Ω	0.04Ω	0.1%±0.04Ω	Cu100(resolution: 0.05°C, range: full range)
				PT100(resolution: 0.1°C, range: full range)
				PT200(resolution: 0.05°C, range: full range)
				PT500(resolution: 0.02°C, range: full range)
FTM8162B-4	0Ω~4096Ω	0.08Ω	0.1%±0.08Ω	PT1000(resolution: 0.01°C, range: ≤280°C)
				Cu50(resolution: 0.2°C, range: full range)
				Cu100(resolution: 0.1°C, range: full range)
				PT100(resolution: 0.2°C, range: full range)
FTM8162B-4	0Ω~4096Ω	0.08Ω	0.1%±0.08Ω	PT200(resolution: 0.1°C, range: full range)
				PT500(resolution: 0.04°C, range: full range)
				PT1000(resolution: 0.02°C, range: full range)
				Cu50(resolution: 0.4°C, range: full range)
FTM8162B-4	0Ω~4096Ω	0.08Ω	0.1%±0.08Ω	Cu100(resolution: 0.2°C, range: full range)

Analogue output card

FTM8510 series A 16 bit 4 channel analogue output card, using high precision voltage and current measurement and control technology, voltage offset $\geq 0.1\text{mV}$, current offset $\geq 0.2\text{mA}$. It can be widely used in simulation test scenarios of sensors and transmitters such as automotive electronics and new energy storage. Common 4-20mA signal, shunt/Hall current sensor simulation, etc., can

be realized.

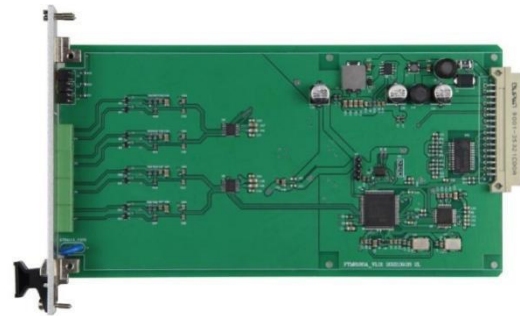


Analogue output card	Model	FTM8510A
	Interface type	SMA-KWE
	Output type	Dc voltage, current
	Number of channels	4CH (isolation between channels)

	ADC resolution	16bit
	Voltage output range	$\pm 200\text{mV dc}/\pm 5\text{V dc}$
	accuracy	$0.1\text{mV}/2.5\text{mV}$ ($25^{\circ}\text{C}\pm 5^{\circ}\text{C}$)
	Current output range	$\pm 200\text{mA dc}$
	accuracy	0.2mA ($25^{\circ}\text{C}\pm 5^{\circ}\text{C}$)
	Sampling rate	The maximum rate of a single channel is 20S/s
	Channel scanning mode	Asynchronous loop scanning
	Acquisition mode	On-demand single point sampling, finite point sampling, multi-point continuous sampling
	Slot cards	1

|Temperature measuring card

FTM8000 series temperature measurement card, with multi-channel, high precision, can support thermal resistance /PT1000, thermocouple /K type, J type, C type, E type, N type, R type, S type, T type and other common types of thermocouple temperature measurement.



Model	FTM8180A	FTM8190A
Interface type	3.5-3P	3.5-2P
Type of measurement	Thermal resistance/PT1000	Thermocouple /K type, J type C type, E type, N type, R type, S type, T type
Number of channels	4CH	
ADC resolution	24bit	
Range of measurement	$-50^{\circ}\text{C}\sim 300^{\circ}\text{C}$	$-210^{\circ}\text{C}\sim 1200^{\circ}\text{C}$ (J model) , $-200^{\circ}\text{C}\sim 1372^{\circ}\text{C}$ (K model) $0^{\circ}\text{C}\sim 2320^{\circ}\text{C}$ (C model), $-200^{\circ}\text{C}\sim 900^{\circ}\text{C}$ (E model), $-270^{\circ}\text{C}\sim 1300^{\circ}\text{C}$ (N model), $0^{\circ}\text{C}\sim 1450^{\circ}\text{C}$ (R model), $0^{\circ}\text{C}\sim 1450^{\circ}\text{C}$ (S model), $-200^{\circ}\text{C}\sim 350^{\circ}\text{C}$ (T model)
Sampling accuracy	$\pm 0.2^{\circ}\text{C}$	$0.5\%+0.8^{\circ}\text{C}$

Sampling rate	The maximum rate of a single channel is 4S/s
Channel scanning mode	Asynchronous loop scanning
Sampling pattern	On-demand single point sampling, finite point sampling, multi-point continuous sampling
Memory depth	8K word (dot) FIFO memory
Mode of coupling	Direct current coupling
Source of trigger	Software trigger, synchronous trigger
Slot cards	1

Multimeter card

FTM8000 series multimeter card is a general four and a half multimeter test card, which can be measured including: AC, DC voltage, current, capacitance, resistance, temperature (thermocouple and thermal resistance), diode, frequency, duty cycle, etc. It can be widely used in consumer electronics, automotive electronics, semiconductor, scientific research and education and other industries.



Multimeter card	Model		FTM8100A
	Resolution		Four and a half
	Range switching mode		Manual/automatic
	Range of measurement	Direct current voltage (DCV)	$\pm 0.6V/\pm 6V/\pm 60V/\pm 600V/\pm 1000V$
		Ac voltage (ACV)	0.6V/6V/60V/600V/750V
		Direct current (DCmA)	$\pm 0.6mA/\pm 6mA/\pm 60mA/\pm 600mA$
		Alternating current (ACmA)	0.6mA/6mA/60mA/600mA
		Direct current (DCA)	$\pm 6A/\pm 10A$
		Alternating current	6A/10A

	(ACA)	
	resistance	600Ω/6kΩ/60kΩ/600kΩ/6MΩ/60MΩ
	capacitance	6nF/60nF/600nF/6uF/60uF/600uF/6mF
	4W resistance OHM	600Ω/6kΩ/60kΩ/600kΩ
	Frequency FREQ	60Hz/600Hz/6kHz/60kHz/6MHz/60MHz
	The DIODE	2V
	Thermocouple TC	-200°C~1300°C(K Model), -200°C~1200°C(J Model)
	Thermistor PTC	-200°C~420°C(PT1000), -200°C~820°C(PT100)
	DUTY cycle duty	0.1%~99%

High voltage insulation resistance simulator

FTM8264 series insulation resistance simulator is a programmable resistance equipment, its resistance programming range is 50Ω~111MΩ, resistance at both ends of the voltage and ground voltage up to 2000V. For different applications, users can flexibly set different resistance values, can be widely used in a variety of test systems insulation resistance simulation and voltage simulation test. FTM8264 series insulation resistance simulator is suitable for "GB/T 34131-2023 Electric Energy Storage Battery Management System" and "GB/T 38661-2020 Electric Vehicle Battery Management System Technical conditions" to meet the verification test of various BMS insulation detection functions.



High Voltage Insulation Resistance simulator	Model	FTM8264B-01	FTM8264B-02	FTM8264B-04	FTM8264B-06
	Number of channels	1CH	2CH	4CH	6CH
	Maximum input voltage	2000V			
	Resistance setting range	50Ω~111MΩ, Can simulate open circuit (>1GΩ)			
	resolution	50Ω			
	accuracy	1%±50Ω			
	Resistance temperature drift	50ppm			
	Resistance power range	50Ω~10kΩ: 10W@25°C;			
		10.05kΩ~20kΩ: 20W@25°C;			
		20.05kΩ~40kΩ: 50W@25°C;			
		40.05kΩ~500kΩ: 100W@25°C;			
		500.05kΩ以上: 10W@25°C			

	Switching time	10ms
	Communication interface	LAN, RS485, CAN, RS232
	Communication protocol	Modbus
	display	4.3 inch touch screen
	Dimensions	430 (W) *470 (D) *88.1 (H) mm
	Temperature specification	Operating temperature: 0°C ~ 40°C; Storage temperature: -20°C ~ +70°C

High-precision AC/DC voltage and current measuring instrument

FTM8008 is a portable high-precision AC/DC voltage and current measuring instrument. It is widely used in battery charging and discharging equipment manufacturing companies and battery manufacturing companies for the final inspection, measurement and automatic calibration of battery charging and discharging equipment, as well as in fields such as measurement research institutes, power, measurement, military industry, manufacturing, and scientific research for AC/DC measurements.



Model				FTM8008-06	FTM8008-10	FTM8008-15	temperature /°C(%RD+%FS)
DC measurement	Voltage	measurement	±10V	0.004%+0.006%F.S.			0.0002%+0.0003%
			±100V	0.004%+0.006%F.S.			0.0002%+0.0003%
			±1000V	0.004%+0.006%F.S.			0.0002%+0.0003%
			±2000V	0.004%+0.01%F.S.			0.0002%+0.0003%
	Current	Range1	Measurement range	±30mA			
			Measurement accuracy	0.004%+0.008%F.S.			0.0002%+0.0006%
		Range2	Measurement range	±300mA			

			Measurement accuracy	0.004%+0.006%F.S.			0.0002%+0.0006%
		Range3	Measurement range	$\pm 3A$			
			Measurement accuracy	0.004%+0.006%F.S.			0.0002%+0.0006%
		Range4	Measurement range	$\pm 60A$	$\pm 60A$	$\pm 75A$	
			Measurement accuracy	0.008%+0.008%F.S.			0.0002%+0.0006%
		Range5	Measurement range	$\pm 600A$	$\pm 600A$	$\pm 750A$	
			Measurement accuracy	0.008%+0.006%F.S.			0.0002%+0.0006%
		Range6	Measurement range		$\pm 1000A$	$\pm 1500A$	
			Measurement accuracy	0.008%+0.006%F.S.			0.0002%+0.0006%
AC measurement	Voltage measurement accuracy *2		10V	0.05%+0.05%F.S.			0.0006%+0.001%
			100V				0.0006%+0.001%
			707V				0.0006%+0.001%
			1414V	0.05%+0.1%F.S.			0.0006%+0.001%
	Current *2	Range1	Measurement range	30mA			
			Measurement accuracy	0.1%+0.04%F.S.			0.001%+0.0015%
		Range2	Measurement range	300mA			
			Measurement accuracy	0.1%+0.04%F.S.			0.001%+0.0015%
		Range3	Measurement range	3A			
			Measurement accuracy	0.1%+0.04%F.S.			0.001%+0.0015%
		Range4	Measurement range	60A	60A	75A	
			Measurement accuracy	0.1%+0.04%F.S.			0.001%+0.0015%
		Range5	Measurement range	424A	600A	750A	
			Measurement accuracy	0.1%+0.04%F.S.			0.001%+0.0015%
		Range6	Measurement		707A	1060A	

			range				
			Measurement accuracy	0.1%+0.04%F.S.			0.001%+0.0015%
frequency	Frequency measurement range			10Hz~400Hz			
measurment	Frequency measurement accuracy			0.03%			
ent	Resolution			0.01Hz			
Other							
Working voltage				AC100V~240V, 50Hz/60Hz			
Working temperature Communication interface				10℃~40℃			
Communication protocol				RS485、RS232、LAN（TCP/IP）、CAN			
Relative humidity Weight				Modbus、CAN-Open			
Size				<70%RH, Non-corrosive gas			
Working voltage				4.3kg			
Working temperature Communication interface				347（W）*122（D）*182（H）mm			

Ordering Information

Name	Model	Number of Channels	Instruction
Chassis	FTM8000A	15CH	3U/19", Can support 15 boards, must be equipped with a master card
	FTM8000C	1CH	Single card chassis
Main control card	FTM8010A	-	2CH/ Gigabit Ethernet
Data Acquisition (DAQ) card	FTM8060A	16CH/8CH,2CH	16CH single-ended, 8CH differential (16bit) input, 2CH (12bit) analog output,SCSI20 mother block
	FTM8060B	32CH/16CH,2CH	32CH single-ended, 16CH differential (16bit) input, 2CH (12bit) analog output,SCSI36 mother block
	FTM8061A	16CH/8CH,2CH	16CH single-ended, 8CH differential (16bit) input, 2CH (16bit) analog output,SCSI20 mother block
	FTM8061B	32CH/16CH,2CH	32CH single-ended, 16CH differential (16bit) input, 2CH (16bit) analog output,SCSI36 mother block
	FTM8062A	16CH/8CH,2CH	16CH single-ended, 8CH differential (16bit) input, 2CH (12bit) analog output, DB37 interface
	FTM8062B	32CH/16CH,2CH	32CH single-ended, 16CH differential (16bit) input, 2CH (12bit) analog output, DB37 interface
Digital I/O card	FTM8080A	16CH DI/16CH DO	16CH DI (25MHz), 16CH DO (50MHz), output: 3.3V@24mA or 5V@32mA, input: 3.3V or 5V, non-isolated
High voltage I/O card	FTM8081A	16CH DI/16CH DO	Input/output isolation, input voltage: 12V ~ 32V, output voltage: 24V; Input and output frequency: 0-100kHz, duty cycle step 1%, drive current: 100mA MAX,
Relay card	FTM8090A	24CH	Single pole single throw relay
Multimeter card	FTM8100A	1CH	Four and a half, can be tested: DC voltage and current, AC voltage and current, resistance, capacitance, etc
Ac measuring card	FTM8110A	4CH	Isolated AC voltage (ACV) measurement, range: 60V/600V, 16bit
	FTM8120A		Isolated AC current (ACI) measurement, range: 1A/10A, 16bit
Dc measuring card	FTM8140A		Isolated DC voltage (DCV) measurement, range: $\pm 60V/\pm 600V$, 16bit
	FTM8150A		Isolated DC current (DCI) measurement, range: $\pm 1A/\pm 10A$, 16bit
	FTM8240A		Non-isolated DC voltage (DCV) measurement, range: $\pm 0.1V/\pm 1V/\pm 10V/\pm 100V$, 24bit
Temperature measuring card	FTM8180A	4CH	Thermal resistance /PT1000, -50°C ~ 300°C, $\pm 0.2^\circ\text{C}$
	FTM8190A		Thermocouple $-210^\circ\text{C} \sim 1200^\circ\text{C}$ (J type) $-200^\circ\text{C} \sim 1372^\circ\text{C}$ (K type), $0^\circ\text{C} \sim 2320^\circ\text{C}$ (C type), $-200^\circ\text{C} \sim 900^\circ\text{C}$ (E), $-270^\circ\text{C} \sim 1300^\circ\text{C}$ (N), and $0^\circ\text{C} \sim 1450^\circ\text{C}$ (R), and $0^\circ\text{C} \sim 1450^\circ\text{C}$ (S), $-200^\circ\text{C} \sim 350^\circ\text{C}$ (T), $0.5\% + 0.8^\circ\text{C}$
Programmable resistor card	FTM8164B	1CH	200k~111M Ω , Resolution 1k Ω , 1%+1k Ω , Withstand pressure 1000V, Total power 3W
	FTM8160A	2CH	0 Ω ~16M Ω ,Resolution 1 Ω ,0.1%+1 Ω
	FTM8160B	3CH	0 Ω ~64k Ω ,Resolution 1 Ω ,0.1%+1 Ω
	FTM8160C	4CH	0 Ω ~4k Ω ,Resolution 1 Ω ,0.1%+1 Ω
	FTM8160D	6CH	0 Ω ~255 Ω ,Resolution 1 Ω ,0.1%+1 Ω

	FTM8161A	8CH	0Ω~16MΩ,Resolution 1Ω,0.1%+1Ω
	FTM8161B-1	12CH	0Ω~64kΩ,Resolution 1Ω,0.1%+1Ω
	FTM8161B-2		0Ω~262kΩ,Resolution 4Ω,0.1%+4Ω
	FTM8161B-3		0Ω~524kΩ,Resolution 8Ω,0.1%+8Ω
	FTM8161B-4		0Ω~1MΩ,Resolution 16Ω,0.1%+16Ω
	FTM8161B-5		0Ω~4MΩ,Resolution 64Ω,0.1%+64Ω
	FTM8161B-6		0Ω~16MΩ,Resolution 256Ω,0.1%+256Ω
	FTM8161C-1	16CH	0Ω~4kΩ,Resolution 1Ω,0.1%+1Ω
	FTM8161C-2		0Ω~16kΩ,Resolution 4Ω,0.1%+4Ω
	FTM8161C-3		0Ω~32kΩ,Resolution 8Ω,0.1%+8Ω
	FTM8161C-4		0Ω~64kΩ,Resolution 16Ω,0.1%+16Ω
	FTM8161C-5		0Ω~262kΩ,Resolution 64Ω,0.1%+64Ω
	FTM8161C-6		0Ω~1MΩ,Resolution 256Ω,0.1%+256Ω
	FTM8161C-7		0Ω~4MΩ,Resolution 1024Ω,0.1%+1024Ω
	FTM8161C-8		0Ω~16MΩ,Resolution 4kΩ,0.1%+4kΩ
	FTM8161D-1	24CH	0Ω~255Ω,Resolution 1Ω,0.1%+1Ω
	FTM8161D-2		0Ω~1kΩ,Resolution 4Ω,0.1%+4Ω
	FTM8161D-3		0Ω~2kΩ,Resolution 8Ω,0.1%+8Ω
	FTM8161D-4		0Ω~4kΩ,Resolution 16Ω,0.1%+16Ω
	FTM8161D-5		0Ω~16kΩ,Resolution 64Ω,0.1%+64Ω
	FTM8161D-6		0Ω~64kΩ,Resolution 256Ω,0.1%+256Ω
	FTM8161D-7		0Ω~262kΩ,Resolution 1024Ω,0.1%+1024Ω
	FTM8161D-8		0Ω~1MΩ,Resolution 4kΩ,0.1%+4kΩ
	FTM8161D-9		0Ω~4MΩ,Resolution 16kΩ,0.1%+16kΩ
	FTM8161D-10		0Ω~16MΩ,Resolution 64kΩ,0.1%+64kΩ
Thermocouple temperature simulation card	FTM8200A-08	8CH	Output to cold terminal voltage: -15mV ~ +85mV, resolution 1.6uV, 0.1%+10uV, isolation between channels
	FTM8200A-12	12CH	
	FTM8200B-08	8CH	
	FTM8200B-12	12CH	
	FTM8200B-24	24CH	
Thermal resistance temperature simulation card	FTM8162B-1	12CH	0 ~ 512Ω, resolution 0.01Ω, 0.1%+0.01Ω, can simulate type: PT100/PT200(≤410°C)/Cu50/Cu100
	FTM8162B-2		0 ~ 1024Ω, resolution 0.02Ω, 0.1%+0.02Ω, can simulate type: PT100/PT200/PT500(≤270°C)/Cu50/Cu100
	FTM8162B-3		0 ~ 2048Ω, resolution 0.04Ω, 0.1%+0.04Ω, can simulate type: PT100/PT200/PT500/PT1000(≤280°C)/Cu50/Cu100
	FTM8162B-4		0.08 Ω 0 ~ 4096 Ω, resolution, 0.1% + 0.08 Ω, can be simulated types: PT100 / PT200 / PT500 / PT1000 / Cu50 / Cu100
Analog output card	FTM8510A	4CH	Voltage output range: ±5V, ±200mV/ Accuracy: ≤2.5mV@5V, ≤0.1mV@200mV; Current output range: ±200mA/ accuracy: ≤0.2mA, isolation

			between channels
High voltage insulation resistance simulator	FTM8264B-01	1CH	$50\Omega \sim 111M\Omega$, resolution: 50Ω , voltage 2000V, accuracy $1\%+50\Omega$, open circuit resistance $> 100M\Omega$, 2U chassis, resistance power: $50\Omega \sim 10k\Omega : 10W@25^{\circ}C$; $10.05k\Omega \sim 20k\Omega : 20W@25^{\circ}C$; $20.05k\Omega \sim 40k\Omega : 50W@25^{\circ}C$; $40.05k\Omega \sim 500k\Omega : 100W@25^{\circ}C$; Above $500.05k\Omega : 10W@25^{\circ}C$
	FTM8264B-02	2CH	
	FTM8264B-04	4CH	
	FTM8264B-06	6CH	

[|Purchase information](#)

Option 1

Name	Specification or Model	Instrucation
Port conversion suites	SCSI-14P	14P/ adaptation FTM8160A/B/C/D
	SCSI-20P	20P/ adaptation FTM8060A
	SCSI-36P	36P/ adapter FTM8060B
	SCSI-50P	50P/ adapter FTM8090A