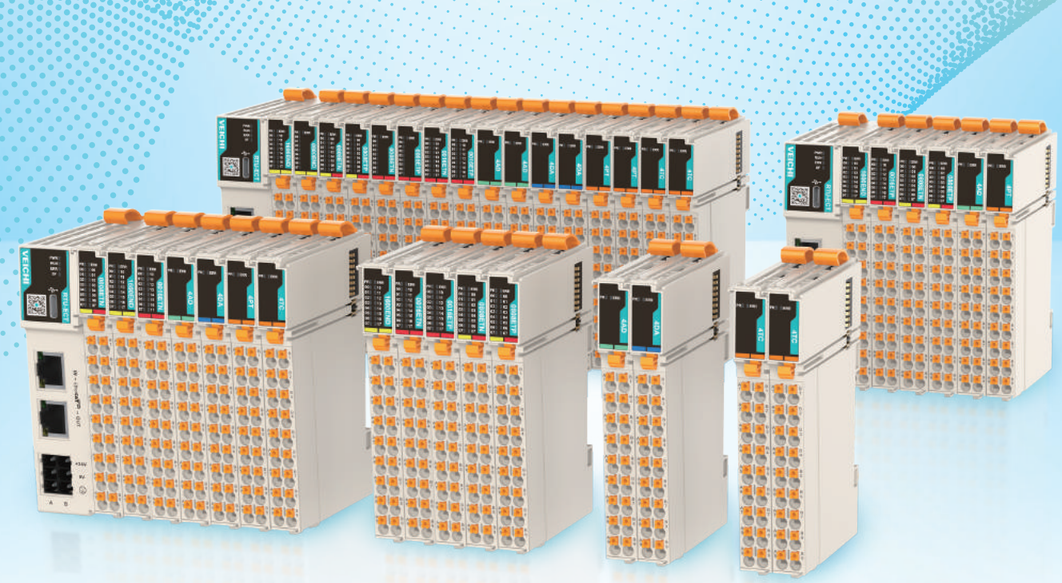
VEICHI

VM-Series
Light-weight Remote Module



VEICHI

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Official Website

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About us

Veichi（stock code：688698）has always committed to electric drive and industrial control since it's foundation. As an all-round company engaged in R & D, manufacturing and sales on high-tech industrial automation products, Veichi has been identified with several honorary titles such as Jiangsu Provincial-level Enterprise Technology Center, Jiangsu Private-own Technical Enterprise, Specialized and Sophisticated Enterprises That Produce New and Unique Products, Jiangsu Engineering Research Center, Jiangsu New and High-tech Enterprise and Suzhou City-level Gazelle Company (High Growth Enterprise) and has obtained the highest level of enterprise credit. Through years of independent research and development, Veichi now has been authorized with patents totaling 148 by the end of December, 2022, and among them 36 are for invention. Having established R & D center and manufacturing bases in Suzhou, Shenzhen and Xi'an, added with the wholly-owned subsidiary in India, Veichi now are dealing with customers from several nations and regions and has the full capability to provide safe, competitive and trustworthy products and services to customers from the larger world.

Veichi provides various products including inverters from 0.4kW to 5,600kW, servo systems from 50W to 200kW, motion controllers, PLC and HMI, which are applied in all sorts of fields like lifting, mining, rail traffic, machine tools, compressors, plastic equipment, photo-voltaic pumping, construction, robots/mechanical arms, printing and packaging, chemical fibers for textile use, metallurgy, municipal works, petrol work and chemical engineering.

20 service stations and 182 contracted distributors cover 31 provinces on China mainland and Hong Kong, Macao and Taiwan regions, which guarantees a massive and efficient network for sales and services for our customers.

Veichi will continue to abide by the operation philosophy, that is, guided by market demand and driven by technological innovation, enlarge and enhance its core business like inverters, servo systems, control systems and SIoTs. And Veichi will always be devoted to providing quality products and services for customers and further make contributions to the development of electric drive and industrial control.

2005
- Business started in Shenzhen
- First generation of inverter on the market

2013
- Suzhou Veichi Electric Co., Ltd established
- First generation of servo system on the market

2014
- Suzhou Veichi first-stage project put into construction

2015
- Advanced integrated product development mode (IPD) initiated

2016
- Suzhou Veichi first-stage project put into operation
- First generation of motion control system on the market

2017
- Veichi honored with New High-tech Enterprise

2018
- Veichi honored with secondary enterprise of standardized production safety among Jiangsu province

2019
- Veichi restructured to a company limited by shares
- Indian subsidiary established
- Veichi honored with Jiangsu Province Enterprise Technology Center

2020
- A-share science and technology innovation board landing successfully
- Veichi honored with Jiangsu Province Specialized and Sophisticated Enterprise That Produces New and Unique Products
- Veichi honored with Jiangsu Province Engineering Technology Research Center of Medium& high Power Inverters and Servo motion Controllers

2021
- Veichi subsidiary corporation established
- Veichi honored with national -level Specialized and Sophisticated Enterprise That Produces New and Unique Products

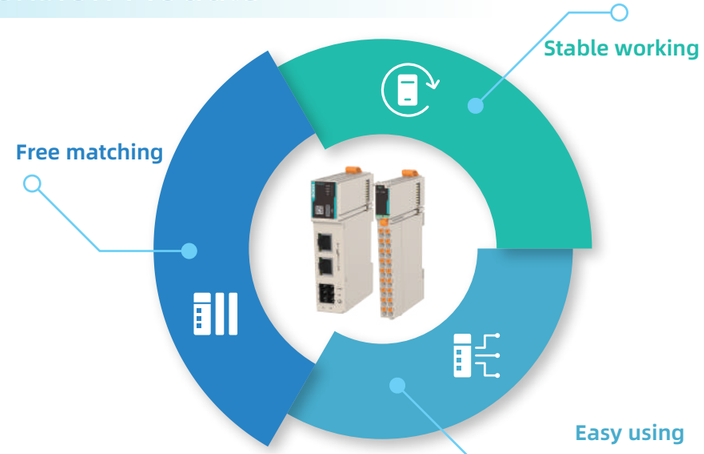
2022
- Xi'an R&D center established
- Veichi digital energy subsidiary corporation established
- Veichi honored with AAA certificate of integrating IT application with industrialization

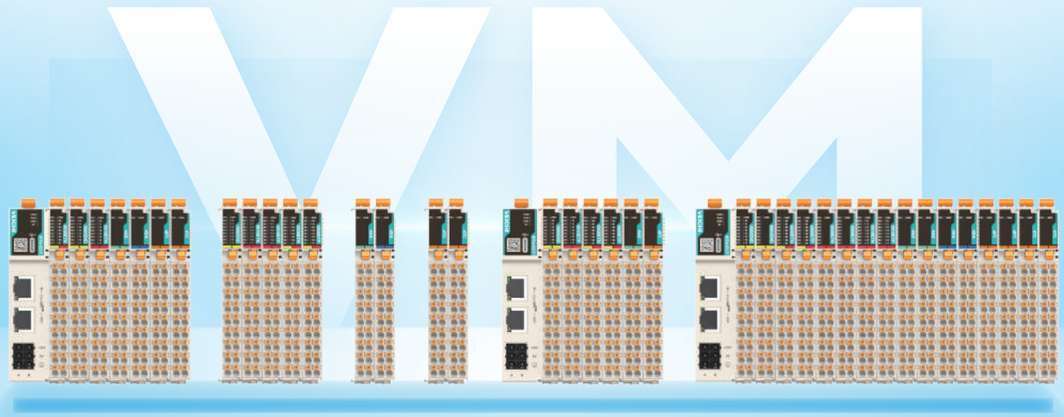
2023
- Suzhou Veichi second-stage project put into operation
- Suzhou Veichi third-stage project put into construction
- Veichi medical facility subsidiary established

Light and thin

VM-Series Remote Extension Module

VM series remote module is the new generation among extension modules from Veichi, featuring light weight, fast signal acquisition, easy assembly, and high reliability. It is suitable for common bus networks with microsecond-level response speed. VM series remote modules are available in a wide range of models, added with its excellent continuous operation performance and high responsiveness, to meet the various needs of industrial control automation.





Rich modules　　Rich combinations

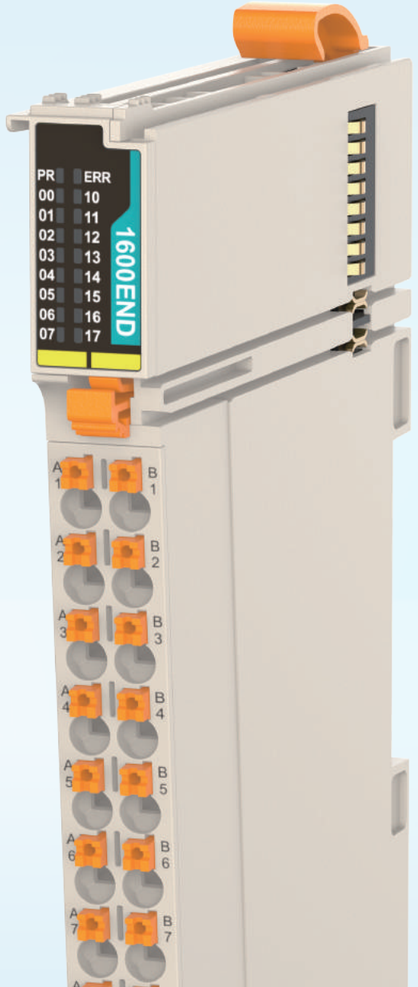
Lighter, faster, more credible new generation distributed remote modules

Max 16 modules supported

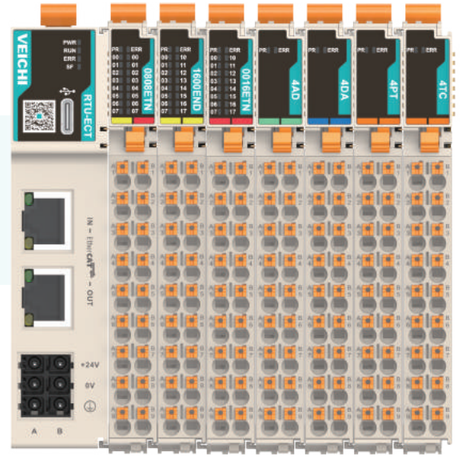
New generation of bus speed raised to 100mbps

2/3 cabinet space saved off

D-BUS with two sides of the connecting fingers attached together for higher stability



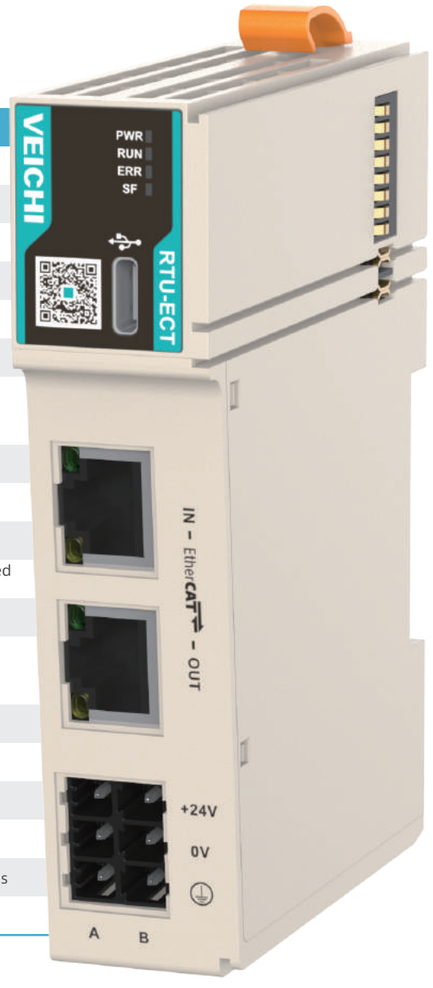
VM-Series remote extension module models



Model	Description
VM-RTU-ECT	Programmable controller EtherCAT (auto-scan) communication module: coupler
VM-RTU-PN	Programmable controllers PROFINET communication module : coupler
VM-1600END	16-way digital input module
VM-0800END	8-way digital input module
VM-0016ETN	16-way digital transistor NPN output module
VM-0016ETP	16-way digital transistor PNP output module
VM-0808ETN	8-way digital input module and 8-way digital transistor NPN output module
VM-0808ETP	8-way digital input module and 8-way digital transistor PNP output module
VM-0008ETN	8-way digital transistor NPN output module
VM-0008ETP	8-way digital transistor PNP output module
VM-4AD	4-way analog input module
VM-4DA	4-way analog output module
VM-4PT	4-input RTD temperature detection module
VM-4TC	4-input RTD temperature detection module

VM-RTU-ECT communication interface module

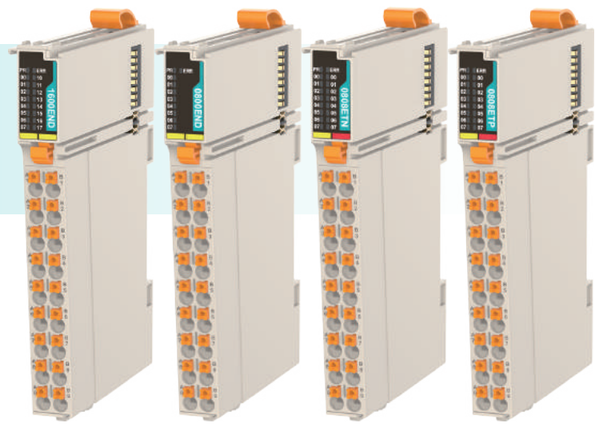
Item	Description
Extension No.	16 including IO and special modules
Backplane bus	VBUS，Veichi-defined
Backplane speed	100M
Communication period	Min. 125 microseconds
Backplane bus compatibility	Compatible communication protocol between remote module and local module
Backplane communication method	Hand-in-hand express forwarding
EtherCAT interface	IN： EtherCAT input port OUT： EtherCAT output port connected to EtherCAT slave
Input power rated voltage to terminal	24V DC（20.4V DC~ 28.8V DC）
Input power rated current to terminal	0.6A (typical at 24V)
Power output derating	85% derating at 55℃
Isolation	24V not isolated from the digital circuit, digital circuit isolated from analog circuit
Power protection	Overcurrent protection, anti-reverse connection protection, surge absorption
Alias access	Support alias access for ECTA, and setting site alias in the background for ECT. Alias access and setting for the extension module connected behind ECT is not supported. Range: 1~65535
Input PDO number	Max. 1024 bytes
Output PDO number	Max. 1024 bytes
Input mailbox	Max. 256 bytes
Output mailbox	Max. 256 bytes
IO mapping	Bit-by-bit access, byte-by-byte access, word-by-word access
Shutdown output mode	Output by fault stop status mode and preset value, no more refreshing



VM-RTU-RN communication interface module

Item	Description
Communication mode	RT mode
Min. communication period	1ms
I&M data	I&M -I&M3
PROFINET version	V2.3
Extendibility	16 modules
PROFINET interface No.	2
PROFINET switch function	Networking
Physical layer	100BASE-TX
Communication rate	10 Mbit/s (standard Ethernet), 100 Mbit/s (PROFINET)
Communication method	Full-duplex
Topology	Linear, star, tree
Transmission medium	Cat 5 and above
Transmission distance	Below 100 meters between two nodes
Prior start	Supported
Port disabling	Supported
No configuration required for device replacement	Supported (same PN module)
Main module reset	Supported
Module reset	None
Main module firmware upgrade	Supported

Digital input module specification



VM-1600END
16-way digital input module

VM-0800END
8-way digital input module

VM-0808ETN
8-way digital input module
8-way digital transistor NPN output module

VM-0808ETP
8-way digital input module
8-way digital transistor PNP output module

Item	Description
Signal input method	Source/Drain setting via S/S terminal
Isolation requirement	Insulated isolation with opto-coupler
Input voltage	24Vdc
Input current	Typical 4mA
Input impedance	Reference value 6k
ON voltage	>15V DC
OFF voltage	<5V DC
Response time	100us
Software filter time	Filter time group selection (none 0.25ms, 0.5ms, 1ms (factory setting), 2ms, 4ms, 8ms, 16ms, 32ms)
Ambient working temperature	-20℃~55℃
Rated current of bus input power supply	100mA (typical at 5V DC)
Module hot-swapping	None

Digital output module specification

VM-0016ETN
16-way digital transistor NPN output module

VM-0016ETP
16-way digital transistor PNP output module

VM-0008ETN
8-way digital transistor NPN output module

VM-0008ETP
8-way digital transistor PNP output module

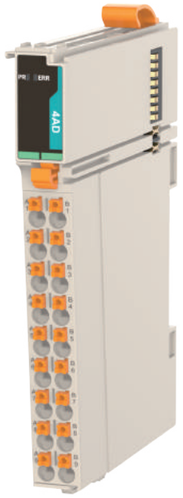
VM-0808ETN
8-way digital input module
8-way digital transistor NPN output module

VM-0808ETP
8-way digital input module
8-way digital transistor PNP output module

Item	Description
Signal output method	Source/Drain on different models
Isolation requirement	Insulation isolated with opto-coupler Input voltage
Output voltage	24Vdc
Output load (resistive load)	0.5A/interface, 2A/ module
Output load (inductive load)	7.2W/ interface, 12W/module
Output load (lamp load)	5W/interface, 9W/module
Response time	100us
Motion indicator	Indicator on when the optocoupler is driven
Leakage current in open circuit	< 0.1mA/30Vdc
Min. load	5mA（5～24Vdc）
Protection	Short-circuit protection
Ambient working temperature	-20℃~55℃
Rated current of bus input power supply	100mA (typical at 5V DC)
Module hot-swapping	None

Analog input module specification

Item	Description
Input type	Analog
Isolation requirement	Analog and digital circuits isolated with opto-couplers. Analog internally isolated from input power 24Vdc. No isolation between analog channels
Input method	Voltage / Current
Input channel	4/8
Resolution	16-bit
Switching time	60us/ channel
Voltage input range	±10V，0~10V，±5V，0~5V，1~5V
Voltage input impedance	1MΩ
Voltage input accuracy（25℃）	±0.1% (full-scale)
Voltage input limit	No disconnection detection
Current input range	±20mA，0~20mA，4~20mA
Current sampling impedance	250Ω
Current input accuracy（25℃）	±0.1% (full-scale)
Current input limit	Instantaneous ±30mA, average ±24mA
Current input diagnosis	Disconnection detection supported at 4~20mA only
Ambient working temperature	-20℃~55℃
Rated current of bus input power	120mA(typical at 5V DC)
Module hot-swapping	None

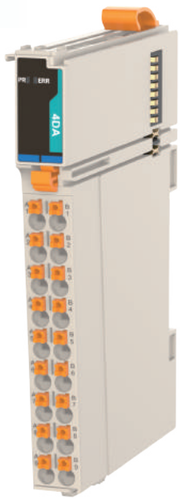


VM-4AD

4-way analog input module

Analog output module specification

Item	Description
Output type	Analog
Isolation requirement	Analog and digital circuits isolated with opto-couplers. Analog internally isolated from input power 24Vdc. No isolation between analog channels
Output method	Voltage / Current
Output channel	4/8
Resolution	16 bit
Switching time	60us/ channel
Voltage output range	±10V，0~10V，±5V，0~5V，1~5V
Voltage output impedance	1KΩ
Voltage output accuracy（25℃）	±0.1% (full-scale)
Voltage output diagnosis	Short circuit detection, over temperature protection
Current output range	0~20mA，4~20mA
Current output load	0~600Ω
Current output accuracy（25℃）	±0.1% (full-scale)
Current output diagnosis	Open circuit detection, over temperature protection
Rated current of bus input power	120mA (typical at 5V DC)
Module hot-swapping	None

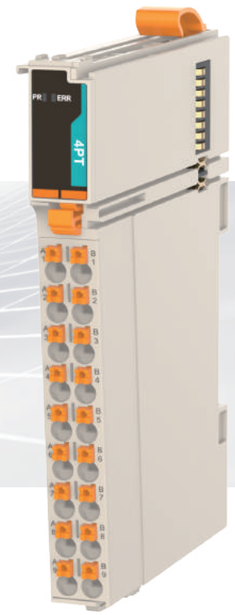


VM-4DA

4-way analog output module

Temperature detection module - RTD input

Item	Index			
	Celsius（℃）		Fahrenheit（℉）	
Input signal	RTD type: Pt100, Pt500, Pt1000, Cu100, KTY84, NTC5K, NTC10K,a total of 4 channels			
Sampling cycle	250ms, 500ms, 1000ms/4 channels (configurable via software)			
Rated temperature range	Pt100	-200.0℃~850.0℃	Pt100	-328.0℉~1562.0℉
	Pt500	-200.0℃~850.0℃	Pt500	-328.0℉~1562.0℉
	Pt1000	-200.0℃~850.0℃	Pt1000	-328.0℉~1562.0℉
	Cu100	-50.0℃~150.0℃	Cu100	-58.0℉~302.0℉
	KTY84	0.0℃~200.0℃	KTY84	32.0℉~392.0℉
	NTC5K（B value 2000）	-30.0℃~200.0℃	NTC5K（B value 2000）	-22.0℉~392.0℉
	NTC5K（B value 3950）	-15.0℃~100.0℃	NTC5K（B value 3950）	5.0℉~212.0℉
	NTC5K（B value 6000）	0.0℃~100.0℃	NTC5K（B value 6000）	32.0℉~212.0℉
	NTC10K（B value 2000）	-25.0℃~200.0℃	NTC10K（B value 2000）	-13.0℉~392.0℉
	NTC10K（B value 3950）	0.0℃~150.0℃	NTC10K（B value 3950）	32.0℉~302.0℉
	NTC10K（B value 6000）	6.0℃~100.0℃	NTC10K（B value 6000）	42.8℉~212.0℉
Min. resolution	0.2℃，0.36℉			
Precision	±0.5% of full scale			
Isolation	Analog and digital circuits isolated with opto-couplers. Analog internally isolated from input power 24Vdc. No isolation between analog channels			
Rated voltage of bus input power	5V DC（DC4.75V DC– 5.25V DC）			
Rated current of bus input power	120mA (typical at 5V DC)			
Module hot-swapping	None			

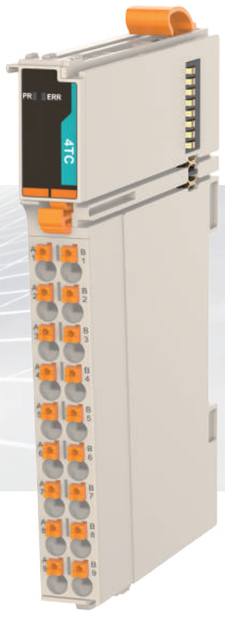


VM-4PT

4-way input RTD temperature detection module

Item	Index			
	Celsius (℃)		Fahrenheit (℉)	
Seized I/O nodes	None			
Input signal	Thermocouple: K, J, E, N, T, R, S (7 kinds of each channel available), a total of 4 channels			
Switching speed	(240±2%) ms × 4 channels (no conversion for disabled channels)			
Rated temperature range	K	- 100℃ ~ 1200℃	K	- 148℉ ~ 2192℉
	J	- 100℃ ~ 1000℃	J	- 148℉ ~ 1832℉
	E	- 100℃ ~ 1000℃	E	- 148℉ ~ 1832℉
	N	- 100℃ ~ 1200℃	N	- 148℉ ~ 2192℉
	T	- 200℃ ~ 400℃	T	- 328℉ ~ 752℉
	R	0℃ ~ 1600℃	R	32℉ ~ 2912℉
	S	0℃ ~ 1600℃	S	32℉ ~ 2912℉
Min. resolution	K	0.8℃	K	1.44℉
	J	0.7℃	J	1.26℉
	E	0.5℃	E	0.9℉
	N	1℃	N	1.8℉
Min. resolution	T	0.2℃	T	0.36℉
	R	1℃	R	1.8℉
	S	1℃	S	1.8℉
Overall accuracy calibration point	±0.5% of full scale			
Isolation	Analog and digital circuits isolated with opto-couplers. Analog internally isolated from input power 24Vdc. No isolation between analog channels			
Rated voltage of bus input power	5V DC (DC4.75V DC– 5.25V DC)			
Rated current of bus input power	120mA (typical at 5V DC)			
Module hot-swapping	None			

Note: both ℃ and ℉ data are available via proper settings



VM-4TC

4-way input RTD temperature detection module

Manufacturing and Quality Control

Smart manufacturing with whole-process automation

- On intelligent manufacturing ,the smart factory yields an annual capacity of 600,000 sets;
- Fully automatic SMT production line, automatic coating line, assembly line, testing line, packaging line, high temperature aging room and advanced production equipment are established;
- Enterprise production is implemented with target management and is operated in strict accordance with the production process and management methods, which greatly improves the production efficiency.
- Complete supply chain system meets the large volume of one-time delivery.

Inheriting the spirit of craftsmanship, detail-oriented and striving for better

- Insist on the quality policy and concept of quality first.
- Procurement, design, manufacturing and other aspects all implemented in strict accordance with the requirements of the ISO9001 quality management system.
- Talents create high quality, the production line core positions are occupied by 100% college degrees and above.
- Each product has a unique product code, which can be used in the product traceability system to ensure quality can be controlled and traced.

ISO9001:2015
ISO14001:2015
ISO45001:2018

CE certification for full series

3C certification for specialized products

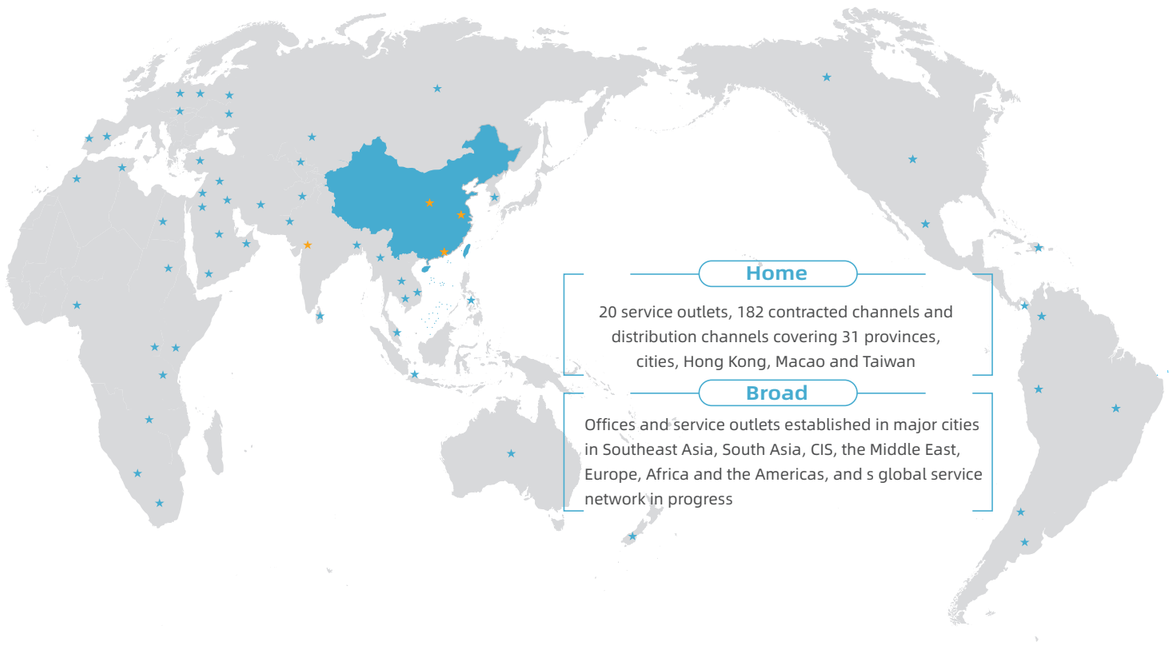
RoHS 2.0 for customized products

AAA Certification for Measurement Management System

Five-star certification for after-sales service

QC080000 Management System

Service and Support



Home

20 service outlets, 182 contracted channels and distribution channels covering 31 provinces, cities, Hong Kong, Macao and Taiwan

Broad

Offices and service outlets established in major cities in Southeast Asia, South Asia, CIS, the Middle East, Europe, Africa and the Americas, and s global service network in progress

01 **Pre-sales**
technology promotion, site survey, proposal design, energy saving assessment

02 **During-sales**
customization, design consultation, installation and commissioning, on-site training

03 **After-sales**
regular return visits, regular maintenance, timely repairs, application instruction