

# AC810 Series Standard AC Multidrive



Stock code : 688698

**VEICHI**

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Official Website

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# About us



VEICHI Electric (stock code: 688698) specializes in electric drive and industry control, establishing itself as a leading high-tech enterprise in the R&D, production, and sales of industrial automation products. With R&D and manufacturing facilities in Suzhou, Shenzhen, and Xi'an, along with a fully-owned subsidiary in India, VEICHI serves the global market by offering competitive, safe, and reliable products and services.

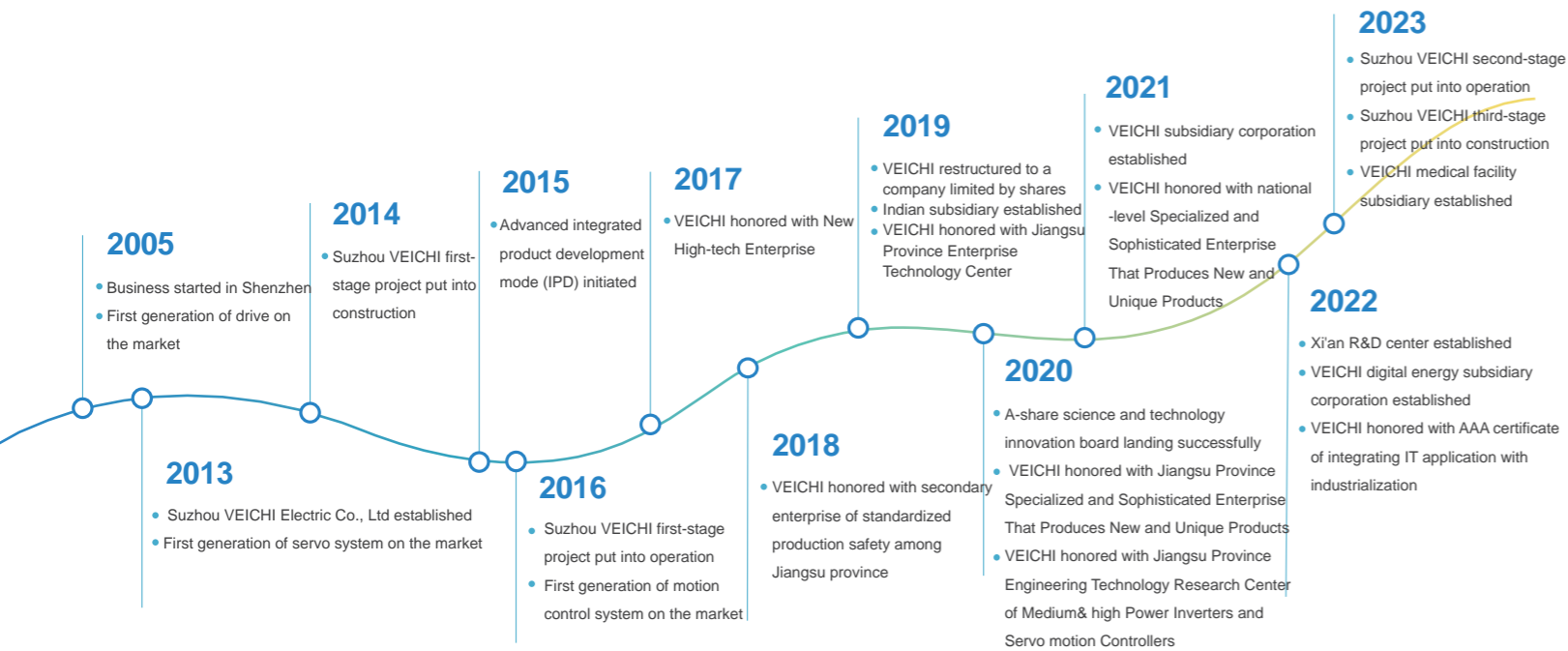
A wide range of VEICHI products and solutions tailored to various scenarios, including AC drives, servo systems, and control systems, have been acclaimed with plentiful proven applications across sectors from light to heavy industries, propelling intellectualization transformation in manufacturing. Keeping pace with development trends, VEICHI is branching into burgeoning sectors like robotics, new energy, and healthcare, introducing innovative products such as coreless motors, frameless motors, photovoltaic drives, and surgical power systems for further industrial advancement.

Abundant patented technologies with independent intellectual properties have testified VEICHI's years of dedication to independent R&D and innovation in core motor control technologies including vector control for PMSM, high-frequency pulse injection, speed tracking for start-up, high-speed field-weakening, scalar V/F and vector control, as well as silicon carbide applications, auto tuning of motor parameters, and protection functions. As of June 30, 2024, VEICHI holds 221 patents, including 51

inventions.

Throughout its history, VEICHI has made significant progress patiently but surely, earning numerous prestigious awards and certifications from national and provincial authoritative entities and organizations. These accolades include titles such as "The Third Batch of Specialized and Sophisticated 'Small Giant' Enterprises with Distinctive New Products," "High-tech Enterprises," "Jiangsu Provincial Engineering Technology Research Center," "Jiangsu Provincial Enterprise Technology Center," and "Jiangsu Provincial Industrial Internet Development Demonstration Enterprise (Benchmarking Factory Category)."

Looking forward, VEICHI will, by the business philosophy of "guided by market demand and driven by technological innovation", make breakthroughs in key core technologies for more refreshing products and explore more reassuring applications based on their competitive performance and quality, energizing the electrical drive and industrial control sector one more step further.

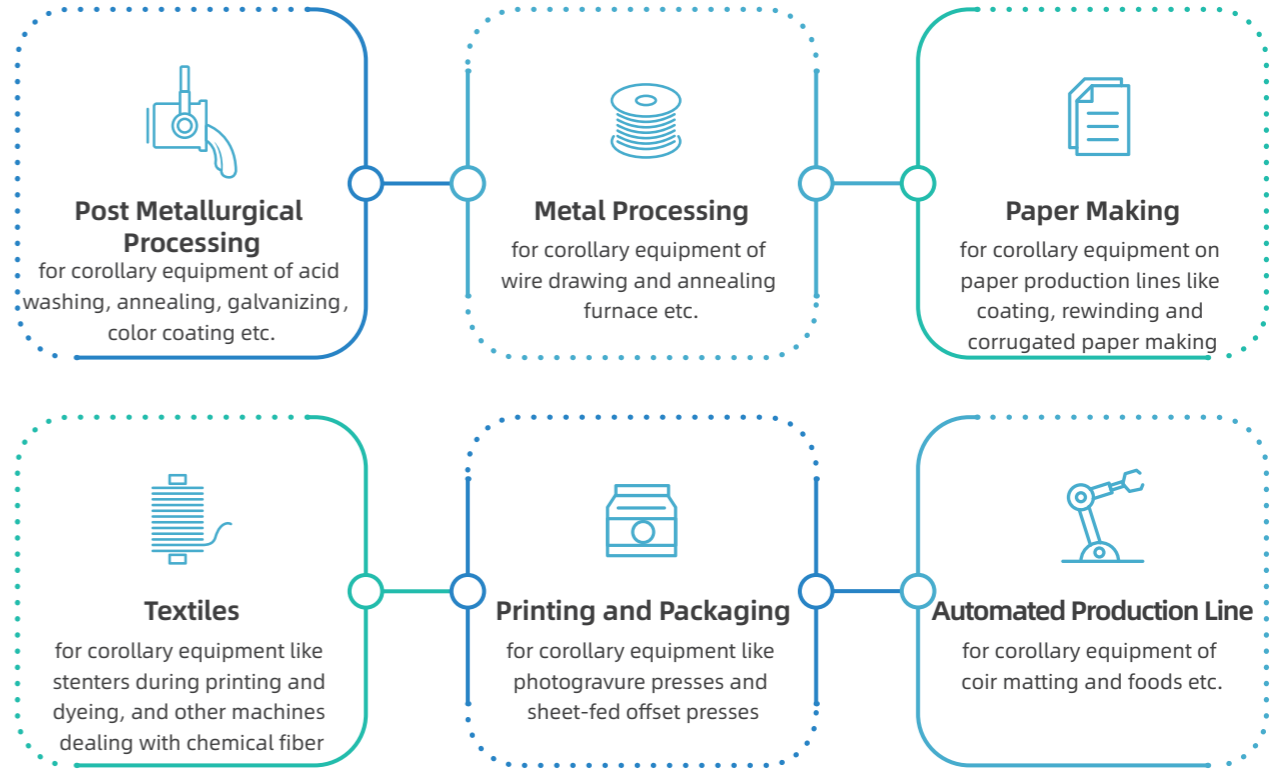


## Product Introduction

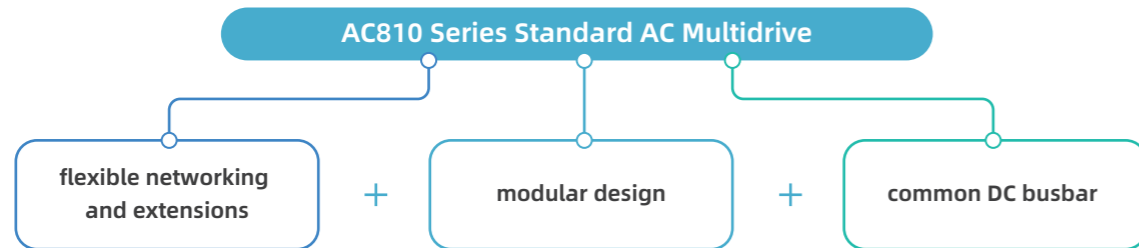
The AC810 series by VEICHI is a top-tier multidrive system, a result of extensive R&D and market insight.

It boasts superior control capabilities, adaptability in networking and expansion, a modular design, and a unified DC bus architecture.

This series is a reliable choice for industrial energy savings and emission cuts, adeptly addressing the diverse frequency conversion needs of industrial enterprises, providing a tailored solution for their operational efficiency and sustainability goals.



Product Features



Multiple expansion functions

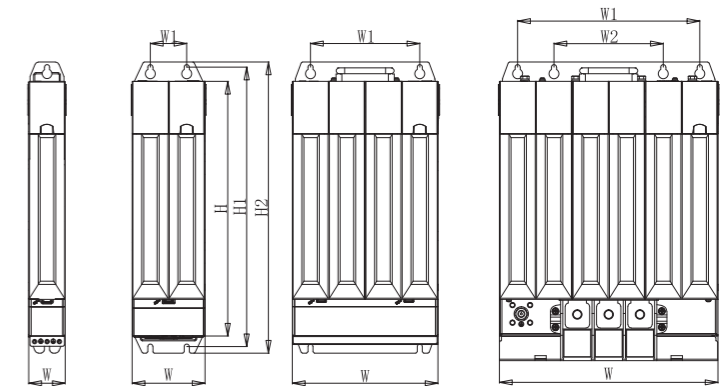
- Cater to different needs
- Encoder expansion in the form of flexible boards
- Bus expansions for different models

| Encoder expansion | Bus expansion |
|-------------------|---------------|
| • TTL             | • CANopen     |
| • HTL             | • Modbus-RTU  |
| • UVW             | • Profibus-DP |
| • Sin/Cos         | • PROFINET    |
| • Resolver        | • EtherCAT    |

Modular Design and common DC Bus

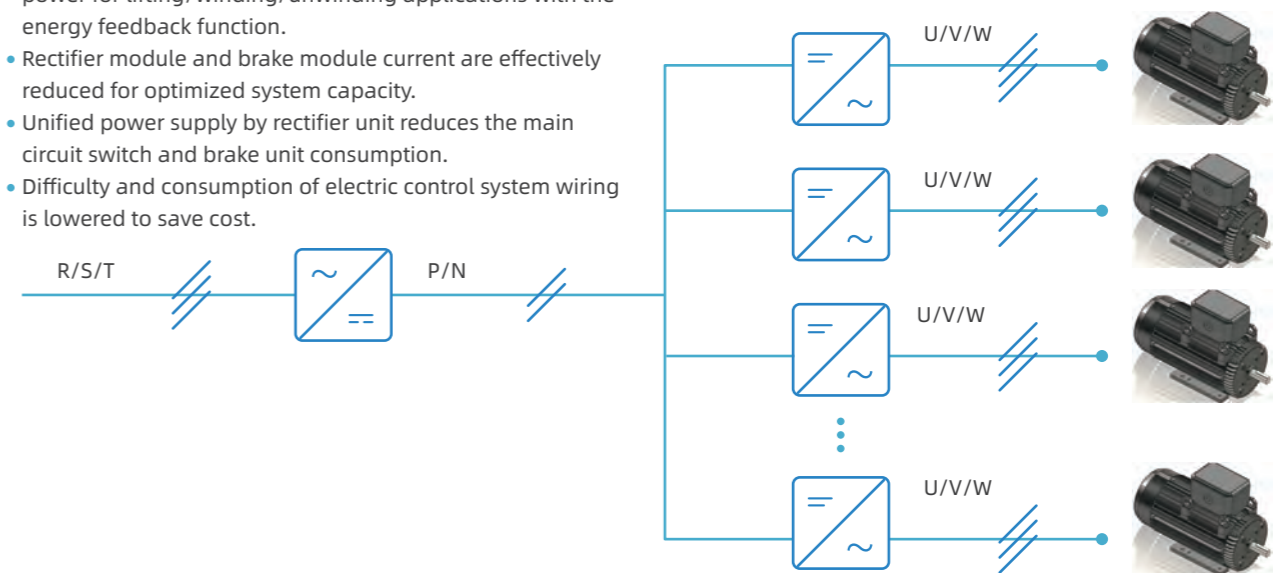
Modular design

- Filter, rectifier, inverter, brake and buffer all designed into independent and standard modules
- Book-like appearance design saving 30% space thus easier for cabinet layout
- Standard design for volume production & delivery



Common DC bus

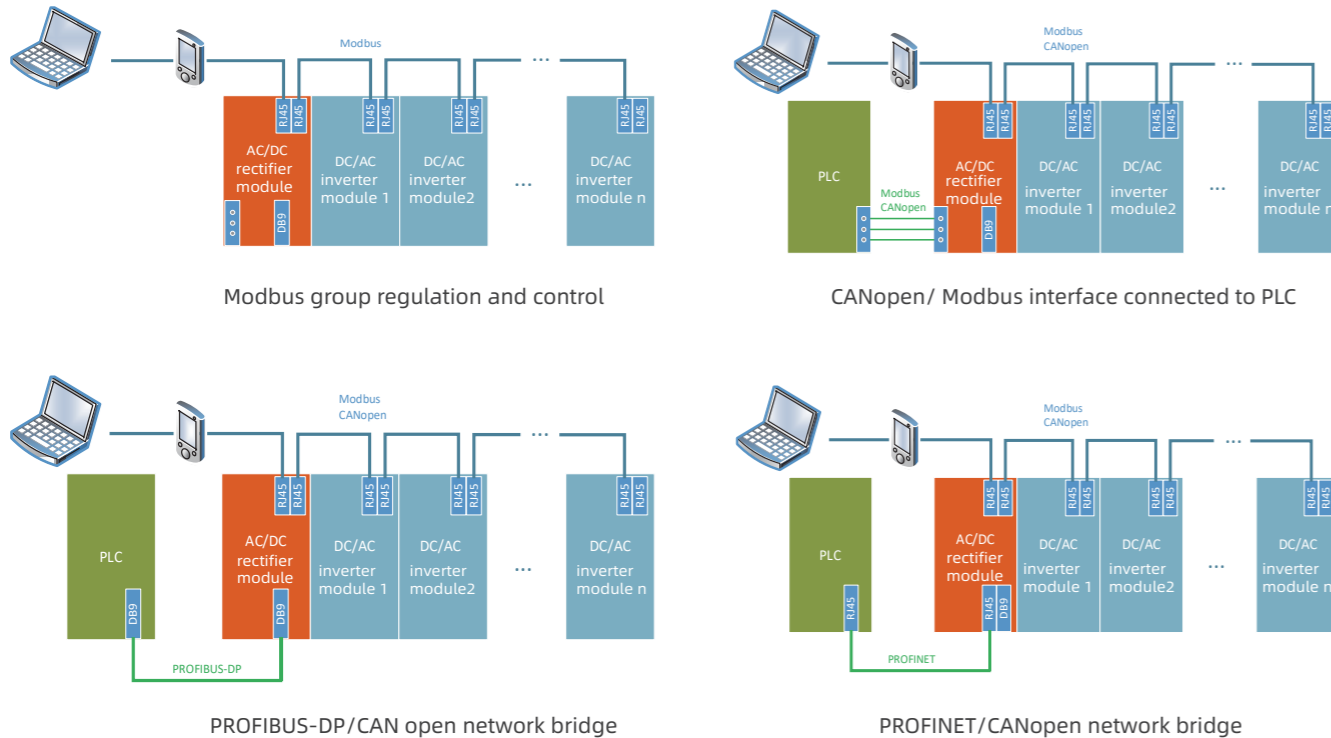
- Energy from generating and motoring between the inverter modules is exchanged through the DC bus to save 5%-30% power for lifting/winding/unwinding applications with the energy feedback function.
- Rectifier module and brake module current are effectively reduced for optimized system capacity.
- Unified power supply by rectifier unit reduces the main circuit switch and brake unit consumption.
- Difficulty and consumption of electric control system wiring is lowered to save cost.



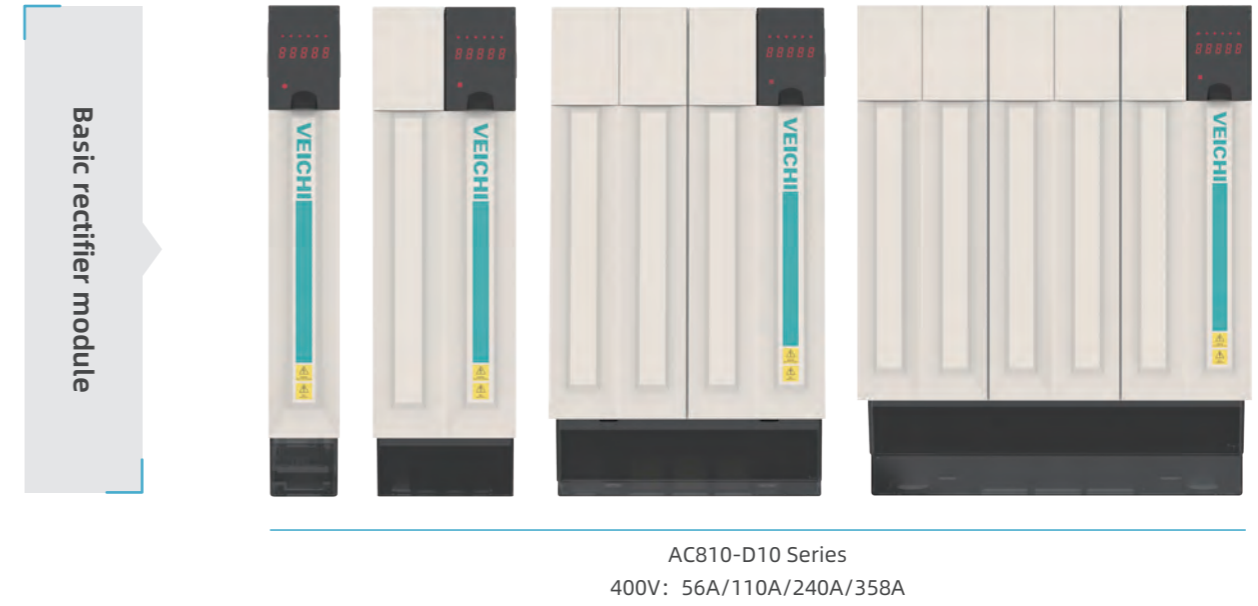
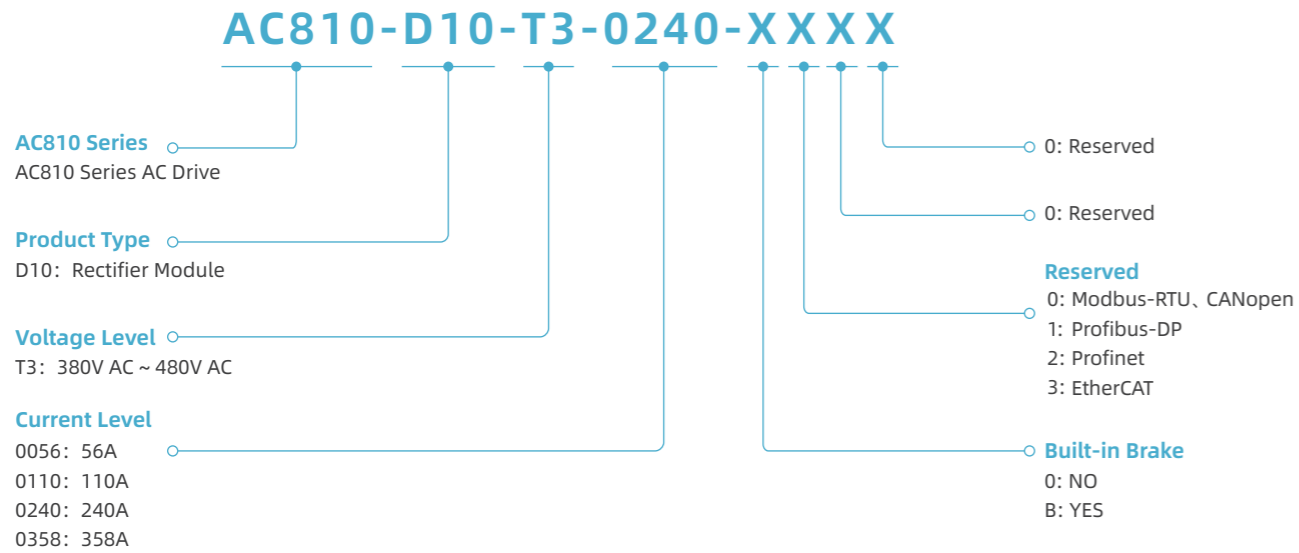
Flexible Networking and Expansions

Multiple network protocols

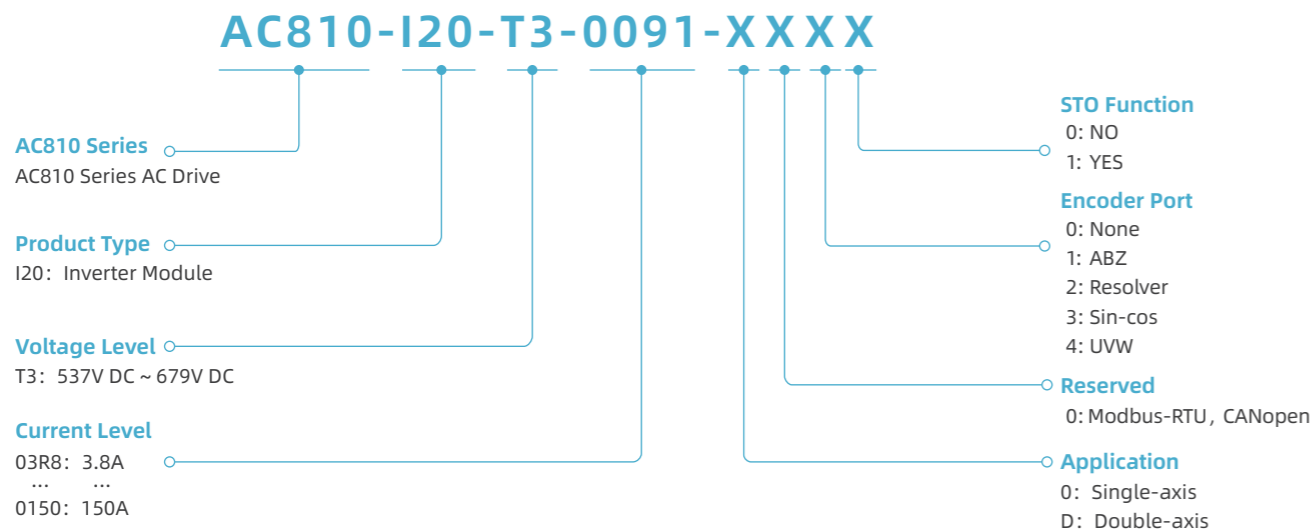
- Modbus-RTU protocol: Baud rate up to 115200, 128 nodes, 1000m max.
- Profibus-DP (Optional): 12M, 323 nodes, 100m max.
- Profinet protocol.
- CANopen protocol: 1M, 64 nodes, 40m max.
- EtherCAT



### Basic Rectifier Module Naming Rules



### Inverter Module Naming Rules



Technical parameters

| Rectifier Module        |   |  |
|-------------------------|---|--|
| Item                    | Description   |  |
| Basic Performance       | Input voltage   | 3PH AC 380V~480V   |
|                         | Input frequency   | 47Hz~63Hz  |
|                         | Output voltage  | DC: 537V~679V  |
|                         | Operating efficiency  | ≥98%   |
|                         | Grid-side power factor  | ≥0.90 (rated current)  |
|                         | Imbalance rate  | ≤3% of rated line voltage  |
| Environment Requirement | Environment temperature   | For operation: -10°C~+50°C, air temperature change <0.5°C/min. Derate by 1.5% of the rated power for per 1°C rise above 40°C, 50°C max.<br>For storage: -25°C~+70°C.<br>For transportation: -25°C~+70°C. |
|                         | Relative humidity   | For operation: 5%~95%, the standard product is not applicable to the environment with corrosive gas<br>For storage: 5%~95%.<br>For transportation: <95% above 40°C                                       |
|                         | Protection  | IP20   |
|                         | Noise   | ≤85dB(A)   |
|                         | Altitude  | 1000M, derate by 1% of the rated power for per 1°C rise above 1000m, 3000m max.  |
| Mechanical Data         | Vibration   | Standard: Test Fc in IEC 60068-2-6<br>Sine vibration: 10Hz~57Hz, the amplitude is 0.075mm<br>57Hz~150Hz, the acceleration is 10m/s <sup>2</sup>  |
|                         | Impact  | Standard: Test Ea in IEC 60068-2-27:2008<br>Half-sine pulse: Vibration acceleration of 50m/s <sup>2</sup> , duration for 30ms  |
| Cooling Method          | Forced air cooling(AF)  |  |
| Protection Functions    | Over-heat, power phase loss, input three-phase voltage imbalance detection, over-voltage, braking circuit over-current, braking resistor short-circuit, brake line test, etc. |  |

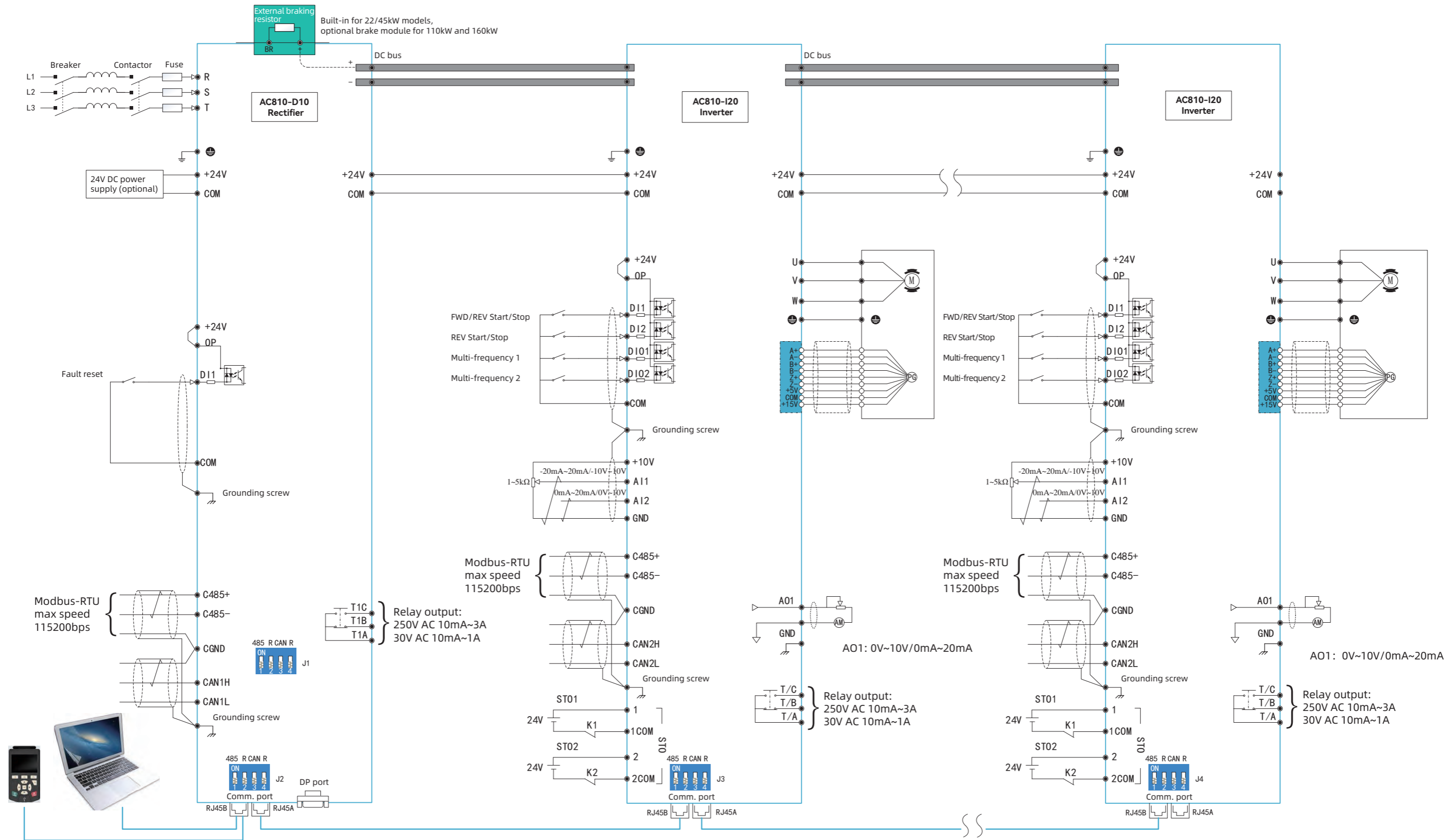
| Inverter Module          |   |  |
|--------------------------|---|--|
| Item                     | Description   |  |
| Power Range              | 1.5kW~75kW  |  |
| Input Voltage            | DC: 537V~679V Input under-voltage: 350V, input over-voltage: 750V |  |
| Output                   | Output voltage  | Output under rated conditions: three phase, 0V~415V AC, deviation<5%   |
|                          | Output frequency  | 0Hz~500Hz  |
|                          | Output frequency accuracy   | ±0.5% of the max. frequency  |
|                          | Overload capacity   | 150% of rated current for 90s<br>180% of rated current for 10s<br>200% of rated current for 3s   |
| Main Control Performance | Motor type  | Three-phase asynchronous motors, permanent magnet synchronous motors (sine wave), and synchronous reluctance motors  |
|                          | Motor control mode  | V/F control, SVC, FVC, V-F split control   |
|                          | Modulation  | SVPWM  |
|                          | Carrier Frequency   | 1.0kHz~16.0kHz   |
|                          | Speed Control Range   | SVC: Rated load 1:200<br>FVC: Rated load 1:200   |
|                          | Speed stabilizing accuracy  | SVC: ± 0.5%(Three-phase AM), ±0.1%(PM)<br>FVC: ±0.02%  |
|                          | Starting torque   | SVC: 150% of the motor rated torque at 0.25Hz<br>FVC: 200% of the motor rated torque at 0Hz  |
|                          | Torque response   | SVC: <10ms; FVC: <5ms  |
|                          | Torque accuracy   | SVC: ±5%; FVC: ±2.5%   |
|                          | Frequency accuracy  | Digit setting: Max. frequency ×(±0.01%); analog setting: Max. frequency ×(±0.2 %)  |
|                          | Frequency resolution  | Digit setting: 0.01Hz; analog setting: Max. frequency × ±0.05 %  |
|                          | Torque control  | Torque calculation and speed limit in torque mode  |
|                          | DC brake  | Starting frequency: 0.00Hz~50.00Hz;<br>Braking time: 0.0s~60.0s; Braking current: 0.0%~150.0% of rated power   |
|                          | Torque boost  | Auto torque boost: 0.0%~100.0%; Manual torque boost: 0.0%~30.0%  |
| Basic Function           | V/F curve   | 4 patterns: Linear torque characteristic curve, self-defined V/F curve, torque drop characteristic curve(1.1~2.0 power), and square V/F curve  |
|                          | ACC/DEC curve   | 2 patterns: Linear and S-curve acceleration/deceleration<br>4 sets of acceleration/deceleration time, unit: 0.01s, 650.00s max.s   |
|                          | Rated output voltage  | With the power voltage compensation function, it can be set within 50%~100% with the rated voltage of the motor as 100%(the output cannot exceed the input voltage)  |
|                          | Auto ECO operation  | Automatically optimize the output voltage according to the load in V/F control mode for energy saving  |
|                          | Auto current limit  | Auto current limit prevents frequent tripping due to over-current fault  |
|                          | Instantaneous power-down mode                                     | Uninterrupted operation through bus voltage control in case of instantaneous power loss  |
|                          | Standard function   | PID control, fly track and restart after power down, jump frequency, upper/lower frequency limit control, programmed operation, multi-frequency, RS485, analog output, frequency pulse output, parameter access level setting, common parameter setting, monitoring comparator output, counting and timing, and wobble frequency |
|                          | Frequency source  | Panel, panel potentiometer, analog voltage/current terminal AI1 and AI2, communication, terminal combination, and frequency source combination   |
|                          | Feedback source   | AI1 and AI2, communication, and PUL terminal   |
|                          | Command source  | Panel, external terminals and communication  |
|                          | Input command signal  | Start, stop, forward and reverse, jog, multi-frequency, free stop, reset, acceleration/deceleration time, frequency source selection, and external fault alarms  |

| Inverter Module             |                         |   |
|-----------------------------|-------------------------|---|
| <b>Protection Functions</b> |                         | Over-voltage, under-voltage, current limit, over-current, overload, over-heat, data protection, stall protection, I/O phase loss protection and encoder failure   |
| <b>HMI</b>                  | AI                      | AI1:<br>Current: -20mA~+20mA; Rin: 500ohm<br>Voltage: -10V~+10V; Rin: 56kohm<br>Sampling interval per source: 0.25ms<br>Hardware filter: 0.25ms<br>Resolution: 11bit+sign bit<br>Deviation: 1% full scale range<br>AI2:<br>Current: 0mA~+20mA; Rin: 500ohm<br>Voltage: 0V~+10V; Rin: 100kohm<br>Sampling interval per source: 0.25ms<br>Hardware filter: 0.25ms<br>Resolution: 11bit+sign bit<br>Deviation: 1% full scale range |
|                             | AO                      | Range: 0mA~20mA, Rload≤500ohm<br>0V~10V, Rload≥10kohm<br>Resolution: 11bit+sign bit Deviation: 2% full scale range  |
|                             | DI and DO               | 2×DI for PNP or NPN input<br>2×DIO, when DIO is used as DI, PNP or NPN input mode can be selected; when DIO is used as DO, only NPN output mode can be used. 1) When DIO1 is used as DI, the maximum input frequency is 100kHz. 2) When DIO2 is used as DO, the maximum output frequency is 100kHz. 1×relay output, NO and NC contact programmable  |
| <b>Panel Display</b>        | LED display             | Built-in panel: Single-line 5-digit digital tube<br>External panel: Single/dual line 5-bit digital tube<br>To monitor the status of 1 AC drive<br>To monitor the status of 2 AC drives  |
|                             | Parameter copy          | The function code information of the AC drive can be uploaded and downloaded to realize fast parameter copying  |
|                             | Status monitoring       | All parameters of the monitoring parameter group include output frequency, given frequency, output current, input voltage, output voltage, motor speed, PID feedback, PID setting, module temperature, given torque, output torque, etc.  |
|                             | Fault and alarm         | Over-voltage, under-voltage, over-current, short-circuit, phase loss, overload, overheat, current limit, data protection, operating conditions of current faults and fault history  |
| <b>Ambient Condition</b>    | Installation site       | <1000m, derate 1% of the rated power for per 100 meters rise when above 1000m, 3000m max. No condensation, icing, rain, snow, hail, etc., solar radiation below 700W/m <sup>2</sup> , air pressure 70kPa~106kPa   |
|                             | Relative humidity       | For operation: 5%~95%<br>For storage: 5%~95%<br>For transportation: <95% above 40°C   |
|                             | Vibration               | Standard: Test Fc in IEC 60068-2-6<br>Sine vibration: 10Hz~57Hz, impact amplitude is 0.075mm<br>57Hz~150Hz, the impact acceleration is 10m/s <sup>2</sup>   |
|                             | Impact                  | Standard: Test Ea in IEC 60068-2-27:2008<br>Half-sine pulse: Vibration acceleration of 50m/s <sup>2</sup> , duration for 30ms   |
|                             | Environment temperature | For operation: -10°C~+50°C, air temperature change <0.5°C/min. Derate by 1% of the rated power for per 1°C rise above 40°C. 50°C max.<br>For storage: -25°C~+70°C<br>For transportation: -25°C~+70°C  |
|                             | Installation method     | Wall-mounted, floor-mounted   |
|                             | Protection              | IP20  |
|                             | Pollution class         | 2   |
| Cooling Method              | Forced air-cooling (AF) |   |

## Accessories

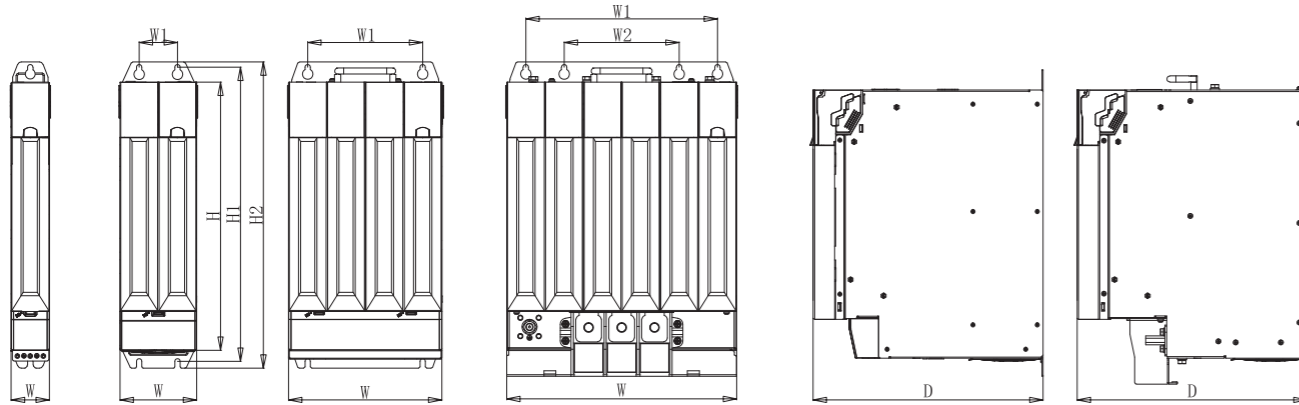
| Module                         | Accessory                                      | Application                                    |
|--------------------------------|--|--|
| <b>Intelligent Panel</b>       | IOP-10 multi-function panel(without bluetooth) | Whole series                                   |
|                                | IOP-20 multi-function panel(with bluetooth)    |  |
| <b>External Power Terminal</b> | 100A header connector                          | Models 7.5Kw and below                         |
|                                | 200A header connector                          | Models with rectifier or models 11kW and above |
| <b>Network Cable</b>           | 250mm network cable                            | Models with 50mm width                         |
|                                | 350mm network cable                            | Models with 100mm width                        |
|                                | 550mm network cable                            | Models with 200mm/300mm width                  |
| <b>Network Cable</b>           | 3m network cable                               | Whole series                                   |
| <b>Center Mounting Bracket</b> | Models with 50mm width                         | 5.5kW-7.5kW inverter                           |
|                                | Models with 100mm width                        | 11kW-37kW inverter, 45kW rectifier             |
|                                | Models with 200mm width                        | 45kW-75kW inverter                             |
|                                | Models with 200mm width                        | 110kW rectifier                                |
|                                | Models with 300mm width                        | 160kW rectifier                                |
| <b>Thermal Deflector</b>       | Models with 50mm width                         | 5.5kW-7.5kW inverter                           |
|                                | Models with 100mm width                        | 11kW-37kW inverter, 45kW rectifier             |
|                                | Models with 200mm width                        | 45kW-75kW inverter                             |
|                                | Models with 300mm width                        | 160kW rectifier                                |
| <b>UVW Shielding Bracket</b>   | Models with 50mm width                         | 5.5kW-7.5kW inverter                           |
|                                | Models with 100mm width                        | 11kW-37kW inverter                             |
|                                | Models with 200mm width                        | 45kW-75kW inverter                             |

Electric Wiring



Name Rules

| Basic Rectifier Module | Rated Power (kW) | Input Current (A) | Output Current (A) | Structure | Outer Dimensions (W*D*H) mm | NW (kg) |
|------------------------|------------------|-------------------|--------------------|-----------|-----------------------------|---------|
| AC810-D10-T3-0056-XXXX | 22               | 49                | 56                 | V1S       | 50*350*305                  | ≤5.3    |
| AC810-D10-T3-0110-XXXX | 45               | 96                | 110                | V2S       | 100*350*305                 | ≤9.6    |
| AC810-D10-T3-0240-XXXX | 110              | 196               | 240                | V3S       | 200*350*305                 | ≤19.5   |
| AC810-D10-T3-0358-XXXX | 160              | 292               | 358                | V4S       | 300*350*305                 | ≤28.5   |



| Inverter Module Model  | Rated Power (kW) | Input Current (A) | Output Current (A) | Structure | Outer Dimensions (W*D*H) mm | NW (kg) |
|------------------------|------------------|-------------------|--------------------|-----------|-----------------------------|---------|
| AC810-I20-T3-03R8-XXXX | 1.5              | 4.9               | 3.8                | V1S       | 50*350*305                  | ≤4      |
| AC810-I20-T3-05R1-XXXX | 2.2              | 7                 | 5.1                | V1S       |                             |         |
| AC810-I20-T3-0009-XXXX | 3.7              | 12                | 9                  | V1S       |                             |         |
| AC810-I20-T3-0013-XXXX | 5.5              | 17                | 13                 | V1S       |                             |         |
| AC810-I20-T3-0017-XXXX | 7.5              | 22                | 17                 | V1S       |                             |         |
| AC810-I20-T3-0025-XXXX | 11               | 31                | 25                 | V2S       | 100*350*305                 | ≤8.2    |
| AC810-I20-T3-0032-XXXX | 15               | 40                | 32                 | V2S       |                             |         |
| AC810-I20-T3-0037-XXXX | 18.5             | 46                | 37                 | V2S       |                             |         |
| AC810-I20-T3-0045-XXXX | 22               | 55                | 45                 | V2S       |                             |         |
| AC810-I20-T3-0060-XXXX | 30               | 73                | 60                 | V2S       |                             |         |
| AC810-I20-T3-0075-XXXX | 37               | 90                | 75                 | V2S       | 200*350*305                 | ≤19.5   |
| AC810-I20-T3-0091-XXXX | 45               | 105               | 91                 | V3S       |                             |         |
| AC810-I20-T3-0112-XXXX | 55               | 129               | 112                | V3S       |                             |         |
| AC810-I20-T3-0150-XXXX | 75               | 172               | 150                | V3S       |                             |         |

Service and Support

Innovation-based and Customer-centered

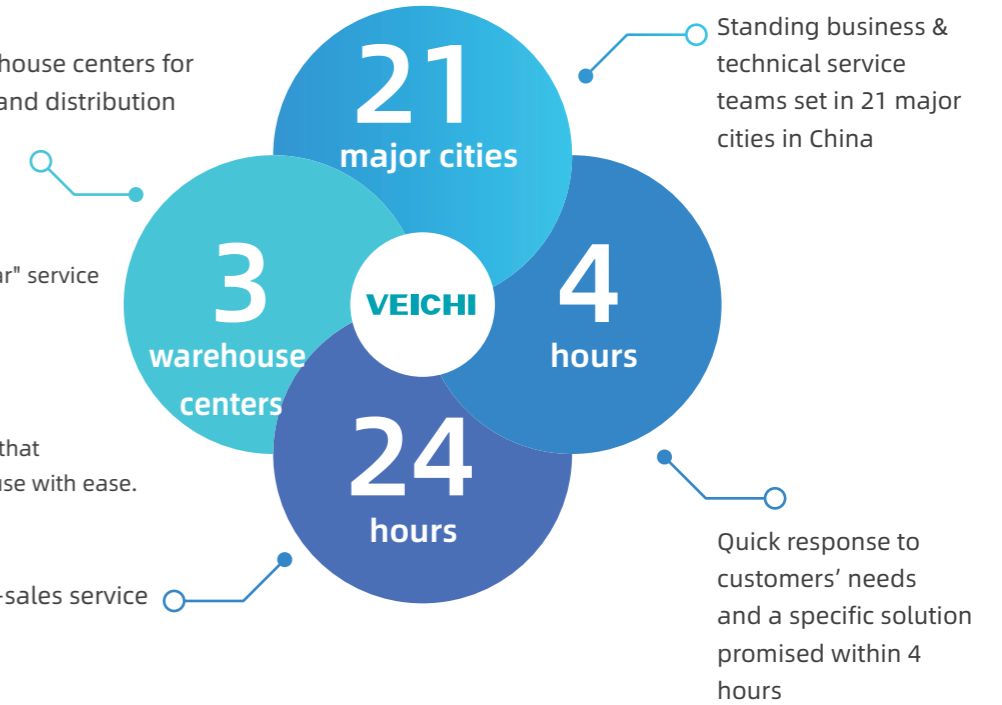
Customer-centered philology for "five-star" service

Real-time response via network and telephone to customers' needs

Serve with hearts, patience and focus so that customers will buy with confidence and use with ease.

24-hour technical and after-sales service

3 major warehouse centers for fast logistics and distribution



- 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