VEICHI

ACP30

Medium-voltage AC Drive

Stock code：688698

VEICHI

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About us

VEICHI Electric (stock code: 688698) has always been dedicated to the field of electrical drive and industrial control since its establishment, and now it is a high-tech enterprise engaged in R&D, production, and sales of industrial automation products in one. With R&D and production bases in Suzhou, Shenzhen and Xi'an, and a wholly-owned subsidiary in India, VEICHI now is capable of conducting its business to many countries and regions with competitive, safe and reliable products and services to customers all over the world.

Plentiful products cover AC drives, servo systems and control systems, which are widely used in heavy industry, light industry, high-end equipment and more to facilitate the intellectualized transformation of the manufacturing industry with solutions customized to different scenarios. In the meanwhile, along the development trend of the times, VEICHI is extending its place to the emerging fields such as robotics, new energy, and medical care, and has developed products such as coreless motors, frameless motors, photovoltaic AC drives, and surgical power systems, which have deeply empowered the impressively promising industries.

On long-term and persistent independent R&D and innovation, VEICHI has successfully cultivated a series of patented technologies with independent intellectual property rights, and has mastered the core technologies of motor control such as vector control of PMSM, high-frequency pulse injection control, field-weakening control for higher speed, scalar V/F control and vector control etc., and of silicon carbide application, motor parameter tuning and identification, motor control and protection, and motor speed tracking and start-up control. As of June 30, 2023, a total of 163 patents have been granted, including 43 patents for inventions.

VEICHI has been developing step by step over the past 18 years with abundant honorary awards and certificates from the state and competent authorities, including "the Third Batch of Special and Sophisticated 'Small Giant' Enterprises That Produce Novel and Unique Products" "High-tech Enterprises", "Jiangsu Provincial Engineering Technology Research Center", "Jiangsu Provincial Enterprise Technology Center", "Jiangsu Provincial Industrial Internet Development Demonstration Enterprise (Benchmarking Factory Category)" and others.

In the future, VEICHI Electric will continue to uphold the business philosophy of " guided by market demand and driven by technological innovation", strengthen the key core technology research and product iteration, and constantly expand its high-performance, high-quality, high-reliability applications, contributing to the development of electrical drive and industrial control with might and main.

2005
- Beginning of entrepreneurship in Shenzhen
- First-generation of AC drive successfully launched

2013
- Suzhou Veichi Electric Co., Ltd established
- First generation of servo system successfully developed

2014
- First stage of Suzhou Veichi project groundbreaking and put into construction

2016
- First stage of Suzhou Veichi project put into operation
- First generation of motion control system launched

2019
- Indian subsidiary established
- Restructure to a company limited by shares

2020
- A-share of science and technology innovation board landing
- Awarded as provincial Specialized and Sophisticated "Small Giant" Firms That Produce New and Unique Products

2021
- A Veichi controlled subsidiary established
- Awarded as the third patch of Specialized and Sophisticated "Small Giant" Firms That Produce New and Unique Products

2022
- Xi'an R&D Center established
- Veichi Digital Energy subsidiary established

2023
- Suzhou Veichi Phase II project put into operation
- Suzhou Veichi Phase III Project put into construction
- Veichi Medical Equipment subsidiary established

Manufacturing and Quality Control

Smart manufacturing with whole-process automation

- On intelligent manufacturing ,the smart factory yields an annual capacity of 914,600 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.

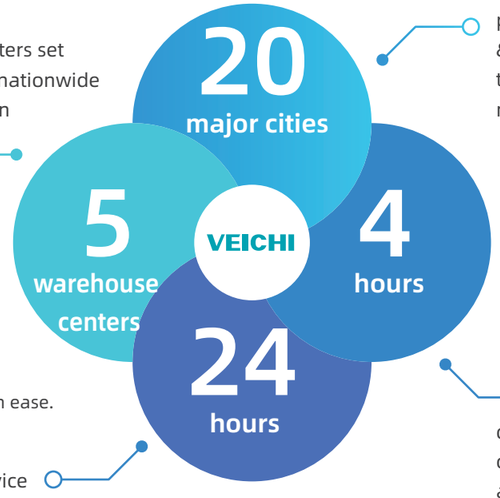
Inheriting the spirit of craftsmanship, detail-oriented and striving for better

- 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



5 major warehouse centers set for fast and worry-free nationwide logistics and distribution

permanent business & technical service teams set in 20 major cities in China

Technology innovation-based and service first

Practice the "customer-centered" concept
Create a "five-star" service system
Grasp real-time service dynamics via network and telephone to solve customers' problem
Serve with hearts, patience and focus so that customers will buy with confidence and use with ease.

24-hour technical and after-sales service

quick response to customers' needs and a specific solution promised within 4 hours

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

Product Brief

ACP30 Series
1140V products

ACP30 Series
General-purpose Four-Quadrant Products

ACP30 Series
3300V products

Metallurgy
Blast furnace blowers, induced draft fans, dedusting fans, feeding pumps, etc.

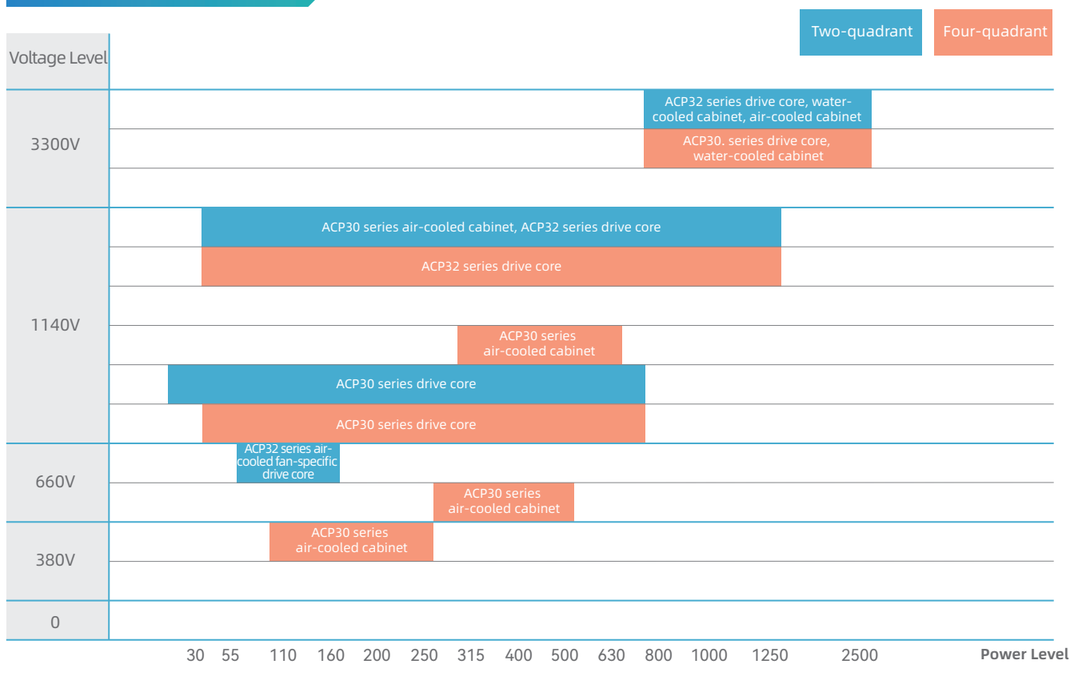
Petrochemistry
Large oil transfer pumps, water injection pumps, boiler feedwater pumps, brine pumps, gas compressors, etc.

Mining
Drainage pumps, ventilation fans, etc.

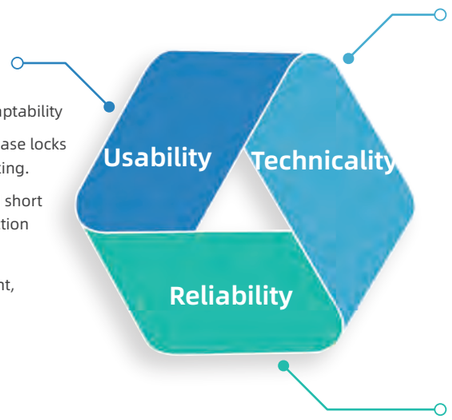
Municipal Service
Water supply pumps, etc.

Others
Pharmaceuticals, sewage treatment, etc.

Product Genealogy



Product Features



- LCD screen for better HMI and information management.
- AFE technology for higher grid adaptability
- Short circuit protection for each phase locks and simultaneous multi-faults locking.
- Motor overload protection, ground short circuit protection, phase loss detection function.
- Fast software/hardware overcurrent, short-circuit, overvoltage and CBC current limit protection.

- Brand new platform developed for medium/ high- power applications covering explosion-proof drive core usage.
- Compact structure designed for the narrow explosion-proof cabinet and for easy maintenance of the main power device.
- Heavy load start designed for scrapers, belt conveyors, winches and other coal mining conditions.
- Optimized motor models for stable control regardless of cable length.

- Thermal simulation and electromagnetic simulation for scientific rationality of the product design.
- Laminated busbar and film capacitors for lowered stray inductance and longer life span.
- Open-loop vector control of high-power synchronous motors to lock the magnetic pole position automatically before startup.
- Standard CAN communication power balance control for rapid response and low load imbalance.

ACP30 Series 1140V AC Drive

ACP30 series medium voltage AC drive features high-performance vector control for general purposes. Its NPC three-level topology and two-and-four-quadrant capability can drive permanent magnet synchronous motors, reluctance motors and asynchronous motors.

Product Features:

- NPC three-level topology.
- Multiple motor adaptability.
- Standard CAN communication with multi-motor master-slave power balancing.
- Low speed and high torque.
- Pole search for steady start on permanent magnet synchronous motor.
- Plentiful communication expansion modules.
- Laminated busbar, film capacitors and other highly reliable components.

ACP32 Series 3300V AC Drive

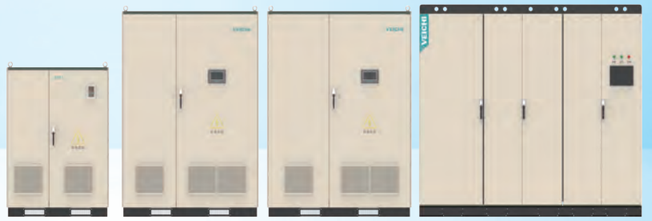
ACP32 series AC drives is for customized high-performance vector control. It has water-cooled and air-cooled heat dissipation, and can be compatible with 12/24/36 pulse rectifier.

Product Features:

- NPC three-level topology.
- Multiple pulse rectification options.
- Multiple motor adaptability.
- Pole search for steady start on permanent magnet synchronous motor.
- Air-cooled and water-cooled heat dissipation.
- Customization according to industry requirements.

ACP30 Series General Four-quadrant AC Drive

The ACP30 series four-quadrant drive is for high-performance vector control in general occasions. NPC three-level topology for the 1140V and 3300V products together with AFE rectification technology for high grid, can drive permanent magnet synchronous motors, reluctance motors and asynchronous motors. It is designed for driving one motor with reliable durability so it's suitable for conveyor belts, hoists, winches in mining industry.

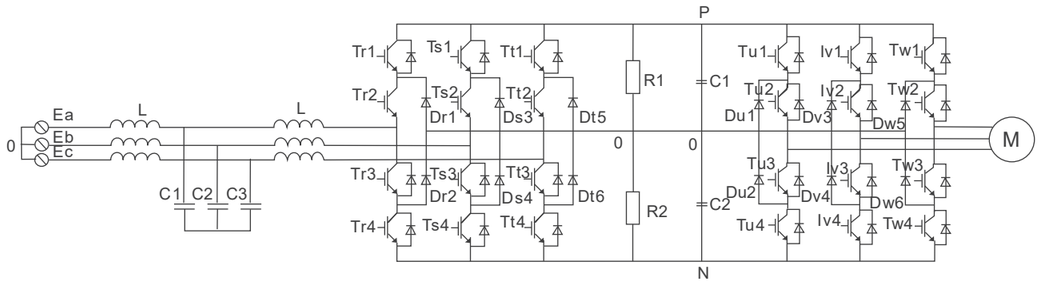


ACP30 Series Explosion-proof Drive Core

The ACP32 series high performance vector AC drives of 660V, 1140V, and 3300V, are capable of two-quadrant and four-quadrant operation so they can drag asynchronous motors and permanent magnet synchronous motors. The leading motor vector control technology, controllable AFE rectifier technology and NPC three level topology together provide a complete frequency conversion solution for the coal mining industry.

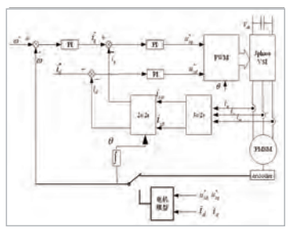
High-Power Tri-Level Control Technology

High-power NPC three-level technology features low-voltage spikes, so it's kinder to motor insulation. When the drive cable is up to 2000 meters long, it can accurately obtain the motor parameters, optimize the narrow pulse, and drive the synchronous motors in a low-frequency way with heavy load.



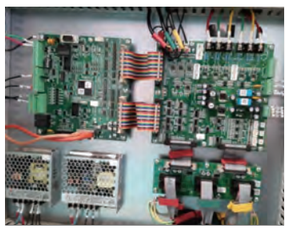
Open-Loop Vector Control of High-Power PMSM And Electromagnetic Rollers

High-power permanent magnet synchronous motor and electromagnetic roller open-loop vector control technology locks the magnetic poles before startup to realize shock-free startup, heavy load startup, and stable low-frequency operation, so it is suitable for occasions with low carrier frequency and long-distance cables.



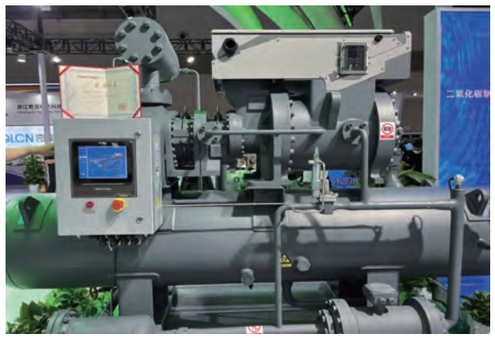
New Hardware and Software Control System

A new hardware and software control system is developed f or medium voltage drives, so that four-quadrant or tri-level control can be realized with one single set of control unit. The built-in synchronous and asynchronous motor models can be switched via different parameters. Short-circuit and overheat protections cover each phase. Pluggable terminals are easy to maintain and there are terminal block and fiber for options.



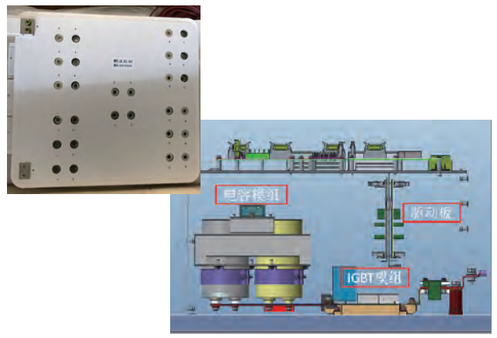
Customized Drive Solutions for Customers

Rich development experience to provide customers with competitive explosion-proof drives and integrated solution for different voltage levels and various topologies.



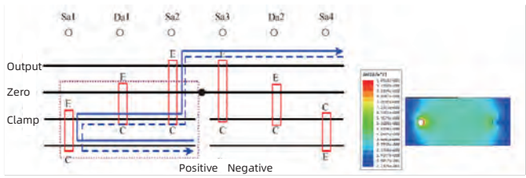
High Reliability and Long Life Span

Reliable and mature IGBT drive solution adopts single high-current IGBT, laminated busbar and film capacitors in its core components, so it's capable of long-life operation.



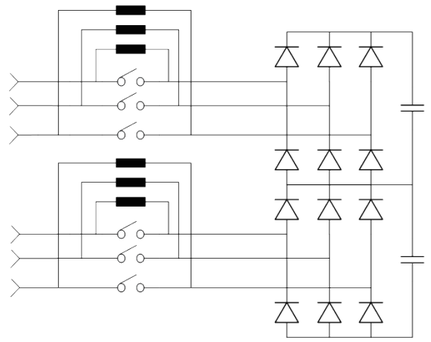
Scientific and Rigorous Design for Product Quality

Product design undergoes thermal simulation, electromagnetic simulation, finite element, uniform flow, heat dissipation and electromagnetic compatibility analysis, and it can be customized according to the customer's needs.



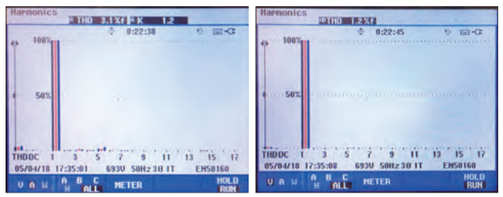
Multiple Rectification Methods

A variety of 6/12/24/36 pulse rectification methods are supported, which greatly reduces the input side current harmonics.



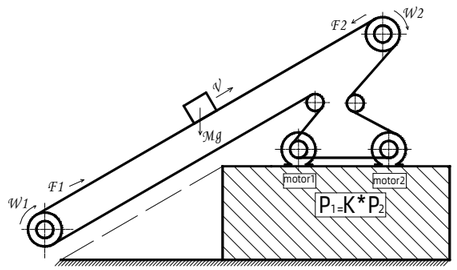
Grid Adaptability and Stability

AFE controlled rectification technology with strong grid adaptability allows stable operation even during unbalanced grid voltage and high harmonics, so it's green and efficient.

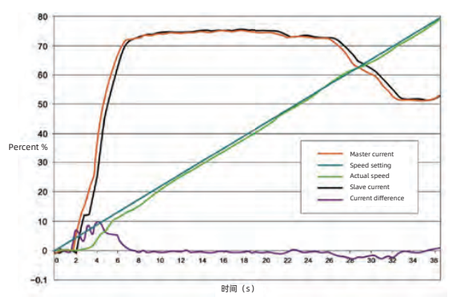


Site Adaptability

It is equipped with CAN communication power balancing function as standard, which features strong anti-interference. Together with control mode of speed plus torque, it has strong adaptability to different site conditions as needed.



Power Balancing System



Modbus-TCP Protocol

Modbus-TCP protocol is supported, so direct connection to the host computer or other computer through the network cable can be realized. Besides, it supports online modification of parameters by phone APP and debugging by the host computer.

Flexible Cabinet Selection

High-power cabinet or small and medium power cabinet for wall mounting, stand-up cabinet or integrated cabinet are all there for your choice.

Integrated Design of Four-Quadrant LCL Filters and Power Devices

The four-quadrant LCL filter is designed to be integrated with the power device for reliable and durable performance.

技术参数

Item		Specification
Power Input	Voltage/Frequency	Three-phase AC voltage: 85%~115% of rated voltage; Frequency: 47-63Hz
	Allowable fluctuation	Voltage imbalance: <3%; Frequency: ±5%; distortion rate according to IEC61800-2
	Power factor	Two quadrant≥85%, Four quadrant≥99%
	Frequency conversion efficiency	≥98%
Output	Output voltage	Three phase, 0 ~ input voltage under rated conditions
	Output frequency range	0 ~ 400Hz
	Output frequency accuracy	±0.5% of maximum frequency
	Overload capacity	150% of rated current for 1 minute, 180% of rated current for 10 seconds
Main Control Performance	Motor control mode	V/F control, speed open loop
	Vector control	Speed closed loop vector control Modulation SVPWM
	Carrier frequency	Rectification rating at 2kHz while inverter rating at 1kHz
	Speed control range	No PG vector control, rated load 1:100 PG vector control, rated load 1:1000
	Start torque	Open loop vector control: 150% of rated torque at 0.5Hz; Closed-loop vector control: 200% of rated torque at 0Hz.
	Torque response	Speed open-loop vector control: <20ms; Speed closed-loop vector control: <10ms
	Frequency resolution	Digit setting: 0.01Hz; Analog setting: Max.frequency x 0.05%
Protection		Short-circuit, over-current, over-voltage, under-voltage, overload, motor overload, over-heat, current limit, data protection, overspeed, input phase loss, output phase loss
External Terminal	Analog input × 2	1. Input current range: DC 0V~10V/0mA~20mA 2. Voltage input impedance: 100KΩ 3. Current input impedance: 500Ω
	Digital Input x 5	Optocoupler isolated, compatible with bipolar inputs. 1. Input impedance: 4.4 KΩ 2. Voltage range at high level input: 10 ~ 30V 3. Voltage range at low level input: 0 ~ 8V
	Analog output×2	1. Output voltage range: DC 0V ~ 10V 2. Output current range: DC 0mA ~ 20mA 3. Pulse output range: 0 ~ 50kHz
	Relay output×2	Normally open terminal, normally closed terminal Contact drive capability: 240VAC, 3A 30VDC, 5A
	Communication	Standard RS485 communication interface × 2, CAN communication interface × 1, optional TCP / IP × 1
	Operation keyboard	Standard LED keyboard, optional touch screen
	Contactor feedback signal	Input feedback × 1, output feedback × 1
	Temperature detection	Standard NTC × 6, optional motor temperature detector PT100/PT1000/KTY84 × 1

ACP30 Name Rules

ACP30 - T6 - 090 - 2 4 A P

Platform
ACP30 standard
ACP30 non-standard

Voltage Level
T3: 380V
T6: 660V
T11: 1140V
T23: 2300V
T33: 3300V

Power

Level
2: Two-level
3: Three-level
4: Four-level

Cooling Method
P: Heat pipe
L: Water-cooled
A: Air-cooled
N: Nature-cooled

Model
C: Cabinet
M: Module +Accessories
K: Bulk parts
A: Renovation

Quadrant
2: Two quadrant
4: Four quadrant

Model and Dimensions

ACP32 Series 3300V

Model	Rated Current(A)	Power(kW)	Comment	Dimension(L*W*H)
ACP32-T33-855-32CL	188	855	Water-cooled cabinet unit Standard with a 12-pulse rectifier, output reactor, and touch screen. Water cooling system and 24 or 36-pulse rectifiers for option	1800*1000*2260
ACP32-T33-1250-32CL	280	1250		
ACP32-T33-1600-32CL	350	1600		
ACP32-T33-2000-32CL	437	2000		
ACP32-T33-2500-32CL	550	2500		
ACP32-T33-855-32CA	188	855	Air-cooled cabinet unit Standard with a 12-pulse rectifier, output reactor, and touch screen. 24 or 36-pulse rectifier for option	2400*1300*2400
ACP32-T33-1250-32CA	280	1250		
ACP32-T33-1600-32CA	350	1600		
ACP32-T33-2000-32CA	437	2000		
ACP32-T33-2500-32CA	550	2500		

ACP30 Series 1140V

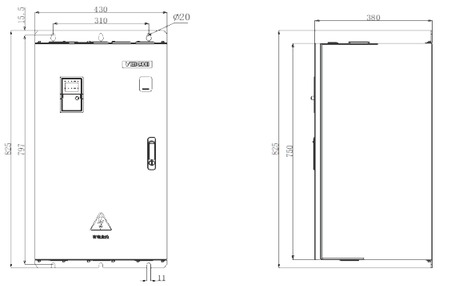
Model	Rated Current(A)	Power(kW)	Comment	Dimension(L*W*H)
ACP30-T11-045-32CA	31	45	Cabinet Standard with AC input reactor AC output reactor for option Wall-mounting Input and output reactors not included	Wall mounting：430*380*750 Installation dimension：310*797
ACP30-T11-055-32CA	38	55		
ACP30-T11-075-32CA	52	75		
ACP30-T11-090-32CA	58	90		
ACP30-T11-110-32CA	75	110		Wall mounting：800*500*1385 Cabinet：800*500*1800
ACP30-T11-132-32CA	86	132		
ACP30-T11-160-32CA	105	160		
ACP30-T11-185-32CA	115	185		
ACP30-T11-200-32CA	132	200		
ACP30-T11-220-32CA	144	220		
ACP30-T11-250-32CA	162	250		
ACP30-T11-280-32CA	175	280		
ACP30-T11-315-32CA	208	315		
ACP30-T11-355-32CA	230	355		Cabinet：1000*800*2260
ACP30-T11-400-32CA	260	400		
ACP30-T11-450-32CA	290	450		
ACP30-T11-500-32CA	325	500		
ACP30-T11-560-32CA	365	560		
ACP30-T11-630-32CA	400	630		
ACP30-T11-710-32CA	450	710		Cabinet：1000*800*2260
ACP30-T11-800-32CA	505	800		
ACP30-T11-900-32CA	570	900		
ACP30-T11-1000-32CA	635	1000		
ACP30-T11-1100-32CA	698	1100		
ACP30-T11-1250-32CA	750	1250		

ACP30 Series Four Quadrant Drives

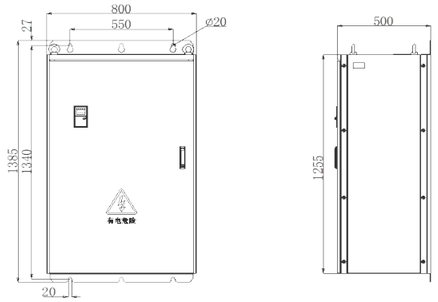
Model	Rated Current(A)	Power(kW)	Comment	Dimension(L*W*H)
ACP30-T3-110-24CA	210	110	Air-cooled cabinet unit Standard with LCL filter and touch screen AC output reactor for option	1200*550*1600
ACP30-T3-132-24CA	250	132		
ACP30-T3-160-24CA	310	160		
ACP30-T3-185-24CA	340	185		
ACP30-T3-200-24CA	380	200		
ACP30-T3-220-24CA	415	220		
ACP30-T3-250-24CA	470	250		
ACP30-T6-280-24CA	330	280	Air-cooled cabinet unit Standard with LCL filter and touch screen AC output reactor for option	1600*800*2260
ACP30-T6-315-24CA	345	315		
ACP30-T6-355-24CA	380	355		
ACP30-T6-400-24CA	430	400		
ACP30-T6-450-24CA	466	450		
ACP30-T6-500-24CA	540	500		
ACP30-T11-355-34CA	230	355	Air-cooled cabinet unit Standard with LCL filter and touch screen AC output reactor for option	1700*800*2200
ACP30-T11-400-34CA	260	400		
ACP30-T11-450-34CA	290	450		
ACP30-T11-500-34CA	325	500		
ACP30-T11-560-34CA	365	560		
ACP30-T11-630-34CA	400	630		
ACP30-T33-855-34CL	188	855	Water-cooled cabinet unit Standard with LCL filter and touch screen and AC output reactor. Water cooling system for option.	2600**950*2260
ACP30-T33-1250-34CL	280	1250		
ACP30-T33-1600-34CL	350	1600		
ACP30-T33-2000-34CL	437	2000		
ACP30-T33-2500-34CL	550	2500		

ACP30-T11-Two-quadrant Series Overall Dimensions

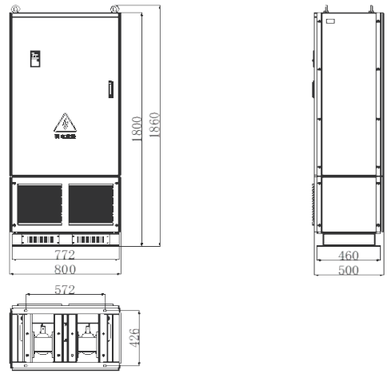
45kW ~ 90Kw Wall Mounting



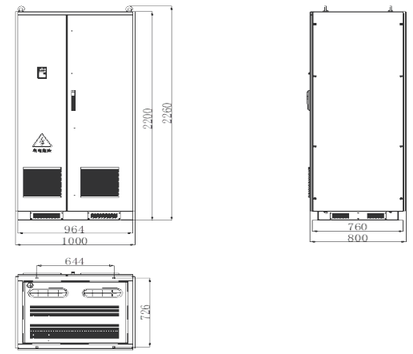
110kW ~ 315kW Wall Mounting



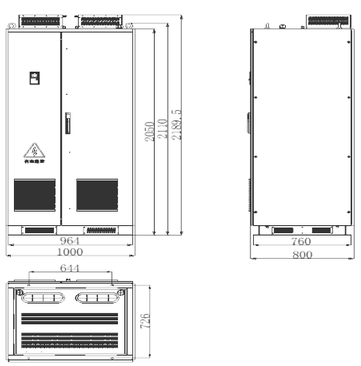
110kW ~ 315kW Cabinet



355kW ~ 630kW Cabinet

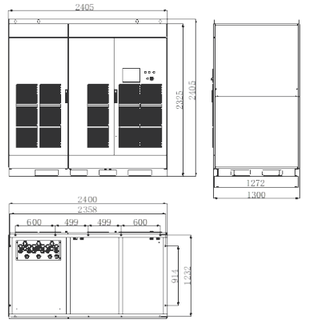


710kW ~ 1250kW Cabinet

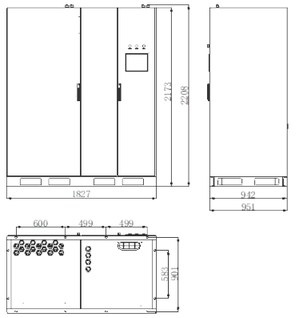


ACP32 Series 3300V Overall Dimensions

800kW ~ 2500kW Air-cooled Cabinet Unit

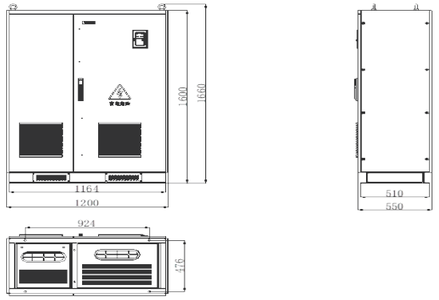


800kW ~ 2500kW Water-cooled Cabinet Unit

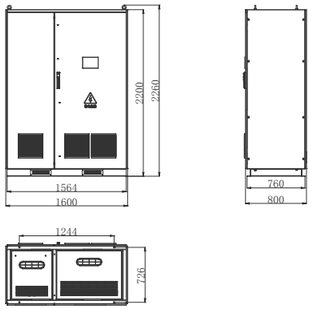


ACP30 Four-Quadrant Series Overall Dimensions

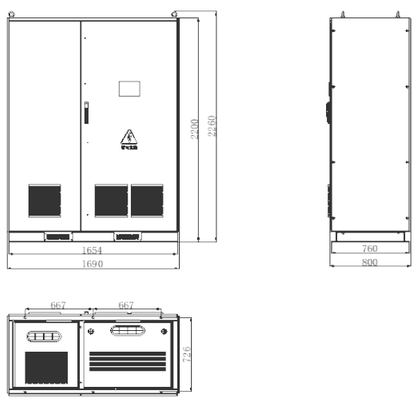
380V 110kW ~ 250kW Cabinet



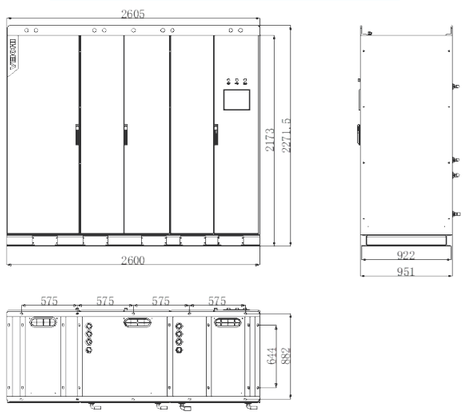
660V 280kW ~ 500kW Cabinet



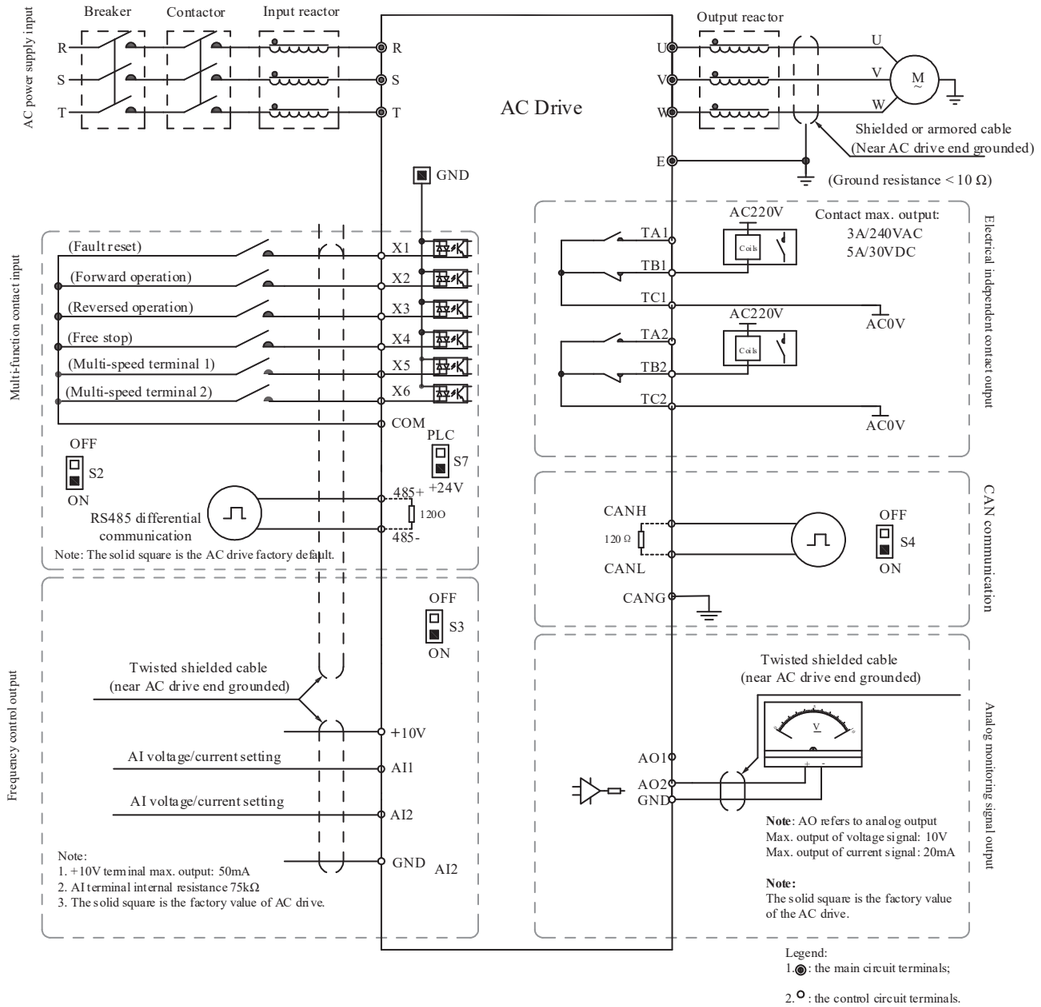
1140V 355kw ~ 630kW Cabinet



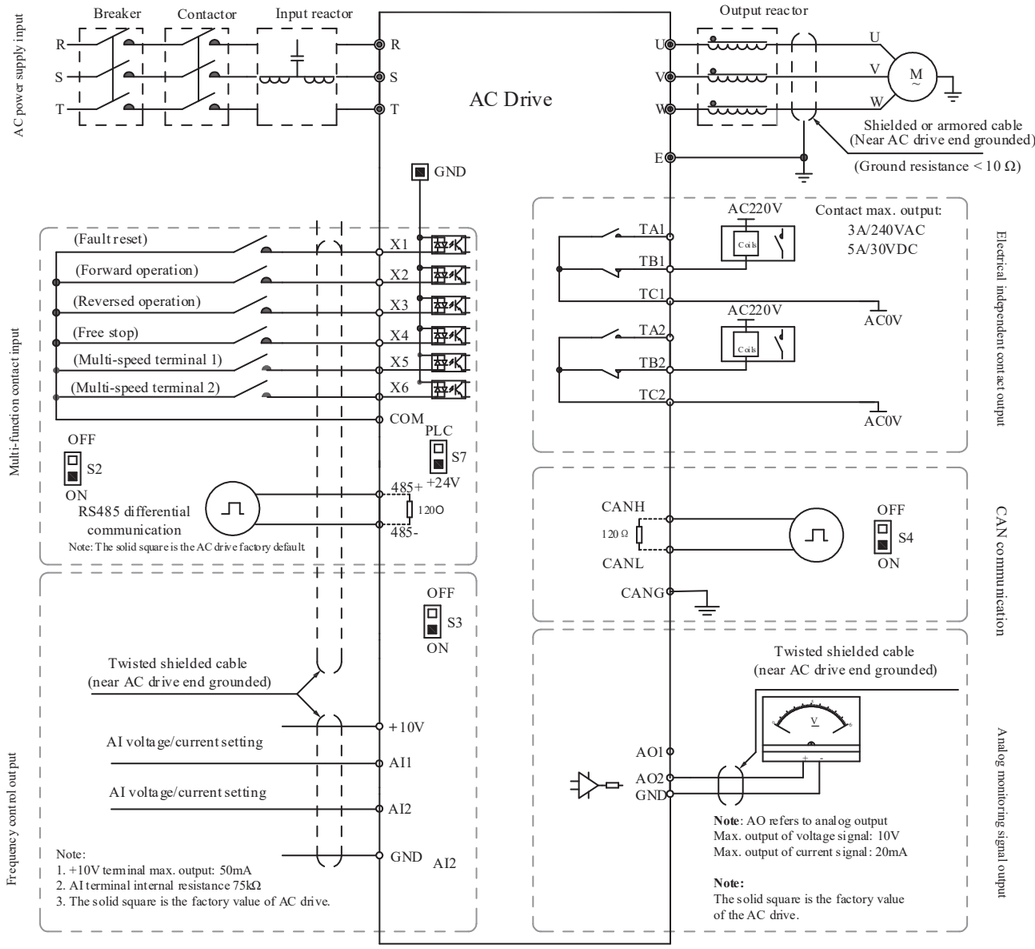
3300V 855kW ~ 2500kW Cabinet



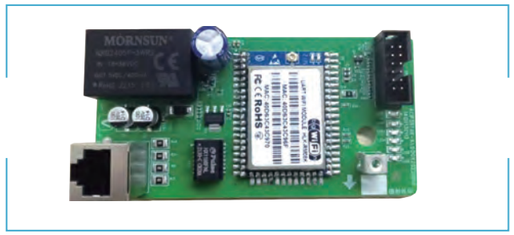
ACP30 Series Two-Quadrant Drive Control Loop Wiring

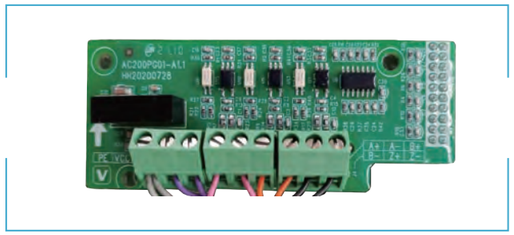


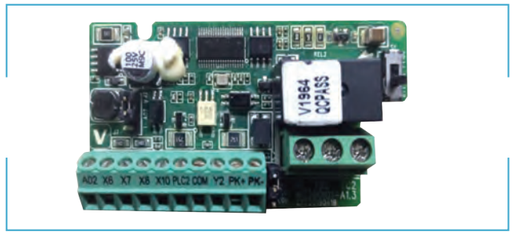
ACP30 Series Four-Quadrant Drive Control Loop Wiring

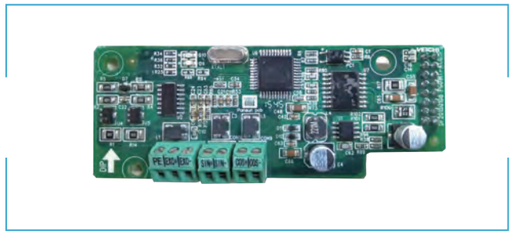


Accessory

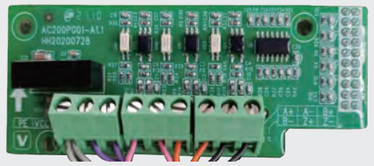




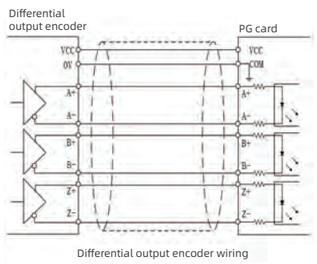




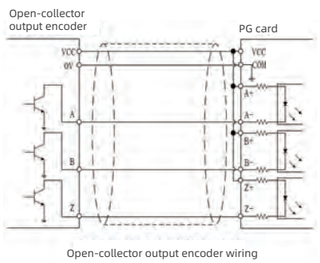
Encoder Expansion



Incremental differential encoder rotary transformer

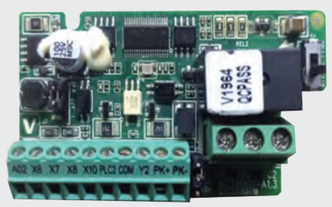


Differential output encoder wiring



Open-collector output encoder wiring

IO Expansion



Expand one analog output, four digital input, one collector output, and relay output, temperature sensor can be connected externally.

Type	DI Signal			
	Name	Response frequency	Input impedance	Valid level
Input signal	X6,X7,X8	0~5kHz	4.4KΩ	High:10~30V Low:0~5V
	X10	0~50kHz	1.5KΩ	High:10~30V Low:0~5V

Select PLC2 to connect to 24V or COM via jumper switch S7. NPN and PNP transistor signal input both supported.

Type	DO Signal		
	Name	Output method	Max output
Input signal	Y2	NPN open collector output	DC24V/50mA
	TA2,TB2,TC2	Relay normally open and normally closed output	3A/240V AC

Mark	Gear	Description
S7	+24V	+24V external power supply, max current output 100mA
	PLC2	PLC terminal, connect to +24V or COM
	COM	+24V power supply reference ground (output open collector signal reference ground)
S1	KTY	KTY84 temperature sensor input
	PK	Short PK to KTY, select KTY84 in temperature sensor type Short PK to PT100, select PT100 in temperature sensor type
	PT100	PT100 temperature sensor input
J2	V	Select V with jumper switch for voltage signal
	AO2	A02 as analog output signal
	I	Select I for jumper switch for current signal

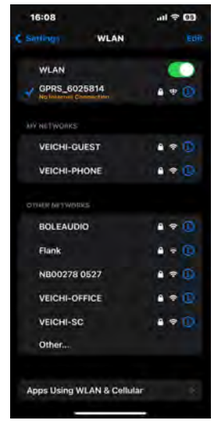
Note: S7's factory setting is dialed up, that is, PLC2 to +24V gear
S1's factory setting is dialed to PT100 to select PT100 temperature sensor type input.
J2's factory setting is dialed to V , voltage output by default.

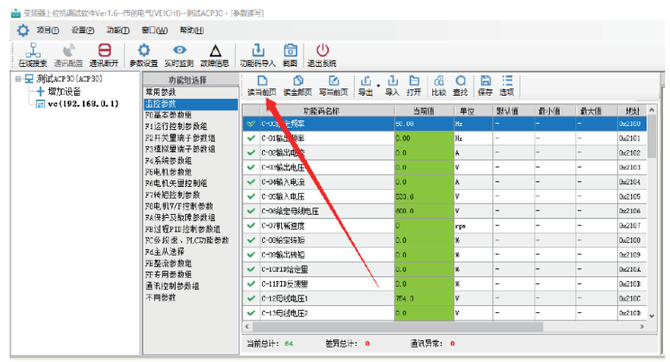
Type	Thermocouple AI Signal (signal type by DIP switch S1)		
	Name	Input method	Detection temperature range
Temperature sensor signal	PK+/PK- (PT100,KTY84)	Differential two-wire input	0℃~220℃
		Differential two-wire input	0℃~220℃

Type	AO2 Signal (by J2 Jumper Switch)		
	Name	Output capacity	Comment
AO2	AO2-V Voltage output	DC 0-10V	Max output 2mA
	AO2-I (Current output)	DC 0-20mA/ 4-20mA	

Communication Expansion

Modbus-TCP protocol supported, connectable to a computer or other upper computer via network cables.
Mobile APP to modify parameters online





Modbus-TCP protocol supported, connectable to a computer or other upper computer via network cables.
Mobile APP to modify parameters online

Application Case

Location: A coal mine in Heilongjiang
Device: Secondary fan
1140V-2*132kW counter-rotating fan
Model: ACP30-T11-315-32CA


Location: A coal mine in Neimenggu
Device: Air compressor
1140V-200kW permanent magnet synchronous motor
Model: ACP30-T11-250-32CA


Location: A coal mine in Gansu
Device: Mining winch
1140V-400kW permanent magnet synchronous motor
Model: ACP32-T11-500-34CA


Location: A coal mine in Neimenggu
Device: Belt conveyor
1140V-2*315kW permanent magnetic roller
Model: ACP30-T11-400-32CA


Location: An oil field in Shandong
Device: Screw pump
1140V-75kW asynchronous motor
Model: ACP30-T11-90-32CA


Location: An oil field in Shandong
Device: Submersible electric pump
1140V-75kW permanent magnet synchronous motor
Model: ACP30-T11-110-32CA


Location: Sichuan
Device: Fracturing pump skid
3300V-2000kW asynchronous motor
Model: ACP32-T33-2500-32CA


Location: Jiangsu
Device: Dynamometer platform
3300V-1600kW twin trawling platform
Model: ACP30-T33-1600-34CA

Location: A coal mine in Anhui
Device: Scraper conveyor
3300V-3*800kW asynchronous motor
Model: ACP30-T33-1250-32MP

Location: A coal mine in Shaanxi
Device: Emulsion pumping station
1140V-355kW asynchronous motor
Model: ACP30-T11-450-32MP