

VEICHI

AC01 Series Network AC Drive



Stock code: 688698

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.

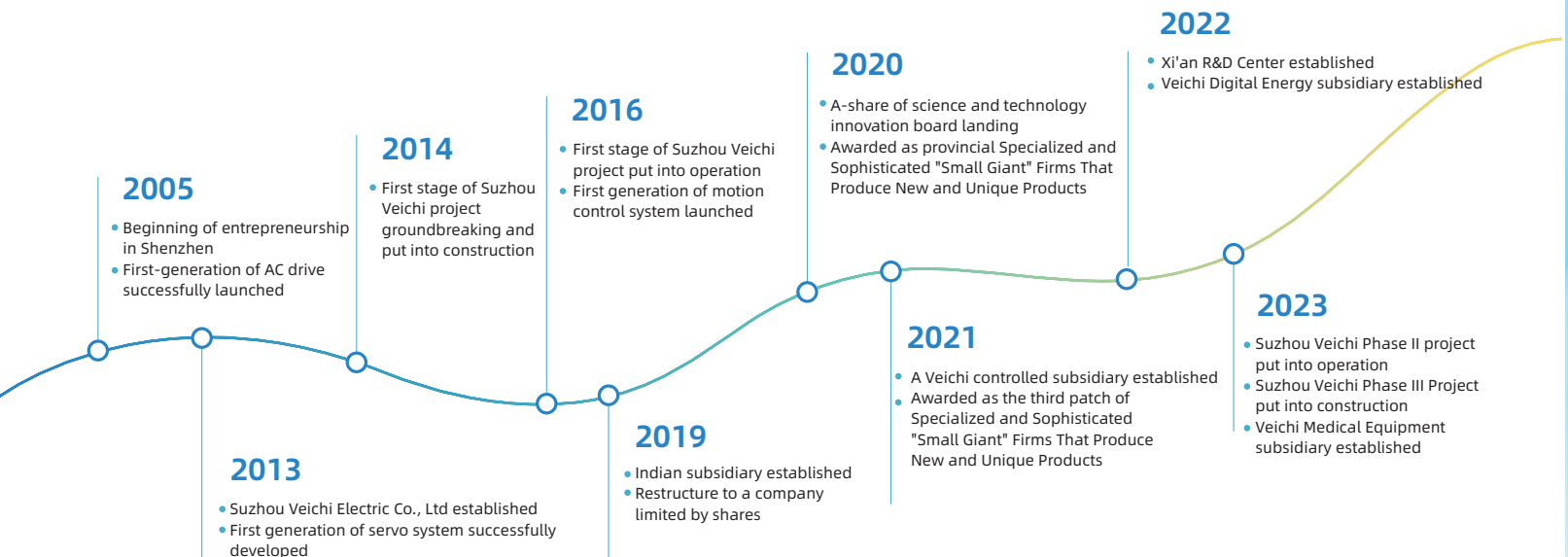
Plentiful products cover AC drives, servo systems and control systems, which are widely used in heavy industry, light industry, high-end equipment and more to facilitate the intellectualized transformation of the manufacturing industry with solutions customized to different scenarios. In the meanwhile, 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.

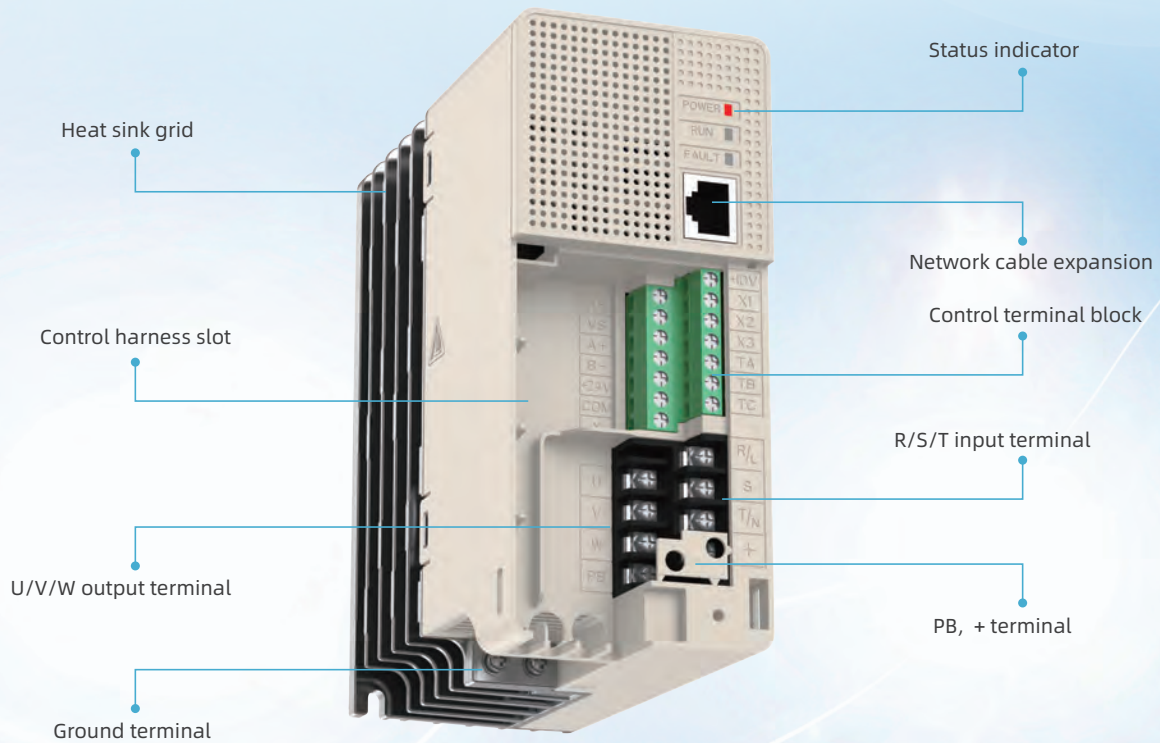


AC01 Series Network AC Drive

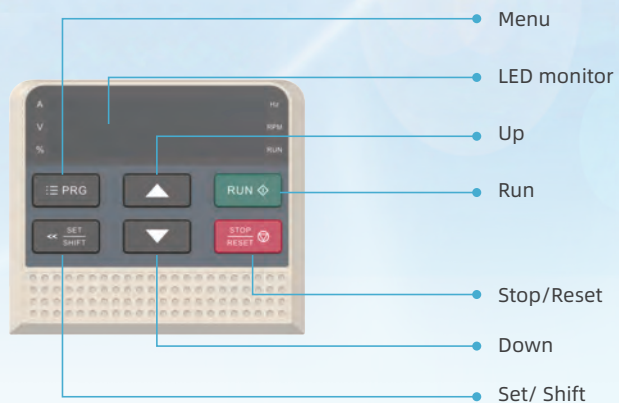
Based on Veichi's low-voltage AC series drive system, AC01 series drives with compactness and intelligence, is developed to meet the market demand for lower volume and higher performance/price ratio. This series of products feature narrow but highly reliable book-like structure which is inherited from the previous products and durability in its parts. Improvements in fully automated production processes and more circuit-integrated designs have resulted in cost reductions and increased profitability for our customers. The AC01 series of network AC drives, on VEICHI's advanced PLM R&D management system, helps customers both upstream and downstream in the industrial chain to improve lean production with its compact design and powerful functions.



Structure Features



Supports self-chosen dedicated keyboards
 Or AC310/AC10 external single/dual line
 display keyboards.
 AC01 can be operated without external
 keyboards, too.



Indicator Interface

AC01 series network AC drive can work without external keyboards, and its status can be indicated by the three LEDs on the interface:

Mark	Indicator	Status	Description
POWER	Red light	On	Power is normal and drive is ready for operation
		Off	Power is abnormal
RUN	Green light	On	Drive is in forward operation
		Flash (on for 500ms and off for 500ms in cycles)	Drive is in reverse operation
		Off	Drive is not in operation
FAULT	Red light	On	Fault occurrences represented by main codes 1-11
		Flash (on for 100ms and off for 100ms in cycles)	Fault occurrences represented by main codes 12-117
		Slow flash (on for 100ms and off for 100ms + on for 100ms and off for 170ms in cycles)	Drive is reporting warning
		Off	AC Drive is fault free

Note: Please see fault/alarm codes together with the AC01 manual.

Control Terminal Wiring Specifications (European Terminal Block)

Proper Parameters	Power	Stripping Length (mm)	Wire Specification (AWG)	Screw
Specification	0.4kW~7.5kW	6~7	30-14	M3

Main Circuit Terminal Wiring Specifications (Grid Terminal Block)

Model	Main circuit terminal screw (mm)	Recommended fixing torque (N·m)	Recommended copper cables mm ² (AWG)
AC01-S2-R40G-B	M3	0.7	1.5mm ² (14)
AC01-S2-R75G-B	M3	0.7	2.5mm ² (12)
AC01-S2-1R5G-B	M4	1.3	2.5mm ² (12)
AC01-S2-2R2G-B	M4	1.3	4mm ² (10)
AC01-S2-004G-B	M4	1.3	4mm ² (10)
AC01-T3-R75G-B	M3	0.7	1.5mm ² (14)
AC01-T3-1R5G-B	M3	0.7	2.5mm ² (12)
AC01-T3-2R2G-B	M4	1.3	2.5mm ² (12)
AC01-T3-004G-B	M4	1.3	4mm ² (10)
AC01-T3-5R5G-B	M4	1.3	6mm ² (9)
AC01-T3-7R5G-B	M4	1.3	6mm ² (9)

Performance Feature

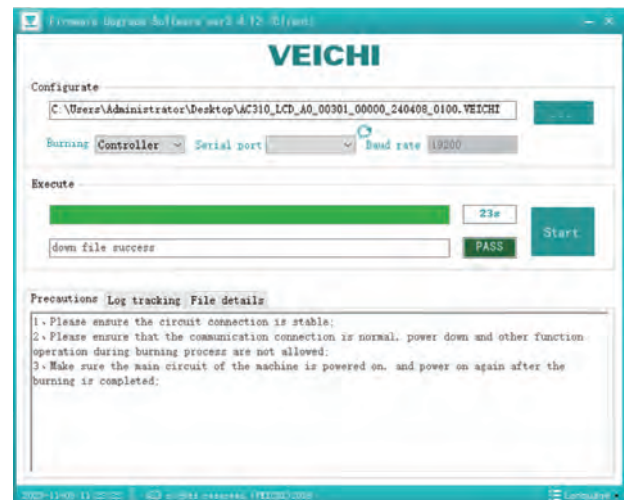
Firm Control Performance

AC01 software integrates the features of AC310 series products with high accuracy for different needs, providing a one-touch and convenient operation for drives under special applications.

Motor type	Asynchronous/Synchronous motor
Motor control mode	PG-free V/F control, PG-free vector control
Modulation	Optimized Space Vector Modulation PWM
Speed control range	PG-free vector control, rated load 1:100
Steady-state speed accuracy	PG-free vector control, $\leq 2\%$ of rated sync speed
Start torque	PG-free vector control: 150% of the rated torque at 0.5Hz
Torque response	PG-free vector control: $< 20\text{ms}$
Frequency accuracy	Digit setting: max. frequency $\times \pm 0.01\%$; analog setting: max.frequency $\times \pm 0.2\%$
Frequency resolution	Digit setting: 0.01Hz; analog setting: max. frequency $\times \pm 0.05\%$

Firmware Upgrade

The VEICHI software provides great convenience for instant firmware upgrades of the AC01.



Comprehensive Fault Protection

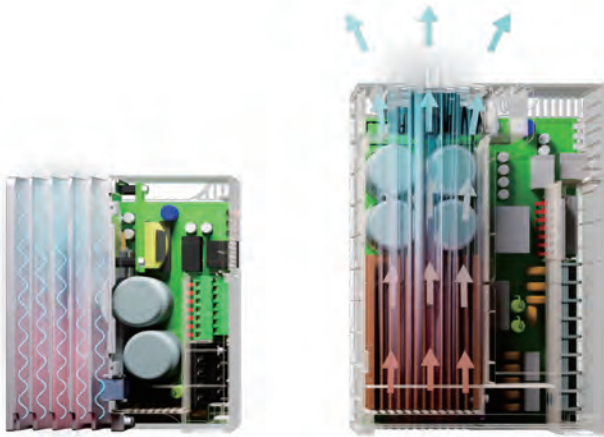
AC01 products are designed for higher convenience and flexibility in the application and protection of low-power motors. With optimization in terms of alarm threshold range, and detection sensitivity, etc, warnings are not that easy to be triggered on the basis of that different parameter errors are precisely monitored.

System failure	Drive overload	Non-0 current sum of three phase	Parameter copy failure	Brake unit failure	Parameter setting fault
Overcurrent	Continuous CBC activation	Excessive U/V/W phase zero drift	Three-phase output phase loss	Auto tuning error	CPU timeout
Overvoltage	Rectifier module overheat	Short circuit to ground	U/V/W output phase loss	Load protection	Parameter storage failure
Undervoltage	Inverter module overheat	Fan short circuit	Input phase loss	Excessive speed deviation	Communication fault
Motor overload	Terminal start protection	PID disconnection feedback	External fault	Overspeed

Reliability Design

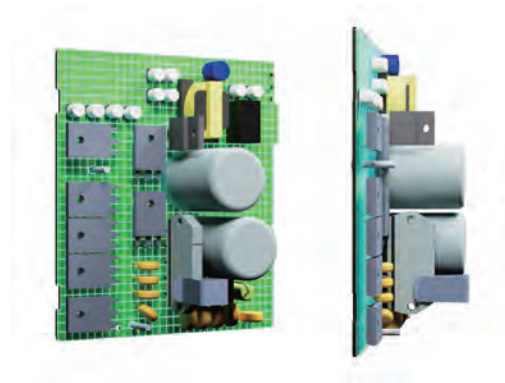
New Structure

The whole series of AC01 products are designed with two cooling methods, natural cooling and forced air-cooling, together with independent cooling ducts to ensure efficient heat dissipation and enhanced operation.



Protection Improvement

Protection of AC01 series of products optimized especially the three-resistance coating process of PCB board is improved. The automated three three-resistance spray ensures more even thickness and more comprehensive coverage, and enables the products to cope with harsh environments.



Fully Automated Production and Assembly

The whole series of AC01 products are assembled, tested, aged and packaged from automated production lines instead of manual labor, which is more standardized and more reliable.



Model Description

AC01 Model Naming Rules

AC01-S 2-R75 G-B

Product series

AC01 series

Voltage type

T: Three-phase
S: Single-phase

Voltage level

2: 220V
3: 380V

Accessory

B: Brake unit

Load

G: Heavy duty

Motor power

R75: 0.75kW

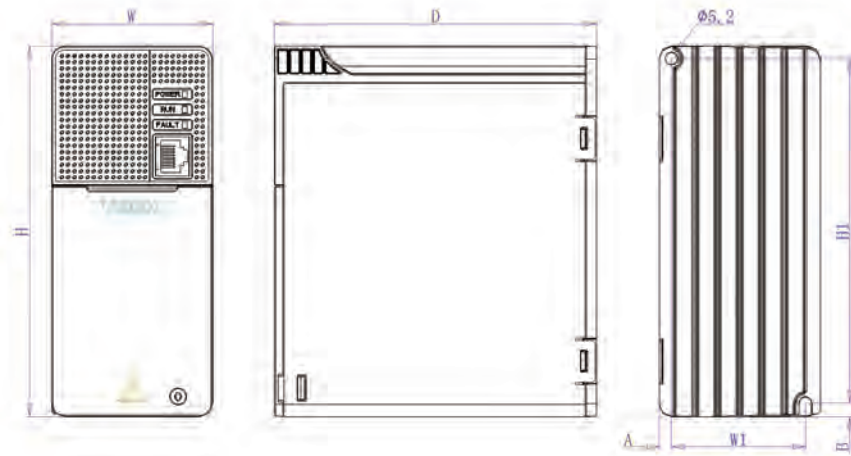
Rated Output Current

Voltage	220V	380V
Power(kW)	Rated output current (A)	
0.4	3.0	—
0.75	4.0	2.5
1.5	7.0	3.7
2.2	10.0	5.0
4	16.0	9.5
5.5	—	13.0
7.5	—	17.0

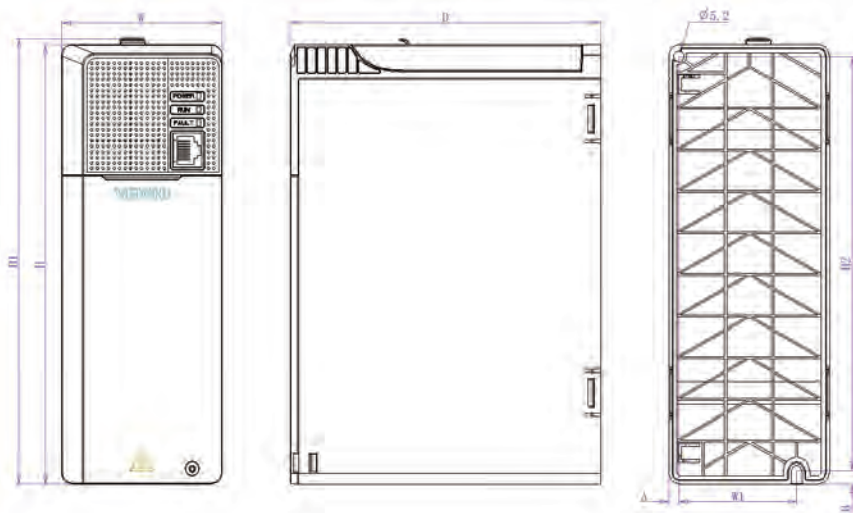
Control Terminal Parameter

	Type	Mark	Max.input/output
Power Circuit Terminal	Power terminal	+10V-COM	Analog power supply, max. output 50mA
		24V auxiliary power, forming a circuit with COM	Digital power supply, max. output 100Ma
	AI	AS-COM	AI current: 0~20mA
		VS-COM	AI voltage: 0~10V
	DI	X1-X3 (NPN type), forming a circuit with COM	DI with 15KΩ impedance
	DO	TA TB TC relay output	Output capacity: 240V AC/3A; 30V DC/5A
		Y terminal output	Max. output 50mA
	485 Communication	A+ B-	Modbus, PTU protocol

Installation Size

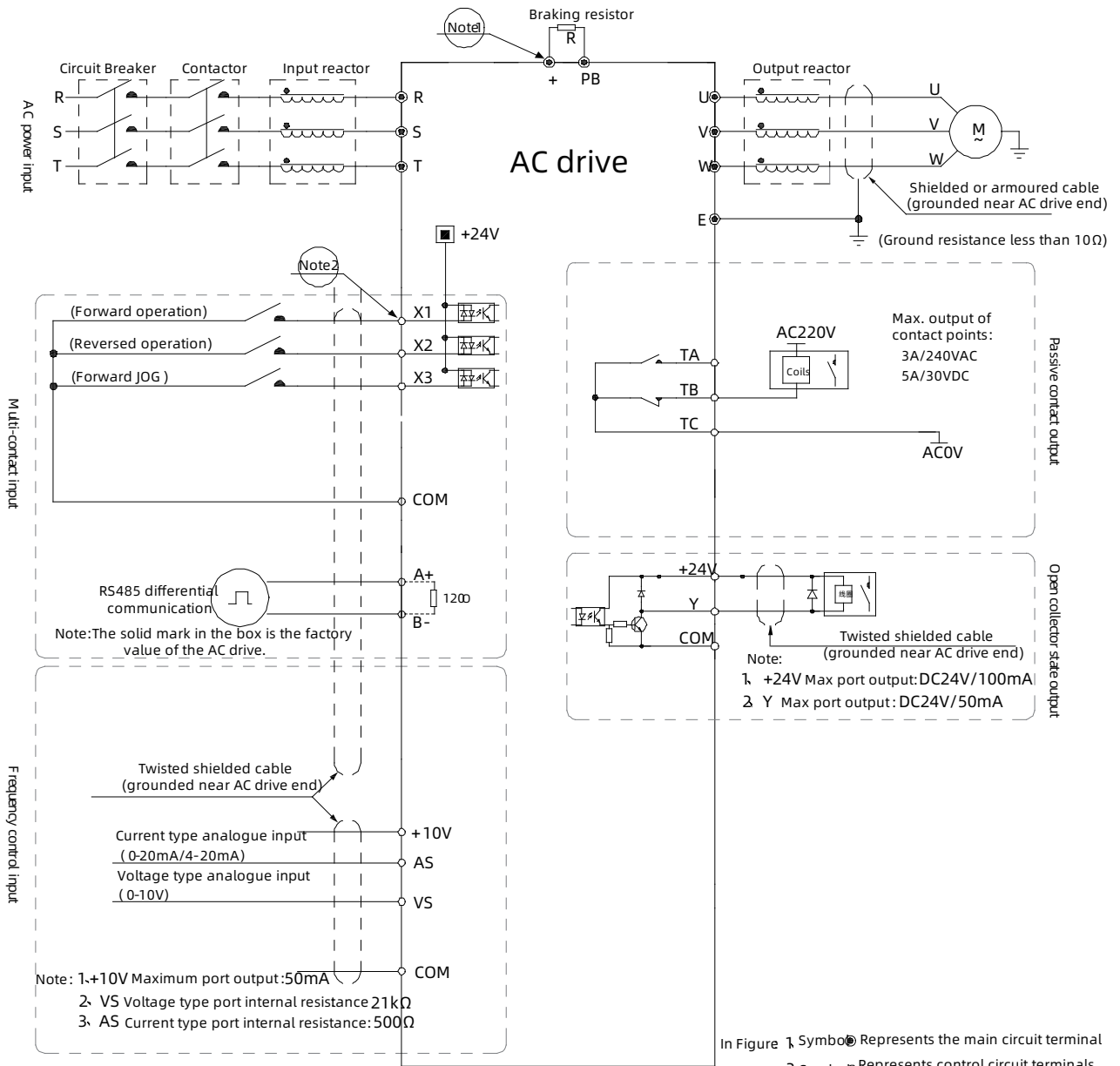


Drive model	Outer dimension (mm)			Front mounting dimension(mm)				Installation aperture (mm)
	W	H	D	A	B	W1	H1	
AC01-S2-R40G-B	65	150	130	5	5.5	54	139.5	Φ5.2
AC01-S2-R75G-B								
AC01-T3-R75G-B								
AC01-T3-1R5G-B								



Drive model	Outer dimension (mm)			Front mounting dimension(mm)				Installation aperture (mm)
	W	H	D	A	W1	H1	H2	
AC01-S2-1R5G-B	75	205	145	4.7	55	207.9	193.25	Φ5.2
AC01-S2-2R2G-B								
AC01-T3-2R2G-B								
AC01-T3-004G-B	100	230	165	6.0	82	232.9	218	Φ6.2
AC01-S2-004G-B								
AC01-T3-5R5G-B								
AC01-T3-7R5G-B								

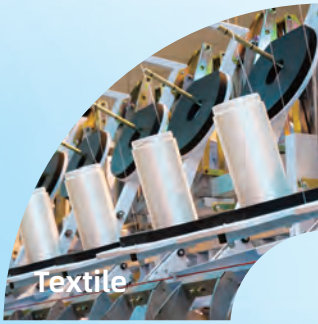
Standard Wiring



In Figure 1, Symbol Represents the main circuit terminal
 Symbol Represents control circuit terminals

- Note: 1. Select the appropriate braking resistor according to the site conditions and "Braking Resistor Specification Parameters".
 2. Multi-function input terminal (X1 ~ X3) can take the NPN transistor signal as input.
 3. In the control circuit, digital ground and analog ground terminals are combined into the COM terminal.

Application



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



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Official Website

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